



2016 Reference Document

Including the Sustainable Development Report



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2016 Reference document

including the Sustainable Development Report

World leader in gases, technologies and services for Industry and Health, Air Liquide is present in **80 countries** with approximately **67,000 employees** and serves more than **3 million customers and patients.** Oxygen, nitrogen and hydrogen are essential small molecules for life, matter and energy. They embody Air Liquide's scientific territory and have been at the core of the Company's activities since its creation in 1902.

Air Liquide's ambition is to lead its industry, **deliver long-term performance** and **contribute to sustainability.** The Company's customer-centric transformation strategy aims at profitable growth over the long term. It relies on **operational excellence, selective investments, open innovation** and a **network organization** implemented by the Group worldwide. Through the commitment and inventiveness of its people, Air Liquide leverages energy and environment transition, changes in healthcare and digitization, and delivers greater value to all its stakeholders.

Air Liquide's revenues amounted to **18.1 billion euros** in 2016, and its solutions that protect life and the environment represented more than 40% of sales. Air Liquide is listed on the Euronext Paris stock exchange (compartment A) and belongs to the CAC 40, EURO STOXX 50 and FTSE4Good indexes.



The original French version of this Reference Document was filed with the French financial markets authority (AMF), on 03/07/17, in accordance with article 212-13 of its General regulations. It may be used in support of any financial transaction if it is supplemented by a prospectus approved by the AMF. This document was prepared by the issuer and its signatories assume responsibility.



Visit
our website www.airliquide.com

This document is a non-binding "free" translation from French into English and has no legal value other than an informative one. Should there be any difference between the French and the English version, only the text in French language shall be deemed authentic and considered as expressing the exact information published by Air Liquide.

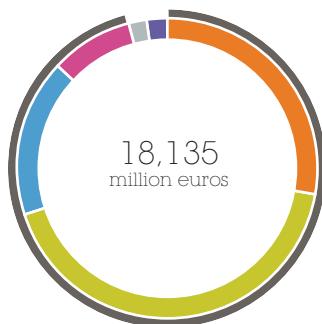
A financial and technical glossary is provided at the end of the document - pages 389 to 393.

A GLOBAL **PRESENCE**

Present in
80 COUNTRIES
~67,000
employees

World leader
in gas, technologies
and services
for Industry
and Health

96%	Gas & Services
28%	Large Industries
42%	Industrial Merchant
17%	Healthcare
9%	Electronics
2%	Engineering & Construction
2%	Global Markets & Technologies ^(a)

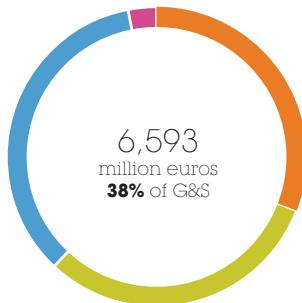


27% of revenue for Gas & Services for Industry^(a) realized in developing economies

2016 GROUP REVENUE BY REGION AND BY ACTIVITY, FOR GAS & SERVICES (G&S)

Europe

31%	Large Industries
31%	Industrial Merchant
35%	Healthcare
3%	Electronics



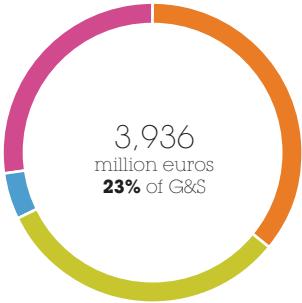
Americas

21%	Large Industries
64%	Industrial Merchant
9%	Healthcare
6%	Electronics



Asia-Pacific

36%	Large Industries
32%	Industrial Merchant
5%	Healthcare
27%	Electronics



Middle-East & Africa

44%	Large Industries
49%	Industrial Merchant
7%	Healthcare



(a) Gas and Services for Industry (GSI): Large Industries, Industrial Merchant, Electronics.

A WIDE RANGE OF MARKETS AND A STRONG BUSINESS MODEL...

KEY ELEMENTS BY BUSINESS LINE ^{(a)(b)}



- **29%** of G&S
- **5,037 million euros**
- **-3%** in 2016
- **+2%** on average over 5 years

High **capital intensity**

Customers in metals, chemicals, refining and energy

Industrial basin and **pipeline network** strategy

Long-term contracts (15 years), **take-or-pay** clauses and **indexed** energy cost



- **44%** of G&S
- **7,565 million euros**
- **+45%** in 2016
- **+9%** on average over 5 years

More than 2 million customers

Technological solutions adapted to **customers'** businesses

Synergies with Large Industries

Importance of **logistics**



- **18%** of G&S
- **3,111 million euros**
- **+11%** in 2016
- **+8%** on average over 5 years

Medico-technical services activity in a regulated sector

1.4 million patients

Geographical **density**

Sophisticated information systems essential for the activity



- **9%** of G&S
- **1,618 million euros**
- **+6%** in 2016
- **+5%** on average over 5 years

Technological solutions with **ultra-purity gases** and **adapted molecules**

Long-term contracts for nitrogen

Concentration of the activity in **Asia**

(a) Gas & Services bring together the following Business Lines: Large Industries, Industrial Merchant, Healthcare, and Electronics. See details in the Activities section on p. 15.

(b) Published data.

KEY FIGURES

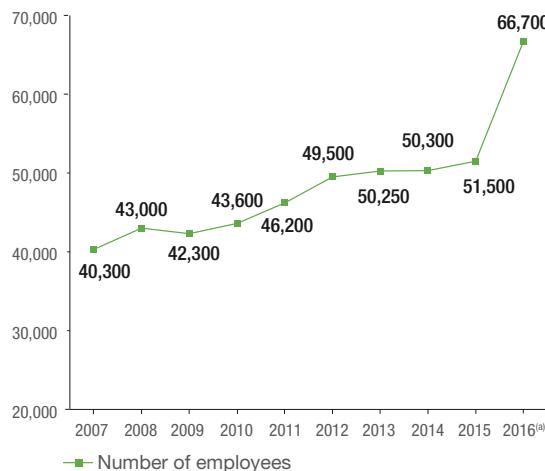
... DRIVEN BY **COMMITTED** WOMEN AND MEN

**Air Liquide
Foundation**

254
projects in around 50 countries
since its creation

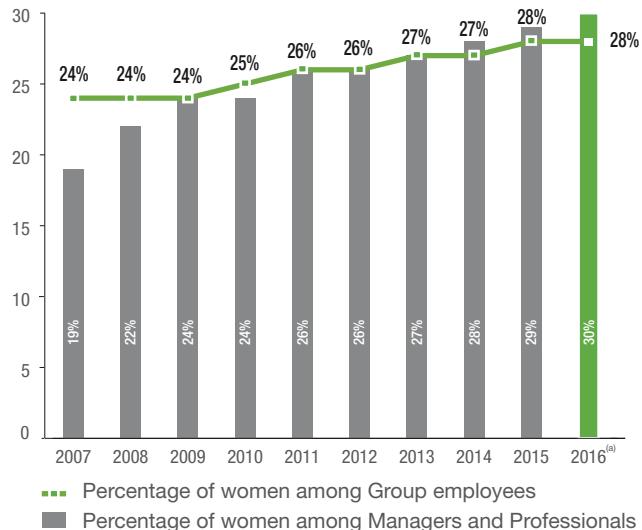
330
employees
involved

Number of employees since 2007 (10 years)



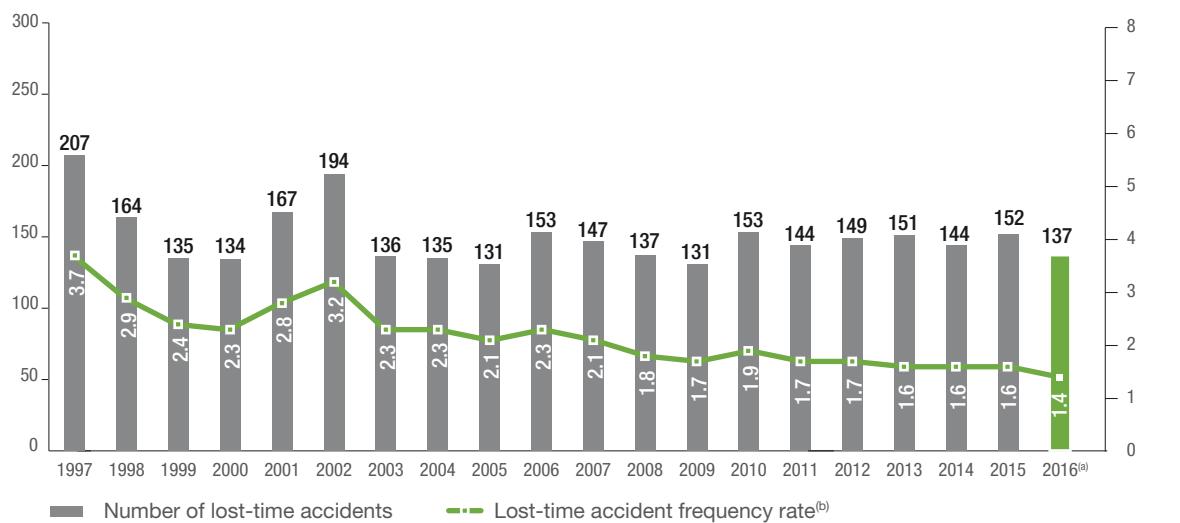
(a) Including Airgas and Welding.

Diversity evolution since 2007 (10 years) – % of women among Group employees



(a) Excluding Airgas and Welding.

Number and frequency of lost-time accidents of Group employees since 1997 (20 years)



(a) Excluding Airgas, including Diving and Welding.

(b) Number of lost-time accidents with at least one lost-day per million hours worked by Group employees.

Corporate Governance in 2016

- 82%** of Board members are independent Directors
- 45%** of Board members are women
- 55%** of Board members are of foreign nationality (non-French)

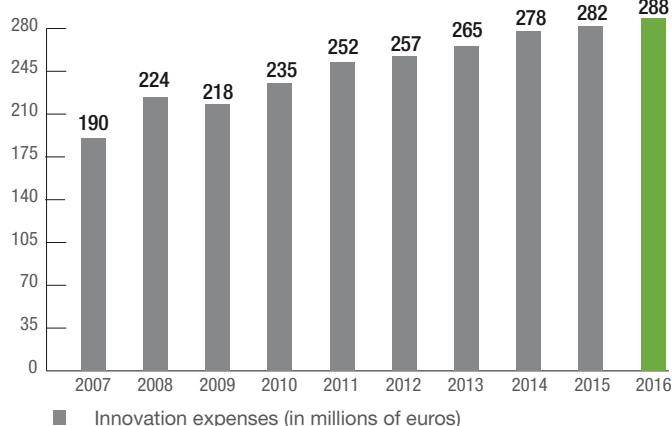
Internal Governance in 2016

- 96%** of the Group's employees belong to an entity that has a local Code of Conduct
- ~80%** of the Group's revenues covered by the Industrial Management System (IMS) over the last five years
- > 90 %** of revenues subject to internal control system processes

AN INNOVATIVE COMPANY

INNOVATION EXPENSES

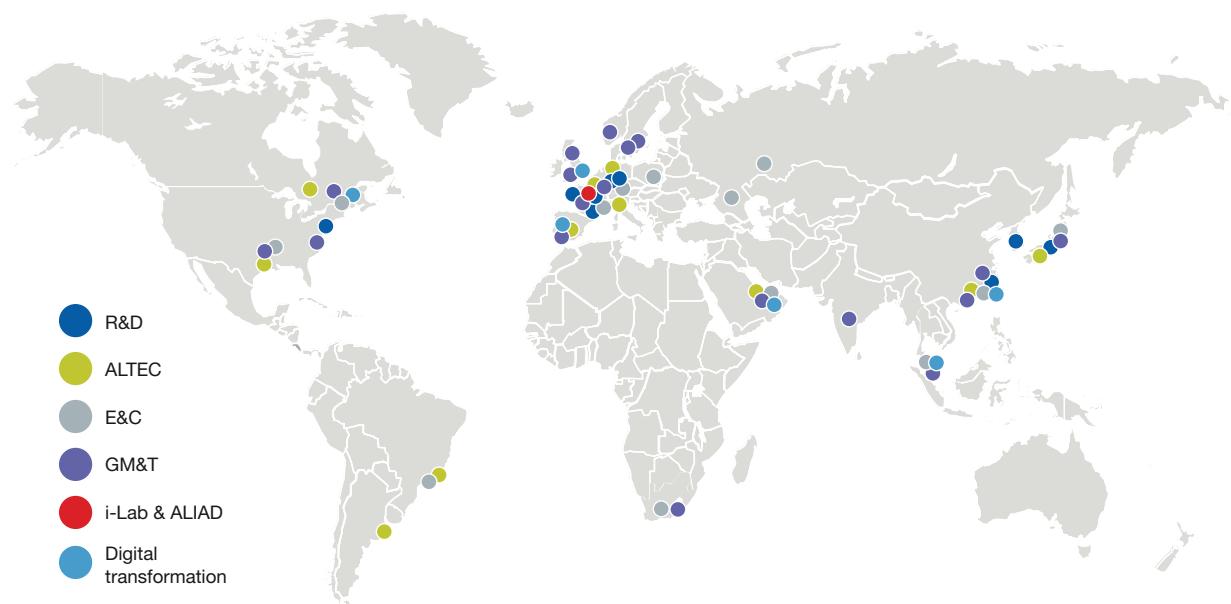
Innovation expenses (10 years)



296
new patents
filed
in 2016

GLOBAL NETWORK SUPPORTING INNOVATION

5,700
employees
in entities contributing to innovation



REGULAR AND SUSTAINED **PERFORMANCE**

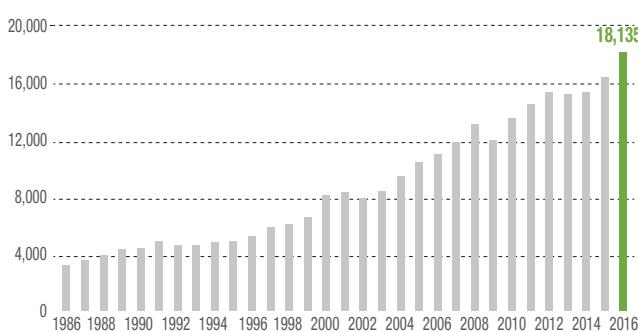
Created in
1902

18.7%
Gas & Services Operating Margin / Revenue

CONSISTENT PERFORMANCE OVER 30 YEARS

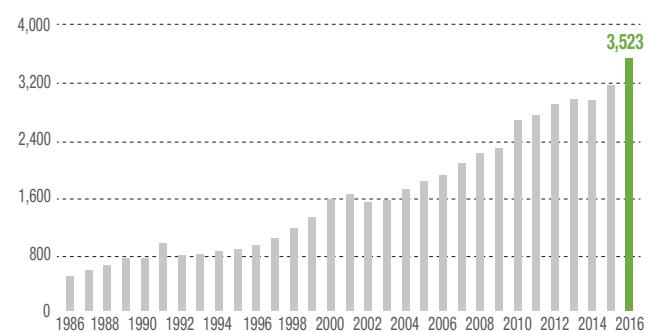
Revenue (in millions of euros)

Compound annual growth over 30 years: +6.0%
2016-2015 growth: +14.6%



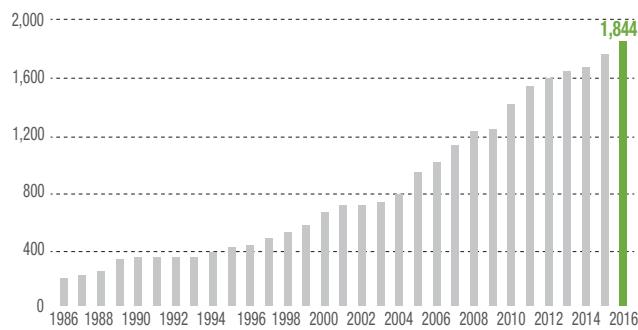
Cash Flow from operating activities before changes in working capital requirement (in millions of euros)

Compound annual growth over 30 years: +6.9%
2016-2015 growth: +11.9%

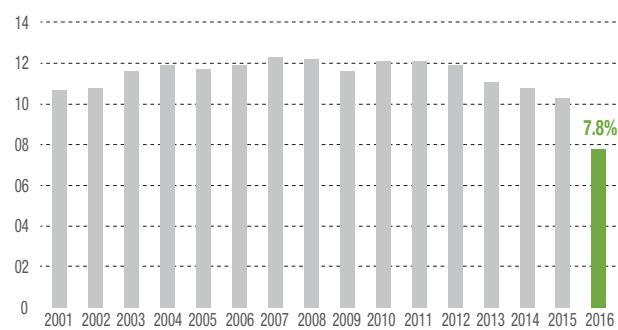


Net profit (Group share) (in millions of euros)

Compound annual growth over 30 years: +7.9%
2016-2015 growth: +5.0%



Return on Capital Employed ^(a)



TSR

Total Shareholder Return
for a single registered
share

+9.6%
over 5 years ^(b)

+8.7%
over 10 years ^(c)

(a) See ROCE definition on page 391.

(b) At December 31, 2016, for an invested capital since December 31, 2011.

(c) At December 31, 2016, for an invested capital since December 31, 2006.

Stock market performance



	2012	2013	2014	2015	2016
Market Capitalisation at December 31 (in millions of euros)	29,682	32,159	35,470	35,672	41,085
Adjusted closing share price ^(a) (in euros)	high low	88.12 74.48	93.28 79.17	100.91 82.26	120.44 94.91
At December 31	84.16	91.02	100.18	100.96	105.65
Net earnings ^(b) – EPS (in euros)	4.52 ^{(c) (d)}	4.66 ^(d)	4.73 ^(d)	4.99 ^(d)	5.11
Net dividend per share ^(b) – DPS (in euros)	2.21 ^(d)	2.25 ^(d)	2.48 ^(d)	2.53 ^(d)	2.60 ^(e)
Pay ratio	49.5%	49.7%	53.9%	52.5%	56.0%
Dividend yield	2.6%	2.5%	2.5%	2.5%	2.5%
Ex-dividend date	May 16, 2013	May 16, 2014	May 18, 2015	May 23, 2016	May 15, 2017

(a) Adjusted following current Euronext regulation.

(b) Adjusted for previous two-for-one share splits, attribution of free shares and capital increase.

(c) Restated per effect of the IAS19 "Employee benefits" revision.

(d) Adjusted of the dilution impact of the capital increase.

(e) Subject to the approval of the May 3rd, 2017 Shareholders' Meeting.

Share ownership breakdown at December 31, 2016



AIR LIQUIDE'S APPROACH TO **SUSTAINABLE DEVELOPMENT**

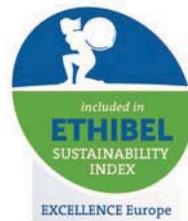
EXTRA-FINANCIAL RATING AGENCIES



SUSTAINABLE DEVELOPMENT INDEX



FTSE4Good



COMMITMENTS



ENVIRONMENTAL FOOTPRINT

44% (a)

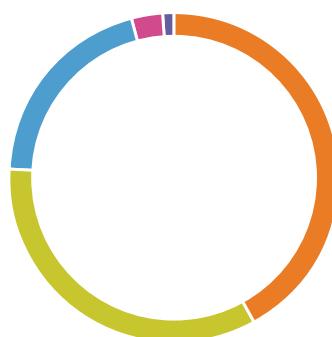
of Group sales come from applications related to protecting life and preserving the environment.

ALMOST 60%

of the Group's innovation expenses were allocated to efforts to protect life and the environment.

Breakdown of 2016 direct and indirect greenhouse gas emissions

- | | |
|-----|---|
| 42% | Air separation units (ASU) |
| 34% | Hydrogen and carbon monoxide units (HyCO) |
| 20% | Cogeneration |
| 3% | Transportation |
| 1% | Miscellaneous |



(a) 2015 data. 2016 data will be available mid-2017.



MANAGEMENT REPORT

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➤ HISTORY OF THE AIR LIQUIDE GROUP

1902

ORIGIN

Air Liquide was born of innovation and an encounter between two men: Georges Claude, inventor of an industrial process for the production of oxygen from liquid air, and Paul Delorme, a visionary entrepreneur.

1906

FIRST INTERNATIONAL DEVELOPMENTS

Gas by its very nature is difficult to transport and thus local production is required. This factor was one of the reasons Air Liquide set its sights internationally early on, building numerous production units abroad. Development was rapid in Europe (1906), Japan (1907), Canada (1911) and the United States (1916). See "A Century of International Development."

1913

LISTING ON THE STOCK EXCHANGE

The critical role played by shareholders became evident in the first years of the Company's development. Listed on the Paris Stock Exchange in 1913, the share celebrated its hundred-year of the listing in 2013. Air Liquide has endeavored to forge a strong and privileged relationship with its shareholders based on an exceptional stock market performance, with an average annual increase in its share price over the 100 years to 2013 of +11.9%.

1946

DIVING

New adventures shared with Captain Cousteau led to the creation of Spirotechnique, which designs, manufactures and sells diving regulators and other equipment used for professional and leisure diving.

A CENTURY OF INTERNATIONAL DEVELOPMENT

Air Liquide's development was rapid during the early part of the XXth century, with significant business growth between the two world wars. From 1945 to 1970, in an economy that was being rebuilt, the Group consolidated its positions and established itself in South America and South Africa (1946), then in Australia and North Africa (1956).

In the 1970s-80s, international growth was renewed with a major acquisition: Big Three in the United States in 1986. At the end of the 1980s, taking advantage of its long-time presence in Japan, Air Liquide set its sights on other Asian countries and played its part in the development of the Electronics market. The Group invested massively in China in the early 2000s; the country is a major growth market for industrial gases and Air Liquide entered into numerous air gas contracts.

In the 1990s, the Group began to develop in Central Europe. During a second phase, in the 2000s, it made inroads further east in Russia, Ukraine and Turkey, winning Large Industries contracts. The Middle East also became a new investment priority.

In the 2000s, there was a second major acquisition: certain businesses of Messer Griesheim in Germany, the United Kingdom and the United States. In 2007, the Group purchased minority interests in its joint ventures in Japan and Southeast Asia.

Today, Air Liquide continues to pursue its strategy of expanding its global presence, convinced that the geographical diversity will guarantee resilience and future growth. As a result, the Group is continuously strengthening its historical positions in the major economies worldwide and relentlessly seeking footholds in new markets.

Air Liquide is now present in 80 countries, its global dimension being a fundamental component of its identity.

1952

THE CRYOGENIC REVOLUTION

Storing gas in liquid form in cryogenic tanks allows vast quantities to be transported by road or rail within a radius of approximately 200-250 km from the production site. In 1954, the first liquid oxygen plant was launched in the North of France.

1960

PIPELINE NETWORK STRATEGY

By delivering gas to several customers through pipelines, Air Liquide adopted a network strategy for the first time, linking its gas production units through a pipeline network. The Group multiplied production capacity to meet soaring demand from large industries: firstly, for oxygen in the steel industry, and secondly, for nitrogen in chemicals.

The Large Industries business was launched with customers committing to long-term contracts of 15 years or more. The Group currently manages more than 9,300 km (~ 5,800 miles) of pipelines worldwide, in particular in the US along the Gulf Coast of Mexico, in Northern Europe, in the Ruhr valley in Germany and in several Asian countries.

1962

SPACE INDUSTRY

Convinced of the industrial potential of cryogenics, Jean Delorme, Chairman & CEO of Air Liquide, decided to create a research center near Grenoble dedicated to these technologies. The first applications were rapidly integrated in the space industry. Air Liquide has been a partner of the space adventure and the Ariane program for 60 years. The Group's contribution has been as much in the production of the fluids essential for launch (oxygen, hydrogen, helium and nitrogen) and the supply of associated services, as in the design and production of the tanks and cryogenic equipment of the launchers.

1970

A TRADITION OF INVENTIONS

The Claude-Delorme Research Center, located in the Paris-Saclay innovation Cluster and now called the Paris-Saclay Research Center, was created to enhance gas production techniques and their applications (combustion, welding, metalworking, chemicals, electronics, food, respiratory functions, and environmental treatment). It is evidence of the Group's desire to inherently understand the industrial processes of its customers and develop new gas applications to better satisfy their requirements (in terms of quality, productivity and the environment). The Center also develops partnerships with universities and industrial companies. The Group currently has nine research centers around the world.

1976

A TECHNOLOGICAL BREAKTHROUGH

With the Sasol project in South Africa, transforming coal into synthetic fuel, air separation units (ASUs) have scaled up, dramatically increasing in size. Following this technological breakthrough, Air Liquide became the leader in large ASUs, and remains so today.

1985

A NEW MARKET: ELECTRONICS

In Japan, the Group began to supply ultra-high purity gases to the semiconductor industry: this involves carrier gases, mainly nitrogen, used to transport the specialty gases and keep the chip production tools inert, and specialty gases that are used directly in the manufacturing of semiconductors. In 1987, Air Liquide inaugurated the Tsukuba Research Center in Japan, which is dedicated to the electronics industry.

1995

EXTENDED OFFERING: HYDROGEN AND STEAM

In addition to oxygen and nitrogen, as part of its commitment to protecting the environment and promoting energy efficiency, Air Liquide extended its offering to hydrogen and steam. To ensure the success of this new offering, the Group has used the business model, which is behind the success of its air gas activity, deploying from the beginning a basin strategy based on a pipeline network, providing customers with flexibility, distribution reliability and service quality at the best price.

PROTECTING LIFE

Originally an oxygen supplier to hospitals, Air Liquide has become a specialist in the healthcare sector. The Group launched its Home Healthcare activity and set up a dedicated network of specialist teams. Medical gases were progressively classified as drugs and manufacturers were required to file market authorizations. The Group also developed in the hygiene sector, an activity that naturally complemented the hospital services. Most recently, Air Liquide launched significant research programs in therapeutic gases, used for anesthesia, resuscitation, and pain relief.

2007

ORGANIZATION BY BUSINESS LINE

The Air Liquide growth drivers for the coming decades are solid and sustainable, based on changing lifestyles: industrial growth of developing economies, increasing energy needs and environmental challenges, healthcare and high technology. To capture this growth, the Group created a new organizational structure based on four World Business Lines. They combine the technical, financial and operational expertise which are specific to each of the businesses of the Group – Large Industries, Industrial Merchant, Healthcare and Electronics – and centralize the specific market expertise. The Group remains geographically focused, but each zone or country benefits from the support and experience of the business lines to accelerate its development.

Conscious of the strategic dimension of engineering and construction capabilities, the Group acquired Lurgi in 2007. This company provides Air Liquide with major proprietary technologies such as hydrogen and carbon monoxide production units, or processes relating to the gasification or CO₂ purification, adding to the Group's historical competencies in cryogenics. Thanks to this acquisition, the Group now has a complete technological offering and a greater engineering capacity.

2009

RESILIENCE IN AN UNPRECEDENTED CRISIS

Affected by a crisis of unprecedented magnitude, the Group focused its efforts on the management of its cash, costs, and investments (capital expenditures). Having tested the solidity of its long-term contracts, Air Liquide confirmed its resilience and demonstrated the relevance of its business model. In a context of global recession, the Group shows itself to be an exception, posting a stable net profit while preserving the strength of its balance sheet.

2010-2012

NEW TERRITORIES, NEW ACQUISITIONS

The Group accelerated its presence in new territories, including Turkey, Ukraine and Mexico, and strengthened its presence in China. These developments contributed to the increase, in eight years, of the developing economies' share of Gas & Services revenue from 15% to 24% in 2016.

In a weaker growth environment in the advanced economies, and particularly in Western Europe, Air Liquide intensified its acquisitions. At the end of 2012, two major home healthcare players joined the Group: LVL Médical in France and Gasmedi in Spain. Other acquisitions were completed in 2013 to strengthen the Group's positions in Healthcare in Poland, Scandinavia and Canada and in Industrial Merchant in Brazil, Russia, the Middle East and China.

2013-2015

NEW INITIATIVES IN THE INNOVATION FIELD – HYDROGEN ENERGY

Innovation is central to Air Liquide's strategy. In 2013 Air Liquide launched two initiatives to promote open innovation: i-Lab, innovation Lab, and ALIAD, the Group's capital investment subsidiary to make minority investments in innovative technology start-ups. In 2014, the Group decides on new investments with the modernization of the Paris-Saclay Research Center, the creation of a center for the development of gas cylinders for industry and healthcare, and the launch of a technical center of excellence for cryogenic production technologies. In 2015, Air Liquide inaugurated Cryocap™ in France, a unique industrial installation that enables the capture of CO₂ released during hydrogen

production via a cryogenic process. After being purified, the captured CO₂ can be used to meet a variety of industrial needs for carbonic gas supply.

In addition, on a worldwide scale, Air Liquide actively contributes to the development of the hydrogen energy activity by accompanying automotive manufacturers launching fuel cell electric vehicles on the market. Air Liquide has stepped up the construction of hydrogen-charging stations (United States, Japan, France, Germany, Belgium, Denmark and the Netherlands), the majority of which are accessible to the general public.

2016

AIRGAS ACQUISITION BY AIR LIQUIDE

On May 23, 2016, Air Liquide announced that it had completed the acquisition of the American company Airgas. The combined businesses worldwide will generate annual sales of more than 20 billion euros.

STRATEGIC RATIONALE

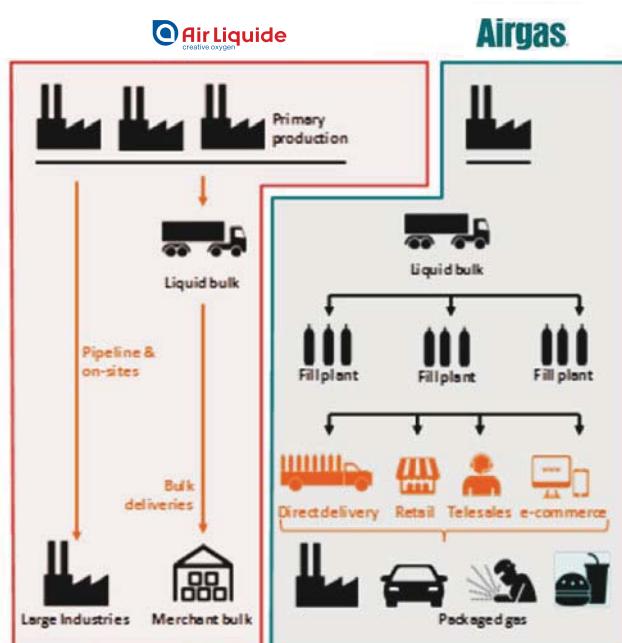
Combining Air Liquide and Airgas brings together two highly complementary businesses to deliver greater value, service and innovation to customers in North America and around the world.

In the U.S., Air Liquide's presence was primarily upstream with production both in Large Industries (over 23,000 ton per day of oxygen production capacity, over 2,200 miles / 3,500 kilometers of pipelines, principally along the Gulf Coast), in Industrial Merchant in bulk, as well as coverage in Electronics and in Healthcare (medical gas to hospitals only, no Home Healthcare) business lines. Although Air Liquide's sales focus on direct supply and services to large and medium-size customers, Airgas was primarily focused on downstream distribution with 300 fill plants, and direct delivery of packaged gas and hardgoods through 900 branches / retail stores, telesales, e-commerce, or next-day direct deliveries from national warehouses.

Combining the upstream and downstream coverage, Air Liquide and Airgas together offer a complete market coverage and offering to customers.

This integration of the full supply chain thus allows the generation of synergies and improve customer service overall. The combined company sales will be around 8 billion US dollars in the U.S.

The combination builds on Air Liquide's longstanding track record of successfully operating in the U.S. and will benefit from Airgas' large national presence and its more than one million customers in the U.S., as well as from its leading customer-facing platform including e-commerce and telesales capabilities. The combined entity is able to better serve customers with the most advanced multi-channel distribution networks in the U.S. and more competitive product offerings with an integrated upstream-downstream model as shown in the illustration below.



The Group will continue to implement an innovation strategy which combines scientific expertise, industry leading technology and customer insight to bring new products and services to market. This strategy will also permit the improvement of the existing offerings and open new markets, in particular by leveraging digital technologies.

By combining the innovation capabilities of both Air Liquide and Airgas, the integrated distribution channels and the leading global customer base, the resulting company allows for a unique platform to deliver significant mid-term growth.

BRINGING ADDITIONAL VALUE

Air Liquide's acquisition of Airgas represents significant value for shareholders.

Air Liquide has a proven track record of executing and integrating large acquisitions with a long history of successful acquisitions: for instance, Big Three in the U.S., Messer and Lurgi in Germany.

Air Liquide plans to realize more than 300 million US dollars of pre-tax cost, efficiency and volume synergies: cost and efficiency synergies by the end of 2018, volume synergies by the end of 2020.

The efficiency and cost synergies, coming from sourcing optimization, better loading of Air Liquide and Airgas' sources, distribution efficiencies and reorganizations, will represent above 70% of the total amount. The volume growth synergies are found in cross-selling offers between the two different customer bases and the different gas and services offers, allowing extension of the overall customer reach. These volume growth synergies are also found in the roll-out of Air Liquide's current innovative offers through the various Airgas distribution channels. The full amount should be realized over the next four years, representing approximately 30% of the total amount of synergies.

Air Liquide believes that the combined company will create additional value over time with the use of the Airgas distribution platform and the deployment of the advanced technologies of Air Liquide, including connected cylinders as well as hydrogen energy, and through the replication of the Airgas offering in other countries. These additional strategic synergies are not included in the announced 300 million US dollars.

IDEALLY POSITIONED FOR THE FUTURE

This operation is a game-changing acquisition. It gives Air Liquide a greater presence in the U.S. market and will ideally position Air Liquide for future growth. In addition, there is potential for further growth using Airgas' footprint to accelerate the deployment of Air Liquide's technologies in the U.S. market.

The U.S. is an attractive gas market as it is the largest industrial gas market worldwide and has been the fastest growing market among advanced economies. It is expected to deliver 20 to 25% of global worldwide industrial gas market mid-term growth. These key factors are supported by the structural strengths of the U.S. economy over the long-term with competitive natural gas feedstock and energy prices driving investment and manufacturing. The rising environmental awareness, strong societal drivers such as healthcare and the aging population, in addition to the importance of high-tech and innovative environment, the U.S. market is a key market of overall global growth and innovation.

Approximately half of the U.S. packaged gas market is composed of independent producers. This current fragmentation of the U.S. market provides further opportunities to continue to boost growth as both Airgas and Air Liquide have significant experience in integrating small companies.

The acquisition allows deployment of Air Liquide's Industrial Merchant innovation in the U.S. and replication of the successful Airgas products and business model outside the U.S.

The combined strengths of the two companies offer potential for the development of innovative and digital offers bringing value and new services to packaged gas customers worldwide.

As a conclusion, Air Liquide strongly believes that this transaction allows the creation of a unique business combination in North America, significantly strengthening its ability to grow in this region and beyond.

THE LAUNCH OF THE NEW CORPORATE PROGRAM 2016-2020: NEOS

The Group acquires a new dimension following the acquisition of Airgas and thus enters a new phase of its development. On July 6, 2016, Air Liquide publishes its new company program, NEOS, for the period 2016-2020.

Air Liquide's strategy for profitable growth over the long term is that of a customer-centric transformation. It is based on operational excellence and the quality of its investments, on open innovation and the network organization already implemented by the Group worldwide. Air Liquide's ambition is to lead its industry, deliver long-term performance and contribute to sustainability.

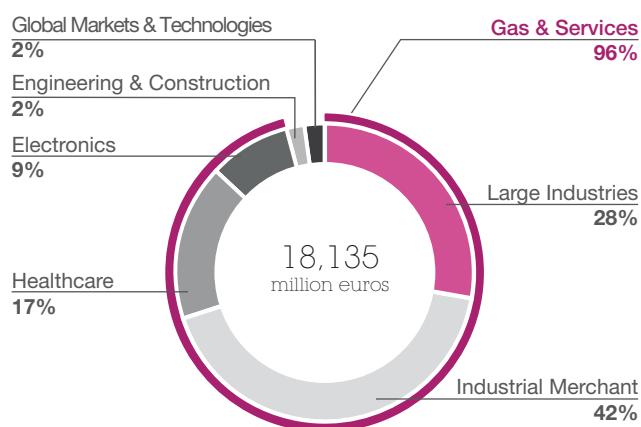
► ACTIVITIES AND RISK FACTORS

Activities

The Group classifies its activities as follows: Gas & Services, Engineering & Construction, Global Markets & Technologies.

Additional information is available in the "2016 Performance" section of this report.

2016 GROUP REVENUE



GAS & SERVICES

The supply of gas involves local production in order to limit transport costs. Therefore, Air Liquide gas production units are located throughout the world and can supply several types of customers and industries, with the relevant volumes and services required. The operational management of the Gas & Services activity is organized into four geographic regions (Europe, Americas, Asia Pacific and Middle-East & Africa) and is led by the World Business Lines to better adapt to changes in the different markets:

■ **Large Industries** supply industrial gases by operating major production units. It serves customers in the metals, chemicals, refining and energy industries with high gas consumption, requiring delivery through a dedicated plant or pipeline. Large Industries also supply the Group's other business lines;

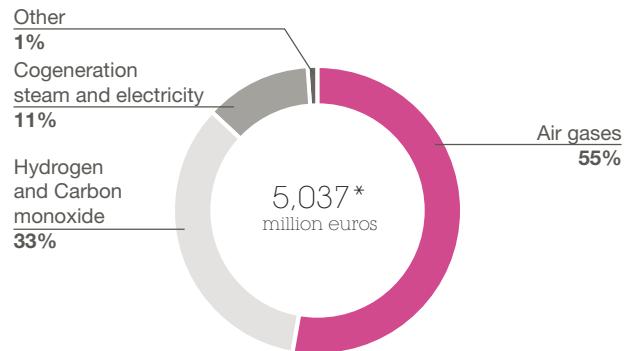
- **Industrial Merchant** supplies a wide range of different gases, application equipment and associated services. It serves industries of all sizes that require quantities smaller than those for customers of Large Industries. The product is either distributed in bulk, in liquid form, for medium and large quantities, or in cylinders, in gaseous form, for small quantities;
- **Healthcare** supplies medical gases, hygiene products, medical devices and services to hospitals and patients in their homes. It also produces and distributes healthcare specialty ingredients for the cosmetics, pharmaceutical and vaccine markets;
- **Electronics** supply gas and services for the production of semiconductors, flat panels and photovoltaic panels.

Depending on their end use, gases are distributed in different states and using various means: in gaseous form through a pipeline network, in liquid form in cryogenic trailers, and in gaseous form in high-pressure cylinders for small quantity orders or specialty gases. The Gas & Services activity represents 96% of the Group's total revenue.

LARGE INDUSTRIES

The Large Industries business line proposes gas and energy solutions to customers in the metals, chemicals, refining and energy industries, which are essential for their own industrial production, to improve process efficiency and to make their plants more environmentally friendly. The world leader in this sector, Air Liquide benefits from dedicated in-house development and engineering teams, differentiating proprietary technologies and rigorous processes for selecting investments and carrying out projects, which often include pipeline networks, reaching from tens to over several hundreds of kilometers.

2016 LARGE INDUSTRIES REVENUE BY ACTIVITY



* 29% of Gas & Services revenue.

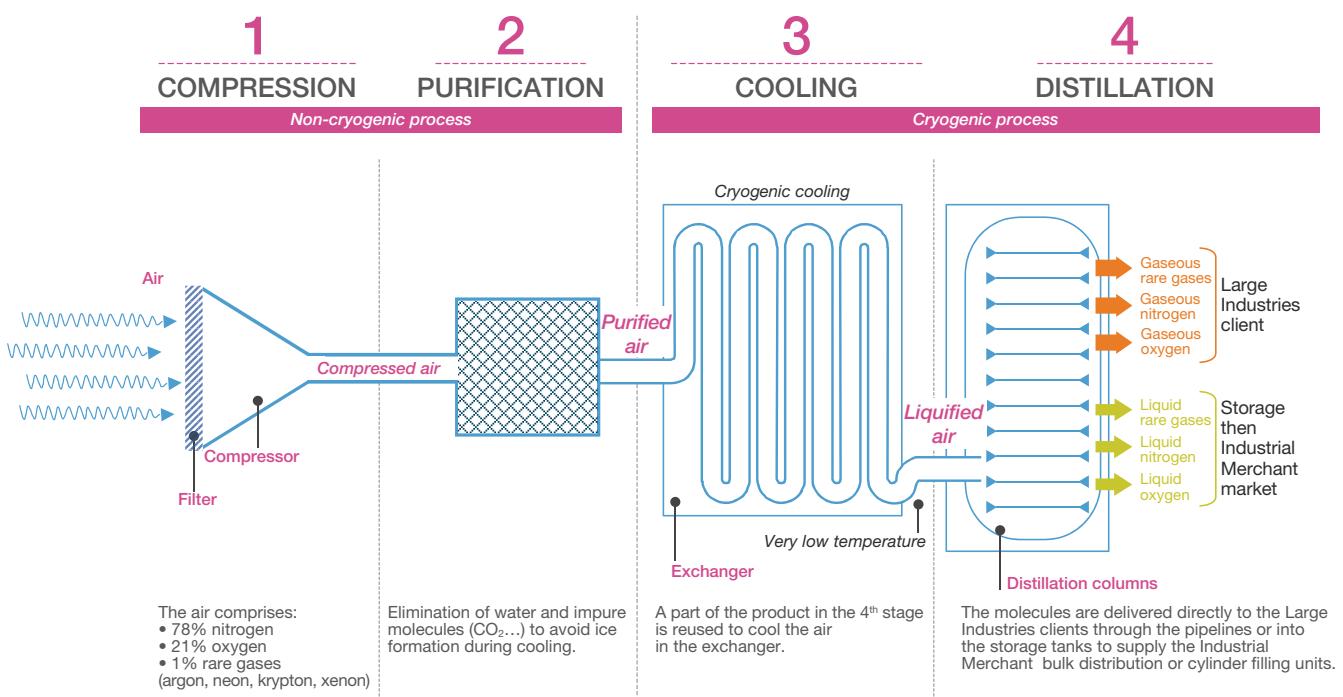
LARGE INDUSTRIES PROCESSES

Separation of air gases (ASU: Air Separation Unit)

An ASU compresses, liquefies and distills air in order to separate it into its different components: 78% nitrogen, 21% oxygen, and 1% argon and rare gases (neon, krypton and xenon). Only certain large ASUs can produce rare gases. Electricity consumption is significant.

AIR GASES PRODUCTION

SIMPLIFIED DIAGRAM OF AN AIR SEPARATION UNIT'S OPERATION

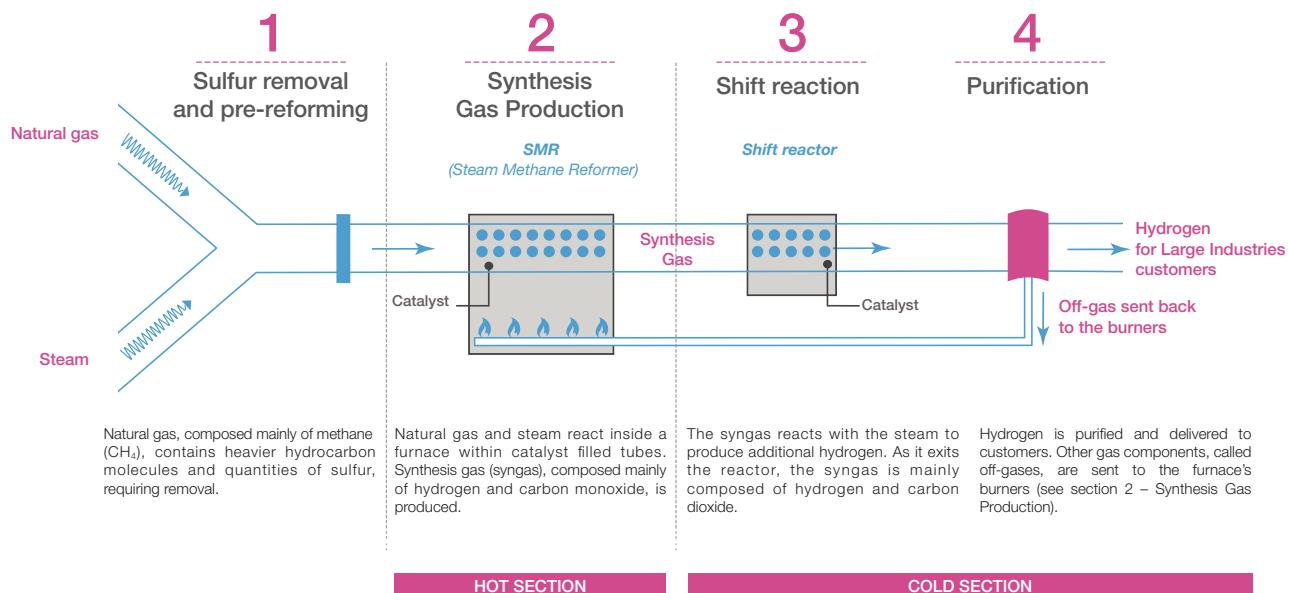


Hydrogen and carbon monoxide production unit (SMR: Steam Methane Reformer)

By steam reforming natural gas, an SMR produces hydrogen and carbon monoxide. The most significant raw material is natural gas; electricity and water consumption is modest.

HYDROGEN PRODUCTION

SIMPLIFIED DIAGRAM OF AN HYDROGEN UNIT'S OPERATION



Cogeneration

Cogeneration consists of simultaneously and efficiently producing electricity and steam generally by consuming natural gas and water. The electricity is used by the plant or supplied to the local network while the steam is required for certain industrial processes.

This business line provides oxygen, nitrogen, argon, hydrogen and carbon monoxide through a network of plants and pipelines. At December 31, 2016, there were around the world: 365 large Air Separation Units (ASUs), 50 Steam Methane Reformers (SMRs) producing hydrogen and carbon monoxide and 18 cogeneration plants supplying customers with steam and electricity.

In the **metals** industry, oxygen is used in steel production to improve energy performance and reduce emissions. The majority of new projects are currently located in developing economies.

The **chemicals** industry uses mainly oxygen, hydrogen and carbon monoxide in its manufacturing processes, as well as nitrogen for the inerting of its installations.

The **refining** industry requires hydrogen to desulfurize fuels and break up heavy hydrocarbons. The demand for hydrogen is growing due to the combination of increasingly stringent emissions legislation and use of heavier hydrocarbons.

Numerous industries linked to **energy** or **chemicals** use large quantities of oxygen to transform coal, natural gas and syngas hydrocarbons for the production of chemical products, synfuel or electricity. To meet customer requirements, the supply of large quantities of gas is critical. Air Liquide supplies its customers directly by pipelines from a dedicated plant or different plants linked by a network. Air Liquide has built its own pipeline networks progressively over the last 40 years. With a total length of more than 9,300 kilometers (\approx 5,800 miles), these networks stretch, for example, across Northern Europe, from Rotterdam through to Dunkirk, and along the Gulf Coast in the United States from Lake Charles (Louisiana) to Corpus Christi (Texas). Many other mid-sized local networks have also been built in other significant and fast-developing industrial basins in Germany, Italy, Singapore and, more recently, China.

The use of industrial gases is critical for these various industrial processes. As any discontinuity in the supply necessitates a stoppage of the customer's production operations, supply reliability is crucial. However, although vital, gas supply generally represents a very small part of total production cost for the customer.

The raw materials necessary for the production of industrial gases vary according to the type of unit and the region. The production of oxygen and nitrogen requires air and a large quantity of electricity. Hydrogen and carbon monoxide production units mainly consume natural gas and little electricity. Cogeneration units consume natural gas and water. The energy and capital intensity of these industrial processes is generally high.

The supply of gas is generally contracted for 15 years. For certain specific projects this can be extended to 20 years and beyond. The signing of new contracts for new industrial customers' sites is a strong predictor of future growth. Within these contracts, the Group guarantees long-term service continuity and a high level of reliability with respect to the gas supply via a high-performing industrial solution. In return, the contracts include the indexation of input costs, mainly electricity and natural gas, and guaranteed minimum volumes through take-or-pay clauses.



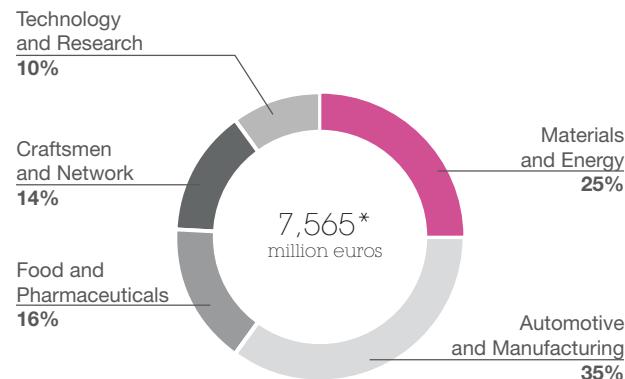
The Large Industries business line operates under long-term contracts, where costs are indexed, in particular, to energy costs. These contracts, which include take-or-pay clauses, offer considerable visibility of future revenue and protection in the event of a significant fall in customer volume consumption (below the minimum take-or-pay level). The long investment cycle and high capital intensity require a solid balance sheet. The signing of new contracts is a strong predictor of future growth.

Air Liquide is developing a network strategy in the industrial basins in order to provide customers with greater supply reliability while optimizing operating costs.

INDUSTRIAL MERCHANT

The Industrial Merchant business line serves a wide range of markets and customers – craftsmen, SMEs, large multinational industrial groups – offering comprehensive gas solutions for the implementation and optimization of their industrial processes. Supported by a global network of business experts and extensive geographical coverage, Air Liquide provides more than two millions of its customers with innovative solutions including industrial gases, application equipment and related services.

2016 INDUSTRIAL MERCHANT REVENUE BY END-MARKET



* 44% of Gas & Services revenue.

INDUSTRIAL MERCHANT KEY FIGURES

- ~ 24 millions cylinders
- ~ 13,000 trucks
- ~ 61,000 tanks at customers
- > 1,000 on-site units
- ~ 37,000 employees
- ~ 1,000 stores

The Industrial Merchant activity serves five primary markets:

■ **Materials and Energy:** Customers in this market use a wide range of different gases. Oxygen is used to reduce energy consumption in glass and metal manufacturing processes and to treat wastewater. Nitrogen is used to create inert atmospheres for the conservation of oxygen-sensitive products. Carbon dioxide is used in drinking water treatment, helium for professional diving and magnetic resonance imaging. Nitrogen and carbon dioxide can be used for the enhanced recovery of oil and gas and, in certain cases, the reduction of water and solvent consumption.

Zoom on the glass industry: in all areas of glass, customers use oxygen to facilitate the melting of raw materials, to reduce fossil fuels and to reduce their emissions of pollutants such as nitrogen oxide. For plate glass manufacturing for construction and automotive industries, glassmaker customers also use nitrogen and hydrogen to improve the quality and transparency of their products, while for container glass used in packaging (bottles, flasks, etc.) or for tableware, customers use oxygen to eliminate manufacturing defects and obtain a quality appearance. These manufacturers receive delivery either by truck, in the form of cryogenic liquid, or by small generators of on-site gas production ("on-site" units) for larger furnaces. Air Liquide provides the storage and accessories for measuring and controlling of gas flow as well as combustion technologies, such as burners designed by its engineers, to maximize the performance and efficiency of melting furnaces.

■ **Automotive and Manufacturing:** Argon and argon mixtures are used for metal parts welding in manufacturing industries, hydrogen and nitrogen for thermal treatment, specialty gases for waste gas analysis, helium for airbags, and rare gases (krypton, xenon) for lighthouses and thermal insulation. Oxygen and acetylene are used in metal heating and cutting operations. Air Liquide therefore enables customers to produce high quality products, while improving their manufacturing processes and preserving their working environment.

Zoom on manufacturing: many operations in manufacturing involve cutting, welding or heat treatment of metal parts. Industrial gases play an essential role in improving site productivity while ensuring the quality of the manufacturing. They are supplied in gaseous form at high pressure, with cylinders often equipped with innovative integrated trigger valves, or in liquid form for the larger production sites. The Air Liquide experts accompany our customers in proposing the most adapted gas solutions to their processes and specific needs. Argon, carbon dioxide or helium are essential molecules to ensure the quality of arc welding, oxygen and acetylene are used for metal cutting, nitrogen or oxygen for laser cutting; argon or nitrogen for new 3D printing processes while nitrogen or hydrogen are essential for physicochemical treatments such as annealing, carburizing or tempering, making it possible to achieve the final mechanical properties. Air Liquide installs storage or panoplies of packaged gas at client sites as well as the associated equipment to control of the relative processes, including devices for measuring and controlling the atmosphere of heat treatment furnaces.

Food and Pharmaceuticals: The Group's technologies help increase shelf-life and improve food and pharmaceutical manufacturing and cooling processes. The three major activities in this market are the supply of carbon dioxide for beverages, gas mixtures for modified atmosphere packaging, and nitrogen for food or for freezing of food. Air Liquide ensures these products comply with prevailing market regulations and in particular the complete traceability of its gases.

Zoom on food freezing: cryogenics allows food temperatures to drop very quickly, avoiding surface dehydration and the formation of large ice crystals in the product. This process makes it possible to preserve all the taste properties of frozen foods. Air Liquide provides and guarantees customers as to the quality and food safety of the nitrogen or liquid carbon dioxide required for deep freezing in accordance with the regulatory traceability specifications. Air Liquide also provides agri-business with deep-freezing tunnels or cabinets as developed by its engineers, thus enabling them to process their production directly while guaranteeing the best conditions of hygiene, quality, productivity and efficiency. Air Liquide ensures the adjustment and maintenance of this equipment and provides customers with the expertise needed to integrate and use its deep-freezing equipment along their production line.

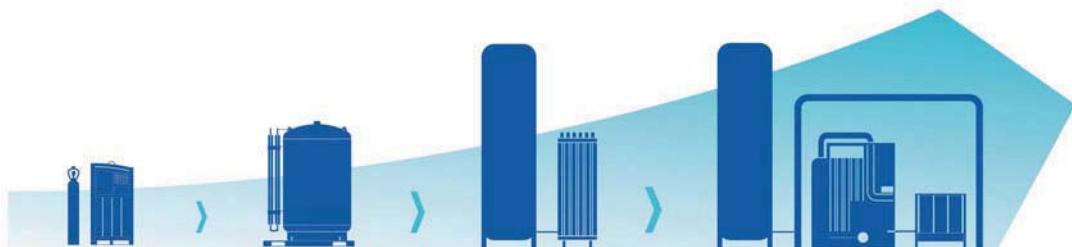
■ **Technology and Research:** Industrial gases are used in the assembly and encapsulation of electronic components in optoelectronics processes – particularly LED manufacturing and optic fiber and silicon cylinder drawing. Specialty gases required, in particular, for the calibration of analysis instruments are widely used in research centers and analytical laboratories. Specific, highly technical gases and equipment have been developed for these various applications.

Zoom on optoelectronics: the production of an optical fiber initially requires the production of a silica bar called a preform. This preform is consolidated with hydrogen, oxygen and helium, then melted in an oven and stretched into an optical fiber at a speed of 1,500 to 2,000 meters per minute. The stretched fiber is then cooled with helium. Air Liquide assists optical fiber manufacturers by supplying these high purity gases. Moreover, the base material used by the white and blue LEDs requires a nitrogen atom. For this process, UHP (ultra-high purity) ammonia is injected during the deposition phase. Liquid at room temperature, the ammonia must be heated to take on its gaseous form. Our induction heating solution, which evaporates UHP ammonia more efficiently, allows our customers to use large volumes of this gas. Air Liquide proposes all of the gases intended for the manufacture of LEDs, including equipment and installation facilities.

■ **Craftsmen and Network:** A wide range of gases are offered for use in plumbing, heating, ventilation, air conditioning, industrial maintenance and auto repair activities, mostly for welding. These gases are often sold in special-purpose packaging – cylinders in compressed gaseous form, tailored to customer usage requirements. Across a number of countries, notably in North America, Air Liquide also offers a complete range of welding equipment (Radnor, Red-D-Arc), wires and units, as well as all personal protective equipment required in order to be able to work safely, enabling customers, craftsmen and contractors to find quickly and in the same place all the elements they need to carry out their welding activities.

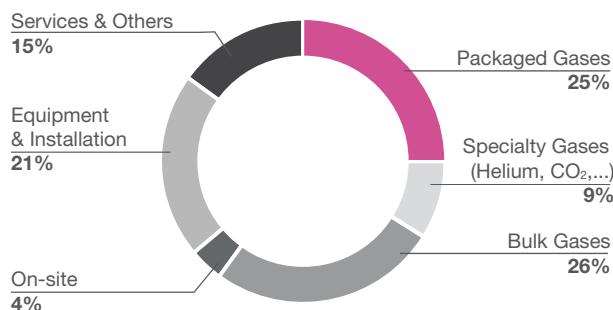
Industrial Merchant sells packaged gases (high pressure gas cylinders) through multiple channels to cover all customer needs: over the phone, e-commerce and/or via its distribution network, to offer a one-stop gas/equipment shopping experience, or directly delivered to the customer's doors with optimized inventory management based on tracking of on cylinders, and customer process expertise.

GAS SUPPLY MODES



Industrial Merchant also supplies industrial gases in liquid form – using trailers -, manages the inventory remotely via telemetry, provides all the equipment to manage the gases at the customer premises, from storage tank to application equipment (freezing tunnels, monitoring and control panels, burners, injection nozzles), and optimizes the customers' operations relying on a unique worldwide network of applications specialists. Customers delivered in liquid form are known as bulk customers.

Finally, Industrial Merchant proposes on-site gas production units. This type of supply mode is contracted for terms which can be up to 15 years; it is dedicated to customers with very large volumes needs or with production facilities in remote locations.



The distribution remains traditionally local with transport distances rarely exceeding a radius of 200 to 250 kilometers around the production site. To ensure this local presence, the Industrial Merchant business relies mainly on the gas production capacity of Large Industries and thereafter develops its own distribution logistics.

- For customers consuming industrial gases in small quantities, the gases are distributed in cylinders. From an operational point of view, the majority of gases is produced by Large Industries and then delivered to Industrial Merchant packaging plants. These gases are stored and then, after evaporation, transferred in cylinders of different capacities (typically 5 to 50 liters); they can possibly be mixed together to create new product references. A fleet of trucks

designed to transport these cylinders is then used to deliver the packaged gas to customers or to distributors or stores. In the latter cases, customers, especially craftsmen and contractors, can come themselves to pick up cylinders they need for their business.

- For customers consuming industrial gases in greater quantities, gases in liquid form are supplied by Large Industries plants (oxygen, nitrogen, argon, hydrogen). They are directly distributed by the Industrial Merchant trucks to bulk customers or to customers with small on-site plants where storage or reserve tanks have been installed beforehand. Bulk customers consume the gas directly in liquid form (for example, in agri-business) or after evaporation through dedicated equipment (exchangers), which are also installed and maintained by Air Liquide.

At the point of use of gases at the customer sites, Air Liquide installs all equipment required for the proper use of gases, such as pressure regulators, instruments for measuring and controlling flows, mixing gases or the injection of gas into the manufacturing process. Air Liquide ensures the reliability of the gas supply and guarantees the quality of the materials used (storage tanks and cylinders). The gas equipment and applications are investments made by Air Liquide, who also covers their maintenance.



The Industrial Merchant activity is characterized by a wide range of customers, markets, applications, and solutions and services. The contract terms can be up to five years for cylinders and liquid gas supply and up to 15 years for small on-site gas generators. Revenue comes from the sale of gas and related services.

It is an expert service business with a high technology and innovation content, extremely local, with dense geographic coverage as a key factor. Competition can vary between areas.

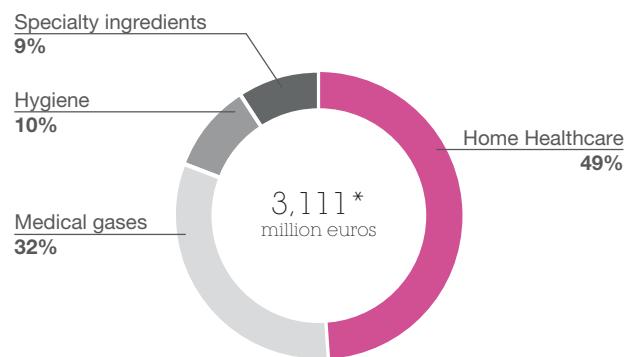
Innovation with regards to markets, products and applications is a major growth driver. Business growth is generally dependent on local industrial production growth.

HEALTHCARE

The Healthcare business line provides gases, services, medical devices, equipment and hygiene products to more than 15,000 hospitals and clinics and 1.4 million homecare patients around the world. The business line includes the Specialty Ingredients activities of its subsidiary SEPPIC, serving the cosmetics, pharmaceutical and vaccine markets.

Air Liquide is one of the world leaders in this business sector, which is subject to both stringent regulatory requirements relating to the drug designation status of several of its gases as well as to multiple stakeholders (patients, doctors and payers). The geographic breakdown of the Medical Gases activity, segment corresponds to that of the Industrial Merchant activity; this has been reinforced with the acquisition of Airgas in the U.S. Home Healthcare business, Hygiene, and Specialty Ingredients segments are more focused on Europe. As a result, almost 75% of the Healthcare business line's sales are in Europe and almost 20% in the Americas.

2016 HEALTHCARE REVENUE BY ACTIVITY



* 18% of Gas & Services revenue.

In hospitals and in clinics, Air Liquide provides medical gases, such as oxygen and nitrous oxide, for operating theaters, intensive care units, emergency care and, more generally, medical wards.

The Group also innovates and develops therapeutic gases used particularly for resuscitation in cases of acute pulmonary arterial hypertension (Kinox™), and pain relief (Kalinox™). Several therapeutic gases remain in the research and development phase, and the Group is in the process of extending its existing market authorizations.

With its subsidiary Schülke, Air Liquide also supplies hospitals and clinics with a large range of medical hygiene products (for hands, skin, instruments, surfaces, etc.) to combat, in particular, hospital acquired infections. In this way, Air Liquide contributes to patient safety, particularly in operating theaters and intensive care units. Some hygiene products are also supplied to manufacturers, whose processes require impeccable cleanliness.

In Home Healthcare, Air Liquide has extended its services beyond oxygen therapy. The Group looks after more than 1.4 million patients at home suffering, particularly, from chronic obstructive pulmonary disease, sleep apnea, diabetes, or Parkinson's disease by providing them with long-term medico-technical services and follow-up care. Through close monitoring of patient prescriptions and by enhancing patient observance of treatments, Air Liquide, a Home Healthcare provider, has become a key player in patient/doctor/payer relations and contributes to improving patient health and quality of life on a daily basis, as well as enhancing efficiency of health systems.

The Healthcare activity has been growing worldwide, partially through the implementation of healthcare infrastructures and systems in many developing economies. The Home Healthcare activity, which allows a patient with a chronic disease to stay at home, is developing due to a high prevalence of chronic diseases and an aging population. This activity also helps to meet the growing constraints on health spending in developed countries.

Through its subsidiary SEPPIC, Air Liquide produces and markets specialty ingredients such as excipients and active ingredients for cosmetology, adjuvants for vaccines, film-coating systems for medication, etc.

Over the last 20 years, Air Liquide has developed as a leading healthcare player in Europe (France, Germany, Italy, the United Kingdom, Scandinavia, Spain, and the Netherlands), Canada and Australia. In addition, the Group has businesses in the United States (medical gases only), South America, Africa and Japan with recent expansion to Eastern Europe, South Korea and China as the local healthcare systems develop.



The Healthcare business line produces and distributes medical gases for hospitals and provides healthcare services for caring for patients at home. It operates in a strict regulatory framework. Density, quality of support services and efficiency are essential to provide resistance to pricing pressures of healthcare systems, particularly in advanced economies.

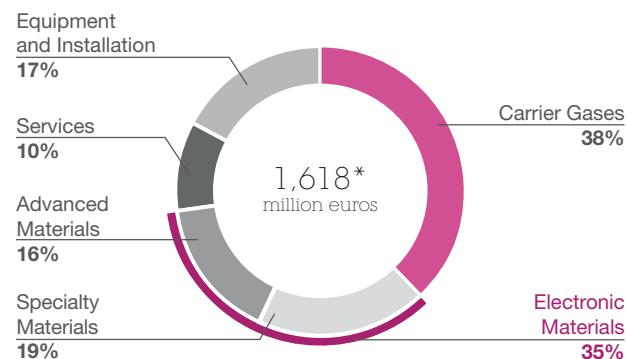
Air Liquide is present along the continuum of care: from treatment of acute diseases (with medical gases in hospitals), to treatment of chronic diseases at home (with Home Healthcare), and prevention and well-being (with the activities in Hygiene and Healthcare Specialty Ingredients).

With aging populations and the escalating need for care due to the increase in chronic diseases, as well as the continuing expansion of healthcare systems in developing economies, the Healthcare activity represents a solid growth driver for the Group.

ELECTRONICS

Air Liquide serves major manufacturers of semiconductors, flat panel displays and solar cells, leveraging its expertise, global infrastructure and strategic proximity to manufacturers worldwide. Its innovative Electronic Materials respond to increasingly challenging customer demands for improved mobility, connectivity, computing power and energy consumption. The Group offers include ultra-pure carrier gases, a wide range of Electronics Specialty Materials (ESM) and Advanced Materials (AM), enabling equipment for safe distribution, purification and on-line purity control. The most sophisticated of these materials are essential for the continuous miniaturization of the new microchips. On site, manufacturers can rely on the Group's expertise in the total management of these fluids and equipment as well as on its cutting-edge analytical services used to improve continuously their production processes.

2016 ELECTRONICS REVENUE BY PRODUCT



* 9% of Gas & Services revenue.

The Electronics business line supplies customers with carrier gases (primarily ultra-pure nitrogen) from on-site facilities for the transport of molecules, inerting and protection of electronic systems, as well as purging of manufacturing tools. The need for a regular and constant supply of carrier gases requires long-term commitments from customers with the building of production units near their premises or even on the customer's site.

The Group also provides materials for electronics such as Electronics Specialty Materials and Advanced Materials used in semiconductor, flat panel and solar cell manufacturing. The acquisition of Voltaix in 2013 has extended the Group's range of Advanced Materials. Within this range, grouped under the ALAM name, the Group develops and markets offers with strong added value to its offer, including ALOHA™ and Voltaix. It strengthens its relationships with key customers and creates new synergies in the research and industrialization of Advanced Materials.

The Electronics business line also supplies equipment and installs ultra-pure chemicals products and gas distribution units and networks at its customers' new manufacturing facilities.

Finally, given its expertise and its desire to offer customers a comprehensive service, Air Liquide also provides just-in-time, on-site fluid management and quality control services under rigorous safety conditions.

The Electronics business model is based principally on long-term carrier gas supply agreements with continuous technological innovations to satisfy customer requirements by designing cutting-edge precursor molecules. The combination of Carrier Gas, Electronics Specialty Materials, and Brand-new Materials and Equipment & Installation activities enables Air Liquide to limit revenue volatility in this cyclical sector that offers strong growth potential.

The Electronics activities are based 66% in Asia, 23% in the Americas and 11% in Europe.



The Group's Electronics activity covers three different activities: carrier gases with a business model based on long-term contracts and take-or-pay-type clauses; Electronics Specialty Materials (ESM) and Advanced Materials (AM) with a high level of technical expertise; Equipment & Installation sales linked to the momentum of the electronics sector investment cycle.

In the electronics sector, where long-term growth is accompanied by short cycles, the mix of activities specific to Air Liquide with its long-term contracts, offers a true competitive advantage.

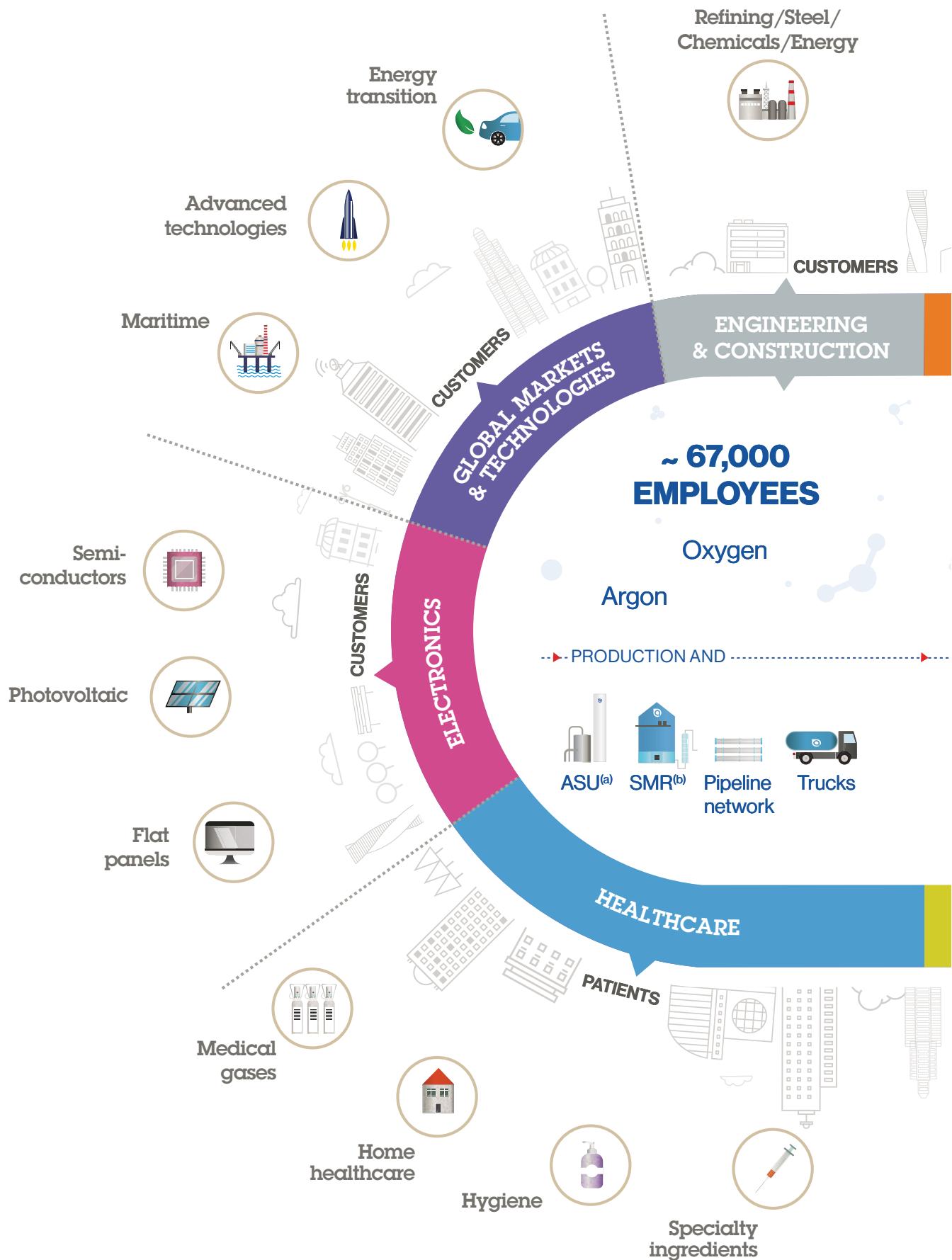
PRODUCTION AND LOGISTICAL SYNERGIES

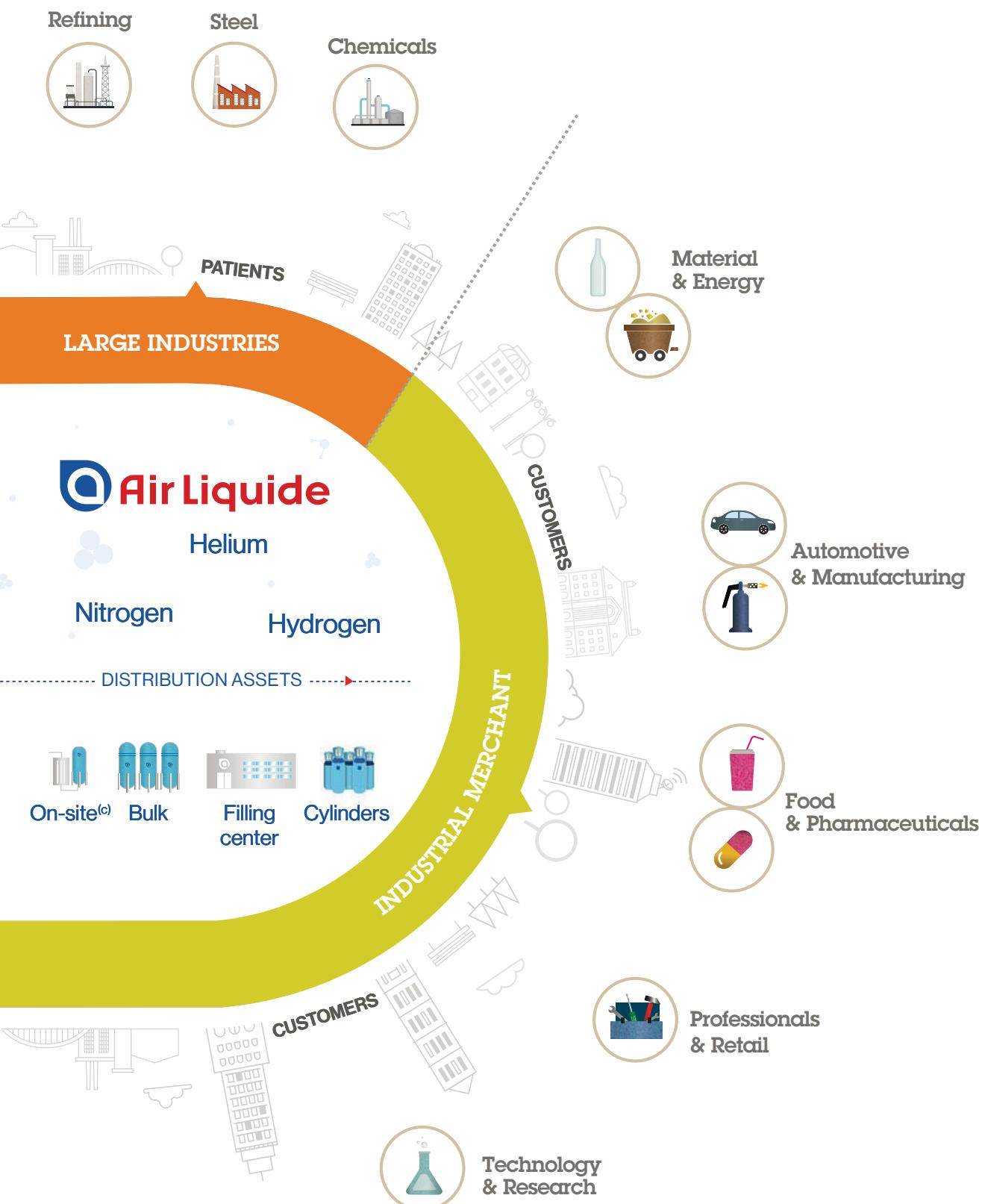
The four business lines comprising the Gas & Services activity are closely tied by a strong industrial philosophy where proximity is key. The following chart illustrates the sharing of both production and distribution assets for a given geographic area, between the different business lines. Due to this efficient industrial network, Air Liquide capitalizes on its proximity to its customers to anticipate their needs, understand market changes and offer innovative solutions. This approach allows the Group to target a diverse range of activities and markets.

In its quest for improved performance, the Group favors efficiencies in a number of areas:

- Industry: local investment in new assets, followed by mutualization of these assets between the different business lines, optimization of production processes, globalization of energy supply and energy (electricity and natural gas) purchasing, specifically;
- Engineering & Construction: sharing of global Group expertise, knowledge transfer, support to the geographic regions;
- Research and Development: constant efforts to develop new applications;
- Human Resources: common managerial culture across a range of regions and businesses, aimed at selecting, training and developing the potential of the Group's men and women and favoring a unique sharing of competencies.

The combination of all these efficiencies allows Air Liquide to become stronger and to grow and continue to create long-term value.





- (a) ASU: Air Separation Unit.
- (b) SMR: Hydrogen and carbon monoxide production unit (Steam Methane Reformer).
- (c) On-site: Small local gas generator.

ENGINEERING & CONSTRUCTION

To provide customers with the gases required for their industrial production, Air Liquide engineers have developed proprietary technologies. For over a century, the Group has designed and constructed gas production units for its own use or for sale to customers who prefer to produce their gas requirements internally. Today, Air Liquide is recognized for its ability to constantly improve ASU productivity based on its mastery of its proprietary technologies.

Since the acquisition of Lurgi in 2007, the Group has expanded its range of technological expertise. It possesses its own proprietary technologies (as developed by Lurgi over 50 years) to produce hydrogen and carbon monoxide through steam methane reforming. This acquisition also expanded the Group's offering of coal and natural gas conversion technologies to produce syngas, synthetic natural gas, methanol, propylene, liquid fuels and biofuels. This expanded Engineering & Construction aptitude has assisted the Group's involvement, upstream of industrial gas production projects as well as in the development of its customer processes, thus boosting sales growth. Many of the customer processes (in varied stages of development) offer technical solutions which assist in the fight against climate change by enabling capture of a virtually pure CO₂ flow as emitted by the industrial sites.

The majority of Air Liquide's Engineering & Construction activity is geared toward industrial gas production technologies. Accordingly, in 2016, 58% of its orders in hand concerned the manufacture of either air gases, hydrogen and/or carbon monoxide production units.

To cover all of the primary markets of the industrial customers, the Engineering & Construction business has extensive geographical coverage with 15 engineering centers worldwide in North America, Europe and Asia. Positioned with this coverage, the Group is able to meet global demand while containing production costs.

The Group favors the development of its gas sales activity over equipment sales. Nonetheless, Engineering & Construction has great strategic value for the Group, both internally and externally.

Internally, the Group benefits from the relevant engineering resources during the investment phase of project of its Gas & Services activity. It provides a high level of expertise, crucial to the design of efficient units which specifically respond to the needs of the Group's industrial gas customers. It provides support for the Group during site takeovers, by ensuring the appropriate assessment of the quality of assets purchased.

The Engineering & Construction activity also acts for third-party customers. Air Liquide designs and builds customized units which customers will own and operate. Also, this third-party customer activity

allows the Group to permanently assess the competitiveness of its own technologies and commercial offering. In particular, Air Liquide is able to forge close relations with customers who produce their own gas and better understand their industrial processes and investment projects. In certain cases, negotiations initially steered toward the sale of equipment were finalized by the signing of a long-term industrial gas supply contract. As part of this third-party customer activity, the strategy consists of favoring research and equipment supply contracts and excluding construction risks in the contracts. Accordingly, Engineering & Construction's contribution to consolidated revenue can vary significantly from year to year.



The Engineering & Construction activity provides the Group with a genuine competitive edge, enabling it to offer turnkey solutions to its customers both inside and outside the Group and to engage in a procedure of continuous improvement of industrial processes and reduction in the cost of its industrial assets.

In 2016, consolidated third-party Engineering & Construction sales totaled 474 million euros.

GLOBAL MARKETS & TECHNOLOGIES

Leveraging science, technologies, business models and digital usages, the Business Unit "Global Markets & Technologies" focuses on new markets requiring a global approach.

It is composed of:

- advanced Business & Technologies (aB&T), in charge of opening new markets relating to the energy transition such as hydrogen energy, clean transportation using Bio-NGV and mobile refrigeration with nitrogen, processing and injecting of biogas into the natural gas network, and of developing Space, Aerospace, extreme cryogenics businesses, based on its core technologies;
- Air Liquide Maritime, in charge of developing the gas usages by the actors in the maritime sector, namely, offshore oil and gas platforms (construction and maintenance, inerting, support to drilling, analytical services, diving gases), offshore wind turbines, and cryogenic transportation by sea of high value-added molecules, such as helium.

The new activity has 1,600 employees and generated revenue of 330 million euros in 2016.

Competition

On a worldwide scale, the industrial gases sector comprises four global companies: Air Liquide, Linde (Germany), Praxair (United States) and Air Products (United States). End 2016, Linde and Praxair confirmed on-going discussions on a potential merger of equals between the two companies.

There are also a number of regional players, such as Taiyo Nippon Sanso (Japan), Messer (Germany), Yingde (China) and Hangzhou Hangyang (China).

Finally, numerous medium-sized players are also present in local markets.

In Large Industries, the customer can choose between self-production and over-the-fence gas supply. Self-production is estimated to account for 80% of hydrogen production and 65% of oxygen production globally, although with significant geographical disparities. Companies self-producing gas thus remain the Group's greatest competition. However, the potential to convert self-production into over-the-fence supply represents a major growth opportunity for the Large Industries business line. The level of self-production varies strongly depending upon the region, sector and local culture. In advanced economies, the supply of oxygen is largely over-the-fence, while the supply of hydrogen for refining remains essentially in-house. In developing economies, while relatively new, over-the-fence supply is accelerating significantly. Air Liquide, the world leader in over-the-fence industrial gases supply, is in competition with the three other major global players and the local players.

Industrial Merchant is a local business: transport costs limit the operating area to within 200 to 250 km of the production unit except for high value-added gases. This market, which is highly diversified due to the size and activity of its customers, thus includes numerous small and medium-sized local competitors, either ensuring gas production and distribution or simply playing the role of a gas distributor.

In Electronics, five companies play a major role: Air Liquide, Linde, Versum, Air Products and Taiyo Nippon Sanso. Air Liquide is particularly present in molecules with high value-added.

Finally, in Healthcare, most of the gas industry players also provide hospitals with oxygen, but few are present on the promising therapeutic gas market. Air Liquide maintains its number one position in Europe. Nevertheless, the market remains fragmented in all regions with a multitude of small companies and associations. This fragmentation provides acquisition opportunities. Finally, Air Liquide is the only industrial and medical gases producer to have developed a Hygiene and Specialty Ingredients activity. Air Liquide is positioned as a fully-fledged player in the healthcare sector, which represents a significant differentiating factor.

In Engineering & Construction, Air Liquide also competes with industrial gas players. In the "cold" technologies used for air separation, the competitors are Linde, Air Products or Praxair. In the "hot" technologies used for producing hydrogen, in coal gasification and the chemical conversion of syngas, the most important competitors are Haldor Topsoe (Denmark) or Technip (France). Competition from developing economies is also growing: for example, Hangzhou Hangyang and Kaifeng (China) in air gases.

Risk factors

The Group identifies the risk factors to which it is exposed using a formal risk management approach.

The risks presented below, at the date of this Reference Document, are the risks of which the Group considers that the occurrence may have a significant negative impact on its business, results, outlook, or reputation. The list of these risks is, however, not exhaustive and other risks, unknown at the date of this document, could occur and have a negative effect on the Group's business.

As part of the Group's risk management approach, the Group is committed to regularly assessing the risks and to reducing the likelihood that they will occur or their potential impact by implementing formalized and specific action plans.

The Report from the Chairman of the Board (page 145) presents the main underlying internal control and management procedures put in place for the main risks that contribute specifically to limiting the probability of them occurring or their impact.

SPECIFIC BUSINESS-RELATED RISKS

The industrial gas business is characterized by a significant technology content (both in the design phase and the construction of production units), local production capacity, high capital intensity, and substantial energy requirements.

The risks associated with these characteristics are mitigated by various factors, which include primarily the diversity of customers and industries served by the Group, as well as the innumerable applications that it offers. In addition, a significant share of business is subject to specific contracts, a strict investment project authorization and management process, and a tailored energy policy.

Industrial risks

Industrial risks are linked to the various industrial processes and distribution methods implemented by the Group. They are distributed over a large number of sites from which it operates.

The Group's key priority is safety, with a formal objective of "zero accidents, on every site, in every region, in every unit". The safety results for the past 20 plus years illustrate the long-term effectiveness of Group's actions in this area.

Over and above the usual risks inherent in all industrial activities, Air Liquide's businesses entail more specific risks relating to:

- products: the intrinsic properties of certain products packaged by the Group classifies them in the dangerous materials category, for which tailored procedures and means of detection have been defined to ensure compliance with local regulations as a minimum;

- processes and their operation: cryogenics is used to separate gases by distillation, store them and transport them. This very low temperature technique as well as other high temperature techniques (used in particular in the production of hydrogen) require specific means of control and protection. In addition, pressure is central to the Group's processes. Pressurized equipment must be designed with security features restricting uncontrolled release which may trigger accidents;

- logistics and transportation: each year, delivery vehicles, sales staff and technicians travel many kilometers. Non-compliance by the drivers with the highway code or the lack of regular maintenance of vehicles would expose drivers and third parties to risks of accidents. Preventive measures are regularly implemented, such as awareness campaigns. In addition, industrial sites use a lot of motorized lifting gears. Training in the use of such equipment and user permits are required;

- engineering and construction: industrial risks are factored in from the design phase of future installations. Subsequently, during the construction phase, the lack of prevention plans and rigorous organization would hamper the coordination among the various trades; the project and competences management tools aim to reduce these risks;

- delivery reliability: a variety of solutions contribute to reducing the risks of fault in the systems supplying gas to customers: direct pipeline connection from a production unit, on-site storage with remote surveillance enabling the automatic trigger of resupply or bar-coded gas cylinders ensuring the traceability of products;

- challenges in the medical area: the products and services delivered for the healthcare and wellbeing of patients are regulated by internal standards and specific regulations, and must be subject to particular attention by the teams in question.

The Group has an Industrial Management System (IMS), which defines the management processes covering the above points. It is described in greater depth in the Chairman's Report on page 148.

Industrial investment-related risks

The Group may be exposed to certain risks specific to its industrial investments. Each investment project may be affected, particularly in its profitability, by different factors linked primarily to project location, customer quality and the competitiveness of the site, as well as to design, cost estimates and the construction of gas production units.

The investment authorization process is led by Resources & Investment Committees, which apply extremely strict appraisal criteria to projects. These Committees comprise regional, technical and financial managers as well as World Business Lines managers that vary depending on the nature of the project considered, and are chaired by an Executive Committee member. They take place in each hub or World Business Unit. The investment decision-making process is explained in the "Investment cycle and financing strategy" section on page 47.

Engineering & Construction-related risks

Air Liquide enters into contracts to design and build gas production units worldwide. The primary role of Group Engineering is to undertake internal investment projects. It also performs projects for third-party customers that are selected based on criteria aimed at limiting the risks associated with these Engineering & Construction activities.

Measures to limit commitments on the most complex projects are described in the "Control Activities" section of the Chairman's Report on page 148.

These projects generally extend over several years. Potential risks relating to design, purchasing, transport or construction and more generally to the overall quality of work may arise at different stages of the project. Risks relating to these projects are often greater during the construction stage, in particular for turnkey projects:

- the quality and delivery times for critical equipment on the one hand, and costs and on-site construction costs and deadlines on the other may give rise to project start-up setbacks and impact project profitability;
- unexpected technical problems may also arise as a result of new innovative processes being implemented. Preliminary tests on pilot or demonstration units are therefore meant to help reduce such risks prior to commercial implementation;
- certain projects are located in regions that may be a source of political risks and are therefore subject to constant monitoring.

The impact of the risks described above depends also on the contractual commitments given to customers.

Business-related risks

The primary business-related risk is the risk of customer bankruptcy or closure of a customer's production site. The diversity of the Group's geographic presence in 80 countries distributes the risk among customers and markets. The Group's subsidiaries serve a very large number of customers (more than two million worldwide) in a broad range of industries: chemicals, steel, refining, food, pharmaceuticals, metals, automotive, healthcare, electronics, photovoltaic and research laboratories, etc. The Group's top customer represents around 1% of revenue, the Group's top 10 customers represent around 10% of revenue and the top 50 customers represent around 25% of revenue.

Moreover, a significant part of the Industrial Gas business is covered by customer contracts, with commitment periods specific to the relevant business line:

- the Large Industries business and a third of the Electronics business respectively rely on 15-year to 20-year, and 10-year, take-or-pay secured contracts, ensuring a guaranteed minimum revenue. These contracts provide strong future cash flow predictability;
- the contracts in the Industrial Merchant business, generally with a one- to five-year duration, also include services relating to storage and cylinders;
- in the Healthcare business, positions vary between health systems, with certain countries awarding one- to five-year contracts on a regional and pathology basis following public tenders.

In addition, some Group clients' business may be interrupted for climatic or major political events.

The impact on the Group of the risks of customer business interruption following major climatic or political events is, however, limited by the wide diversity of countries in which it operates. This impact can be reduced by the necessary recourse to gases in critical situations. Indeed, gases are needed to secure industrial or chemical installations (inert gases), maintain local industrial activity (essential to industrial processes) and even sustain life (medical gases). They are therefore often protected or prioritized depending on the situation.

The amount of operating receivables as well as allowance for doubtful receivables are shown in note 18 "Trade receivables" to the consolidated financial statements on page 275.

Supply-related risks

Electricity and natural gas are the main raw materials used by production units. Their availability is thus essential to the Group. Due to the geographic spread of its activities, Group supply contracts are diversified. Where the local market permits, Group subsidiaries secure these resources through medium- to long-term supply commitments and competitive bidding scenarios with the objective of achieving the most reliable and competitive energy costs available in any particular market. The Group passes on cost variations to its customers via indexed invoicing integrated into medium- and long-term contracts.

Commodity risk is described in note 26.1 to the consolidated financial statements on page 299.

Innovation and intellectual property-related risks

The Group's activity is not dependent on third-party patents. It is mainly based on technology, processes and designs which are mostly protected by patents, drawings and models as well as by brands; these technologies, processes and designs are developed internally, notably by its Research and Development, Marketing, Engineering and other innovation teams, as well as through partnerships with third parties. There is, nonetheless, a risk of third-party rights being infringed, in particular when several market players are developing similar technologies. The Group is also developing innovative activities through collaboration with partners, acquisitions, or buying shares in innovative entities: risks may arise in the breakdown between stakeholders of rights and obligations relating to intellectual property.

Measures aimed at ensuring the respect of intellectual property are set out in the Chairman's Report on page 149.

ENVIRONMENTAL AND CLIMATIC RISKS

The industrial and medical gas business presents few environmental risks. Around 85% of the Group's large production units separate the components of atmospheric air, i.e. oxygen, nitrogen, argon and rare gases. These plants "without chimneys" do not use any combustion processes and consume almost exclusively electrical energy. They are particularly environmentally friendly as they emit almost no CO₂, sulfur oxides or nitrogen oxides.

Nonetheless, electricity consumption generates CO₂ emissions by the suppliers of this energy, known as indirect emissions. Besides, the Group's two other main activities, namely hydrogen production and cogeneration, account for nearly 15% of large production units and use combustion processes emitting CO₂ and nitrogen oxides, as well as low quantities of sulfur oxides.

Water is a resource necessary to these three main Group processes. Air gas separation units use water exclusively for cooling purposes during the separation process. Hydrogen production units require water in the form of steam in the reaction producing hydrogen. Finally, the cogeneration units produce steam, which is mainly supplied to customers.

Environmental risks primarily comprise the following components that are subject to rigorous monitoring:

- the environmental footprint, involving the Group's activities worldwide including direct and indirect greenhouse gas emissions which are measured at all production sites;
- respect for applicable legislation and its evolution, in particular in certain geographic regions.

Climatic risks notably comprise weather and climatic disasters which may disrupt the smooth running of operations in particular on the main sites in the regions at risk. Adaptation measures covering risks relating to extreme weather-related phenomena and to the scarcity of water in geographic regions under water stress exist at the main sites located in high-risk areas.

The scheme to manage environmental and climatic risks is detailed in the Chairman's Report on page 151.

FINANCIAL AND TAX RISKS

Financial risk management is a priority for the Group.

The financial risk management processes are detailed in the Chairman's Report on page 149, in accordance with a governance structure that defines the role of the Finance Department, the various Committees and the role of local entities.

The Finance Department also analyzes country and customer risks on investment decisions; it participates in Investment Committee meetings.

Foreign exchange risk

Since industrial and medical gases are not transported over long distances, most products are manufactured in the country where they are sold. The Group considers that its activities and its profitability have a low level of exposure to currency fluctuations.

Foreign exchange transaction risk is related both to cash flows arising from royalties, technical support and dividends, as well as to foreign currency commercial cash flows from operating entities. These commercial cash flows in foreign currencies are not material when compared to consolidated revenue on an annual basis. This foreign exchange transaction risk is managed through the hedging policy implemented by the Finance Department.

Furthermore, the Group provides a natural hedge and reduces its exposure to exchange rate fluctuations by raising debt in the currency of the cash flows generated to repay debt. Thus, financing is raised either in local currency, or when sales contracts are indexed in euros or US dollars, in foreign currency (EUR or USD).

Foreign exchange risk related to the translation of local currency financial statements into euros mainly corresponds to the sensitivity to the main foreign currencies – the US dollar (USD), the Japanese yen (JPY) and the Chinese renminbi (CNY).

Note 25.3 to the consolidated financial statements presents the net indebtedness by currency and note 26.1 to the consolidated financial statements describes the foreign exchange transaction risk management process and the derivative instruments used, as well as sensitivity to foreign currency exchange rates.

Interest rate risk

The interest rate risk is mainly linked to the fluctuation of future cash flows on debt when the rate is variable, such as Euribor or Libor. The Group's objective is to reduce the impact of interest rate fluctuations on its interest expenses and, guided by the principle of prudence, to finance long-term assets with shareholders' equity and fixed-rate long-term debt. Since most of Air Liquide's investments are based on long-term contracts (10 to 20 years), a policy promoting interest rate risk hedging ensures control over financing costs when deciding on long-term investments.

Group policy is to maintain, over a medium- to long-term period, a majority of total debt at fixed rates, mainly by using firm or option hedges. This approach enables the Group to limit the impact of interest rate fluctuations on financial expenses.

Note 25.4 to the consolidated financial statements presents the fixed-rate portion of debt and note 26.1 to the consolidated financial statements describes the sensitivity of the Group's financial expenses to interest rate fluctuations and the interest rate repricing schedule for fixed-rate debt and interest rate hedging instruments.

Financial counterparty and liquidity risk

Financial counterparty risk primarily relates to outstanding amounts on short-term investments and derivative instruments for hedging, and to credit facilities contracted with each bank. To ensure its development and independence, the Group must have sufficient and permanent sources of liquidity, meaning adequate financing resources available at any time and at the lowest cost from banks and financial markets. In this area, the Group adopts a prudent approach to counterparties and their diversification, applying a strict limit on individual outstandings.

Note 26.1 to the consolidated financial statements describes financial counterparty and liquidity risk for the year ended December 31, 2016. Notes 18.1 and 18.2 to the consolidated financial statements provide a breakdown of trade and other operating receivables and allowances for doubtful receivables.

Tax risks

The Group is exposed to tax risk in certain countries, due to changes in applicable regulations, which may have an impact on its activities or its results. Its Tax Department and operational Finance Departments monitor these changes carefully to ensure the Group complies with these regulations.

DIGITAL RISKS

The Group's activities, expertise and, more generally, its relations with all the players in its social and economic environment depend on increasingly dematerialized and digitalized operations. These operations depend on interdependent information systems and communication networks on both a human level and in functional and technical terms.

This digital dependency accentuates the risks of data confidentiality, data processing integrity and information systems availability that may have financial, operational or corporate image impacts for the Group.

A multi-annual operational program aims to continue to strengthen the Group's prevention and monitoring mechanisms in a context of ever-changing cyber-threats and digital risks. This program will enable the application of the digital security policy described on page 148 of the Chairman's Report in priority fields and activities.

HUMAN RESOURCES MANAGEMENT RISKS

The long-term performance of the Air Liquide Group is driven, in particular, by the quality of its employees, their expertise and their motivation.

The Group may be faced with difficulties in finding and sustaining the required skills at the right time and in the right place, in particular in developing economies where the Group is expanding its activities.

The Group ensures the building of a performance-focused, motivating and involved professional environment, through a Human Resources policy aiming to identify, attract, retain and develop competent employees from all walks of life. The objectives of this policy are set out in the Chairman's Report on page 149.

Moreover, considering the changing international climate and its presence in a large number of countries, the Group (its employees, sites and assets) may be exposed locally to a higher security risk, for which additional measures are being taken.

LEGAL RISKS

The Group has a worldwide presence. Its companies operating industrial and medical gas production facilities must comply with the rules and regulations in force locally, particularly in the technical field, and monitor any changes.

In Healthcare in particular, the regulatory environment constantly evolves and specific regulatory constraints exist which relate notably to public markets, to the marketing of products which may be subject to drug regulatory control, and the protection of private information on each patient. In this domain, the evolution of the regulatory environment is monitored with particular vigilance and adapted reinforced means implemented.

More generally, the Group is faced with the risks relating to contracts and competition law, as well as anti-corruption and international commerce issues. These risks are specifically monitored as indicated in the Report from the Chairman of the Board of Directors on the internal control and risk management procedures instituted by the Company (page 147).

To the Group's knowledge, there have been no governmental, judicial or arbitration proceedings, including any such proceedings which are pending or threatened, of which we are aware, which may have, or have had in the past 12 months, significant impacts on the financial situation or profitability of the Company and/or Group.

Liabilities and contingent liabilities related to disputes are described in notes 23 and 31 to the consolidated financial statements.

INSURANCE MANAGEMENT

The Group has adequate insurance coverage, underwritten by first-rate insurers, for civil liability, property damage and business interruption.

Property damage and business interruption

Group property and business interruption are covered by property and casualty insurance policies underwritten in each country in which the Group operates. Almost all of these policies are integrated into an international program.

These policies, which are generally of the "All Risks" form, cover fire, lightning, water damage, explosions, vandalism, impact, machinery breakdown, theft and, depending on the country and in limited amounts, natural disasters.

Business interruption is insured for most production sites under these same policies. The coverage period for business interruption is 12 to 18 months. Deductible amounts are correlated to the size of the sites. Insurers conduct regular visits at the main industrial sites for risk prevention purposes.

Civil liability

In terms of civil liability, the Group maintains two separate covers, one for the North American zone and another for the rest of the world. The North American zone is covered by insurance underwritten in the United States. For the other zones, the Group has subscribed an umbrella policy, underwritten in France, which covers both the Company and its subsidiaries outside of the United States and Canada, beyond any local coverage provided for the subsidiaries.

These two policies cover liability of the Group companies for any damage they might cause to a third party in the course of doing business (operational risk) or arising from their products (product risk). Furthermore, with certain limitations, these policies cover "pollution" risk and product recall costs.

The coverage amounts underwritten exceed 500 million euros. Both policies are built on several overlapping insurance lines and each line has been underwritten for a given amount with several insurers sharing the risk. Beyond the first line, the upper lines pick up the excess risk from the lower lines.

The policy underwritten by the Company in France serves as an umbrella for subsidiaries outside of North America. Under this umbrella, each foreign subsidiary has its own policy covering damages to third parties incurred through its activities or products. The amount insured for each subsidiary in its policy depends on the amount of its revenue. The coverage under the Group's umbrella policy is supplemental to any local amounts.

The main exclusions are deliberate acts, war, nuclear incidents and repair of defective products.

Captive reinsurance

A portion of risks of damage and operating losses is kept by the Group via a captive reinsurance company located in Luxembourg, which also participates, since July 1, 2015, in the coverage of the Group's civil liabilities excluding the North American zone.

This company covers losses of up to a maximum of 5 million euros per loss over and above the deductibles to a maximum of 19.5 million euros per year. Beyond these amounts, risks are transferred to insurers. Their management is entrusted to a captive manager approved by the Luxembourg Insurance Commission.

This captive reinsurance company is fully consolidated. Its balance sheet as of December 31, 2016 totaled 73 million euros.

RISKS LINKED TO THE AIRGAS ACQUISITION

The following paragraph summarizes the risk factors at year-end 2016 that are most specifically linked to Airgas, for which the integration has been focusing on the Group's financial risk management processes (particularly the investments, cash, and reporting) in the initial months following acquisition.

Following the Airgas acquisition, the Air Liquide Group will make around one-third of its full-year recurring revenue within the U.S. territory and will therefore see an increase in sensitivity to this country's economy and specificities. Similarly, and due to Airgas' activity profile, the relative weight of the Industrial Merchant business will increase to reach from 40% to 50% of Group full-year recurring revenue.

Financing-related risks

Due to the increased level of indebtedness resulting from the acquisition, and particularly in case of a significant increase in interest rates upon future renewals of bonds in euro and in US dollar issued post-acquisition, the Group may find itself obliged to devote a more significant portion of cash flows from its operational activities to service the debt.

Note 26.1 to the consolidated financial statements describes the sensitivity of the Group's financial expenses to interest rate fluctuations and the interest rate repricing schedule for fixed-rate debt and interest rate hedging instruments.

Risks involving credit ratings

As anticipated, following the acquisition, S&P downgraded L'Air Liquide S.A.'s credit rating for the long-term debt by two notches (from A+ to A-). Despite the stable outlook associated with this credit rating as well as the first credit rating issued by Moody's (A3) in May 2016, it is possible that the rating agencies will downgrade their ratings of L'Air Liquide S.A. to below their current levels, should Air Liquide's level of indebtedness increase more than expected or for other credit-related reasons, with a negative impact on Air Liquide's ability to finance its continuing operations and to refinance its debt.

Foreign exchange risk following the acquisition

The Group presents its financial statements in euros. Following the acquisition, the Group's exposure to the US dollar has increased due to Airgas' significant assets and revenue in the United States and due to the increase in US dollar denominated Group's debt, with a risk linked to the translation of the financial statements:

- large fluctuations in the value of the euro against the US dollar will have a more significant impact on the Group's published results than before the acquisition;
- the same foreign exchange variations will have an impact on the figures presented in the Group's balance sheet, particularly concerning the debt.

Note 26.1 to the consolidated financial statements describes the foreign exchange transaction risk management process and the derivative instruments used, as well as sensitivity to foreign currency exchange rates.

Risks concerning the synergies and other expected benefits

The Airgas integration process includes inherent uncertainties and costs. The synergies and other expected benefits from the acquisition (particularly growth opportunities, cost savings, and an increase in revenue and profits) may not appear as expected if Air Liquide is unable, for example, to get existing Airgas customers to adopt its products and vice versa, to achieve the smooth integration of information systems and operational processes, to ensure the renewal of certain large supply contracts, due to legal or regulatory constraints, or to negative customer or supplier reactions following the acquisition. The successful integration of Airgas still requires the management teams to be heavily involved, which could affect their ability to direct their recurring activities effectively during the integration period, even if dedicated teams are put in place to manage this process.

Human Resources risks following the acquisition

As part of the integration process, the Group is dealing with the problems inherent in management and integration of a large number of employees with different career paths, profiles, pay structures, and cultures. The Group is therefore rolling out loyalty programs for identified key employees.

2016 PERFORMANCE

The Group achieved solid performance in 2016, a year of transformation, marked by the acquisition of Airgas and a refocusing on Gas & Services activities. Group revenue for 2016 totaled 18,135 million euros, up +14.6% as published compared to 2015, driven by the consolidation of Airgas sales from May 23, 2016 but penalized by negative currency impact of -1.4% and by adverse energy impact of -2.2%. Comparable Gas & Services sales growth, outperforming the market, was +2.7%.

The development of activity in 2016 was mainly driven by the ramp-up of production units in Large Industries, solid sales growth in Healthcare, double-digit growth for the new Global Markets & Technologies activity and dynamic developing economies.

The operating margin was 16.7% in 2016, reflecting the new business mix following the integration of Airgas; it also includes the contribution from 315 million euros of efficiencies and the first Airgas synergies for 45 million US dollars. Net profit (Group share) reached 1,844 million euros, up +5.0% compared with 2015. Net earnings per share, after taking account of the dilutive impact of the capital increase, were 5.11 euros, up +2.4% compared with 4.99 euros per share in 2015.

Net cash after change in working capital requirements was up +30.5% compared with 2015 and represented 20.4% of sales, driven notably by a good level of operating cash flow and an improvement in WCR. Following the capital increase, the net debt-to-equity ratio reached 90% at the end of December 2016, sharply down compared with the exceptional level of 151% at the end of June 2016, five weeks after the Airgas acquisition.

The Group pursued its growth initiatives with investment decisions of 2.2 billion euros. The average size of projects in the portfolio of opportunities is more modest, which contributes to a better distribution of risk.

The Board of Directors proposed a nominal dividend to be submitted to the Annual General Meeting of May 3, 2017 at 2.60 euros per share. Taking into account the restatement related to the rights issue, this dividend represents an increase of +2.7% for the shareholder. The pay-out ratio is estimated at 56%.

2016 Key Figures

(in millions of euros)	2015 ^(a)	2016	2016/2015 published change	2016/2015 comparable change ^(b)
Group revenue	15,819	18,135	+14.6%	+0.9%
of which Gas & Services	14,752	17,331	+17.5%	+2.7%
Operating income recurring	2,856	3,024	+5.9%	
Operating income recurring (as % of revenue)	18.1%	16.7%	-140bps	
Net profit (Group share)	1,756	1,844	+5.0%	
Adjusted earnings per share (in euros)	4.99	5.11	+2.4%	
Adjusted dividend per share (in euros)	2.53	2.60 ^(c)	+2.7%	
Net cash flows from operating activities ^(d)	2,832	3,697	+30.5%	
Net capital expenditure ^(e)	2,292	13,609		
Net debt	7,239	15,368		
Debt-to-equity ratio	56.7%	89.6%		
Return On Capital Employed – ROCE after tax ^(f)	10.3%	7.8%		

(a) 2015 figures have been restated to account for IFRS5, discontinued operations.

(b) Excluding significant scope, currency and energy impact.

(c) Subject to the approval of the 3 May 2017 Annual General Meeting.

(d) Cash flow from operating activities after change in working capital requirement and other elements.

(e) Including transactions with minority shareholders.

(f) Return On Capital Employed after tax: ((net profit after tax before deduction of minority interests - net cost of debt after taxes) over 2016)/(average of (shareholders' equity + minority interests + net indebtedness) at the end of the three last semesters (H2 2015, H1 2016 and H2 2016)).

Highlights of 2016

A MAJOR ACQUISITION: AIRGAS

Completion of the Acquisition

On May 23, 2016, Air Liquide completed the acquisition of the American company Airgas. The combined businesses including Airgas will generate worldwide annual sales of more than 20 billion euros.

Operational Merger and First Synergies

- The integration process took a major step forward with the effective merger of the two organizations on October 1. The Group's Industrial Merchant and Healthcare customers in the United States are now served by this new organization which is supervised from the Radnor site in Pennsylvania. The Large Industries and Electronics business lines in the United States remain supervised independently from the Houston site in Texas.
- The expected synergies amount to more than 300 million US dollars. For approximately 70%, the cost synergies result from optimization in cylinder and bulk operations, process, procurement and back-office. For approximately 30%, sales synergies correspond to the deployment of Air Liquide offering through the Airgas network and of Airgas offers in Canada and Mexico. They also include the increase in sales of air gases and helium based on the production capacity of Air Liquide.
- Airgas cost synergies should be fully achieved by the end of 2018, thus earlier than initially anticipated. Operational integration is proceeding as planned, including the closure of 18 cylinder filling stations or storage sites to optimize product flows, which contributed to logistics synergies. The projects which will generate revenue synergies have also started, notably with the launch of the Group's on-site (FloxaTM) offering to Airgas customers and the training of sales teams on the combined product offerings.

Successful Refinancing of the Transaction

- On June 6, 2016, Air Liquide placed 3 billion euro bond issue with a weighted average rate of 0.65%. This operation was the first step of the refinancing process. It involved the issuances of several bond tranches ranging from 2 to 12 years, with a weighted average maturity of 7.3 years. The 3 billion euros raised enabled the Group to refinance a portion of the bridge loan of 12 billion US dollars.

- On September 12, 2016, Air Liquide launched a share capital increase with preferential subscription rights for existing shareholders (the "Rights Issue") as part of the refinancing of the Airgas acquisition. This transaction, for which the subscription period lasted from September 14 to September 28 included, constituted the second step of refinancing of this acquisition. The parity was one new share for eight existing shares and a subscription unit price of 76 euros for each new share. The final gross proceeds amounted to 3.3 billion euros resulting in the issuance of 43,202,209 new shares. The total subscription rate reached 191.2%.
- On September 22, 2016, Air Liquide successfully placed five US dollar-denominated senior bonds for an aggregate amount of 4.5 billion US dollars, which constituted the third and last step in refinancing its acquisition of Airgas. These bond issuances have maturities ranging from three to 30 years, for an average weighted maturity of 10.6 years and an average weighted rate of 2.3%.
- These refinancings allow as well to continue to sustainably finance the Group's long-term growth.

Realization of Divestments

- In accordance with the divestiture process described in the FTC (US Federal Trade Commission) press release of May 13, 2016, an agreement has been concluded with Matheson Tri-Gas, Inc. ("Matheson"), a subsidiary of Taiyo Nippon Sanso Corporation (Tokyo, Japan), concerning the sale of certain assets in the United States. This transaction, concluded at the beginning of September, included the sale of 18 air separation units in 16 locations; two nitrous oxide production facilities; six carbon dioxide production facilities; and three Airgas retail packaged welding gas stores in Alaska. Under the terms of the agreement, Matheson has acquired production facilities, equipment, inventory, distribution assets, and customer contracts, and has also hired employees related to the divested assets.
- The transaction, valued at 781 million US dollars, generated a net gain after tax of approximately 250 million US dollars for Air Liquide. This gain offset the totality of the exceptional costs relative to the Airgas acquisition, integration and financing for the year.
- Air Liquide also finalized, in December 2016, the sale of two units in Iowa which produce liquid carbon dioxide and dry ice, corresponding to the remaining divestitures required by the American anti-trust authority (FTC) in connection with the Airgas acquisition.

LAUNCH OF NEW CORPORATE PROGRAM 2016-2020: NEOS

The Group acquires a new dimension following the acquisition of Airgas and thus enters a new phase of its development. On July 6, 2016, Air Liquide published its new company mid-term program NEOS for the period 2016-2020.

Air Liquide's strategy for profitable growth over the long-term is a customer-centric transformation. It will be based on operational excellence and the quality of its investments, on open innovation and the network organization already implemented by the Group worldwide. Air Liquide's ambition is to lead its industry, deliver long-term performance and contribute to sustainability.

Air Liquide has identified three major long-term trends, which are sources of growth for all of its businesses. These trends are energy and environment transition, changes in healthcare, and digitization.

Air Liquide, as part of its NEOS Program, is aiming for revenue compound annual growth rate (CAGR), over the 2016-2020 period, of +6% to +8%, including Airgas scope effect in 2017, contributing +2% CAGR. The Group intends to generate substantial recurrent efficiency gains of more than 300 million euros on average per year from 2017, in addition to synergies related to Airgas acquisition for a total amount above 300 million US dollars. The Group is targeting a Return On Capital Employed (ROCE) in excess of 10% after five to six years. Lastly, maintaining a long-term minimum "A" range rating (from Standard & Poor's and Moody's rating agencies) thanks to the strength of its balance sheet remains a priority.

As for sustainable development, which lies at the heart of its ambition alongside performance, the Group will reinforce its actions aimed at improving the air quality for better environment and health. Air Liquide will pursue an active dialogue with its stakeholders to contribute to a more sustainable world.

DEVELOPMENT OF INDUSTRIAL ACTIVITY

In Large Industries:

- in China, Air Liquide signed a new long-term contract with Xinneng Energy Company, a subsidiary of ENN Ecological Holdings Company (ENN). Under the terms of the new agreement, Air Liquide will invest more than 60 million euros in an ASU (Air Separation Unit), with a total capacity of 2,700 tonnes of oxygen per day. This new unit is expected to start operations in the second quarter of 2018;

■ Air Liquide also signed a new long-term contract with Maoming Petrochemical Co. (MPCC), a subsidiary of China Petroleum & Chemical Corp. (Sinopec Corp.), one of the largest integrated energy and chemical companies in China. Under the terms of the new agreement, Air Liquide will invest around 40 million euros in a new state-of-the-art ASU, with a total capacity of 850 tonnes of oxygen per day. Expected to start operations in the second quarter of 2017, the new ASU will supply industrial gases including oxygen and nitrogen to the customer's new ethylene oxide plant as well as to its existing one. MPCC's decision to outsource their needs for industrial gases on this new project demonstrates their confidence in Air Liquide's capability to provide innovative solutions and deliver safe operations;

■ in South America, Air Liquide signed a new long-term contract with Axion Energy Argentina, subsidiary of Bridas Corporation and leading refiner in Argentina. Under the terms of the new contract, Air Liquide will invest 55 million euros in a second hydrogen production unit (Steam Methane Reformer – SMR) for Axion. Implanted in Campana, Buenos Aires, this SMR will raise the hydrogen production capacity of the site to 37,000 Nm³ per hour. Operations are expected to start in the second half of 2018.

In Industrial Merchant:

- Air Liquide has signed two multi-year contracts for a total worth of 20 million euros, for the supply of high purity xenon in the all-electric propulsion satellite market: one with Airbus Defence and Space, the world leader in high power electric satellites and one with Thales Alenia Space, leader in High Throughput Satellites;
- Cryo International, an Air Liquide subsidiary specializing in temperature-controlled logistics solutions, has acquired PDP Couriers, a major player in the customized transport of highly value-added products for the pharmaceutical and biotechnology industries. The company generated revenues of approximately 21 million euros in 2015. PDP Couriers has grown significantly in Eastern Europe, Latin America and Asia over the past few years;
- Air Liquide's partnership with US start-up Solidia Technologies® (Solidia), provides new equipment for carbon dioxide (CO₂) injection for the production of Solidia Concrete™. Due to Solidia's patented processes which cure concrete with CO₂ instead of water, this next generation of cement will allow the entire industrial chain to reduce up to 70% the environmental footprint of pre-cast concrete. The breakthrough technology results in reduced concrete curing times of less than 24 hours and lower water consumption. In addition to capturing large amounts of CO₂, the quality of the concrete is significantly improved.

In Global Markets & Technologies:

- Air Liquide commissioned seven biogas purification units in Europe in 2016. The Group has developed technologies and expertise that span the entire biomethane value chain: purification of biogas into biomethane, injection into the natural gas network, liquefaction, and distribution for clean transportation fleets. The purification and biogas valorization is a very promising example of a circular economy, which helps reduce greenhouse gas emissions and which could contribute to solutions for the zero emission transportation of tomorrow;
- In July 2016, Air Liquide announced the commissioning of a world premiere pure helium storage facility close to Düsseldorf, Germany. This site offers its customers service to secure their helium supply. With this initiative, Air Liquide will better address customer needs in offering reliable and complete helium provisioning;
- Air Liquide has signed several contracts for the supply of cryogenic equipments for the propulsion of the future European launcher Ariane 6, as well as for the design and production of the cryogenic fluid systems of the new Ariane Launcher System (ELA4) of the Guiana Space Center (GSC). The contracts for the sale of those equipments, amounting to more than 100 million euros, will be executed over the next three years.

DEVELOPMENT IN HEALTHCARE

- Air Liquide pursued its external growth strategy in Healthcare. The Group announced the acquisition by its subsidiary Schülke, a specialist in hygiene and hospital disinfection, of Vic Pharma, the second largest independent player in the Brazilian hygiene market. It offers a broad range of products for disinfecting surfaces, instruments and medical devices, as well as antiseptic solutions for pre- or post-operative care. Present mainly in the hospital and medical settings, the company generated revenue of approximately 8 million euros in 2015.
- Air Liquide announced on October 13 that its subsidiaries SEPPIC, healthcare specialty ingredients manufacturer, and Schülke, hygiene specialist, broke ground on a shared state-of-the-art production facility in Sandston – Virginia, United States. This plant is expected to start operations in the first half of 2018 and will produce ingredients destined to the worldwide cosmetic and pharmaceutical markets. The planned investment is over 60 million US dollars.

NEW PROJECTS IN INNOVATION AND TECHNOLOGIES

- Air Liquide has inaugurated its new Shanghai Research & Technology Center (SRTC). This new center will ultimately host 250 employees, including researchers, experts in customer applications and business development teams. It will become a major center for the Group's innovation in the Asia Pacific region. This opening follows the celebration of the 20th anniversary of the Group's Engineering & Construction facilities in Hangzhou, a city of Zhejiang province, illustrating the long-term commitment of the Group in China.
- Air Liquide was certified as a "technological showcase" in France by the Industry of the Future Alliance. Air Liquide decided in 2016 to invest 20 million euros in Large Industries in the project called "Connect". The Group creates a remote operations and optimization center in France which is unique in the industrial gases industry, able to control and optimize the production, energy, efficiency and reliability of the Large Industries sites, or carry out predictive maintenance actions.
- ALIAD, the venture capital arm of the Air Liquide Group, strengthened its position in future industries with new equity investments in technology start-ups: Carmat, Inpria, Poly-Shape, Solidia Technologies, and Proxem. ALIAD has thus made 27 investments since its creation in 2013 for a total commitment of over 66 million euros. The investment strategy of ALIAD, coherent with the Group's strategy, targets sectors linked to the energy transition, healthcare, and high tech.

PORTFOLIO MANAGEMENT

Air Liquide is focused on its Gas & Services activities following the Group's acquisition of Airgas, as well as on the implementation of its company program NEOS for the 2016-2020 period.

Air Liquide is considering various options for the divestment of its subsidiary Air Liquide Welding, specialized in the manufacturing of welding and cutting technologies, with the intention to provide it with the best opportunities for its long-term development.

At the end of December, Air Liquide finalized the divestment of Aqua Lung, a key player in personal aquatic equipment for recreational and professional use, to Montagu Private Equity, a leading European private equity firm. Montagu will support Aqua Lung's next phase of growth and enable the company to deliver on its strategy.

2016 Income Statement

COMPARABLE BASIS: EXCLUDING SIGNIFICANT SCOPE, CURRENCY, ENERGY (NATURAL GAS AND ELECTRICITY) IMPACT

Applied method

In addition to the comparison of published figures, financial information is given excluding significant scope, currency, and natural gas and electricity price fluctuation impact.

- The significant scope effect corresponds to the impact on sales of all acquisitions or disposals of a significant size for the Group. These changes in scope of consolidation are determined:
 - for acquisitions during the period, by deducting from the aggregates for the period the contribution of the acquisition;
 - for acquisitions during the previous period, by deducting from the aggregates for the period the contribution of the acquisition between January 1 of the current period and the anniversary date of the acquisition;
 - for disposals during the period, by deducting from the aggregates for the previous period the contribution of the disposed entity as of the anniversary date of the disposal;
 - for disposals during the previous period, by deducting from the aggregates for the previous period the contribution of the disposed entity.
- Since industrial and medical gases are rarely exported, the impact of currency fluctuations on activity levels and results is limited to euro translation impacts with respect to the financial statements of subsidiaries located outside the euro zone. The currency effect is calculated based on the aggregates for the period converted at the exchange rate for the previous period.
- In addition, the Group passes on variations in the cost of energy (electricity and natural gas) to its customers via indexed invoicing integrated into their medium and long-term contracts. This indexing can lead to significant variations in sales (mainly in the Large Industries business line) from one period to another depending on fluctuations in prices on the energy market.

An energy impact is calculated based on the sales of each of the main subsidiaries in Large Industries. Their consolidation allows the determination of the energy impact for the Group as a whole. The foreign exchange rate used is the average annual exchange rate for the year N-1.

Thus, at the subsidiary level, the following formula provides the energy impact, calculated for natural gas and electricity respectively:

Energy impact = Share of sales index to energy year (N-1) x (Average energy price over the year (N) - Average energy price over the year (N-1)).

Neutralizing the impact of variations in energy prices against sales allows analysis of evolution in revenue on a comparable basis.

Main impact 2016

- Considering the disposal of Aqua Lung, closed on December 30, 2016, and the fact that Air Liquide is considering various options for the divestment of its subsidiary Air Liquide Welding communicated on December 15, 2016, "Other activities" have been reallocated to "Net Profit From Discontinued Operations" in the 2016 Income Statement, in accordance with IFRS5. The 2015 Income Statement has been restated in an identical manner. Assets and liabilities held for sale have also been reported in a dedicated line in the Balance Sheet.

As a consequence, the comments below concern 2015 restated figures and 2016 data in accordance with IFRS5 as stated above.

- Moreover, on account of the October 1, 2016 operational merger of Industrial Merchant and Healthcare activities of Airgas and Air Liquide in the United States, it is no longer possible to isolate Air Liquide and Airgas activities as to the former scope. In consequence, comparable sales growth for the fourth quarter 2016 and for full year 2016 in the Americas region results from internal estimates.

The main impact on revenue in 2016 was:

(in millions of euros)	Group	Gas & Services
Revenue 2016	18,135	17,331
2016/2015 published change (in %)	+14.6%	+17.5%
Significant scope impact	+2,735	+2,735
Currency impact	(210)	(203)
Natural gas impact	(272)	(272)
Electricity impact	(84)	(84)
2016/2015 comparable change ^(a) (in %)	+0.9%	+2.7%

(a) Estimated comparable growth excluding significant scope, currency and energy impact.

REVENUE

Revenue (in millions of euros)	2015	2016	2016/2015 change	2016/2015 comparable change ^(a)
Gas & Services	14,752	17,331	+17.5%	+2.7%
Engineering & Construction	775	474	-38.8%	-38.0%
Global Markets & Technologies	292	330	+13.2%	+13.6%
TOTAL REVENUE	15,819	18,135	+14.6%	+0.9%

(a) Excluding significant scope, currency and energy impacts.

Group

Group revenue in 2016 totaled 18,135 million euros, up +14.6% as published compared to 2015, driven by consolidation of Airgas sales from May 23, 2016 but penalized by negative currency impact of -1.4% and by adverse energy impact of -2.2%. Excluding currency and energy impact, growth stood at +18.2%. In the fourth quarter, the currency and energy impact reversed, becoming slightly positive, respectively +0.1% for currency and +0.4% for energy.

Excluding Airgas, currency and energy impact, comparable sales growth in 2016 for the Group was +0.9%. It benefited from solid growth in Gas & Services sales although the activity level remained weak in Engineering & Construction in a difficult environment.

Revenue by quarter (in millions of euros)

	Q1 2016	Q2 2016	Q3 2016	Q4 2016
Gas & Services	3,548	4,070	4,783	4,930
Engineering & Construction	124	130	105	115
Global Markets & Technologies	65	81	73	111
TOTAL REVENUE	3,737	4,281	4,961	5,156
2016/2015 published change	-2.9%	+7.9%	+25.1%	+27.8%
2016/2015 comparable change ^(a)	+2.8%	+1.3%	-0.8%	+0.5%
2016/2015 Gas & Services comparable change ^(a)	+4.2%	+3.1%	+2.0%	+1.7%

(a) Excluding significant scope, currency and energy impacts.

Gas & Services

Unless otherwise stated, all the changes in revenue outlined below are on a comparable basis: excluding Airgas consolidation impact and excluding currency and energy (natural gas and electricity) impact.

Gas & Services revenue totaled 17,331 million euros, up +17.5% as published. It benefited from the consolidation of Airgas sales since May 23, 2016 but was penalized by negative currency impact of -1.4% and adverse energy impact of -2.4%. Growth including Airgas, excluding currency and energy impact was +21.3%.

Excluding the Airgas contribution and excluding currency and energy impact, comparable sales growth was +2.7%, driven by a solid increase in sales in Large Industries, in Healthcare and in developing economies.

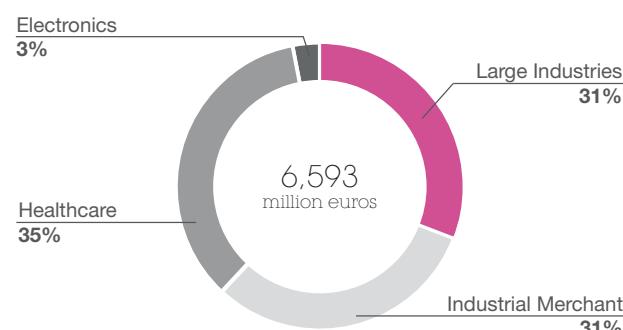
Revenue (in millions of euros)	2015	2016	2016/2015 change	2016/2015 comparable change ^(a)
Europe	6,749	6,593	-2.3%	+2.0%
Americas	3,595	6,230	+73.3%	+1.8%
Asia Pacific	3,850	3,936	+2.2%	+4.2%
Middle-East & Africa	558	572	+2.5%	+7.6%
GAS & SERVICES	14,752	17,331	+17.5%	+2.7%
Large Industries	5,201	5,037	-3.1%	+5.4%
Industrial Merchant	5,229	7,565	+44.7%	-1.6%
Healthcare	2,799	3,111	+11.2%	+4.9%
Electronics	1,523	1,618	+6.2%	+4.3%

(a) Excluding significant scope, currency and energy impacts.

Europe

Revenue from the Europe region totaled 6,593 million euros in 2016, increasing +2.0% and confirming a progressive recovery. Large Industries, up +2.6%, was penalized by several temporary customer maintenance turnarounds. Industrial Merchant sales were stable over the year, with slight improvement in the fourth quarter and encouraging signs in the cylinder activity. Healthcare pursued solid development at close to +4%.

EUROPE GAS & SERVICES 2016 REVENUE



■ Large Industries sales progressed +2.6% in 2016. Demand in air gases was strong throughout the year. Although first quarter revenue benefited from the ramp-up of the Dormagen HyCO unit in Germany, the second and third quarters were penalized by temporary customer maintenance turnarounds. The fourth quarter benefited from an exceptional indemnisation related to a customer contract. Eastern Europe continued to expand, particularly in Russia, Poland and Turkey.

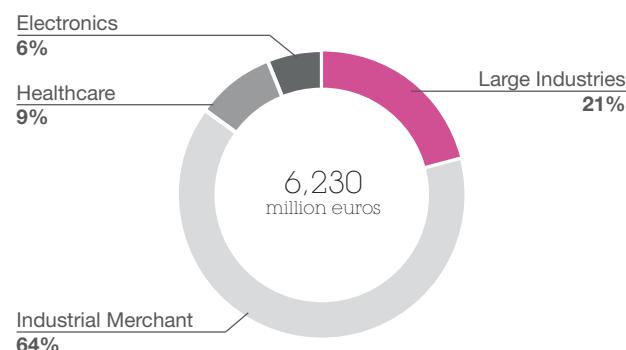
■ Industrial Merchant revenue was stable over the year (+0.0%). Sales were up in Food, Beverage and Pharma markets whereas the manufacturing sector remained difficult. Liquid oxygen and nitrogen volumes were up over the year. At the end of the year, the small customers market, mainly cylinders, showed encouraging signs. Sales in Southern Europe, in particular in Iberia, were relatively strong. Eastern European countries continued their sustained growth, particularly in Russia and Poland. The price impact in the region was negative over the year at -0.7% against a backdrop of quasi-zero inflation and a price decrease for customers with contracts indexed to energy costs.

- Healthcare posted sustained growth of +3.9% over the year. The Home Healthcare activity pursued its dynamic organic development with an increase in the number of patients and an expansion of its portfolio of therapies treated. The incremental contribution of small acquisitions was relatively low in 2016. In Medical Gases for hospitals, pricing pressure continued to penalize revenue. Sales in Hygiene and Specialty Ingredients activities grew significantly.
- Electronics revenue was down -6.0% over the year, penalized by Equipment & Installation sales which were down -17%.

Americas

Gas & Services revenue in the Americas region totaled 6,230 millions euros in 2016, up +77.8% excluding currency and energy impact; and up +1.8% excluding Airgas. Driven by start-ups, sales were up strongly in Large Industries, with solid volumes, whereas they remained down in Industrial Merchant in North America, as manufacturing output and construction remained slow in the United States and Canada. Business continued to expand dynamically in South America, in particular in Large Industries and Healthcare.

AMERICAS GAS & SERVICES 2016 REVENUE



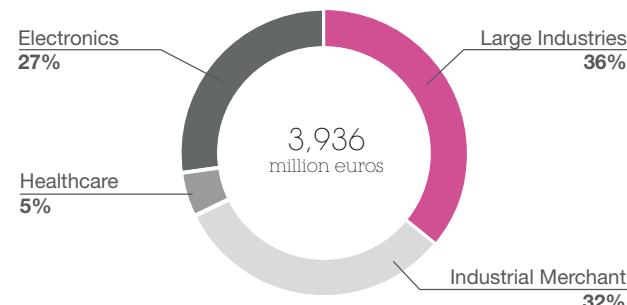
- Large Industries posted strong growth in sales, up at +7.4% over the year, in particular driven by the ramp-up of several units in the United States and South America. Air gases volumes rose sharply. The commissioning of the hydrogen cavern at the end of the year reinforced reliability for customers, flexibility of production units for increased efficiency and allows development of on-demand hydrogen sales.
- Industrial Merchant was up +153.6% excluding currency impact over the year, and down -4.2% excluding Airgas, with a second half to a lesser extent at -2.9%. In North America, sales were penalized by weak manufacturing activity, notably in the energy, metal manufacturing and construction sectors. Demand remained strong in Food, Beverage and Pharma markets. In South America, revenue increased by more than +10%. The price impact in the region was positive +2.5% over the year.

- Healthcare revenue showed strong growth, increasing +73.4% excluding currency impact for the year and +11.2% excluding impact of Airgas. Sales in Canada were sustained by solid organic growth and contribution from acquisitions in Home Healthcare. In South America, business continued dynamic expansion with double-digit growth in Brazil and Argentina.
- Electronics sales presented an evolution of -1.6% in 2016. Following growth at +3.2% in the first half, driven in particular by high Equipment & Installation sales, revenue was down in the second half due to a sharp fall in Equipment & Installation sales in the fourth quarter.

Asia Pacific

Revenue in the Asia Pacific region increased +4.2% in 2016 and reached 3,936 million euros, driven notably by Large Industries and Electronics. Performance was contrasted by country: sales in China climbed +7.8% over the year, with solid contribution from all activities; Japan benefited at the end of the year from improvement in Industrial Merchant but was penalized by weaker Electronics sales.

ASIA PACIFIC GAS & SERVICES 2016 REVENUE



- Large Industries sales progressed +5.4% over the year, driven by the ramp-up of units, in particular in China and a start-up in Australia in the third quarter. Sales in the fourth quarter were penalized by several temporary customer maintenance turnarounds.
- Industrial Merchant revenue posted a slight decline of -0.7% in 2016, with the fourth quarter presenting slightly positive growth. Performance was contrasted by country. Sales in China posted solid growth over the year, with double-digit growth for liquid gas and cylinder volumes in the fourth quarter. In Japan, sales were down over 12 months but presented slight growth in the second half. Business in Australia returned to growth in the fourth quarter. Performance in South East Asia remained irregular. The price impact was negative in the region, at -0.3% over the year.

Electronics sales were up +8.6% in 2016, with contrasted performance over the year. Revenue was up +17.7% in the first half, driven by double-digit growth in China, Japan, Singapore and South Korea; all business lines contributed to growth, in particular Advanced Materials and Equipment & Installation (E&I). In the second half, sales remained slightly up but were penalized by a drop in the E&I activity after several very dynamic quarters and by weaker sales of electronics speciality materials after a period of marked increase. It should be noted that the price of neon was exceptionally high in the fourth quarter of 2015. Sales of carrier gases were strong, up more than +5%, reinforced notably by the start-up of several units in Singapore, China and Japan over the year. Advanced Materials continued their strong double-digit growth in 2016.

Middle-East and Africa

Revenue from the Middle East and Africa region totaled 572 million euros, up +7.6%. During the first quarter, sales benefited from the final contribution of the ramp-ups of two large-scale hydrogen production units in Yanbu in Saudi Arabia which had started-up in the second quarter of 2015; conversely, fourth quarter sales were penalized by the scheduled customer maintenance turnaround which lasted four weeks. Business was dynamic in Egypt where sales were boosted by the pre-loading of a Large Industries production unit and the development of the Industrial Merchant activity with glassmaking and steel customers. South Africa grew in Large Industries. Healthcare continued to grow in the region.

Engineering & Construction

Engineering & Construction revenue totaled 474 million euros, down -38.0% as compared with 2015. It was affected by the slowdown in major energy-related projects and the low number of new projects in a still difficult global environment.

Total order intake reached 389 million euros, a decrease as compared with 936 million euros in 2015. The vast majority of projects concerned Air Separation Units (ASU).

Global Markets & Technologies

Global Markets & Technologies revenue was up +13.6% at 330 million euros. Sales were significant in the space, maritime and biogas sectors.

Total order intake saw spectacular growth and reached 405 million euros in 2016.

OPERATING INCOME RECURRING

Operating Income Recurring before depreciation and amortization totaled 4,611 million euros, up +9.4% as published compared to 2015 and up +10.9% excluding currency impact, reflecting the integration of Airgas over seven months in 2016.

Purchases increased by +13.6%, at a slightly lower rate than published sales growth of +14.6%. Personnel costs and other expenses grew at a faster rate than sales (+19.6%), mainly due to the change in business mix. Indeed, Industrial Merchant, which now accounts for close to half of sales, requires more staff than other activities such as Large Industries.

Over the year, efficiencies totaled 315 million euros, exceeding the annual objective of more than 250 million euros. They represent savings of 2.7% of the cost basis. Slightly less than half correspond to logistics and industrial gains: these include optimizing operations at plants linked to the pipeline network, improving plant reliability, launch of the remote operation and optimization center in France and logistics efficiencies in a context of lower consumption by Industrial Merchant customers. Purchasing efficiencies account for approximately one-third of the total. They are mainly related to gains on energy and Home Healthcare in Europe. The remaining efficiencies include the effects of realignment plans in several countries, notably in Engineering & Construction. Industrial Merchant is the business line which generates the most efficiencies, accounting for 36% of the total.

The first Airgas synergies, notably with the operational merger of Industrial Merchant and Healthcare activities in the United States since 1 October 2016, materialized. They represent 45 million US dollars, divided into four main categories: cylinder operations which concern site closures and restructuring, liquid gas operations which are optimized from gas sourcing to delivery logistics to customers, review of process and procurement, and back-office.

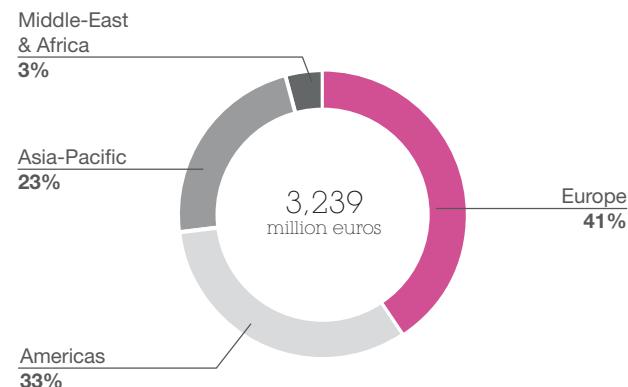
Depreciation and amortization reached 1,587 million euros, up +16.8% and +18.1% excluding currency impact, in particular due to start-ups during the year, the integration of Airgas and additional depreciation and amortization of intangible assets resulting from the Airgas acquisition.

The Group's operating income recurring (OIR) reached 3,024 million euros in 2016, an increase of +5.9% over 2015, or +7.5% excluding currency impact. Operating margin (OIR to revenue) evolved from 18.1% in 2015 to 16.7% in 2016, reflecting the new business mix following the integration of Airgas. Excluding energy impact, the operating margin was 16.4%.

Gas & Services

Operating income recurring in the Gas & Services activity amounted to 3,239 million euros, an increase of +9.4% compared to 2015. The OIR margin on published revenue stood at 18.7%, reflecting the new business mix following the integration of Airgas; excluding the energy impact, the operating margin reached 18.3%.

GAS & SERVICES 2016 RECURRING OPERATING INCOME



Gas & Services Operating margin ^(a)

	2015	2016
Europe	19.6%	20.0%
Americas	23.5%	17.3%
Asia Pacific	18.2%	18.5%
Middle East and Africa	15.9%	19.9%
TOTAL	20.1%	18.7%

(a) Operating income recurring/revenue, as published figures.

Operating income recurring in Europe was 1,319 million euros, down slightly (-0.5%) from 2015. Excluding energy impact, the operating margin was down by -30 basis points and stood at 19.3%. This result can be mainly explained by Industrial Merchant activity with volumes down in cylinder activity in certain countries; efficiencies partially offset the slightly negative price effect.

Operating income recurring in the Americas reached 1,076 million euros, an increase of +27.7%. The operating margin, excluding energy impact, was down -630 basis points to 17.2%. It reflects the change in business mix following the acquisition of Airgas with reinforcement of the relative weight of Industrial Merchant. Significant work on fixed costs is underway in the United States as a result of divestitures made in connection with the acquisition of Airgas and the operational merger of activities in October.

In the Asia Pacific region, operating income recurring amounted to 730 million euros, an increase of +4.0%. The operating margin, excluding energy impact, was stable at 18.2%. The improvement of the margin in Electronics, benefiting in particular from a favorable business mix, enabling to offset the decrease in prices of certain products in Industrial Merchant.

Operating income recurring in the Middle East and Africa region amounted to 114 million euros, a significant increase of +28.3%. The operating margin, excluding energy impact, increased by +430 basis points to 20.2%. It incorporates an exceptional profit linked to a customer indemnisation.

Engineering & Construction

Operating income recurring for Engineering & Construction was 5.1 million euros and 1.1% of revenue, penalized by limited activity in a still difficult environment. The Group's mid-term target range remains between 5% and 10%.

Global Markets & Technologies

Operating income recurring from Global Markets & Technologies was 34 million euros, slightly down from 36 million euros in 2015. The operating margin was 10.3%. The margin level for this activity is dependent on the nature of the projects carried out during the period and may vary quite markedly from one year to the next.

Research and Development and corporate costs

Research and Development (R&D) and corporate costs included the intersectoral consolidation adjustments and amounted to 254 million euros, up +22.5% as compared to 2015. The evolution in R&D and corporate costs accounts for two-thirds of this increase, the remainder being due to currency effects and consolidation adjustments.

NET PROFIT

Other operating income and expenses showed a positive balance of 35.6 million euros. The capital gain on the divestitures pursuant to the American anti-trust authorities (FTC) relative to the Airgas acquisition compensates all one-off costs of the year related to the acquisition and integration of Airgas, as well as other one-off costs such as those relating to realignment plans realized in different countries for more than 60 million euros.

The financial result of -403 million euros was +54.1% higher as compared with 2015. Net finance costs were up +74.5% due to the financing of the Airgas acquisition. Nevertheless, the average cost of net debt was 2.9%, decreasing as compared with 3.7% in 2015. It reflects the mix between the financing of the Airgas acquisition realized at a historically low rate, financing in strong currencies for which interest rates have continued to decrease and in currencies of developing economies where interest rates remain high. The decrease in "other financial income and expenses" is mainly due to foreign exchange gains on financing transactions, in particular relating to the acquisition of Airgas.

The capital gain on divestitures requested by the American anti-trust authorities (FTC) within the framework of the Airgas acquisition also allows an offset of approximately 30 million euros of non-recurring financial expenses.

Taxes totaled 747 million euros, up +13.0%. The effective tax rate over the year was 28.2%, greater than the 2015 rate (26.8%). This rate reflects the mix between a low rate (23.8%) in the first half of 2016 which includes exceptional items (tax gains relating to the implementation of a decision by the European Court of Justice and favorable evolution of several tax audits) and a higher rate in the second half (31.3%) due to exceptional items relating to the Airgas acquisition.

The share of profit of associates contributed 6.6 million euros. Minority interests were globally stable at 82.7 million euros.

Net profit from discontinued operations reached 11.1 million euros in 2016, a decrease as compared with 14.6 million euros in 2015. The capital gain on the disposal of Aqua Lung offset the provisions made for the Welding activity in light of preparing the divestment.

Overall, net profit (Group share) amounted to 1,844 million euros in 2016, up +5.0% as compared with 2015.

After taking into account the dilution impact of the capital increase, net earnings per share were 5.11 euros, up +2.4% compared with 4.99 euros per share in 2015. It may be noted that net earnings per share for previous fiscal years have been restated for the impact of the preferential subscription rights allocated to Group shareholders as part of the 3.3 billion euro capital increase carried out in September to finance the Airgas acquisition. The average number of outstanding shares used for the calculation of net earnings per share as of December 31, 2016 was 360,751,910.

Change in the number of shares

	2015	2016
Average number of outstanding shares ^(a)	351,963,761	360,751,910
<i>(a) Used to calculate earnings per share; 2015 figure restated for the impact of the preferential subscription rights allocated to shareholders as part of the capital increase.</i>		
Number of shares as of December 31, 2015	344,163,001	
Capital increase	43,202,209	
Options exercised during the year	511,408	
Capital issue for employees	999,143	
NUMBER OF SHARES AS OF DECEMBER 31, 2016		388,875,761

DIVIDEND

At the Annual General Meeting on May 3, 2017, the payment of a dividend of 2.60 euros per share will be proposed to shareholders for fiscal year 2016. Taking into account the restatement related to the rights issue, the dividend represents an increase of +2.7%. Total estimated pay-out taking into account share buybacks and cancellations will amount to 1,032 million euros, representing a pay-out ratio of 56%.

The ex-dividend date is scheduled for 15 May 2017 and the payment is scheduled for 17 May 2017.

2016 Cash Flow and Balance Sheet

(in millions of euros)

	2015	2016
Cash flow from operating activities before change in working capital	3,149	3,523
Change in working capital requirement	(258)	331
Other items	(59)	(158)
Net cash flow from operating activities	2,832	3,696
Dividends	(975)	(1,019)
Purchases of property, plant and equipment and intangible assets, net of disposals ^(a)	(2,292)	(13,609)
Increase in share capital	86	3,361
Purchase of treasury shares	(178)	4
Impact of exchange rate changes and net indebtedness of newly consolidated companies & others	(405)	(563)
Change in net indebtedness	(932)	(8,129)
Net indebtedness as of December 31	(7,239)	(15,368)
Debt-to-equity ratio as of December 31	57%	90%

(a) Including transactions with minority shareholders.

NET CASH FLOW FROM OPERATING ACTIVITIES

Cash flow from operating activities before changes in working capital requirements amounted to 3,523 million euros, up +11.9% as compared with 2015. This amount corresponded to 19.4% of Group revenue.

Net cash flow from operating activities after changes in working capital requirements amounted to 3,697 million euros, up +30.5% as compared with 2015 and reached 20.4% of sales. This performance is the result of measures taken to reduce working capital requirements.

CHANGES IN WORKING CAPITAL REQUIREMENT

The working capital requirements (WCR) decreased by 331 million euros in 2016. This amount includes the change in the WCR of Airgas; it excludes, however, the scope effect which was reallocated to "Acquisition of consolidated companies and financial assets".

The improvement in WCR comes from Gas & Services, the WCR of Engineering & Construction presented an increase linked to the cycle of projects. The decrease in WCR is mainly due to the decrease in trade receivables due to factoring measures, a decrease in late payments for certain customers and an improvement in North America due to greater proficiency in using the new ERP which was rolled out in 2015. The working capital requirements stood at 7.2% of sales, based on annualized Airgas revenue, a decrease compared with the ratio of 8.0% at the end of 2015 (following IFRS 5). This performance is mainly due to measures implemented to reduce trade receivables which greatly offset the integration of Airgas whose activity requires WCR higher than Group average.

CAPITAL EXPENDITURE

In 2016, gross capital expenditures totaled 14,439 million euros, including transactions with minority shareholders. This amount includes 12,004 million euros in financial investments relating to the Airgas acquisition.

Group gross capital expenditure

(in millions of euros)	Industrial investments	Financial investments ^(a)	Total capital expenditures
2011	1,755	103	1,858
2012	2,008	890	2,898
2013	2,156	401	2,557
2014	1,902	273	2,175
2015	2,028	395	2,423
2016	2,259	12,180	14,439

(a) Including transactions with minority shareholders.

Proceeds from the sale of fixed assets, for a total of 830 million euros, mainly relate to the divestments requested by the American anti-trust authorities (FTC) as part of the Airgas acquisition for 424 million euros after tax and the after-tax disposal of Aqua Lung for 229 million euros.

Thus, net capital expenditures, including the buyout of minority shareholders, amounted to 13,609 million euros, of which 11,580 million euros in financial investments linked to the acquisition of Airgas, net of disposals.

Gross industrial investments by geographical region

(in millions of euros)	Gas & Services				
	Europe	Americas	Asia Pacific	Middle East and Africa	Total
2015	549	731	475	129	1,884
2016	566	737	599	155	2,057

Financial investments

Financial investments amounted to 12,180 million euros, including minority interest transactions of 15 million euros. This amount included 12,004 million euros related to the Airgas acquisition.

NET INDEBTEDNESS

Net indebtedness as of December 31, 2016 stood at 15,368 million euros, up 8,129 million euros compared with the end of 2015 and down 4,492 million euros compared with the end of June 2016.

The increase in debt during the first half was mainly due to the financing of the Airgas acquisition which was completed May 23, 2016 (value of shares for 10.7 billion US dollars), the refinancing of part of Airgas' debt (for 0.9 billion US dollars) and the consolidation of Airgas' non-refinanced debt (1.8 billion US dollars).

Industrial investments

Gross industrial capital expenditures for the Group amounted to 2,259 million euros in 2016, up +11.4% compared with 2015. Airgas investments accounted for the vast majority of this increase.

The very good level of cash flow during the second half of the year and the capital increase with preferential subscription rights carried out in September 2016 contributed 4,492 million euros for the reduction in debt during the second half.

The debt-to-equity ratio reached 90% at the end of December 2016 (versus 57% at the end of 2015), strongly down compared with the exceptional level of 151% reached at end of June 2016, five weeks after the Airgas acquisition.

ROCE

The Return On Capital Employed after tax was 7.8%. The restated ROCE, taking into account the acquisition of Airgas for the entire year, reached 6.9% and 7.1% excluding the currency impact.

The Group confirmed the NEOS objective of returning to a ROCE in excess of 10% in the next five to six years.

INVESTMENT CYCLE AND FINANCING STRATEGY

The Group's steady long-term growth is largely due to its ability to invest in new projects each year. Investment projects in the industrial gas business are spread throughout the world, highly capital intensive and supported by long-term contracts, in particular for Large Industries. Air Liquide has thus tailored its financing strategy to the nature of its projects, based on the diversification of funding sources, the prudent management of the balance sheet and innovative financing methods. This financing strategy is fundamental for the Group's continued development.

Investments

OVERVIEW

The Group's investments reflect its growth strategy.

They can be classified into two categories:

- industrial investments, which bolster organic growth or guarantee the efficiency, maintenance or safety of installations;
- financial investments, which strengthen existing positions, or accelerate penetration into a new region or business segment through the acquisition of existing companies or assets already in operation.

The nature of the industrial investment differs from one World Business Line to the next: from gas production units for Large Industries, to filling centers, logistics equipment, storage facilities and management systems for Industrial Merchant, Electronics and Healthcare. Capital intensity varies greatly from one activity to another.

Capital intensity

Capital intensity is the ratio of capital required to generate one euro of supplementary revenue, when projects or activities reach maturity. This capital is either invested in industrial assets (production units, storage facilities, logistics equipment, etc.), or used as working capital to finance the development of the activities.

Capital intensity varies significantly from one business line to another:

- in Large Industries:
 - air gases production has a capital intensity of between 2 and 3. It varies with the trend in electricity prices,
 - hydrogen and cogeneration have a lower capital intensity of between 1 and 1.5, due to a relatively high proportion of natural gas in the cost of sales. This capital intensity varies with the trend in natural gas prices;
- Industrial Merchant capital intensity to launch the activity in a new market is between 1.5 and 2;
- Electronics has an average capital intensity close to 1;
- Healthcare has a capital intensity, excluding acquisitions, of around 1 depending on the product mix.

Whatever the capital intensity, any project must enable the Group to achieve its Return On Capital Employed (ROCE) objective over the long term.

Because of the differences in capital intensity among the various Group activities, OIR margins will vary accordingly.

The Group's capital intensity varies depending on the activity mix, project type and the price of raw materials.

The theoretical lifespan of a contract in Large Industries

Long-term development is one of the key characteristics of the industrial gas business. It is particularly evident in the investment cycle, where there is approximately a five-year span between the study of a new construction project for a Large Industries customer and the first corresponding industrial gas sales. Monitoring this cycle is essential to anticipating the Group's future growth. The following chart sets out each stage in this process.

INVESTMENT CYCLE OF A LARGE INDUSTRIES CONTRACT



Applying a theoretical capital intensity of 2, an investment of 100 million euros in a new project should generate 50 million euros of sales per annum, fully ramped-up.

■ **Identification and Negotiation** phase: the project is registered in the portfolio of investment opportunities and enters into the development process. Projects exceeding 5 million euros of investment are monitored within the portfolio of potential opportunities and split between those for which a decision is expected within 12 months and those for which the investment decision will take more than one year. Projects are then discussed and negotiated with the customer. Contracts can be removed from the portfolio for several reasons:

1. The contract is signed, it is removed from the portfolio and therefore becomes an investment decision;
2. The project is abandoned by the customer;
3. The customer decides against an over-the-fence gas supply, or the project is awarded to a competitor;
4. The project is delayed beyond 12 months: it is removed from the 12-month portfolio but remains in the long-term portfolio.

■ **Signature** phase: the two parties reach an agreement. The signing of a long-term contract represents the business entity's commitment to an investment decision, once validated by the internal governance bodies. The project is removed from the portfolio of investment opportunities and is registered in current investments.

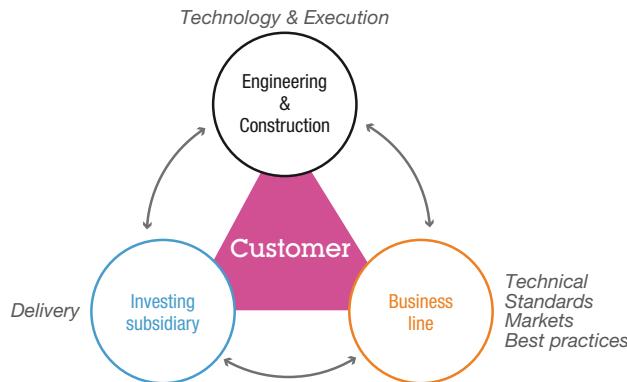
■ **Construction** phase: the construction of the unit generally takes between 12 and 24 months and sometimes up to 36 months depending on the size of the project. This is the capital expenditure period. The project remains in current investments.

■ **Revenue** phase:

1. **Commissioning:** the unit starts up. Sales begin according to the needs of the customer and with a guaranteed minimum volume at the take-or-pay level, guaranteeing minimum profitability from the beginning of the contract;
2. **Ramp-up:** this is the unit's ramp-up phase. Over the course of the contract term, volumes increase above the take-or-pay level to the nominal amount defined in the contract. Nominal capital intensity is achieved at the end of this phase.

Governance for a Large Industries project

Three Air Liquide entities are at the heart of a Large Industries customer project, from development through to its execution.



The Large Industries World Business Line ensures the global customer relationship, provides the required know-how and ensures the overall consistency of the project, in terms of both contract and technical standards. It is also responsible for good internal governance practices.

The local subsidiary proposes the development project and, once the contract has been signed, carries the investment on its balance sheet. It is then responsible for operations, customer relations and the project's financial profitability.

THE RESOURCES & INVESTMENT COMMITTEE

The purpose of these Committees is to assess and approve requests for investments that have been submitted, as well as medium- and long-term contractual commitments and Human Resource requirements that may arise therefrom.

They meet regularly (usually once or twice a month) for each hub (Houston, Frankfurt, Shanghai, and Dubai) and World Business Unit (Healthcare, Engineering & Construction, "Innovation, Digital, Science & Technologies" (IDST)).

Each Committee meeting is chaired by a member of the Executive Committee and brings together business managers concerned by the investment, as well as representatives of the Group Finance Department.

The Committee's decisions are reviewed by Executive Management.

The decision is based on a rigorous assessment of individual projects as well as each project's expected profitability. The following criteria are systematically reviewed:

- the location of the project: the analysis will take into account whether the project is based in an industrial basin with high potential, whether it is connected to an existing pipeline network, or whether it is in an isolated location;
- the competitiveness of the customer's site: based on size, production process and particularly of their environmental footprint, cost of raw materials and access to markets;
- customer risk;
- contract clauses;
- end products and the stability of future demand for these products;
- quality of the technical solution;
- country risk: evaluated on a case-by-case basis and can lead to changes in the financing policy and supplementary insurance cover;
- Corporate Social Responsibility criteria, in particular relating to greenhouse gas emissions, water consumption, and relations with local communities.

Following approval by the RIC and signing with the customer, the project is transferred to the Current investment category.

Engineering & Construction provides the technologies and guarantees that they are competitive, both overall and specifically for each project, thanks to a good industrial architecture solution. Engineering & Construction is responsible for the technical part of the execution of the project.

Potential projects are identified well in advance, based on good market knowledge and a strong local presence. The first stage includes selecting the opportunities in which the Group would like to invest both commercial and technical resources, in line with its global strategy. This selection process is followed by a series of validation stages.

During the development stage, the project is submitted for the approval of the geographic region on which it depends. At the Group level, two major bodies validate the relevance of the project: the RIC (Resources & Investment Committee – see below), and the ERC (Engineering Risk Committee) which is responsible for assessing technical and execution risk.

Once the project has been validated through the decision process, approved by Air Liquide and signed with the customer, it is executed by a team composed of representatives of the investing subsidiary and of Engineering & Construction, under the supervision of the geographic region.

The type, complexity, geography and size of investment opportunities have changed significantly during recent years. A dedicated CIG (Capital Implementation Group) made up of experts strengthens the team in charge of executing investments.

During the start-up of a unit, responsibility for the project is transferred to the local operational teams, under strict standards to ensure the site's security and integrity. The local subsidiary manages the unit, and the financial performance review is undertaken by the Group and Regions Operations Control.

INVESTMENT OPPORTUNITIES

As of December 31, 2016, the 12-month portfolio of opportunities totaled 2.2 billion euros, down 400 million euros as compared to the end of 2015 and stable since the end of June 2016. New projects entering the portfolio partly offset those signed by the Group, awarded to the competition or delayed. In a context of continuing low energy prices,

certain customers have postponed their decisions. The global portfolio, which includes projects that may be signed before or after 12 months, remains solid between 4.5 and 5 billion euros.

Developing economies represent half of the portfolio, down when compared with the breakdown as of December 31, 2015, new projects being mainly located in mature geographic regions. North America is the first geographic region for investment opportunities, followed by Europe, South America and China.

Half of the portfolio of opportunities corresponds to projects with investments of less than 50 million euros and only a few projects are greater than 100 million euros. The average size of projects is more modest, thus contributing to a better distribution of risk.

INVESTMENT CYCLE DEFINITIONS

Investment opportunities at the end of the period

Cumulative value of investment opportunities taken into account by the Group for a decision within the next 12 months. Industrial projects generating revenue of >5 million euros for Large Industries and >3 million euros for other business lines. Includes replacement assets and efficiency projects. Excludes maintenance and security-related investments.

Decisions during the period

Cumulative value of industrial and financial investment decisions. Growth and non-growth industrial projects, including replacement, efficiency, maintenance and security assets. Financial decisions (acquisitions).

Current investments at the end of the period^(a)

Cumulative value of investments for projects that have been decided but not yet started up. Industrial projects of >10 million euros, including replacement assets and efficiency projects, excluding maintenance and security, alone.

Future revenue

Cumulative value of forecast annual revenue, generated by current investments at the end of the period, fully ramped-up.

(a) Different from construction in progress (see note 13.1 to the consolidated financial statements on page 270) without threshold or activity criteria.

INVESTMENT DECISIONS AND INVESTMENT BACKLOG

In 2016, excluding the Airgas acquisition, industrial and financial investment decisions reached 2.2 billion euros.

Industrial investment decisions represented more than 90% of this amount and were greater than in 2015. Industrial Merchant represented more than 35% of investment decisions following the integration of Airgas, Large Industries approximately 30%, Healthcare 15%, with the remainder in Electronics and Global Markets & Technologies.

Industrial decisions in 2016 concerned projects located in Europe for more than 40%, in the Americas for one-third, in Asia Pacific for one-fifth and Middle East & Africa for the balance.

Excluding the acquisition of Airgas, financial investment decisions reached approximately 200 million euros in 2016, a decrease of 300 million euros as compared with 2015. These decisions mainly included small acquisitions in Home Healthcare and Industrial Merchant.

The total investment backlog amounted to 2.1 billion euros, a decrease as compared with 2.3 billion euros at the end of 2015. This change is explained by the start-up of several units, in particular in Brazil, the United

States, Australia and Singapore. The investment backlog should lead to a future contribution to revenue of approximately 0.8 billion euros per year after full ramp-up.

Investment decisions

(in billions of euros)	Industrial investment decisions	Financial investment decisions (acquisitions)	Total investment decisions
2012	2.0	0.9	2.9
2013	2.2	0.5	2.7
2014	1.9	0.2	2.1
2015	1.9	0.5	2.4
2016	2.0	12.2	14.2

START-UPS

In 2016, 14 new units started up: five units in the Americas region and one in Australia, four ultra-pure nitrogen production units for Electronics in China, Japan and Singapore, three units for Industrial Merchant in Asia. The hydrogen storage cavern in the United States was also commissioned.¹

Financing Strategy

The financing strategy is regularly reviewed to best provide support to the Group's development and take into account the evolution in financial market conditions, while respecting a credit profile compatible with a minimum long-term rating in category "A" by rating agencies Standard & Poor's and Moody's. This credit profile is measured in particular by ratios of net debt-to-equity and cash flow from operating activities before changes in working capital requirements to net debt.

Following the acquisition of Airgas, and as was expected, Air Liquide's long-term credit rating was downgraded two notches, from "A+" to "A-", by Standard & Poor's on May 24, 2016. With this acquisition and in preparation of its funding, it was decided to add the long-term credit rating of a second rating agency, Moody's. The long-term credit rating attributed to Air Liquide by Moody's is "A3", the equivalent of Standard & Poor's "A-". Both agencies have removed their negative watch and upgraded their outlook to stable. Moreover, the short-term credit ratings have been downgraded one notch, from "A1" to "A2" and from "P1" to "P2".

In 2016, the existing principles of prudence were maintained:

- pursuing the diversification of financing sources and spreading of debt maturities in order to minimize refinancing risk;
- backing commercial paper issues with confirmed credit facilities;
- hedging interest rate risk to ensure visibility of financing costs, in line with long-term investment decisions;

- funding investments in the currency of the operating cash flows, to ensure a natural currency hedging;
- a permanent centralization of funding and excess cash through Air Liquide Finance, a wholly-owned entity of L'Air Liquide S.A.

The **net debt-to-equity ratio** is under control at **90%** at the end of 2016 (as compared with 57% at the end of 2015). This evolution is due to the financing of the Airgas acquisition. The equivalent ratio calculated using the American method of net indebtedness / (net indebtedness + shareholder equity) reached 47% at the end of 2016, as compared with 36% at the end of 2015. The financial expenses coverage ratio (operating income + share of profit of associates) / (net finance costs) decreased to 7.9 in 2016 as compared with 12.2 in 2015.

DIVERSIFYING FINANCING SOURCES

Air Liquide diversifies its financing sources by accessing various debt markets: commercial paper, bonds and banks.

In 2016, capital markets were used, moreover, with a capital increase, as part of the Airgas acquisition.

Air Liquide uses the short-term commercial paper market, in France, through two French Commercial Paper programs of up to an outstanding maximum of 3 billion euros each, and in the United States through a US Commercial Paper program (USCP) of up to an outstanding maximum of 1.5 billion US dollars.

Air Liquide also has a Euro Medium Term Note (EMTN) program to issue long-term bonds of up to an outstanding maximum amount of 12 billion euros. As of the end of 2016, outstanding bonds issued under this program amounted to 8.1 billion euros (nominal amount). The Group's EMTN program allows, in particular, for bonds to be issued in the principal currencies (euro, US dollar, Japanese yen) as well as in other currencies (Chinese renminbi, Swiss franc, pound sterling and ruble).

Thus, in 2016, under its EMTN program, the Group conducted two public bond issues for an amount of 300 million euros in April and 3.0 billion euros in June. Both of these issues enabled the Group to meet its financing needs and, for the June issue, equally to reimburse a portion of the bridge loan contracted for the Airgas acquisition. To complete the refinancing of the Airgas acquisition, these issues were accompanied, in September, by a bond issue of 4.5 billion US dollars in 144A format, a public American format for which securities issued are not registered with the Securities and Exchange Commission ("SEC").

As of December 31, 2016, funding through capital markets accounted for 90% of the Group's total gross debt, for an amount of bonds outstanding of 14.6 billion euros, across all programs, and 0.6 billion euros of commercial paper. The total amount of bonds outstanding includes the five Airgas issues, previous to the acquisition, for a total of 1.55 billion US dollars (equivalent to 1.5 billion euros), guaranteed by L'Air Liquide S.A. on May 23, 2016.

The Group also raises funds through bank debt (loans and credit facilities).

To avoid liquidity risk relating to the renewal of funding at maturity, and in accordance with the Group's internal policy, the Group aims to limit its short-term debt maturities to an amount which is covered by committed credit facilities. As of December 31, 2016, the amount of committed credit facilities totaled 3.1 billion euros, as compared with 2.6 billion euros as of December 31, 2015. In December 2016, certain bilateral credit facilities were renewed, their amount increased by 185 million euros. New contracts were, also, signed for an amount of 350 million euros, taking the total amount of bilateral credit facilities to 1.8 billion euros. Moreover, the Group has a syndicated credit facility of 1.3 billion euros, which reaches maturity in November 2020.

As of December 31, 2016, the amount of debt maturing in 2017 was 2.0 billion euros.

The bridge loan, signed on December 17, 2015, to finance the Airgas acquisition as closed on May 23, 2016, was drawn up to 11.6 billion US dollars, and refinanced in June by a 3.0 billion euro bond issue, in September by a 4.5 billion US dollar bond issue (equivalent of 4.3 billion euros), in October by a 3.3 billion euro capital increase with retention of preferential subscription rights, and the balance by the asset divestitures as requested by the American anti-trust authority (FTC), as part of the Airgas acquisition.

Net Indebtedness by Currency

	2015	2016
Euro	24%	25%
US dollar	44%	59%
Japanese yen	9%	4%
Chinese renminbi	12%	5%
Other	11%	7%
TOTAL	100%	100%

Investments are generally funded in the currency in which the cash flows are generated, creating a natural currency hedge. As of December 31, 2016, to improve the balance between the weight of debt in US dollars and that of cash flows in this currency for the entire Group, the Airgas acquisition was financed in euros (6.3 billion euros) and US dollars (4.5 billion US dollars). Air Liquide's indebtedness is thus principally denominated in euros and US dollars. The debt denominated in Chinese renminbi has decreased, following the repayment of the first tranche of the September 2011 bond issue, which was partially refinanced. The debt denominated in Japanese yen has decreased, also following the repayment of a local loan and the August 2012 private placement of 13.5 billion Japanese yen, which had reached maturity, both of which were not replaced.

CENTRALIZATION OF FUNDING AND EXCESS CASH

To benefit from economies of scale and facilitate capital markets financing (bonds and commercial paper), the Group uses a dedicated subsidiary, Air Liquide Finance. As of December 31, 2016, this subsidiary centralized the vast majority of the Group's financing transactions. This centralization continued in 2016, in particular for the financing of Airgas in the United States. It also hedges currency, interest rate and energy risk for the Group's subsidiaries in those countries where it is permitted by law.

In the countries where local regulations permit, Air Liquide Finance also centralizes cash flow balances through direct or indirect daily cashpooling of these outstanding balances or through term loans. When this method is not possible, there exist, nonetheless, local cashpoolings which allow periodic intercompany loans to Air Liquide Finance. In 2016, Air Liquide Finance included the US dollar in its daily cashpooling in Europe.

As of December 31, 2016, Air Liquide Finance had granted, directly or indirectly, the equivalent of 17.3 billion euros in loans and received 4.9 billion euros in excess cash as deposits. These transactions were denominated in 26 currencies (primarily the euro, US dollar, Japanese yen and Chinese renminbi) and extended to approximately 240 subsidiaries.

Due to the currency matching within Air Liquide Finance, resulting from the currency hedging of intra-group loans and borrowings, these internal financing transactions do not generate a foreign exchange risk for the Group.

Furthermore, the purpose of the European Market Infrastructure Regulation (EMIR) covering OTC ("Over the Counter") derivatives is to improve the transparency of OTC markets and reduce the systemic risk of financial markets. It applies to all derivative transactions carried out by entities within the European Union.

Pursuant to this regulation which came into force in August 2012, Air Liquide Finance S.A., the Group's centralizing entity for financial transactions, continues to be classified as a non-financial counterparty (NFC-), since the transactions were still below the clearing thresholds at the end of 2016. It is thus required to apply risk mitigation measures and report all its derivative transactions to the chosen trade repository, "DTCC", in accordance with the technical standards published by ESMA. The mandatory reporting arising from the 2010 Dodd-Frank Act of the United States is also centralized via the "DTCC".

Furthermore, in certain specific cases (e.g. regulatory constraints, high country risk, joint ventures, etc.), the Group limits its risk by setting up specific finance in the local banking market, and by using credit risk insurance.

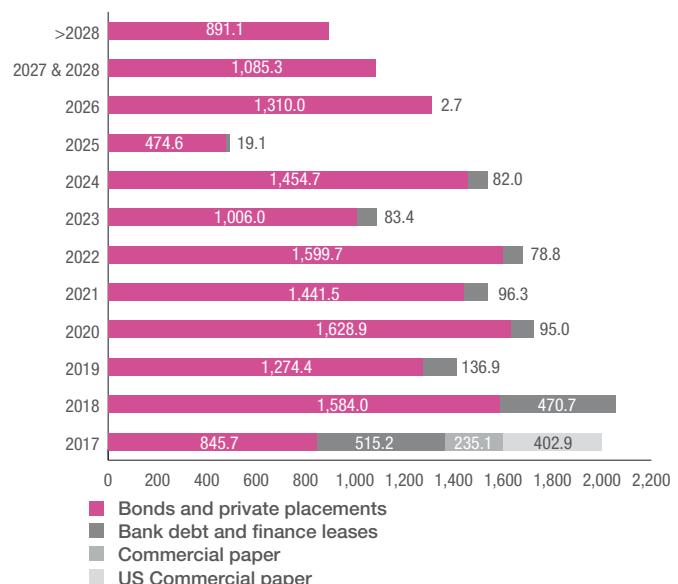
DEBT MATURITY AND SCHEDULE

In order to minimize the refinancing risk related to the debt maturity schedules, the Group diversifies financing sources and spreads maturity dates over several years. This refinancing risk is also reduced by the regularity of the cash flow generated from Group activities.

The average of the Group's debt maturity is 6.2 years, as of December 31, 2016, an increase as compared with December 31, 2015 due to the issues which permitted the Airgas refinancing: in five tranches ranging from two to 12 years, of an average length of 7.3 years, for the euro-denominated issue and in five tranches ranging from three to 30 years, of an average length of 10.6 years, for the US dollar-denominated issue.

The following chart represents the Group's debt maturity schedule. The single largest annual maturity represents approximately 12% of gross debt.

DEBT MATURITY SCHEDULE (in millions of euros)



BANK GUARANTEES

The Group's subsidiaries grant bank guarantees essentially in favor of Engineering & Construction and Healthcare customers either during the tender period (bid bond), or after contract award, during contract execution until the end of the warranty period (advance payment bond, retention bond, performance bond, and warranty bond).

The most common bank guarantees extended to customers to secure the contractual performance are advance payment guarantees and performance guarantees.

In the Group's ordinary course of business, certain subsidiaries are required to provide financial payment guarantees to secure rental or insurance obligations.

The projects, for which these guarantees are granted, are regularly reviewed by management and when guarantee payment calls become probable, the necessary provisions are recorded in the consolidated financial statements.

▶ INNOVATION

Innovation is one of the pillars of the Group's strategy. Innovating enables Air Liquide to ensure its competitiveness, open up new markets and to create new growth opportunities. As part of its customer-centric transformation strategy in the NEOS company program, open innovation, through external partnerships, represents the predominant path to growth. This innovation for the benefit of customers, as part of an open ecosystem, focuses on usages and is supported by technologies.

Innovation to support competitiveness and growth

Almost 5,700 employees contribute to the Group's innovation approach which leverages:

- **science**, with a focus on the knowledge of Essential Small Molecules (oxygen, hydrogen, nitrogen, CO₂, etc.) which embed the Group's scientific territory – this is the role of R&D in particular;
- **technologies**, which is the Group's strength and allows science to be brought to the market, thanks to the R&D and Engineering & Construction teams, and to the centers of expertise;
- **customer experience**, developed by the teams of the World Business Lines, Digital Transformation, the Group's Information Systems and i-Lab, with the aim of becoming the leader in customer experience;
- **the incubation of new activities**, in the field of energy transition and the maritime sector, thanks to Global Markets & Technologies with the support of the ALIAD capital venture entity, to accelerate the development of the Group's offers in these new markets.

The operational teams in the 80 countries where the Group operates are responsible for rolling out innovations on a local basis as soon as they come on to the market. They also contribute to incremental innovation on the ground.

The **Group's innovation expenses** amounted to **288 million euros** in 2016. This amount is slightly higher than that of the past five years. Innovation expenses correspond to the OECD definition, namely research and development, market launch and marketing expenses for new offers and products.

The number of **patented new inventions** reflects, in particular, the Group's innovation capacity. In 2016, almost 300 new inventions were protected. These are complemented by **third-party intellectual property rights** obtained by partnerships which contribute to exploring new growth opportunities. Air Liquide has a portfolio of 3,363 inventions protected by 11,000 patents.

Strengthening the innovation approach for the benefit of customers

In 2016, Air Liquide continued to strengthen its innovation approach by leveraging its network organization and collective intelligence to accelerate **open innovation**.

- Thus **Air Liquide's R&D**, through the **m-Lab** (molecule-Lab) scientific community, launched a scientific challenge: the **Air Liquide Essential Molecules Challenge** on three major subjects for the Group: how to produce hydrogen from water by using solar energy; how to identify materials for high density storage and the safe supply of gases; how to produce oxygen and carbon monoxide from CO₂ in a sustainable way. The **challenge's jury**, composed of outside experts and Air Liquide managers, selected three projects from a total of 130 scientific proposals submitted by academic teams, R&D departments and start-ups from 25 countries. The 2016 winners were leading scientists from the École Polytechnique Fédérale de Lausanne in Switzerland, Kyoto University and Nagoya University in Japan, as well as Paris-Diderot University and the Centre National de la Recherche Scientifique (CNRS) in France.

Each team received an award of 50,000 euros and the Group will also provide 1.5 million euros to fund the collaboration projects with the winners over two to four years to transform their scientific proposals into innovative market technologies. Given the number and scientific quality of the projects submitted, the success of the Challenge helps strengthen the ties between Air Liquide and the international scientific community.

- In the technology sector, the **Engineering & Construction** teams have contributed to the implementation of new solutions to improve the energy efficiency of production units and access new markets, in particular in Liquefied Natural Gas, driven by the energy transition and the emissions reduction.

- The **Gas Packaging Center**, which is developing new gas packaging for the industry and healthcare sectors, continued its drive to integrate new technologies – in particular digital – which are easy to use, provide traceability and safety, with a pilot offering which is currently being tested with certain industrial customers.
- Based in Vitry-sur-Seine (France), the **Cryogenic Technologies Center** has launched the first brazed aluminum exchangers, which are at the heart of the Group's cryogenic production units. As a leading cryogenic production technical reference center, its roles include incubating air gas production technologies with fast prototyping means, developing and testing these new technologies, and industrializing innovative and high added-value prototypes and First-of-Its-Kind. The Cryogenic Technologies Center hosts Air Liquide's multidisciplinary R&D, Engineering and Operational teams and leverages external partners to promote innovation and encourage collaborative working.
- The introduction, in 2016, of **teams dedicated to the Digital Transformation** provided all of the Group's World Business Lines with transversal expertise to help improve the customer experience. The aim is to transform Air Liquide's offerings in its core business through new services, and to create new offerings through building on data generated in particular by the Group's connected assets.

The Group's Digital Transformation strategy is an integral part of the open innovation approach and aims to transform the way in which Air Liquide manages its **assets** (production units, storage, cylinders, etc.), interacts with its **customers** and patients and leverages **ecosystems** (internal communities and external innovation ecosystems).

In 2016, Air Liquide had more than **210,000 connected devices** (Internet of Things) and permanently measures 450,000 points on 400 production sites. These **connected devices are divided among the different businesses**: healthcare (devices for the observance of treatments of patients with sleep apnea), industrial gases (storages) and new markets (remote monitoring of hydrogen or multi-energy stations and biogas units, etc.).

Digital Transformation is intrinsically related to the performance of **Information Systems** which have, in recent years, radically modernized their services, in particular in terms of networks, data centers, safety, employee work environments and business solutions. The development of innovative digital applications which are reliable from the design stage requires, on the one hand, good integration within the existing information systems, but also a flexible approach to software development to achieve an optimal user experience.

The Digital Transformation teams also work in close cooperation with **Airgas' e-business teams**, which are permanently developing and adapting Airgas' e-commerce portal and online gas and related equipment offerings.

The acquisition of Airgas enables the Group to accelerate **innovation within the customer experience**, with offers becoming increasingly adapted to customer and patient usages. Airgas provides its expertise to the implementation of the customer experience, thanks to its **multi-channel approach**, its exceptional **customer base** and the **density of its network** in the United States.

- The **Industrial Merchant World Business Line** has focused on improving the customer experience, by continuing to provide innovative offerings and services which meet customers' new usages. It aims to leverage Airgas' teams to develop a multi-channel and one-stop shop approach, by offering a wide range of safety supplies and equipment to better meet customers' needs.
- The **Large Industries World Business Line** introduced a dedicated "Smart Innovative Operations" program to transform the experience of operators at the Group's production sites and to provide new services to its customers.
- The **Electronics World Business Line** has focused on the development of advanced molecules for the semi-conductors, screens and self-driving car markets, and has innovated with a new etching material for the manufacturing of chips.
- The **Healthcare World Business Line**, which identifies and analyzes the latest trends in order to adapt and develop its business model, continued in 2016 to innovate in **e-healthcare**. It also continued to develop new digital solutions for doctors (Extranet for prescribers, for example) and launched a Cardio Pulmonary Ventilator for emergency services, designed in partnership with hospital services.
- The **advanced Business & Technologies** teams aim at opening new markets relating to the energy transition and developing the Aerospace, and Extreme Cryogenics markets using core business technologies. In 2016, the teams contributed to **major scientific projects** (ITER and Ariane 6) and continued to develop the **New Energies** activity in the field of **biogas, hydrogen and multi-energy stations** in the drive for clean transportation. **Air Liquide Maritime** has strengthened its offering for players in the maritime sector, such as offshore oil and gas platforms, offshore wind turbines, and has innovated in terms of helium storage and the **cryogenic transportation by sea** of molecules.
- In a drive to accelerate **open innovation**, the **i-Lab** (innovation lab) co-builds new offers, products and technologies with the Innovation entities and the Group's World Business Lines. In 2016, Air Liquide's i-Lab launched the collaborative innovation platform "**Act for Air**" aimed at improving the **air quality in cities**. Objectives: getting all relevant stakeholders involved (industrial players, local authorities, start-ups, scientists, teachers-researchers) in developing innovation projects, but also allowing these players to cooperate on a project. The i-Lab has also launched in France, in partnership with Total, the student competition "**Boost my Op**" to imagine the **operator of the future**. The aim was to find new ideas to improve and facilitate the work of operators at production sites. The proposals chosen could notably leverage new usages and technological tools to design and develop the "**plant of the future**".

■ **ALIAD's** role is to invest in **minority stakes in start-ups**, in order to promote the Group's **access to technological innovations** developed outside the Group. It does so by encouraging the setting up of **R&D and/or business agreements** between the start-ups in its portfolio and the Group's entities. The target sectors for these investments are the energy transition, healthcare and high tech.

In 2016, ALIAD invested, among others, in **Carmat**, a French biomedical company, to develop together a portable hydrogen fuel cell; **Inpria** which is currently developing a lithography technology for the semi-

conductors industry; **Poly-Shape**, a European leader in its field and specialized in additive manufacturing (3D printing) for aerospace, automotive and healthcare; **Solidia Technologies**, a US start-up which has developed cement that absorbs carbon dioxide (CO₂) when it hardens and thus helps improve the environmental footprint of the cement industry; and **Proxem**, a semantic analysis software editor for large volumes of textual data.

ALIAD has made 27 investments since its creation for a total commitment of more than 66 million euros.

Continuing investments in innovation centers

In 2016, Air Liquide continued to **invest in new innovation centers**:

■ in February 2016, the Group opened its new **Shanghai Research & Technology Center** (SRTC), after having celebrated the 20th anniversary of its Engineering & Construction site in Hangzhou, highlighting the Group's long-term commitment in China. Located in the industrial park of Xinzhuang, in Shanghai, this new center will ultimately house 250 employees, including researchers, customer application experts and commercial development teams. It will become a major hub to accelerate the Group's innovation in the Asia Pacific region. The center will focus on the energy transition, the reduction of CO₂ emissions, wastewater treatment, air quality, food safety and healthcare. Covering 12,000 m², the center houses laboratories, offices, a showroom and pilot demonstration platforms and represents an investment of 25 million euros. The building was designed in compliance with LEED certification (Leadership in Energy and Environment Design), a global standard in sustainable building that factors in efficient water management, good use of energy, and the emissions reduction;

■ in April 2016, Air Liquide laid the foundations of its future **Paris-Saclay Research Center**. The 15,000 m² facility will replace the existing center and will be home to 350 researchers and experts in the area of the **environment, healthcare and digital solutions**. From the early design phase of the project onward, Air Liquide has used collaborative tools such as BIM (Building Information Modeling) for the construction of the building and the co-creation of workspaces and laboratories with researchers to encourage interdisciplinary exchanges. With regard to energy and the environment, the center will implement innovations emerging from R&D projects, with more than 50% involving renewable energy sources like solar power and biogas. Consolidating its position at the heart of scientific and technological ecosystem of Paris-Saclay, the center strengthens the Group's open innovation approach and accelerates the development of new solutions with public academic partners, private partners, SMEs, and start-ups.

Innovating to contribute to improving air quality

Almost 60% of the Group's innovation expenses in 2016 are related to **improving air quality, health and the environmental footprint**.

Innovation expenses correspond to the OECD definition, namely research and development, market launch and marketing expenses for new offers and products.

Work related to reducing the **environmental** impact mainly included:

■ new technology research and development programs which improve the **energy efficiency of the Group's production units**, thus reducing the environmental footprint of the Group's activities and improving that of its customers and partners;

■ all **hydrogen production and distribution** processes, from desulfurizing hydrocarbons in refineries to accompanying the deployment of hydrogen energy;

■ **capturing** and recovering CO₂;

■ **the purification of biogas** for sale in the form of Bio- and Natural Gas or as Bio-NGV fuel;

■ work on **liquid nitrogen-powered cryogenic cooling** to transport fresh produce.

Close to 30% of the Group's innovation expenses is devoted to reducing CO₂ emissions (by reducing carbon content of its products or those of its customers).

Healthcare-related innovations include:

- research and development on **medical gases**, in particular for analgesia and in respiratory diseases;
- support for patients through **remote-monitoring platforms**;

THE BLUE HYDROGEN® INITIATIVE

Blue Hydrogen is an Air Liquide initiative that aims to gradually lower the carbon content of its hydrogen production dedicated to energy applications. 95% of the hydrogen that the Group produces is currently from natural gas. Air Liquide is committed to increasing by 2020 the percentage of hydrogen produced for these applications from carbon-free processes, i.e. sources that emit no CO₂. The Group's objective is to produce at least 50% of the hydrogen required by hydrogen energy applications from carbon-free energy sources, by combining:

- the reforming of biogas;
- the use of renewable energies in water electrolysis;
- carbon capture and recovery technologies for the CO₂ emitted during the production of hydrogen from natural gas.

Recognizing the teams that contribute to innovation

The inventiveness of the teams that interact with customers and patients on a day-to-day basis enables the Air Liquide Group to constantly reinvent its business, and to anticipate the challenges of its markets. The Group has not only implemented **internal programs to encourage and recognize the talent** and expertise of its **experts** who contribute to innovation, but also, since 2014, the talent of its **internal entrepreneurs**.

The **recognition of technical expertise** is a key factor for innovation. In 2003, Air Liquide launched **Technical Community Leaders** (TCL), a promotion and recognition program for the technical field and for the expertise of Group employees. Since TCL was created, **more than 3,200 experts** have been recognized, thus playing a key role in sharing expertise, knowledge and technical excellence. In 2016, two International Fellows, 18 International Senior Experts and 71 International Experts from diverse regions of the world (Europe, Asia Pacific, North and South America) received recognition.

This community of the Group's technology experts contributes to the transfer of technical know-how, to the sharing of best practices, and to the long-term development of the skills that Air Liquide will need in the future. This is carried out in close collaboration with the World Business Lines and R&D which run the communities of experts.

- the work on **hygiene** and disinfection products to combat nosocomial infections;
- the development of specialty ingredients and active ingredients used in cosmetics.

The **Group's Inventors** Recognition Program, **#invent**, rewards the inventors who are responsible for patented inventions that are successfully marketed, or that give Air Liquide a competitive advantage. Moreover, a trophy is awarded for the best invention of the year, selected among the patent applications filed within each World Business Line in the past two years, and a bonus to inventors when a patent is delivered. This program ensures greater responsiveness for rewarding inventors, and better monitoring of inventions. **More than 2,000 rewards** have been awarded to inventors employed by Air Liquide since 1997.

Air Liquide's portfolio has more than 11,000 patents. These patents are not only from inventions by the Group's R&D employees, but also by the Engineering & Construction, Global Markets & Technologies, and Operations teams.

In 2016, **more than 50%** of the new patents registered by the Group relate to its **core business** (gas production and separation technologies, and its Healthcare business). The geographic spread of patent applications filed in 2016 was as follows: 36% in Europe, 25% in the Americas, 27% in Asia Pacific and 12% in Middle-East & Africa.

Air Liquide also recognizes its **employee entrepreneurs** who contribute to innovation by imagining new ways of developing the Group's business. In 2016, Air Liquide honored **41 internal entrepreneurs** who innovated by contributing to the **improvement of the Group's customer/patient experience**.

Open innovation, a pillar of the Group's strategy

The dynamic management of interactions between internal communities and the external innovation ecosystems, known as "**open innovation**", is a key innovation factor for the Group. Thanks to the development of a large number of collaborative processes between its operating and Innovation entities and customers, scientific partners and technology institutes, SMEs, suppliers and start-ups, this "open innovation" has enabled Air Liquide to step-up the pace of its innovation.

More than 60% of Research and Development projects were conducted as part of partnerships with laboratories, start-ups, industrial players and customers in 2016.

In Europe, Air Liquide continued its partnerships with the CNRS and the CEA as part of long-term strategic agreements and launched new projects with its partners in Germany: **the Freiberg University of Technology and the Nuremberg-Erlang University**.

Initiated by Air Liquide and French start-up Poly-Shape, specialized in additive manufacturing, the **collaborative project FAIR** led to the creation of a prototype for a more compact, more energy efficient and more cost-effective reactor-exchanger, for new usages such as sustainable mobility.

In the United States, Air Liquide works in partnership with several DoE laboratories (Department of Energy) and is part of six multi-partner consortia, in particular the CELDI, led by the **Carnegie Mellon University** working on decision-making tools for the optimized management of production units.

In Healthcare, the Group draws on its partnerships such as with the **Institut du Cerveau et de la Moelle Épinière – Maladies Neurodégénératives** (Brain and Spine Institute – Neuronal Degeneration), and with the **University of Montreal** on the treatment and monitoring of patients suffering from Chronic Obstructive Pulmonary Disease (COPD).

Air Liquide works with 22 research organizations, technology institutes and universities worldwide, carries out projects with 95 laboratories and supports three research chairs in France with the École Centrale Paris, the École Mines ParisTech and the Paris Sud University.

In 2016, the i-Lab was a partner in the third edition of the **Hello Tomorrow challenge**, an international competition for technology start-ups open to young researchers and entrepreneurs throughout the world. Air Liquide, sponsor of the **Air Quality** category, took part in assessing 40 start-ups pre-selected from criteria based on the proposed technical innovation, the targeted market potential, the societal impact and the team's profile. The British start-up White Lab which developed Sensio Air, a technology for measuring the amount of allergens in the air to improve the quality of life of allergy-prone people, was the winner in the Air Quality category. Several of the Group's experts and managers had the opportunity to have in-depth discussions with all of the participating start-ups.

In 2016, Air Liquide organized the **"Spark Customer Experience" Hackathon** in Paris and Philadelphia on four subjects on which the Group would like to accelerate the transformation of the customer experience: how to use data visualization to offer new services to Large Industries customers, which applications to provide to dental customers, which services to provide to fuel cell electric vehicle users in charging stations, and how to improve Airgas customers' online experience. Developers and designers from 19 start-ups took part in this Hackathon. The winning projects are currently being developed by the Group with the start-ups in question. Working with start-ups enables Air Liquide to **accelerate its Digital Transformation and improve the customer experience**.

Some initiatives launched in 2016

Air Liquide innovates by developing technologies and services, by building new business models, and by improving its customer/patient experience in order to meet their needs and new usages, and pursue its profitable growth over the long term. The Group innovates for the benefit of society.

INNOVATING FOR PATIENTS AND HEALTHCARE PROFESSIONALS

In Healthcare, Air Liquide has worked in cooperation with the emergency services at the Centre Hospitalier Annecy Genevois to design **Cardio Pulmonary Ventilation** (CPV), the first ventilator specifically adapted to cardiopulmonary resuscitation. In France, 50,000 people die prematurely each year following cardiac arrest and the disability-free survival rate is less than 5%. Although ventilation is a crucial part of Cardio Pulmonary Resuscitation (CPR), along with cardiac massage, a specifically adapted ventilator which covers complete heart attack management did not exist. To optimize CPR, this innovation combines for the first time on one ventilator continual chest compressions with efficient ventilation and specifically adapted monitoring.

Air Liquide continued to develop new Home Healthcare services with the creation of the “**EXPLOR!**” Center, a laboratory that evaluates the medical devices and new technologies used by patients suffering from chronic diseases. The center brings together a multidisciplinary team of Air Liquide Healthcare experts in the fields of ventilation, sleep disorders, oxygen-therapy, perfusion and diabetes to **evaluate the efficiency and comfort of medical equipment**.

The Group has continued to roll out digital services to provide better patient support and better meet the needs of healthcare professionals. Air Liquide has thus continued to roll out its **website dedicated to sleep apnea** in various languages, www.all-about-sleep-apnea.com, as well as an application and Twitter account to raise awareness among the general public of this condition which affects 1% to 6% of the global population. An **extranet for healthcare professionals** has also been launched, which allows prescribers to monitor their patients treated at home more efficiently.

ELECTRONICS: INNOVATIONS TO DECREASE THE ENVIRONMENTAL IMPACT OF THE ELECTRONICS SECTOR

The manufacturing of processors and memory for computers and smartphones requires large quantities of ultra-pure nitrogen. The Group's Electronics and Engineering & Construction teams therefore created **TCN Best Energy**, a generation system of ultra-pure nitrogen which reduces electricity consumption by around 30%. The Group continued to roll out this flagship product in 2016. This nitrogen generator will mainly be used to fuel Tianma Micro-electronics' AMOLED flat panel displays plant in Wuhan, China.

In 2016, Air Liquide also launched new **innovative etching materials** to meet the architectural challenges of increasingly complex **chips**, relating to their reduction in size and etching on three sides. The **enScribe™** product offering covers a family of engraving materials for applications which provide greater technological value in the production of memory and logic circuits. **enScribe™** materials address technical issues, but also reduce the environmental impact of semi-conductor manufacturing.

INNOVATING FOR THE BENEFIT OF INDUSTRIES AND CRAFTSMEN

In 2016, Air Liquide teamed up with the start-up **Solidia Technologies** to develop new equipment for carbon dioxide (CO₂) injection for the production of **Solidia Concrete™**. Thanks to Solidia's patented processes, that cure concrete with CO₂ instead of water, this next generation cement allows the entire industrial chain to reduce the environmental footprint of the pre-cast concrete by up to 70%. This breakthrough technology has reduced curing time to less than 24 hours and has lowered water consumption. In addition to capturing large amounts of CO₂, the quality of the concrete is greatly improved. In addition to supplying the equipment, Air Liquide will serve as the worldwide preferred provider of carbon dioxide for use with Solidia's patented processes.

Energy efficiency and the emissions reduction are two major challenges for the glass sector, where large amounts of energy are needed to reach the very high temperatures required to melt glass. Oxycombustion consists of enriching air with pure oxygen, or even replacing it entirely. Numerous industrial players in the glass and steel sectors used this technique to improve their combustion processes, reduce their polluting emissions and save fuel. **Heat oxycombustion** is a technology developed by Air Liquide that is currently being studied by an increasing number of glass customers in Europe and China. By extracting heat from combustion fumes to heat oxygen and fuel, this technology enhances the performance of the oxycombustion process by 10% and provides up to 50% energy savings and up to 50% CO₂ emission reduction compared to air combustion.

In 2016, Air Liquide signed contracts for its technology aimed at lead-free soldering in electronics, “**Nexelia Cooling Systems**” in Germany. **Lead-free soldering** has become standard practice in electronics, but requires higher temperatures during the soldering process. Air Liquide's technology recycles the cold generated by the vaporization of liquid nitrogen in the lead-free soldering cooling system and leads to savings through the reduction of energy consumption, greater stability of the nitrogen vaporization temperature and a decrease in the environmental impact of the process.

Air Liquide continued to **optimize its supply chain in Europe** thanks to digital tools. Gas truck delivery rounds were automatically adjusted using GPS technology and customers provided with a precise delivery time. Tablets, which Group drivers are gradually being equipped with, help provide better advice to customers thanks to fully-digital documentation and simplified administrative management of deliveries.

INNOVATING FOR INDUSTRY

Group innovation in the field of the "plant of the future" aims in particular to introduce the latest digital technologies (3D scanning, augmented reality, touch tablets, video tutorials, etc.) in the daily work of production operators. The first of its kind in the industrial gases sector, the plant of the future led by Air Liquide in France was awarded technology showcase certification by the French association Alliance Industrie du Futur in 2016. The **Connect** program, as it is known and in which Air Liquide decided in 2016 to invest 20 million euros, is part of the Group's Digital Transformation and relies on the introduction of new technologies in the daily work performed by the teams. With Connect, Air Liquide is creating in France a remote operation and optimization center capable of commanding and optimizing the production, energy efficiency and reliability of 22 production sites in France, as well as performing predictive maintenance analysis. Connect is part of an open innovation approach involving the local economy and the French environment for technology start-ups: it brings together over 100 companies, including 10 French start-ups.

With increasing demand for alternative cleaner energies, the Group's Engineering & Construction teams launched a new technology in 2016 in the field of **natural gas liquefaction** which helps reduce the energy consumption and emissions of players in the sector. Called **Liquefin™**, this innovation is based on dual mixed refrigerant technology and the use of brazed aluminium exchangers, as in Air Separation Units. This technology offers the Group's customers the most competitive **LNG** (Liquefied Natural Gas) process on the market.

INNOVATION IN TRANSPORT AND STORAGE FOR MARITIME CUSTOMERS

In 2016, Air Liquide commissioned a large **helium storage facility** in the North Rhine-Westphalia region, in Germany. This new helium storage facility is a world premiere. Pure helium is stored at 1,300 meters underground in significant volume, in a salt reservoir managed by Air Liquide, using natural brine to adjust the storage volume. Air Liquide is able to store more than one year of its helium supply at the facility. With helium being an inert, non-inflammable gas present in very small quantity in the air, the storage is safe and environmentally neutral. This initiative will allow Air Liquide, global leader of the helium market since the Airgas acquisition, to guarantee its customers a reliable and predictable helium supply.

The Group has rolled out its logistics offering for the maritime market, using containers that allow the efficient transportation of **high value-added molecules** at very low temperatures, close to absolute zero for some (helium). These containers draw on the Group's expertise in cryogenics and guarantee a safe and reliable supply. They are used for the cryogenic transportation of molecules: helium, argon, carbon dioxide and Liquefied Natural Gas (LNG). The **440 containers** are equipped with a fully-digital management system supervised by dedicated teams in the United States, Europe, the Middle East and Asia to permanently control the main parameters such as temperature, position, pressure and thus optimize the delivery chain.

DEVELOPMENT IN BIOGAS

In 2016, Air Liquide commissioned **seven new biogas purification units** in Europe. In total, Air Liquide has designed and rolled out 50 biogas purification units worldwide, to transform it into biomethane and inject it into natural gas networks. The purification and recovery of biogas is a highly promising circular economy which contributes to reducing greenhouse gases and the zero-emission transport of the future. Air Liquide is the global leader in the provision of biogas purification technologies with an installed capacity of 160,000 m³/h. The Group has developed technologies and know-how throughout the biomethane value chain: purification of biogas to produce biomethane, injection into the natural gas network, liquefaction, distribution for clean vehicle fleets.

CONTINUING ROLL OUT OF HYDROGEN AND MULTI-ENERGY STATIONS

In Denmark, Air Liquide is a major contributor to the **HyBalance** project, the aim of which is to construct the largest **decarbonized hydrogen** production unit. HyBalance will be the first European project to cover the entire value chain: hydrogen, produced by water electrolysis, will be mainly used to fuel existing hydrogen charging stations run by Air Liquide and more than 60 hydrogen fuel cell electric vehicles on the roads.

In 2016, the Group stepped up the opening of **hydrogen charging stations for the general public**: in Zaventem, **Belgium**, where the hydrogen delivered is produced through electrolysis, a process which generates no CO₂ emissions and is part of Air Liquide's Blue Hydrogen program whose goal is to gradually decarbonize its production of hydrogen dedicated to energy applications. This station, designed, installed and run by Air Liquide, marked the launch of hydrogen as a clean energy in Belgium. In **Germany**, Air Liquide, in partnership with Hyundai, opened a hydrogen station in Offenbach-am-Main, in the Frankfurt suburbs. In **Paris**, the hydrogen station installed by Air Liquide enabled the roll out of the first **fleet of hydrogen-powered taxis** in the world with around 12 vehicles currently in operation and an additional 60 to be added to the fleet in 2017. New charging stations will be deployed in Paris region in the next two years. These stations can charge hydrogen-powered electric vehicles in less than five minutes for a range of around 500 kilometers.

In logistics, Air Liquide supplied and operates a hydrogen station to fuel forklift trucks on site for the company Prelocentre in Saint-Cyr-en-Val (Orléans). This site, which prepares and delivers fruit and vegetables for the Grand Frais stores in western France, **is the first fully-hydrogen powered logistics platform in Europe** with 46 forklift trucks. Hydrogen energy is a sustainable alternative to traditional forklifts and answers the major challenges of the logistics sector, by combining greater flexibility with improved productivity.

The Group has continued to roll out its hydrogen distribution infrastructure and contributes to the development of clean transportation solutions. To date, more than 75 hydrogen charging stations have been designed and built by Air Liquide worldwide.

In 2016, Air Liquide opened the **first clean multi-energy station** dedicated to road transport for goods. This station provides clean energy, on one site, for the fleet of trucks powered by CNG/LNG and those fueled by nitrogen for the refrigerated transport of Transalliance, a transportation and logistics company based in Europe. The Group has also installed a clean multi-energy station for Auchan in the Hauts de France region.

CONTRIBUTION TO MAJOR INTERNATIONAL SCIENCE PROJECTS

Air Liquide has once again been selected to contribute to **major scientific projects** worldwide. To obtain the electromagnetic fields required to confine nuclear fusion, it is necessary to use superconducting

magnets that only work at extremely low temperatures, close to absolute zero (-273° Celsius). The electrical resistance of the magnets thus falls to a negligible level, enabling them to carry very high densities of electrical current. The **international ITER project**, composed of enormous field coils and 10,000 metric tons of magnets, will be cooled using cryogenic systems supplied by Air Liquide. Helium refrigeration units, designed by Air Liquide's teams, were installed at the ITER site in 2016.

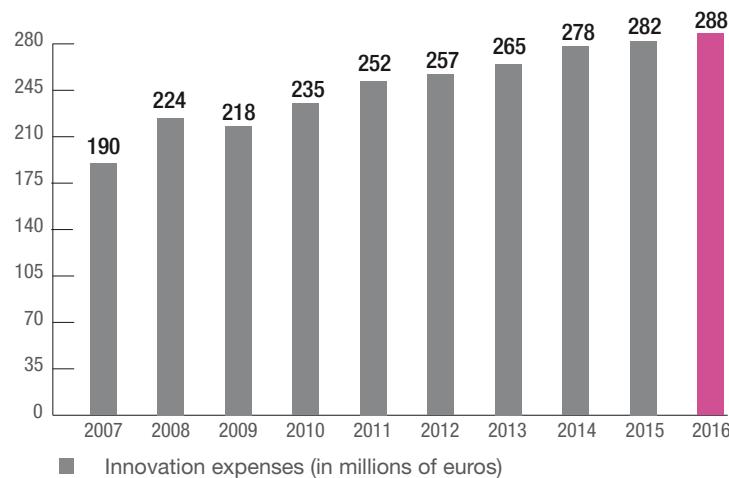
In 2016, Air Liquide signed several contracts to take part, alongside the CNES (the French national space agency) and Airbus Safran Launchers (ASL), in the development of the **future European launcher Ariane 6**, as well as the design and production of the **cryogenic fluid systems of the new Ariane Launcher System (ELA4)** of the French Guiana Space Center (CSG). The contracts for the sale of this equipment, amounting to more than 100 million euros, will be executed over the next three years. The Group will be in charge of cryogenic studies, and will notably design and manufacture the cryogenic lines of the tanks of the main and upper stages of the launcher, which contain 175 tons of liquid hydrogen and oxygen. On the Kourou launch pad in French Guiana, Air Liquide was also chosen for the design of equipment for the distribution of cryogenic fluids (oxygen, nitrogen, hydrogen and helium). Global leader in cryogenics for space, Air Liquide has been supporting the development of successive generations of Ariane 1 through Ariane 5 launchers for 50 years, developing innovative cryogenic technologies and supplying a complete offer, aboard and on the ground, of high technology equipment, gases and related services. The Group is also participating, alongside other players in the European space sector, in improving the performance and competitiveness of the future Ariane 6 launcher, whose first test flights will take place in 2020.

Innovation indicators concerning the Group as a whole^(a)

	As at December 31, 2016
Number of employees working in entities contributing to innovation	5,700
Number of researchers	1,100 researchers of 41 nationalities
Number of R&D sites	9
R&D industrial partners	100
R&D scientific partners (academic and technology institutes)	117
Number of Global Markets & Technologies employees	1,600
Number of Engineering & Construction employees	2,500
Engineering centers	15
Number of employees in other entities contributing to innovation	500

(a) Excluding Airgas.

INNOVATION EXPENSES



Patents	2012	2013	2014	2015	2016
Number of patented inventions	3,215	3,288	3,369	3,200	3,363
New patent applications filed during the year	316	321	287	271	296
Percentage of new patents protecting the core business (within the portfolio) ^(a)	47%	54%	59%	51%	53%

(a) Gas production and separation technologies, and Healthcare activity.

STRATEGY AND OUTLOOK

Strategy

For many years, Air Liquide's growth strategy has been founded on creating long-term value. To do so, the Group relies on its operational competitiveness, its targeted investments in growth markets, and innovation to open new markets and create new opportunities.

The Group is committed to delivering a regular and sustainable performance for its shareholders and maintaining its strong dividend pay-out policy year after year. This long-term performance is based on continuous growth of the industrial gases market worldwide, a solid business model and a managerial culture founded on consistent performance.

COMPOUND ANNUAL GROWTH RATE (CAGR) OVER 30 YEARS

- Revenue: +6.0%
- Cash flow from operating activities before changes in working capital: +6.9%
- Net profit: +7.9%
- Earnings per share^(a): +7.2%
- Dividend per share^{(a)(b)}: +8.2%

(a) Adjusted for the 2-for-1 share split in 2007, for attribution of free shares and for a factor of 0.974 reflecting the value of the rights of the capital increase completed in October 2016.

(b) Subject to the approval of the Shareholders' Meeting on May 3, 2017.

The industrial gases industry has enjoyed steady growth over the last 100 years due to the ever increasing needs of new and growing economies, the emergence of new applications supported by innovation and technological research, and increased customer outsourcing of gas production. The demand for industrial gas, therefore, has risen faster historically than industrial production.

The growth rates during the rebound from the 2008-2009 financial crisis varied greatly between advanced and developing economies. The gap between the growth rates in these economies has varied from 9 points in 2005 to 18 points in 2010 and is now below 5 points.

Against this backdrop, the Group's strategic approach has shifted from a geographical viewpoint, where industrial growth came mainly from increased capacity in developing economies, to a market viewpoint, where each country aims to attract new investments in growth sectors.

CORPORATE PROGRAM NEOS

The previous strategic program of Air Liquide named ALMA™ finished end of 2015. On the occasion of its Capital Markets Day on July 6, 2016, Air Liquide has presented its vision of the evolution of its markets, its strategy, its growth prospects, and its new company program NEOS for the period 2016-2020, which marks a new step in the development of the Group.

The Group acquires a new dimension following the acquisition of Airgas and thus enters a new phase of its development. Air Liquide's strategy for profitable growth over the long term is that of a customer-centric transformation. It is based on operational excellence and the quality of its investments, on open innovation and the network organization already implemented by the Group worldwide. Air Liquide's ambition is to lead its industry, deliver long-term performance and contribute to sustainability.

With strong fundamentals and a disciplined model of development and management, the Group is well positioned to perform in various economic environments and leverage the underlying trends, i.e., the energy and environment transition, changes in the world of healthcare, and digitization.

Thus, Air Liquide is confident in its ability and its 66,700 employees to implement NEOS, the Group's new company program for the period 2016-2020, and to collectively create, notably through digitization, additional value for all its stakeholders.

The environment is characterized by moderate global growth and major changes related to scientific and technological advances, and new usages and consumption patterns that impact the needs of the Group's customers.

Air Liquide has identified three major trends, which are sources of growth for all of its businesses. These trends are energy and environment transition, changes in healthcare, and digitization. The latter touches new ways of working, the managing of assets, and the transactional sphere.

To address these key challenges and this new market potential, Air Liquide can rely on its leading positions in the major industrial basins worldwide, its proprietary technologies, its capacity for innovation, its solutions and services, its operational excellence, and its network organization.

In this context, the preponderant path to growth will involve innovation, supported by the major trends identified, in addition to external growth. This innovation at the service of customers, within an open ecosystem, is centered on usages and supported by technologies.

A SOLID BUSINESS MODEL

The Large Industries activity, which benefits from long-term contracts with take-or-pay clauses, and the Healthcare activity, which is enjoying steady growth independently of the economic cycle, provide security. The Industrial Merchant activity offers technological solutions adapted to the multiple applications of customers in various industries and provides greater resilience. In addition, through its four World Business Lines, the Group serves a wide range of customers and industries, with an extensive regional diversity and a growing market share in developing economies, another guarantee of solidity.

PERFORMANCE AND SUSTAINABLE DEVELOPMENT

The search for economic performance and the attention paid to society's major issues, notably the protection of the environment, are closely linked. Companies are no longer evaluated on their financial performance alone. They are also judged on their commitment to and efforts in terms of sustainable development. The Group has confirmed its ambition to be the leader in its industry, by demonstrating its long-term performance and behaving responsibly. The Group thus creates a virtuous dynamic where sustainable development is an integral part of Performance.

Outlook

With the acquisition of Airgas, a major achievement of the past year, the Group has taken a major step forward in its geographic expansion and the extension of its markets. Its performance in 2016, which includes Airgas for a portion of the year, is solid with an increase in revenue, net profit, and net earnings per share despite unfavorable currency and energy effects.

In the context of moderate global growth, activity was buoyed by higher volumes in Large Industries, the strength of the healthcare sector, and the promising markets served by the new entity Global Markets & Technologies. All geographies are growing on a comparable basis, benefiting from stronger growth in developing economies.

With the acquisition of Airgas in the United States, completed in May 2016, the Group has changed in size with sales of Gas & Services increased by +30%. The Group has strengthened its global leadership by rebalancing its European and American positions. The acquisition of Airgas positions Air Liquide optimally in the United States, the world's largest and most advanced in innovation and digitization industrial gas market. Through its multi-channel distribution network in the United States, Airgas has a close relationship with its customers and proposes the most complete and innovating e-commerce offer.

In light of these factors, Air Liquide, as part of its NEOS Program, is aiming for revenue compound annual growth rate (CAGR), over the 2016-2020 period, of +6% to +8%, including Airgas scope effect in 2017, contributing +2% to the CAGR. The Group intends to generate substantial recurrent efficiency gains of more than 300 million euros on average per year from 2017, in addition to synergies related to Airgas for a total amount above 300 million US dollars. The Group is targeting a Return On Capital Employed (ROCE) in excess of 10% after five to six years. Lastly, maintaining its long-term "A" range rating thanks to the strength of its balance sheet remains a priority.

As for sustainable development, which lies at the heart of its ambition alongside performance, the Group will reinforce its actions aimed at improving the air quality for better environment and health. Air Liquide will pursue an active dialogue with its stakeholders to contribute to a more sustainable world.

From a Group organization point of view, the executive leadership team working from the Base (Paris) and the hubs (Houston, Frankfurt, Shanghai and Dubai), and the Cluster managers (groups of countries or entities) based in the different regions, will be working collaboratively within a network to roll out NEOS and achieve the objectives that have been set for the 2016-2020 period.

With NEOS, the Group will be able to deliver a long-term performance and will be more connected to its stakeholders as well as more innovative.

The Group continues to deliver efficiency gains, to which are added this year the first Airgas synergies. The balance sheet is strong, reinforced by solid growth in cash flow and success of the capital increase, thus containing the debt below forecasts.

With the integration of Airgas and the launch of the NEOS program for the period 2016-2020, Air Liquide is implementing its transformation, which combines targeted industrial investments, digital development, and innovations to fuel growth in the coming years.

Assuming a comparable environment, Air Liquide is confident in its ability to deliver net profit growth in 2017.



2

2016 SUSTAINABLE DEVELOPMENT REPORT

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INTRODUCTION

Air Liquide strives to contribute to a more sustainable world. As part of the NEOS 2016-2020 company program, Air Liquide has set itself the objective of improving air quality for environmental and health reasons and of pursuing an active dialogue with its stakeholders.

The report uses the indicators monitored year on year to summarize the Group's progress in three areas: governance, air and environment, and its commitment to stakeholders.

It illustrates this through the specific actions undertaken in 2016.

The report has started to incorporate Airgas data (safety, transportation, as well as certain human resources indicators). This will be completed in the 2017 report.

Just like the financial report, this extra-financial report has been reviewed each year since 2003 by an independent verifier. This verifier analyzes and verifies a selection of indicators not only at the corporate level, but also on industrial sites and within subsidiaries. This year, 17 subsidiaries were audited.

For further information the Group's website also has a section dedicated to Sustainable Development, accessible at <https://www.airliquide.com/group/contributing-sustainability>.

► AIR LIQUIDE'S SUSTAINABLE DEVELOPMENT STRATEGY

Air Liquide's Sustainable Development strategy, approved by the Board of Directors, is centered on the following areas:

Two prerequisites: safety and ethics

Safety is Air Liquide's priority. This strong focus on safety relates to employees and subcontractors, industrial installations, transport and the implementation of Group products and services at customers' premises and in patients' homes.

An ethical approach is also imperative for Air Liquide. The Group refers to the Global Compact of which it is a signatory and has set standards on this subject for conducting its business.

Two objectives

1. IMPROVING AIR QUALITY FOR ENVIRONMENTAL AND HEALTH REASONS

Air quality is a major societal issue for the planet. The year 2016 saw many pollution episodes across the world. In addition to peaks, daily pollution is the reason why more than 80% of the planet's inhabitants do not enjoy the quality of air recommended by the World Health Organization (WHO). For the wellbeing of everyone, the air we all breathe must be protected and atmospheric pollution managed in order to avoid millions of premature deaths each year, the damage to the most fragile populations, children and the elderly, or simply the deterioration of our daily life.

Air Liquide wants to contribute to improving air quality. The Group's activities, its expertise in terms of air, breathing and healthcare as well as its products and services in the energy transition, enables it to work towards improving air quality.

2. PURSUING AN ACTIVE DIALOGUE WITH ITS STAKEHOLDERS.

We must tackle social problems in an open and collaborative manner. This is why Air Liquide works on these questions not only with its customers, suppliers, and of course its employees, but also with various other parties from civil society and the world of science. Through its operations over thousands of sites worldwide, Air Liquide is also concerned for the social development of the local communities where it operates and acts for this purpose, particularly through the Air Liquide Foundation.

NOTE ON CLIMATE CHANGE:

Climate change is a major challenge for our planet. Many of Air Liquide's actions help to reduce greenhouse gas emissions. This report contains multiple illustrations.

A program

In 2016, the Group defined a five-point Corporate Sustainability Program (CSP):

- contribute to cleaner industries;
- contribute to cleaner transportation;
- produce clean;
- buy clean;
- re-inforce community involvement.

This year, the Sustainable Development Report also presents the progress of this program.

This report shows that the Corporate Sustainability Program impacts our investments, purchases, technology portfolio, and municipal and local authority relations. It also requires the full commitment of our employees.



Air Pollution affects health & quality of life

More than 80% of the world's population is impacted^(a). Several hundred million people breathe severely degraded air, every day.

The consequences are:

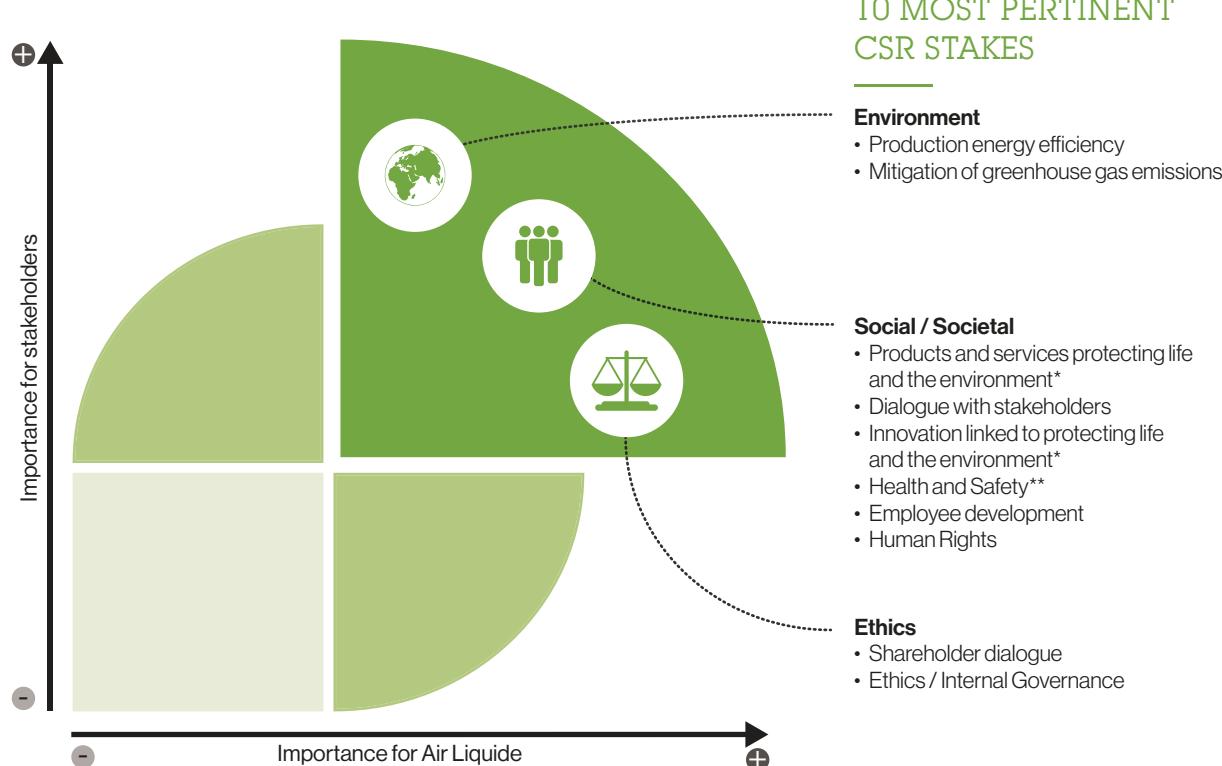
- **ill health (particularly of the young & the elderly);**
- **premature deaths (3.5 million every year) due to cardiovascular, neurovascular, respiratory conditions;**
- **and a poor quality of life.**

The cost to society is several 100 billion euros a year.

(a) Data from World Health Organisation.

► MAPPING OF SUSTAINABLE DEVELOPMENT STAKES

Mapping of Air Liquide's CSR Stakes



* Particularly for climate change and air quality.

** Including the safety of Group employees, subcontractors, and temporary workers; the safety of Air Liquide facilities, product transport safety; safety of products and their implementation at the customers' sites.

APPROACH

Our commitment to stakeholders is a key focus of Air Liquide's Sustainable Development strategy, as set out in the NEOS company program.

The Group consulted its stakeholders regarding its Sustainable Development stakes. This approach enabled a map to be drawn up which will be updated regularly.

METHOD

To draw up this map or materiality matrix, Air Liquide brought together a working group composed of various Group departments. The main stakeholders were consulted to assess the importance of these stakes to each of them: customers, patient associations, suppliers, investors, journalists, NGOs, panels of employee representatives and of individual shareholders.

This consultation was supplemented by the data analysis of non-financial rating agencies and the conclusions of a quantitative survey of the French general public which was carried out on this subject in 2015. The results were then consolidated by assigning an equal weighting to the statements of each stakeholder.

The horizontal X-axis positions these stakes according to their importance to the Company and on the Y-axis they are positioned according to their importance to the stakeholders.

RESULTS AND USE

The results of this consultation formalized Air Liquide's ten most pertinent Sustainable Development stakes. These stakes are classified according to three categories: the environment, social and societal, and ethics. The latter includes internal governance and shareholder relations. These ten stakes are included in this report.

➤ GOVERNANCE, AIR AND THE ENVIRONNEMENT, COMMITMENT TO STAKEHOLDERS

1. Governance

1.1. Safety: our priority

Safety is our top priority and our license to operate. Continuously and durably improving employees' and subcontractors' health and safety in the workplace is one of Air Liquide's major concerns, which is expressed by the keywords "zero accidents" on every site, in every region, in every entity. Employees are mobilized through active and regular communication. In addition, safety objectives – like the other Sustainable Development objectives – are part of the variable remuneration of the Group's senior managers.

Prevention, protection, early detection and rapid reaction are at the heart of the Group's concerns. With its Industrial Management System (IMS)^(a) in use for over 10 years, Air Liquide has changed work methods significantly and improved processes involving safety management, reliability, protection of the environment and industrial risk management.

The Group has set up procedures, training sessions and an appropriate follow-up to encourage each employee to work responsibly and in total safety, respecting the laws and regulations in force. A central team of experts leads networks of specialists on-site to see to the proper implementation of the IMS. Together, they provide local managers in the Group's various entities with technical and methodological support and participate in managing industrial risks.



Safety successes on sites in 2016

The large scale construction site for an industrial gases complex in Fujian, China, which during the most intensive period of work involved 1,700 people representing 5.8 million hours works, was completed without any lost-time accidents.

At the same time, the Sasol 17 site in Secunda, South Africa, recorded nearly one million hours worked in 2016 without any lost-time accident, to set up the largest air gas separation unit (ASU) ever built by the Group.

These excellent safety results are due to an outstanding working team, a high level of involvement from all project's stakeholders, training, strict respect of safety rules and of the Industrial Management System (IMS).

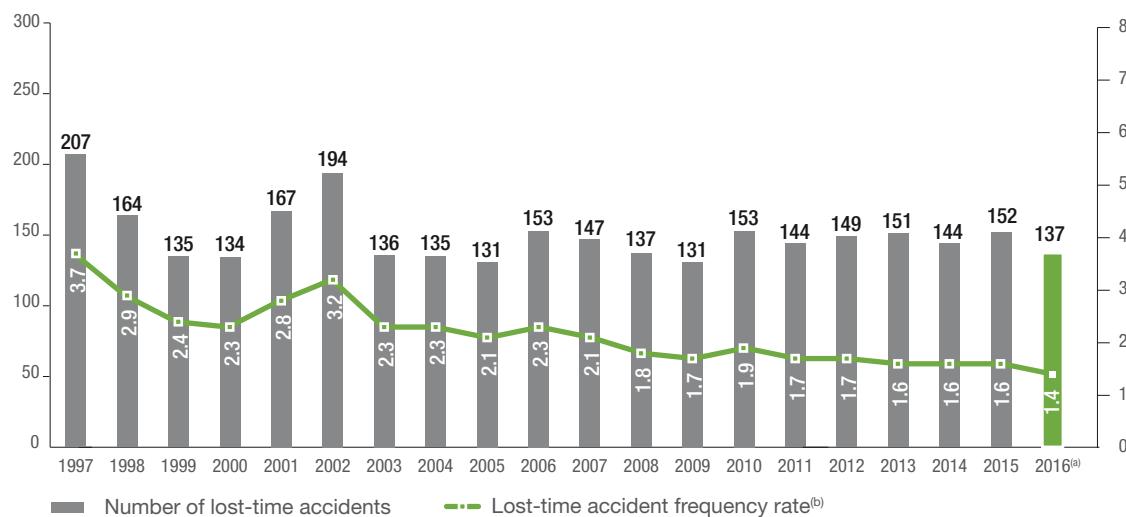
In terms of safety, for 2016 the Group organized its programs in three complementary areas which are: employee safety, procedure safety, and road safety. Group initiatives and local entities initiatives led safety in these three areas. These initiatives support the attention to safety in everyone's daily life. Each field manager and their team are involved in working in a safe manner.

The "Life-Saving Rules" are based on the Group's operations and increase awareness of major risks at production sites. These rules apply to Air Liquide employees as well as to temporary workers and subcontractors.

Feedback from these safety events is an essential practice in Air Liquide's safety approach. The Fault Tree method is used to analyze lost-time accidents and potentially serious safety incidents. The combination of events that were generated are determined and depicted and their root causes identified so that lessons can be learned and an action plan set up to prevent similar events occurring. These lessons are then shared. This approach is a fundamental element in ongoing prevention for safety.

(a) More information on IMS in chapter 26 Industrial Management System and certifications.

NUMBER AND FREQUENCY OF LOST-TIME ACCIDENTS OF GROUP EMPLOYEES SINCE 1997



(a) Excluding Airgas, including Diving and Welding.

(b) Number of lost-time accidents with at least one lost-day per million hours worked by Group employees..

Safety indicators for the Group as a whole

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016 ^(f)
Number of accidents involving lost time of at least one day of Group employees ^(a)	147	137	131	153	144	149	151	144	152	137
Accident frequency of Group employees ^(b)	2.1	1.8	1.7	1.9	1.7	1.7	1.6	1.6	1.6	1.4*
Accident severity rate ^(c)					<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Number of accidents of subcontractors and temporary workers ^{(d) (e)}	154	148	155	118	142	110	92	94	91	
Frequency of accidents of subcontractors and temporary workers						2.2	2.3	2.2	2.0	

(a) Fatal work accidents since 2011: one in 2016, none in 2015, none in 2014, three in 2013, one in 2012, one in 2011. Among these fatal accidents, the one in 2016 and one in 2013 were road accidents.

(b) Number of accidents involving lost time of at least one day, per million hours worked by Group employees. Accidents defined following the recommendation of the International Labour Office. Working hours are defined according to local employment laws.

(c) Average number of days of lost time per thousand hours worked. Accidents defined following the recommendation of the International Labour Office.

(d) Personnel working under an Air Liquide contract at a Group site, or at a customer site, or as a delivery vehicle driver.

(e) Fatal work accidents since 2011: one road accident in 2016, one road accident in 2015, one road accident in 2014, one road accident in 2013, three fatal work accidents in 2012 including a road accident, four fatal work accidents in 2011 including three road accidents.

(f) Excluding Airgas and including Diving.

* Indicator verified by the independent verifier.

Within Airgas since June 1, 2016, 54 lost-time accidents involving employees occurred which corresponds to a frequency rate of 2.7.

1.2. Ethics and Internal Governance

1.2.1. AIR LIQUIDE'S ETHICAL APPROACH

Air Liquide's action is set on strong ethical principles. The Group's ethical approach is structured so that rules of conduct are shared and respected by all, in particular in regards to the respect for Human Rights, social rights and the environment.

This approach is set out in an Ethical program which has four priorities:

1. behavior expected from all employees: Integrity and Transparency which are part of the General Statement of the Group's Principles of Action;
2. the tools: Codes relayed through internal procedures;
3. the awareness-raising and training program;
4. the whistleblowing and control system.

To support the roll-out of this Ethical program, the following dedicated organization was set up:

- an Ethics Officer is responsible for providing advice and support to entities in the implementation of the four above-mentioned areas and in the treatment of fraud and deviations. This Officer must also suggest improvements to the ethical program by integrating best practices from comparable groups, regulatory developments and strategic challenges. It relies on a network of ethics correspondents which represent the Group's geographic regions and business lines worldwide;
- an Ethics Committee, composed of Air Liquide's various global functions (e.g. the Human Resources, Legal, Group Control, Operations, Sustainable Development Departments), validates the Ethical program's guidelines and may, if necessary, make post-fraud sanction recommendations.

1.2.2. COMMITMENTS TO RESPECT HUMAN RIGHTS AND THE ENVIRONMENT

Air Liquide is dedicated to the highest standards for the conduct of its business. The Group has signed the **United Nations Global Compact**, an initiative in which the **10 founding principles** relate to Human Rights, international labor standards, the environment and the fight against corruption.

- Support and respect the protection of internationally proclaimed Human Rights.
- Make sure that they are not complicit in Human Rights abuses.
- Uphold the freedom of association and the effective recognition of the right to collective bargaining.
- Contribute to the elimination of forced or compulsory labor.
- Contribute to the effective abolition of child labor.
- Contribute to the elimination of all forms of discrimination in respect of employment and occupation.
- Support a precautionary approach to environmental challenges.
- Take initiatives that promote greater responsibility in terms of the environment.
- Encourage the development and diffusion of environmentally friendly technologies.
- Work against corruption in all its forms, including extortion and bribery.



Air Liquide also complies with the international rules of the International Labour Organization (ILO) in terms of labor law and follows guidelines for multinational companies issued by the OECD. These guidelines encourage the reasonable conduct of companies in terms of professional relationships, Human Rights, the environment, taxation, the publication of information, anti-corruption, the interest of consumers, science and technology, and competition.

Moreover, Air Liquide has signed the Responsible Care Global Charter, an initiative of the International Council of Chemical Associations which aims to improve global performances in the chemical industry in terms of health, safety and the protection of the environment.



1.2.3. INTEGRITY AND TRANSPARENCY

Integrity and transparency are the cornerstones of the Group's ethical approach and govern its behavior and actions. Integrity, the first cornerstone of the Group's ethical approach, includes honesty and impartiality. Transparency, is based on the principles of sincerity and openness.

Individual and collective commitment is key to adopt behavior based on integrity and transparency in order to act ethically and contribute to the Group's continuity.

Thus, the Group's Principles of action, the employee Code of Conduct and the anti-corruption Code of Conduct describe the expected behavior and the promoted values within the Group.

1.2.4. CODES AND PROCEDURES

Shared by all, Codes of Conduct are set out in particular within the following documents:

The Group's Principles of action

Since 2006, the Group has formalized the Principles of action in a document that explains its approach to all its stakeholders. This document is shared with all entities. It is also available in the Group section of the website: <https://www.airliquide.com/group/groups-principles-action>.

Air Liquide is committed to the highest possible standards in terms of conducting its business, notably with respect for Human Rights, social rights and the environment pursuant to its Sustainable Development approach.

In each location where the Group is present, Air Liquide complies with local cultures and traditions by respecting its values through the local commitment of its employees.

Air Liquide respects laws and regulations, in particular rules of fair competition, and does not tolerate any form of corruption.

Employee Code of Conduct

The Group's subsidiaries must implement a local Code of Conduct. This decentralized approach combines respect for local customs and regulations and the Group's ethical commitment. The subsidiaries thus embrace the Group's ethical principles by writing their own Codes of Conduct themselves in their working language.

In 2016, 96% of the Group's employees belonged to subsidiaries that have a local Code of Conduct. The 4% of employees who do not yet have a local Code of Conduct primarily belong to entities recently acquired by the Group and undergoing consolidation. Currently, these Codes of Conduct are available in 23 languages.

These Codes of Conduct must adhere to the following key concepts:

- respect for laws and regulations;
- respect for people: health and safety conditions in the workplace, prevention of discriminatory actions, respect for third parties;
- respect for the environment;
- respect for competition law;
- respect for rules on market abuse, particularly insider trading;

- prevention of conflicts of interest: links to a competitor, customer or supplier, respect for anti-corruption rules;
- protection of Air Liquide's activities: protection of information, property and resources;
- transparency and integrity of information;
- internal controls and audits;
- sanctions for disregard of the Code of Conduct;
- implementation of Codes of Conduct.

Full details of these key concepts are available in the Group section of the website at <https://www.airliquide.com/group/key-principles-code-conduct>.

The anti-corruption Code of Conduct

Within the Group, the anti-corruption program demonstrates the importance of this subject and underlines Air Liquide's commitment to preventing acts of corruption.

As part of this program, the Group has formalized an anti-corruption Code of Conduct. This Code has been made available to all entities and a copy is also available on the website at <https://www.airliquide.com/group/anti-corruption-code-conduct>. This anti-corruption Code of Conduct provides a reminder of the anti-corruption laws and deals with relations with intermediaries, particular cases such as mergers, acquisitions and partnerships, types of payments requiring particular attention, as well as administrative and accounting traceability requirements and sanctions applicable in the event of non-compliance with this Code.

Moreover, the Supplier Code of Conduct includes a chapter on the prevention of corruption.

Respect for Competition Law

Codes at the Group level were established in regard to proper behavior concerning respect for competition law, especially in Europe and the United States. The most important rules on competition law are also included in the employees' local Codes of Conduct. For some of the Group's activities, Healthcare in particular, specific Codes of Conduct on competition law have also been developed.

Audits are jointly conducted on a regular basis by the Group's Internal Audit Departments and an external attorney. They carry out tests and interviews to identify and correct practices at risk in this area or any deviations observed. Awareness-raising meetings on compliance with competition law are regularly held throughout the Group. Finally, an e-learning program was launched at the Group level on competition law related practices and international principles.

1.2.5. ETHICS TRAINING

Several initiatives have been introduced to facilitate the roll-out of the ethics approach within the Group.

An e-learning module exists on the Employee Code of Conduct. It introduces the Group's ethical approach and presents key concepts through case scenarios. This module is mandatory and must be followed by all employees each year.

A second e-learning module covers the anti-corruption Code of Conduct. It is primarily intended for those teams which are most exposed to corruption-related risks (sales, procurement, administrative management, and so on) and managers. For these categories of employees, training sessions given by external providers are also organized.

1.2.6. A WHISTLEBLOWING SYSTEM

In 2015, the Group introduced a formal whistleblowing system at all its entities called Ethicall, whereby employees can anonymously alert an independent external service provider of any deviations to the Code of Conduct of their entity. Employees can file this alert in their own language by telephone or through the provider's dedicated website, accessible via the Group's Intranet. All reports are dealt with confidentially and as quickly as possible. The processing of these alerts is supervised by the Group's Ethics Officer.

This system is an additional solution to the usual process for reporting incidents within the entities: through managers and the Human Resources teams. It helps to accelerate the processing of reports received, and thus to minimize their potential impact on individuals and the organization.

At the end of 2016, the system covered 60 countries, representing 97% of the Group's employees.

For the moment, the platform receives 10 alerts per month on average, i.e. around one alert per 500 employees. Two-thirds of the alerts relate to Human Resources issues and the remaining third cover fraud or potential conflicts of interest and other subjects such as Safety, for example. Around half the number of alerts are sufficiently detailed to be acted on and are therefore processed by the Ethics Officer and the Departments in question.

To raise awareness of Ethicall, a billboard and communications campaign was rolled out worldwide presenting ways of contacting the alert platform. In 2017, the e-learning modules will be updated to include Ethicall.

1.3. Safety and ethical prerequisites for suppliers

Safety and fair business practices are at the heart of Air Liquide's procurement policy. The Group attaches great importance in the ability of its suppliers to offer long-term partnerships and to ensure a high level of security, reliability, competitiveness and innovation. Air Liquide therefore strives to build long-lasting and balanced relationships with its suppliers, in an environment of mutual trust. The Group, for example, formalized this commitment in France by signing the Mediation Inter-Enterprise's Charter for responsible supplier relations.

Several tools and procedures set out the behavior expected from Air Liquide buyers and suppliers:

- **the Procurement Code of Conduct**, translated into 13 languages, applies to all Group employees engaged in Procurement activities. It sets out the ethical and sustainable development principles that govern the Group's procurement;
- **the Supplier Code of Conduct** is routinely sent to all Group suppliers in order to promote and enforce practices relating to

Human Rights, the environment and safety. This Code, which can be found on Air Liquide's website, applies to existing and new suppliers. Air Liquide expects each of its suppliers to respect the Group's ethical principles and ensure that all their employees and subcontractors comply with this Code of Conduct.

The Supplier Code of Conduct is based on internationally-recognized principles such as the Universal Declaration of Human Rights, the United Nations Guidelines on companies and human rights, the United Nations Global Compact, OECD Guidelines for Multinational Enterprises and the fundamental conventions of the International Labour Organization (ILO).

It imposes on suppliers, in particular, the prohibition of child labor and forced labor, that they guarantee decent and healthy working conditions without danger for all employees and that they respect the environment and the preservation of natural resources.



Assessment of suppliers' performances in terms of Sustainable Development

The assessment of suppliers' performances in terms of Sustainable Development relies on the following tools:

- **the supplier qualification questionnaire**, completed during the selection process, includes a specific section relating to policies and practices in place at the supplier, governing health, safety, ethics and the environment. Certain answers are considered eliminatory, such as the absence of a commitment to health and safety, of regular inspections of high-risk tools, of compliance with local legislation on the minimum wage, or of measurement of energy consumption;
- **a sustainable Development clause** is routinely included in the Group's new contracts and framework agreements. This clause covers the option for Air Liquide to assess the supplier's Sustainable Development performance, as well as the obligation to implement adequate corrective measures. It also includes a compulsory reporting element for the supplier, in particular on safety, energy and water consumption and emissions into the atmosphere, and social rights;
- **for critical suppliers**, i.e. the suppliers where their activity and/or geographic location represent high environmental and social risks or those that are subject to significant expenditure by Air Liquide, the Group carries out, with the support of a partner specialized in sustainable procurement, comprehensive performance evaluations covering the following subjects: environment, social, fair business practices and suppliers' own sustainable procurement policy. Since this approach was introduced in 2010, 737 of Air Liquide's critical suppliers have been assessed, of which 177 in 2016. Suppliers performing below expectations are examined and are presented with a corrective action plan that may go as far as the disqualification of the supplier;
- since 2014, the Group also conducts on-site Sustainable Development audits for certain suppliers that are considered to be particularly at risk in this area, due to unsatisfactory evaluations. These audits mainly cover social and environmental factors. They are conducted according to recognized external benchmarks, often by a specialized external auditor. Close to 10 on-site audits of suppliers were carried out, in Asia, South America and Europe. Following these audits, corrective action plans were drawn up. In certain cases, commercial relationships were suspended while the supplier brought its practices into compliance.

These selection rules help to give priority to suppliers who offer solutions which respect good safety, ethical and environmental conditions.

2. Air and the environment

With the launch of its company program NEOS 2016-2020, Air Liquide has set itself the objective of improving air quality for health and the environment.

As part of this program, the Group is progressively establishing a sustainable development program centered on the different stages of the industrial and medical gases value chain (production, distribution and use).

Starting from the customers, the stages are as follows:

- **contribute to cleaner industries**, by helping customers to reduce their greenhouse gas emissions and their air pollutant emissions;



Air pollutants

Particulate Matter (PM)

Affects more people than any other pollutant. It is composed of a mix of sulphates, nitrates, ammonia, sodium chloride, black carbon, mineral dust and water. Reduces life expectancy 6-18 months ^(a). PM10 concentrations should be < 20µg/m³.

Nitrogen dioxide (NO₂)

Causes inflammation of the airways; also a source for PM_{2.5} & O₃ (asthma, lung conditions). NO₂ concentrations should be < 40µg/m³.

Sulfur dioxide (SO₂)

Can affect the respiratory system; combined with water, causes acid rain. SO₂ concentrations should be < 20µg/m³.

(a) Data from World Health Organisation.

- **contribute to cleaner transportation**, primarily in our own delivery operations of gas but also with new technologies implemented in transports, such as hydrogen energy or biomethane;
- **produce clean**, by improving the energy efficiency and the environmental impact of our production operations, particularly air gas and hydrogen;
- **buy clean**, particularly by encouraging low carbon electricity purchases.

2.1. Contribute to cleaner industries

2.1.1. EMISSIONS AVOIDED AT OUR CUSTOMERS' FACILITIES THANKS TO THE SUPPLY OF OUR PRODUCTS

A significant number of products and services provided by Air Liquide enable its customers to reduce their own CO₂ emissions and improve their environmental impact.

For example, Air Liquide supplies large volumes of oxygen to the steel industry, which significantly reduces CO₂ emissions:

- the injection of oxygen in blast furnaces reduces the consumption of coke, whose production and use release an important volume of CO₂ and other pollutants, by partially replacing it with pulverized coal or natural gas;
- the use of oxygen in electric furnace burners can significantly reduce their consumption of electricity.

A detailed methodology has been introduced in order to assess the avoided CO₂ emissions by customers for these two steel applications. This methodology is based on an analysis of the oxygen volumes supplied by Air Liquide in 2016 for these two applications, site by site and customer by customer. The avoided emissions are calculated by using ratios derived from the modeling of corresponding customer processes and validated by Group experts. In 2016, Air Liquide estimates that the use of oxygen in these two applications enabled its customers to avoid 11.2 million tons of CO₂ emissions. This included 10.8 million tons related to oxygen injection in blast furnaces and 0.4 million tons related to the use of oxygen in electric furnace burners.

2.1.2. EXAMPLES OF SOME AIR LIQUIDE SOLUTIONS THAT CONTRIBUTE TO CLEANER INDUSTRIES

By providing its expertise to its customers, Air Liquide develops and offers solutions that contribute to cleaner industries as shown in the examples listed below:

Heat oxycombustion

Heat oxycombustion is an innovative technology which makes the oxycombustion process even more efficient. It consists of extracting heat from combustion fumes in order to heat oxygen and fuel, thus improving the performance of the process by 10%. Compared to air combustion, this technology provides up to 50% energy savings and up to 50% CO₂ emission reduction. Moreover, these oxycombustion technologies reduce the nitrogen oxide emissions of glass furnaces by 60% to 95%.

So far, this technology has been implemented in several glass production factories in Europe owned by leaders in the sector. It is of particular interest for the Chinese market which represents about 50% of worldwide glass production.

Therefore, the Group contributes to the improvement of air quality by enabling its customers in the glass industry to lower their nitrogen oxide emissions while increasing their energy efficiency.

Solidia Technologies

The partnership between Air Liquide and US start-up Solidia Technologies developed and marketed a "sustainable concrete".

The Solidia process replaces water with carbon dioxide (CO₂) in order to harden concrete. This new generation of cement enables the whole industrial chain to reduce the environmental footprint of the pre-cast concrete by up to 70%.

This breakthrough technology also reduces the hardening time of the concrete to less than 24 hours and the required amount of water. In addition to capturing large quantities of CO₂, the quality of the concrete achieved is greatly improved.

Air Liquide will supply the new carbon dioxide injection equipment for production of the Solidia Concrete™ and will be the benchmark global supplier of the gas used in the patented processes of Solidia Technologies.



CO₂, a molecule which is essential to life, involved in climate change

CO₂, or carbon dioxide, is a colorless and odorless gas present in the air at about 0.04%. It contributes to making our planet habitable by playing a key role in the regulation of the average temperature of the Earth's surface (15°C). Without CO₂ in the atmosphere, its temperature would fall below 0°C, putting life on Earth at risk. CO₂ contributes to approximately 20% of the natural greenhouse effect, through its ability to absorb heat. CO₂ and methane are the main Greenhouse Gases (GHG). It is now common to express greenhouse gas emissions in "CO₂-equivalent".

Global warming: limiting the increase to less than 2°C

The average temperature of the Earth's surface is currently 15°C. Since the industrial revolution, this average value has increased by 0.8%. Specialists agree that the increase in temperature must be limited to less than 2°C in order to avoid major risks of disruption in our ecosystem.

The Paris Agreement

The Paris agreement is an international agreement adopted on December 12th, 2015 during the 21st Conference Of the Parties (COP21) held in Paris. This agreement entered into force on November 4th, 2016 thirty days after the date on which at least 55 Parties to the Convention, accounting for at least an estimated 55% of the total global greenhouse gas emissions, deposited their instruments of ratification. The major purpose of this agreement is to keep the global temperature increase this century well below 2°C above pre-industrial levels and to pursue efforts in order to limit the temperature increase even further to 1.5°C.

In order to reach this objective, article 4 of the agreement stipulates that each party shall prepare a Nationally Determined Contribution (NDC) aiming to present the strategies, policies and measures that they think are the most appropriate, depending on their geographic, energetic and economic situation. NDCs are made public to ensure complete transparency about each party's engagements. These contributions shall be revised every 5 years and each new version shall show the progress made compared to the previous one. A large number of the parties who signed the agreement have already submitted their intended NDC.

According to article 4, each party shall also prepare a long-term low greenhouse gas emission strategy. Several parties have already submitted their long-term strategy, including the United States, Canada, France and Germany. They all target reduction of 80% in greenhouse gas emissions by 2050.

2.2. Contribute to cleaner transportation

Hydrogen is a high potential energy vector that is clean and safe. It can be used in order to produce energy or as a raw material in the industry and can easily be stored on a large scale. This gas can be produced from electricity (renewable) or from low carbon emission fossil fuels and its use generates zero emissions. Multiple uses are possible because it can be stored and transported at high energy density in liquid or gas and can be recovered or used in fuel cells to generate heat and electricity. This versatility provides hydrogen with an essential role in the area of transportation, but also in the residential and industrial sectors as well as for large scale storage of renewable energies: a promising solution to meet energy transition challenges.

2.2.1. HYDROGEN TO DESULFURIZE FUELS

Hydrogen is mainly used in refineries in order to desulfurize fuels and as a result to contribute to cleaner forms of transport. Thus, the use of these fuels almost no longer generates sulfur oxide emissions, one of the main atmospheric pollutants. In 2016, the hydrogen supplied by Air Liquide to its customers' refineries resulted in the avoidance of 1.4 million tons of sulfur oxide emissions being discharged into the atmosphere, which is more than eight times as much as the total sulfur oxide emissions of a country like France.

In 2016, Air Liquide commissioned the largest hydrogen storage site in the world in Beaumont, Texas (United States). Located 1,500 meters below ground, this facility can store a quantity of hydrogen equivalent to 30 days of production by a large hydrogen unit. This initiative provides a large-scale storage system that improves the reliability and efficiency of customers' hydrogen supply. Approximately two-thirds of the stored hydrogen will be used for the desulfurization of fuels. This hydrogen storage site complements Air Liquide production units located along the Gulf Coast, thus offering greater flexibility and a more reliable hydrogen supply of Air Liquide's pipeline network in this region.

2.2.2. HYDROGEN ENERGY: MEETING THE CHALLENGES OF THE ENERGY TRANSITION

Fuel Cell Electric Vehicles

With the arrival on the market of mass produced fuel cell electric vehicles, hydrogen represents a real high-quality alternative in the drive for clean transportation. For example, from January 2017, Paris is becoming the first restricted driving zone in France in its fight against pollution and preservation of air quality. Vehicles driving in the capital must have an air quality certificate (Crit'Air), established by the Ministry of Ecology and Sustainable Development, i.e. a label indicating their pollution level. Fuel cell electric vehicles are therefore considered as "zero emission engine" vehicles and can obtain the air quality certificates that provide the following benefits:

- preferential parking methods;
- preferential driving conditions;
- driving within the restricted driving zone.

Fuel cell electric vehicles have a particularly high performance as they require less than five minutes to recharge and can cover a distance of around 500 km. They do not emit CO₂ or particles and only discharge water. Moreover, fuel cell electric vehicles are completely noiseless.

Even though these vehicles just arrived on the market, there are already more than 3,000 fuel cell electric vehicles currently circulating worldwide and this figure should reach 8,000 in the next 12 months. The automobile manufacturers have already planned a significant increase in production capacity of these vehicles by 2020.



Hydrogen Council

On January 17, 2017 in Davos, Switzerland, 13 leaders from energy, transport, and industry sectors launched a Hydrogen Council, global initiative, in order to share their vision and ambition for hydrogen as an accelerator of the energy transition and to meet climate change targets. During this launch, the members of the Hydrogen Council, of which Air Liquide is a founding member, demonstrated their desire to intensify their investments in the development of the market of hydrogen and fuel cells. Their investments are currently estimated at 1.4 billion euros per year and could increase by more than 40% in the next five years.

HYPE: hydrogen taxis in Paris

Opened in December 2015, the first hydrogen charging station installed by Air Liquide in central Paris, near the Group's headquarters, was an opportunity for its partner STEP to create one of the very first fleets of hydrogen-powered electric taxis in the world called HYPE. This fleet – initially composed of 12 mass-produced Hyundai ix35 cars – should have around 60 additional vehicles within the next year and several hundred within five years. The objective, shared by the mayor of Paris, is to lead the way in gradually converting the fleet of 17,000 Parisian taxis in circulation to zero emission vehicles. A permanent network of hydrogen charging stations, mainly intended for this fleet of taxis, should be gradually installed in Paris region.

The hydrogen charging station network

Air Liquide is building a hydrogen charging station network throughout the world. The Group contributes, alongside automobile makers and public authorities, to the development of hydrogen energy. End of 2016, Air Liquide provided more than 75 hydrogen charging stations throughout the world. By the end of 2017, more than 300 hydrogen charging stations will be installed worldwide all party involved, enabling a massive deployment of fuel cell electric vehicles.

Blue Hydrogen

Hydrogen can be produced from a various range of energy sources. As part of its "Blue Hydrogen" approach, Air Liquide is committed to supply at least 50% of the hydrogen requirements of these CO₂ emission-free energy applications by 2020 by combining:

- the reforming of biogas;
- the use of renewable energies in water electrolysis;
- energy efficiency, carbon capture and storage of the CO₂ emitted during the production of hydrogen from natural gas.

Even when produced using natural gas, hydrogen is a virtuous energy: over an equal distance traveled, the use of hydrogen-powered electric cars decreases greenhouse gas emissions by at least 20% compared with combustion vehicles.

2.2.3. CIRCULAR ECONOMY AND TRANSPORTATION



Circular economy

The circular economy is based on a closed-loop production and consumption model, as opposed to the linear economy (extract, manufacture, consume and throw away). The aim of the circular economy is therefore to optimize the use of natural resources, mineral raw materials, animal and plant resources, water and energy, and as a result to protect the environment. The circular economy calls upon public players, companies and consumers.

Upgrade of biogas

Air Liquide promotes several initiatives in favor of circular economy, such as the upgrade of biogas.

The Group is a committed player throughout the value chain of biomethane for sustainable transport from biogas sourcing and purification in order to produce biomethane (which can be injected into the natural gas pipeline network), to the distribution to the end customer with biomethane stations or clean multi-energy stations (biomethane, nitrogen, and hydrogen).

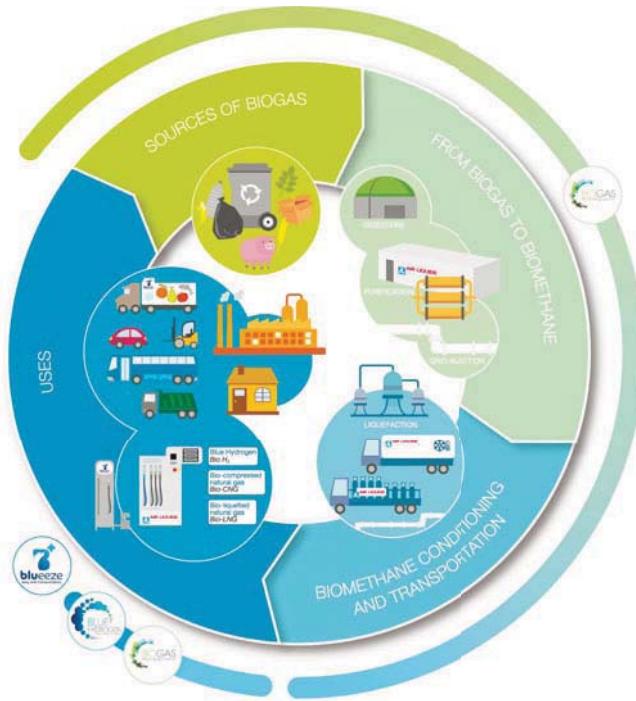
From waste used to produce biomethane until mobility, Air Liquide works in cooperation with various partners in the biogas circular economy. Air Liquide therefore designs and implements purification technologies (gas separation membranes produced by the subsidiary Medal) in order to extract biomethane. The Group also acquired FordonsGas, a Swedish biomethane distribution company for the transport market.

Biomethane in transport

The biomethane recovered by Air Liquide is mainly used as fuel, and is therefore called Bio – "Natural Gas for Vehicles" (Bio-NGV). This Bio-NGV comes in two forms:

- CNG (Compressed Natural Gas), a fuel which is used in stations for light-duty vehicles that are part of a captive fleet, cars, trucks, vans, buses;
- LNG (Liquefied Natural Gas), which is easy and safe to transport, this fuel is used in stations for trucks and cars.

Biomethane is also used in the production of carbon-free hydrogen for clean mobility as part of Air Liquide's "Blue Hydrogen" commitment.



Capture and storage of CO₂

The capture and storage of carbonic gas is another example of a circular economy within the Group's technologies. For more than a year, Air Liquide has operated a unique industrial facility that enables CO₂ capture during hydrogen production using a technology called Cryocap™, developed and marketed by Air Liquide. This facility is located at Air Liquide's largest hydrogen production unit in France, in Port-Jérôme, Normandy. Cryocap™ is the first CO₂ cryogenic capture technology. It enables the capture of CO₂ emissions resulting from the production of hydrogen by natural gas reforming while improving the unit's efficiency which leads to an increase of hydrogen production. After being purified and liquefied, the captured CO₂ can be used in order to meet a variety of industrial needs for carbonic gas supply (carbonation of sparkling beverages, food preservation and freezing, etc.). This unit has an annual capture capacity of 100,000 tons of CO₂.

2.2.4. ENVIRONMENTAL IMPACT OF ROAD TRANSPORTATION

Transportation in the Industrial Merchant Business Line

In 2016, trucks delivering Air Liquide liquid gases or gas cylinders in the Industrial Merchant activity traveled 540 million kilometers throughout the world and emitted about 600,000 tons of CO₂.

(a) Including Airgas since June 1st, 2016.



Combined rail/road solutions in the Industrial Merchant Activity

Transportation is a major challenge for Air Liquide in terms of safety, efficiency, cost control and environmental impact. Air Liquide France Industrie's Industrial Merchant teams, whose trucks cover three million kilometers each year, have tested a new solution which combines transport by road and rail. In 2016, this pilot project covers the Vitrolles site in the South of France, and those of Blanc-Mesnil and Bobigny in the Paris region. The majority of kilometers were covered by rail, thus avoiding 160,000 km per year of road haulage. The reliability of schedules, and gains in time and cost have encouraged the subsidiary to study the possibility of extending combined rail/road solutions to other routes such as Lyon-Paris.

Transportation in the Industrial Merchant Business Line	2012	2013	2014	2015	2016
Kilometers traveled by all vehicles delivering gas in liquid or cylinder form (in millions of km)	428	420	428	426	540* ^(b)
Estimate of CO ₂ emissions generated by these vehicles in the Industrial Merchant activity (in thousands of tons)	471	462	471	468	600* ^(b)
Evolution of the distance traveled per ton of liquid industrial gas delivered (oxygen, nitrogen, argon, carbon dioxide) ^(a) (truck delivery)	97.8	95.3	94.8	92.2	90.3* ^(c)
Estimate of truck transport kilometers avoided through on-site customer units (in millions of km)	-68	-72	-72	-74	-63 ^(c)
Estimate of CO ₂ emissions avoided by these on-site units (in thousands of tons)	-68	-72	-72	-74	-63 ^(c)
Percentage of deliveries of air gases and hydrogen via pipeline or on-site	86%	86%	86%	87%	85% ^(c)

(a) In kilometers per ton delivered for the Industrial Merchant activity. 2007 base of 100.

(b) Including Airgas.

(c) Excluding Airgas.

* Indicator verified by the independent verifier.

Transportation in the Healthcare Business Line

In 2016, the total number of kilometers traveled for deliveries of gas cylinders for the Home Healthcare activity was 173 million kilometers. The quantity of CO₂ emitted during these deliveries was 38,000 tons.

In addition, the number of kilometers traveled for the delivery of medical gases to hospitals amounted to 27 million kilometers, which represented 24,000 tons of CO₂ in 2016.

Transportation: Healthcare business line	2012	2013	2014	2015	2016 ^(a)
Transportation in the Home Healthcare activity					
Kilometers traveled (in millions of km)	141	161	149	161	173
Associated CO ₂ emissions (in thousands of tons)	35	38	35	39	38
Transportation in the Medical Gases activity					
Kilometers traveled (in millions of km)	20	26	26	28	27
Associated CO ₂ emissions (in thousands of tons)	17	23	23	25	24
TOTAL KILOMETERS TRAVELED HEALTHCARE BUSINESS LINE (in millions of km)					
	161	187	175	189	200
TOTAL ASSOCIATED CO₂ EMISSIONS (in thousands of tons)					
	52	61	58	64	62

(a) Excluding Airgas.

In 2016, Air Liquide Healthcare's Home Healthcare activity signed a three-year partnership in France with Prévention Routière (the French road safety association) in order to raise awareness among employees who visit patients at their home about good driving practices. The partnership agreement provides the Home Healthcare teams with a catalog of comprehensive training courses (awareness raising tools, conferences and practical workshops run by Prévention Routière

volunteers, to continuously keep employees updated about good driving practices, in both professional and private contexts. These courses are in addition to driving courses that are already included in the training programs of drivers. Air Liquide Healthcare therefore strengthens its commitment to improving the safety of its teams in a permanent and sustainable way.

2.3. Produce clean

2.3.1. SUSTAINABLE DEVELOPMENT CRITERIA IN THE GROUP'S INVESTMENT DECISIONS

Sustainable Development criteria, particularly those relating to greenhouse gas emissions, water consumption and relations with local communities, are included in the decision-making processes of the main Group investments.

Moreover, Air Liquide has started to incorporate an internal price for carbon for its investment decisions. This internal carbon price is voluntarily sets by the Group in order to assess the economic cost of greenhouse gas emissions generated by its large investment projects.

2.3.2. PRODUCTION UNITS AND THEIR ENVIRONMENTAL IMPACT

The environmental elements that are most representative of the Group's activities and part of the Air Liquide Sustainable Development reporting are described below. They cover a total of 535 Air Liquide production units worldwide.

Type of production unit	Number of production units ^(a)	Applications and environmental impact
Large air separation units (ASU)	330	Large air separation units produce oxygen, nitrogen and argon, with some sites also producing rare gases such as krypton and xenon. These factories "without chimneys" do not use any combustion processes. Since they discharge almost no CO ₂ , sulfur oxide (SO _x) or nitrogen oxide (NO _x), they are particularly environmentally friendly. They use almost exclusively electrical energy: worldwide they use about 3,600 MW at any given moment. The electricity purchased to our energy suppliers and consumed by the air separation units is the source of indirect emissions. The cooling systems of these units require back-up water.
Hydrogen and carbon monoxide units (HyCO)	45	Large hydrogen and carbon monoxide units also produce steam for some customers. They primarily use natural gas as raw material and also some water, required for the reaction that produces hydrogen. Carbon monoxide is an essential raw material in the chemical industry for producing plastics. The desulfurization of hydrocarbons in order to produce sulfur-free fuels is one of the main applications of hydrogen. These units emit CO ₂ and nitrogen oxides (NO _x) but practically no sulfur oxide (SO _x). They also consume electricity and their cooling systems require back-up water.
Cogeneration units	18	Cogeneration units produce steam and electricity simultaneously. They consume natural gas and water, mostly converted into steam and supplied to customers. The steam can be condensed at these customers' facilities and then reused in the cogeneration unit. In most cases, the electricity produced is supplied to the local electricity distribution network, which in some countries can be used to power other units of the Group. Combustion of natural gas produces CO ₂ and leads to nitrogen oxide (NO _x) emissions, but practically no sulfur oxide (SO _x) emissions.
Acetylene units	52	These units produce acetylene, a gas primarily used in metal Welding and cutting. 50 of these units produce this gas through the decomposition of a solid (calcium carbide) using water. Two units fill cylinders with this gas, which is supplied by another industrial company. This process produces lime, at least 90% of which tends to be recycled in industrial and agricultural applications.
Nitrous oxide units	7	Nitrous oxide is used primarily as an anesthetic gas in the healthcare sector and as a sweetening agent in the food industry. It is produced from ammonium nitrate in solid form or as a water-based solution.

Type of production unit	Number of production units ^(a)	Applications and environmental impact
Carbon dioxide liquefaction and purification units	66	<p>These units liquefy and purify carbon dioxide, which has many industrial applications especially in the food industry where it is used to deep-freeze foods or to produce carbonated beverages.</p> <p>Carbon dioxide is most often a by-product of chemical units operated by other manufacturers. In some cases, it is found naturally in underground deposits, while in others it comes from the Group's hydrogen and carbon monoxide units. It is purified and liquefied in Air Liquide units consuming electricity and cooling water. In this unit, carbon dioxide is reused for other industrial applications instead of being emitted directly into the atmosphere.</p>
Units for the Hygiene and Specialty Ingredients activity	5	<p>These production units for the Hygiene and Specialty Ingredients activity are located in France, Germany and China and belong to the subsidiaries Schülke (Hygiene activity) and SEPPIC (Specialty Ingredients activity). Air Liquide experts work closely with hospitals to help them reduce the risk of nosocomial infection and contamination thanks to the products the Group has developed. These units consume natural gas, electricity and water. Combustion of natural gas produces small amounts of CO₂.</p>
Engineering & Construction units	5	<p>Units for the Engineering & Construction activity taken into account in this reporting are located at five sites in France, China and the United Arab Emirates. They are mainly used for the construction of air separation columns and cryogenic tanks.</p>
The main Research and Development sites	7	<p>The main sites are based in France, Germany, the United States, China, Korea, and Japan.</p>

(a) Excluding Airgas.

2.3.3. GREENHOUSE GAS EMISSIONS AVOIDED IN OUR OPERATIONS OF PRODUCTION

Energy efficiency is a key focus of the Group's business lines and activities, with the Group constantly striving to minimize the energy and environmental footprint of its products and services. This optimization is a combined result of:

- technological solutions proposed by Air Liquide in its production process;
- scale effects, co-production and synergies, in particular through the development of its pipeline networks;
- the operational optimization of its production units;
- and the solutions chosen for energy and commodities supplies.

The products and services that Air Liquide supplies therefore enable the Group's customers to consume less energy, and as a result avoid more CO₂ emissions than an "alternative reference system" where customers own and operate their own production units.

In 2015, the Group introduced a detailed methodology in order to assess the corresponding avoided CO₂ emissions. This assessment is carried out within the Large Industries activity, which represents more than 90% of the Group's energy consumption, and thus CO₂ emissions. The methodology is based on an analysis of the total volume of industrial gases supplied to customers over 2016, site by site and customer by customer, i.e. at over 1,300 delivery points per pipeline. For each customer facility, we assess the emissions of the reference system by modeling the energy consumption and CO₂ emissions, both direct and indirect, that would be generated by a production unit dedicated to supplying the facility. This model is based on a protocol which takes into account the latest developments in terms of energy efficiency, as well as the size and type of production unit.

Air Liquide therefore estimates that the total emissions avoided by its production operations in 2016 were 4.7 million tons of CO₂, broken down as follows:

- 1.4 million tons of indirect CO₂ emissions for the supply of air gases;
- 2.1 million tons of direct CO₂ emissions for the supply of hydrogen and carbon monoxide;
- 1.1 million tons of direct CO₂ emissions for cogeneration units that produce steam and electricity from natural gas simultaneously, which are on average 21% more efficient than technologies which produce steam and electricity separately.

Moreover, in the Industrial Merchant activity, small on-site nitrogen, oxygen and hydrogen units reduced truck deliveries, a source of CO₂ emissions. In 2016, these on-site units saved 63 million kilometers in truck deliveries, thus avoiding 63,300 tons of CO₂ emissions.

2.3.4. ENERGY EFFICIENCY

Born from an invention that considerably reduced the energy used in the separation of air gases, Air Liquide has always been concerned with minimizing its energy consumption and environmental footprint. The Group has initiated an approach that aims at continually minimizing the environmental footprint of its activities and helping to improve the one of its partners and customers.

Through its Engineering & Construction activity, the Group designs its own production units. For example, the design of these units can be adapted to customers' needs, technological developments and energy costs. Air Liquide has operated air separation units and hydrogen units for many years. Therefore, it benefits from a virtuous circle of steady improvement thanks to the design management and operating experience of these units. Old units are replaced by new ones that are more energy efficient whenever circumstances enable it.

Energy efficiency of new production units

Moreover, the Group builds increasingly large units that generally have a better energy efficiency thanks to scale effects. For example, the production unit under construction in order to supply oxygen to SASOL in South Africa enables energy savings of 30% compared with the first unit provided to SASOL by Air Liquide in the 1980s. As a consequence,

230,000 tons per year of CO₂ emissions are avoided by the Group due to energy efficiency, which is the equivalent of a town of 26,000 inhabitants in terms of CO₂ emissions.

The significant improvement in SMR technologies (hydrogen production) by Air Liquide has become real with SMR-X, in Antwerp (Belgium). This technology has enabled the production of hydrogen without simultaneously producing steam since 2012, leading to a 5% decrease in natural gas consumption compared to conventional technology.

Energy efficiency and reliability

Air Liquide has also set up a program in order to improve the reliability of its units' operation. In addition to providing better service to customers, this program has direct consequences on energy efficiency. As every shutdown and start-up of these units creates a sequence that consumes energy, increasing reliability, i.e. reducing the number of excessive shutdowns, results in more energy-efficient production units.

Energy efficiency and pipeline network

Large units are often interconnected through a pipeline network supplying a customer industrial basin. This group of interlinked units creates operational synergies for both production and energy consumption. The steady development of the Group's oxygen, nitrogen and hydrogen pipeline network clearly helps to improve its energy efficiency. Lastly, ever more efficient smart technologies are being rolled out in order to centralize the monitoring and management of the Group's large units so that production can be adjusted to customers' needs. This initiative also contributes to improving energy efficiency.

Energy and efficiency indicators for the Group as a whole

	2012	2013	2014	2015	2016 ^(a)
Annual electricity consumption (in GWh) ^(b)	27,578	28,305	30,341	31,650	32,834*
Annual thermal energy consumption (in LHV terajoules) ^(c)	229,177	232,270	226,036	266,153	281,043* ^(d)
Evolution of energy consumption per m ³ of air gas produced ^{(e)(f)}	98.8	99.0	99.3	98.7	100.3*
Evolution of energy consumption per m ³ of hydrogen produced ^{(e)(g)}	98.4	97.9	97.5	99.3	99.5*

(a) Excluding Airgas.

(b) Includes a share of steam and compressed air purchased by the Group.

(c) LHV: Lower Heat Value, which includes the fact that energy from water vaporizing in fuel is not recovered.

(d) Approximately 78,000 GWh LHV.

(e) Calculated using a base of 100 in 2007.

(f) Gases produced (oxygen, nitrogen, argon) calculated in m³ of equivalent gaseous oxygen.

(g) Hydrogen and carbon monoxide.

* Indicator verified by the independent verifier.

Our oxygen unit energy efficiency indicator fell in 2016 mainly due to significant maintenance operations on large units, as well as because of the sizable growth in new units directly using steam to power the machines in place of electricity.

Our hydrogen unit energy efficiency indicator was slightly down in 2016 mainly due to the increase in large production units that have not yet reached maximum efficiency.

2.3.5. ENVIRONMENTAL MANAGEMENT ^(a)

Water management

In 2016, Air Liquide used 77 million m³ of water, broken down as follows:

- approximately 60% by air separation units for cooling air after compression. 70% of this water is evaporated and 30% is treated on-site or by treatment plants in neighboring municipalities;
- approximately 40% in other industrial processes such as hydrogen production units and cogeneration units. Approximately 80% of the water used by these units is supplied and then consumed in the form of steam by Air Liquide's customers.

Water management (in millions of m³)

	2012	2013	2014	2015	2016 ^(a)
Annual water consumption (estimation in millions of m ³)	66	68	70	79	77* ^(b)

(a) Excluding Airgas.

(b) Represents less than 0.5 one-thousandth of the industrial water consumption of the economies under review.

* Indicator verified by the independent verifier.

Discharges into air and water

Other indicators concerning Air Liquide's business are also monitored. Among them, the table below summarizes the atmospheric discharge of nitrogen oxide (NOx), sulfur oxide (SOx), and Volatile Organic Compounds (VOC), along with the discharge into water of oxidizable matter and suspended solids.

Discharges into air and water (in tons)

	2012	2013	2014	2015	2016 ^(a)
Air discharge: NOx (nitrogen oxide)	3,940	4,400	3,200	3,270	3,563
Air discharge: SOx (sulfur oxide)	<300	<250	<250	<250	<250
Volatile organic compounds (VOCs) discharged into the atmosphere (estimate)	124	110	110	99	76
Discharge to water: oxidizable matter	<1,700	<1,000	<1,000	<1,000	<1,000
Discharge to water: suspended solids	<1,500	<1,500	<1,500	<1,500	<1,500

(a) Excluding Airgas.

(a) Due to its industrial activity, the fight against food waste is not considered as a priority area for Air Liquide.

(b) The World Resources Institute (WRI) is an American think tank created in 1982 and based in Washington. The WRI is specialized in environmental issues.



Waste and by-products

Although the amount of waste and by-products resulting from Industrial and Medical Gas activities is low, Air Liquide nevertheless publishes estimated figures in this regard in the interests of exhaustive reporting. The main waste and by-products produced by the Group's production units are lime from the acetylene production units, metal waste, oils, paints and solvents. The average recycling ratio of waste^(a) is over 80%.

Waste and by-products

	2012	2013	2014	2015	2016 ^(a)
Non-hazardous waste and by-products					
Annual quantity of lime produced (extracted dry equivalent) by the acetylene production units (in tons)	30,400	32,500	32,000	29,000	26,000
% recycled	>80%	>80%	>90%	>80%	>80%
Metal waste (in tons) ^(b)	9,200	9,800	9,000	7,600	5,700
% recycled	>99%	>99%	>99%	>99%	>99%
TOTAL NON-HAZARDOUS WASTE AND BY-PRODUCTS (estimate in tons)	39,600	42,300	41,000	36,600	31,700
Hazardous waste					
Paints and solvents (in tons)	101	150	100	104	106
% recycled	43%	63%	63%	59%	63% ^(c)
Oils (in tons)	825	800	600	650	696
% recycled	91%	88%	83%	92%	91% ^(d)
TOTAL WASTE AND BY-PRODUCTS (estimate in tons)	926	950	700	754	802
TOTAL WASTE AND BY-PRODUCTS	40,526	43,250	41,700	37,354	32,502

(a) Excluding Airgas.

(b) Non-hazardous metal waste.

(c) In addition, 35% is incinerated.

(d) In addition, 9% is incinerated.

2.3.6. BIODIVERSITY

The impact of Air Liquide's activities on biodiversity is limited because the Group's production units are generally located on small sites in industrial zones.

However, Air Liquide supports biodiversity preservation via its Foundation, which funds micro-initiatives around the world on environment-related local development, and scientific research projects in the field of environmental protection, focusing on projects that contribute to the preservation of our planet's atmosphere.

In recent years, the Foundation has sponsored the following:

- the under The Pole II expedition to Greenland. The Air Liquide Foundation is sponsoring an environmental research program in the Arctic. Its aim is to study interactions between the ice pack, atmosphere and ocean by assessing the amount of CO₂ trapped deep in the ocean. The Foundation is thus playing its part in protecting biodiversity in the Arctic world;

- the work of the Institut de Recherche pour le Développement (IRD) and WWF France respectively on mangroves in the Indo-Pacific region and the Gabonese forests. These works aim at quantifying and qualifying the carbon cycle of mangroves and forests with an objective: protecting these ecosystems which are the home to a wide range of biodiversity;

- the Observatoire Français d'Apidologie's (OFA) project aims at increasing bee populations in France and Europe. The OFA is carrying out a study on the selection of bees capable of resisting a parasite called varroa which attacks certain types of bees. The decline in bee populations is a major threat to biodiversity and agricultural production. The aim of the OFA's project is to develop a natural and non-chemical solution that can sustainably be used to fight against this parasite.

(a) Calculation is based on the weight of the waste.

2.4. Buy clean

2.4.1. ENERGY AND TRANSPORT PROCUREMENT

As a major consumer of electricity, the role of energy procurement is essential for Air Liquide, in particular for its impact on the Group's indirect emissions (Scope 2).

The Group's energy procurement policy favors the purchase of electricity from energy suppliers who have made the choice to supply low-carbon solutions.

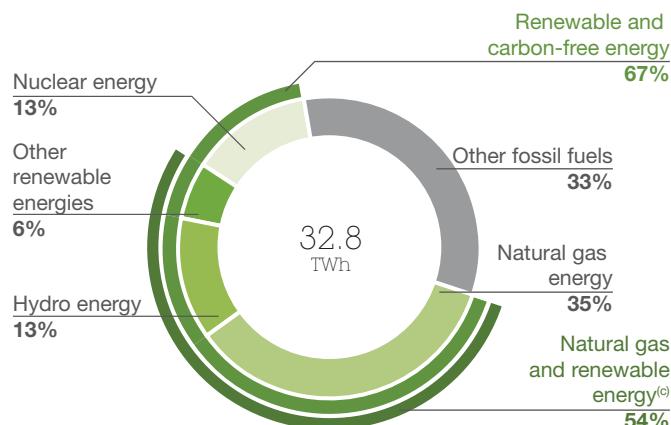
Transport procurement is also a lever that helps reducing the Group's environmental impact. Air Liquide is currently considering taking into account greenhouse gases and pollutants (NOx and particles) emissions in the selection process of subcontractor carriers and procurement of transport materials.

2.4.2. SOURCE OF ELECTRICITY USED BY THE GROUP^(a)

By taking into account the different natures of primary energy used to produce electricity in the countries where Air Liquide is present, it is then possible to calculate a global breakdown by nature of the electricity used by the Group. This calculation also takes into account the electricity produced from natural gas by the Group's cogeneration units. In 2016, 19% of electricity consumed was from a renewable source and 35% from natural gas composed mainly of methane, a molecule which contains a carbon atom and four hydrogen atoms, the combustion of which generates around two-times less CO₂ emissions than coal per kWh of electricity produced. In addition, combustion of natural gas produces small amounts of atmospheric pollutants.

In total, 67% of the electricity used by the Group is fully carbon-free or comes from natural gas.

ORIGIN OF ELECTRICITY USED IN 2016^(b)



2.5 Summary of Group's greenhouse gas emissions

THE VARIOUS SCOPES

Companies' greenhouse gas emissions are usually broken down into three "scopes", depending on their origin.

- **Scope 1** includes direct emissions generated by all possible emission sources owned or controlled by Air Liquide.

This scope includes:

- the Group's production units,
- the transport of products to customers or patients.

Nearly 96% of the direct emissions are related to the nature of the thermal energy used as a raw material by the Group's large hydrogen and carbon monoxide production units, and cogeneration units (for steam and electricity production). The vast majority of these units use natural gas^(d);

(a) Also including a small share of steam and compressed air purchased by the Group notably to power the air separation units.

(b) Calculation takes into account the primary energy source that each country uses to produce electricity (source: International Energy Agency). Excluding Airgas.

(c) In 2015, this percentage was 53%.

(d) Some hydrogen and carbon monoxide production unit also use other raw materials such as naphtha (a liquid similar to gasoline that comes from the distillation of oil) and various gases produced by refineries.

■ **Scope 2** corresponds to all indirect emissions related to the production of electricity or steam purchased outside the Group in the various countries where it operates. These emissions therefore have a close link with the carbon content of the electricity of countries where Air Liquide operates;

Direct and indirect emissions of Scopes 1 and 2 represented 99% of the Group's total emissions in 2016.

Group Scopes 1 and 2 emissions

	2012	2013	2014	2015	2016 ^(a)
Scope 1: total direct greenhouse gas emissions (GHG) (in thousands of tons of CO ₂ eq.) ^(b)	11,272	11,846	11,569	13,552	14,062*
Scope 2: total indirect GHG emissions (in thousands of tons of CO ₂) ^(c)	9,546	9,915	11,405	11,716	11,174*
TOTAL DIRECT AND INDIRECT EMISSIONS OF GHG (in thousands of tons of CO₂ eq.)	20,818	21,761	22,974	25,268	25,236*

(a) Excluding Airgas

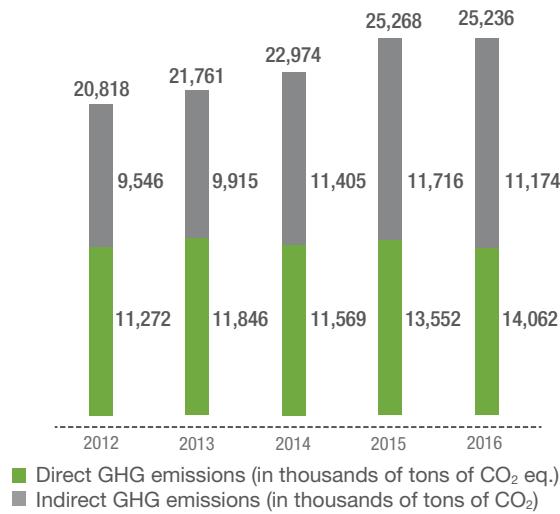
(b) Includes CO₂ emissions and nitrous oxide emissions.

(c) Total of indirect GHG emissions generated by the production of electricity purchased outside the Group. The indirect emissions only concern CO₂ emissions. Calculation takes into account the primary energy source that each country uses to produce electricity (source: International Energy Agency).

* Indicator verified by the independent verifier.

DIRECT "SCOPE 1" EMISSIONS AND INDIRECT "SCOPE 2" GREENHOUSE GAS EMISSIONS

(in thousands of tons of CO₂ eq. and excluding Airgas)



The Group's total emissions (direct and indirect) were almost stable, moving from 25.3 million tons of CO₂ equivalent in 2015 to 25.2 million tons of CO₂ equivalent in 2016.

DIRECT AND INDIRECT EMISSIONS

The Group's direct emissions increased from 13.6 million tons of CO₂ equivalent in 2015 to 14.1 million tons in 2016, i.e. an increase of 3.8%. This growth is mainly due to an increase in the use of cogeneration units and the ramp-up of several hydrogen units, in particular the unit in Yanbu (Saudi Arabia).

The Group's indirect emissions decreased from 11.7 million tons of CO₂ equivalent in 2015 to 11.2 million tons in 2016, i.e. a fall of 4.6%. This drop is the combination of an increase in volumes produced and a significant fall in the carbon content of the electricity used worldwide.

SCOPE 3 EMISSIONS RELATED TO BUSINESS TRAVEL

Business travel by plane, car or train is the main source of Scope 3 CO₂ emissions.

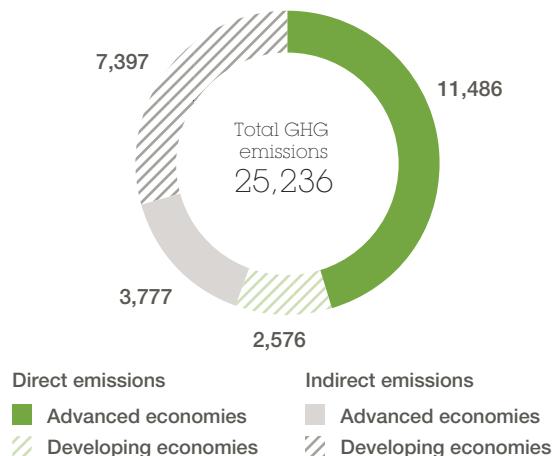
These emissions represent around 150,000 tons of CO₂ in 2016 for all subsidiaries, representing less than 1% of the Group's total emissions.

The Group has installed teleconferencing rooms in order to enable remote meetings to be organized, offering participants a presence similar to a physical meeting. They can also be used for meetings with customers, partners and investors.

Moreover, with the roll-out during the last two years of the collaborative work platform, called Kite, several meetings have taken place via the visual communication tool by webcam: Hangout. This technology therefore reduces the CO₂ emissions generated by employees' business travels.

BREAKDOWN OF GREENHOUSE GAS EMISSIONS BETWEEN ADVANCED AND DEVELOPING ECONOMIES

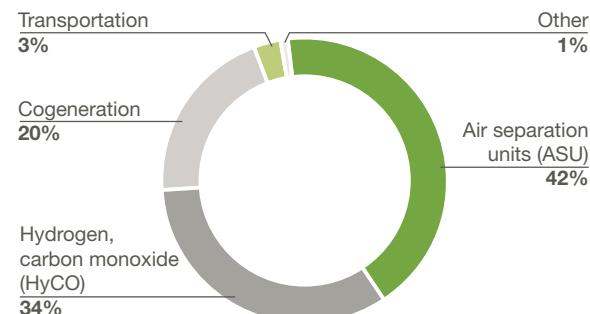
(in thousands of tons of CO₂ and including Airgas road transportation)



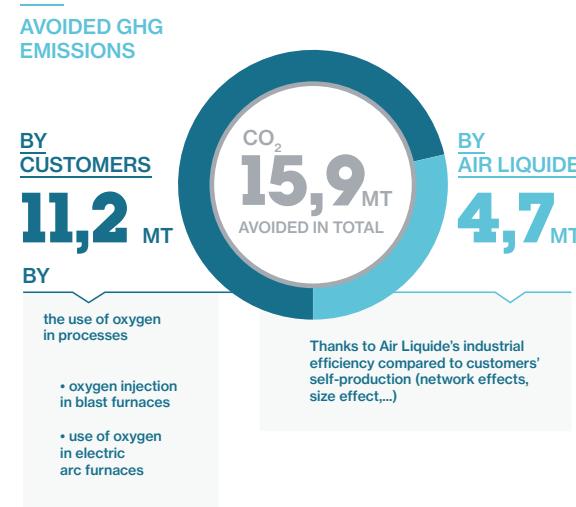
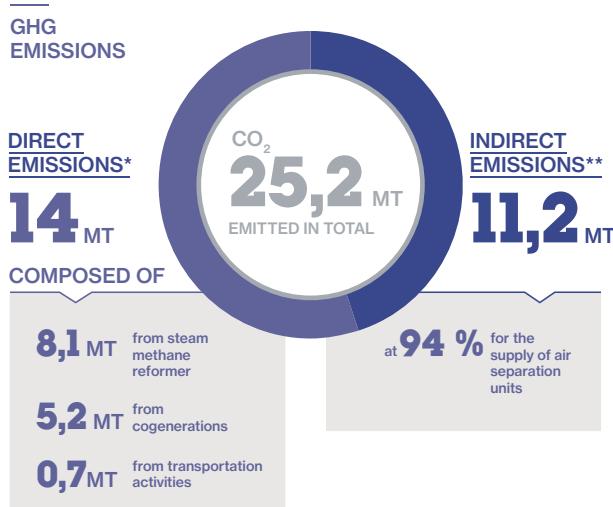
In order to differentiate the growth dynamics between advanced economies and developing economies, Air Liquide has segmented its direct and indirect CO₂ emissions between these economies ^(a) since 2010.

BREAKDOWN OF DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS BY UNITS

(including Airgas road transportation)



2016 Greenhouse Gas emissions (GHG) & avoided GHG emissions



Figures are given in CO₂ eq

(*) Emissions generated by the production and the transportation activities

(**) Emissions linked to electricity production and bought of steam

(a) In this report, the advanced economies are defined in accordance with the financial reporting: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Great Britain, Greece, Italy, Japan, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United States. The developing economies refer to the other countries in which Air Liquide operates.

2.6. Industrial Management System and certifications

2.6.1. INDUSTRIAL MANAGEMENT SYSTEM

More than 10 years ago, Air Liquide introduced an Industrial Management System (IMS) dedicated to its businesses. It is designed to strengthen the process for managing safety, reliability, environmental protection and industrial risk management. It has been rolled out throughout the Group.

An indicator was implemented in order to track the percentage of revenue covered by the Group's IMS internal audits over the last five years. From 2012 to 2016, 92 entities have been audited, representing nearly 80% of the Group's activity in revenue terms. This means that a significant part of the Group has been audited over a five year period on the implementation of its Industrial Management System (IMS).

Industrial Management System and certifications (global scope)

	2012	2013	2014	2015	2016 ^(a)
Estimate of revenue of Group entities covered by an ISO9001 quality certification	76%	72%	70%	72%	66%
Estimate of revenue of Group entities covered by an ISO14001 environmental certification	29%	27%	27%	27%	26%
Estimate of revenue of Group entities covered by the OHSAS18001 occupational Health and Safety certification	18%	15%	16%	15%	14%

(a) Excluding Airgas.

2.6.2. REGULATIONS

European REACH regulation

REACH (Registration, Evaluation, Authorisation and restriction of Chemicals) is a European Union regulation that governs the registration, assessment and authorization of chemical substances produced in or imported to the European Union. Any chemical substance imported or manufactured in Europe of over one ton a year must be registered with the European chemicals agency ECHA. Each manufacturer or importer must have its own registration. This rule is part of the product stewardship approach developed by the chemicals industry.

The European REACH regulation went into effect on June 1, 2007 and registration and authorization procedures were spread over about 12 years for products already on the market.

Air Liquide's main products such as oxygen, nitrogen, hydrogen, CO₂, helium and rare gases are excluded from the scope of REACH. Until now, four products (carbon monoxide, acetylene, methanol ^(a) and lime ^(b)) have been registered in compliance with the schedule established by this regulation. Nitrous oxide and a few specialty gases in

Alongside this approach and to meet the requests of certain customers, the Group entities carry out other initiatives such as ISO certifications.

For example, the ISO9001 quality certifications cover about 66% of the Group's revenue. Likewise, the ISO14001 certifications, an international benchmark in environmental management, cover 26% of the Group's revenue.

In recent years, the Group has undertaken a certification approach in certain zones concerning health and safety in the workplace called "OHSAS18001 certification", which now covers 14% of the Group's revenue.

the Electronics activity, such as nitrogen trifluoride, were registered on June 1, 2013 for annual quantities of between 100 and 999 tons.

In addition, certain products in the Healthcare Specialty Ingredients activity fall under the REACH regulation, including many SEPPIC products stemming from plant-based raw materials. Depending on the annual tonnage manufactured, SEPPIC has already registered its main products and will register all products concerned by May 31, 2018 at the latest, in compliance with the REACH regulation.

Air Liquide must also make sure that the raw materials in use are in compliance with the REACH regulation. In 2016, Group sales covered by REACH represented less than 3% of the Group's revenue.

Globally Harmonized System of Classification and Labelling of Chemicals

The Globally Harmonized System of Classification and Labelling of Chemicals, better known as GHS was created by the United Nations. This system sets out the classification of chemical products according to the type of danger that they represent and provides standardized hazard information, including labeling and safety data sheets.

(a) Methanol is the raw material used to produce hydrogen at one of the Group's units.

(b) Lime is a by-product of the Acetylene business.

This labeling must provide key information concerning health, safety and environmental protection to everyone who handles a hazardous product or who could be exposed to one.

In the countries in which GHS is applicable, Air Liquide subsidiaries supplying products to local and international customers have already implemented the principles of GHS in terms of product compliance with local and regional regulations.

Seveso 3 Directive

This European directive focuses on preventing major industrial risks. It applies to any facility where hazardous substances exceed certain quantities. These facilities are divided into two categories according to the quantity of such substances: Seveso III "upper tier" and "lower tier". In Europe, 95 "lower tier" and 23 "upper tier" Air Liquide sites are affected, mainly because of their stocks of oxygen.

Seveso regulations apply only in Europe but if the Seveso "upper tier" criteria were to be applied worldwide, 31 other Group sites would be covered.

CO₂ emission quotas

Air Liquide is present in a number of regions that have implemented, or are in the process of implementing, a quota system for greenhouse gas emissions. Air Liquide's Corporate teams and dedicated teams based in these regions monitor and assist these regulatory developments in order to ensure that their operations are fully compliant with the objectives and obligations related to these quota systems. Thanks to the energy efficiency of its production systems, Air Liquide is able to naturally minimize the energy footprint, and therefore the carbon footprint of its products and services.

In the European Union, the European directive ETS (Emission Trading Scheme) established a quota system for greenhouse gas emissions in 2005, in compliance with the Kyoto Protocol and EU targets on climate change. Following an initial phase from 2005 to 2007, and a second phase from 2008 to 2012, a third phase, covering the period from 2013 to 2020, has expanded the scope of industrial installations subject to the ETS. For Air Liquide, seven cogeneration sites in Germany, France and the Netherlands, and all of the Group's large hydrogen product sites in Europe were affected by this directive in 2016. With regard to hydrogen production units, CO₂ emission quotas are mostly allocated for free, according to a benchmark set for the top performing European facilities. Air Liquide obtains CO₂ quotas from the market or its customers in order to cover the emissions from hydrogen production sites not covered by the free allocations and for all emissions from the cogeneration sites.

A greenhouse gas emissions quota system was put in place in South Korea in 2015. It affects all of Air Liquide's air gas production and hydrogen and carbon monoxide units in Korea, with an allocation of free emission quotas based on historical emissions. This free emission quota volume will then be gradually reduced.

China announced ambitious targets for reducing the carbon intensity of its economy by 2030. The Chinese government has launched in 2013 and 2014 pilot "ETS" programs in seven regions (the provinces of Guangdong and Hubei, and the cities of Beijing, Tianjin, Shanghai, Chongqing and Shenzhen). Air Liquide production sites in those regions (air gas and hydrogen units) are actively participating in the pilot programs. At the end of 2015, the Chinese government announced the implementation of a national emissions trading scheme as of end-2017, the terms of which are currently being defined.

2.6.3. ENVIRONMENTAL INCIDENTS AND RISKS RELATED TO CLIMATE CHANGE

An Air Liquide procedure, available for all Group employees and fully integrated into Air Liquide's Industrial Management System (IMS), defines environmental incidents based on three levels of severity. All incidents reported at Group level are subject to a systematic, in-depth analysis, depending on the nature of the incident, so that preventative measures can be stepped up. Environmental risks related to industrial processes and risks related to climate change are taken into account by the Group and are presented in the "Risk factors" section of the Reference Document.

Most of the time, environmental incidents in the industrial and medical gases business have a very low impact on the environment compared to the traditional chemicals industry. For example, in air gas production, any possible leak of these gases does not represent any danger for the atmosphere. Likewise, the water used in Air Liquide's processes is primarily used in cooling and steam production. The risk of possible pollution of the water used is therefore very low. In 2016, there were a total of six environmental incidents in the Group, mainly involving air gas and oil leaks.

Climate risks are reviewed at both Group and site level. Weather-related and climatic disasters, hydric stress and the increased frequency of cyclones constitute a risk that could disrupt the smooth running of operations. Preventive measures targeting extreme weather-related phenomena exist at the main sites located in high-risk areas.

The amount of financial provision and guarantees earmarked for environmental risks is 14 million euros.

3. Commitment to stakeholders

3.1. Local development

Air Liquide entities are located in communities for which respect is at the heart of the concerns of the Group's employees. They are fully aware that each decision and each action commits them toward customers and partners, but also toward those individuals or firms that are affected directly or indirectly by the Group's activities. The consideration of these communities' needs is necessary to guarantee the sustainability of the environment where the Group operates.

Air Liquide's teams are wholeheartedly committed to playing their part in the local economic life near the Group's sites. This participation includes hiring employees in the area and developing close relations with training organizations and universities that can prepare people for the Group's core businesses.

In industrial areas where Air Liquide sites are located (several thousand with strong growth following the Airgas acquisition), the Group also seeks to develop subcontracting and local procurement in order to contribute to the local economic life.

In addition, the Group's activities, as well as the means implemented in order to prevent and manage industrial risks, are regularly presented to the populations near Air Liquide's sites. In France, the industrial sites participate in CLICs and CLIEs. These local committees provide information and regulatory consultations at the communes' initiative, with the aim of providing transparent information on their activities to representatives of the local populations.

3.1.1. THE AIR LIQUIDE FOUNDATION

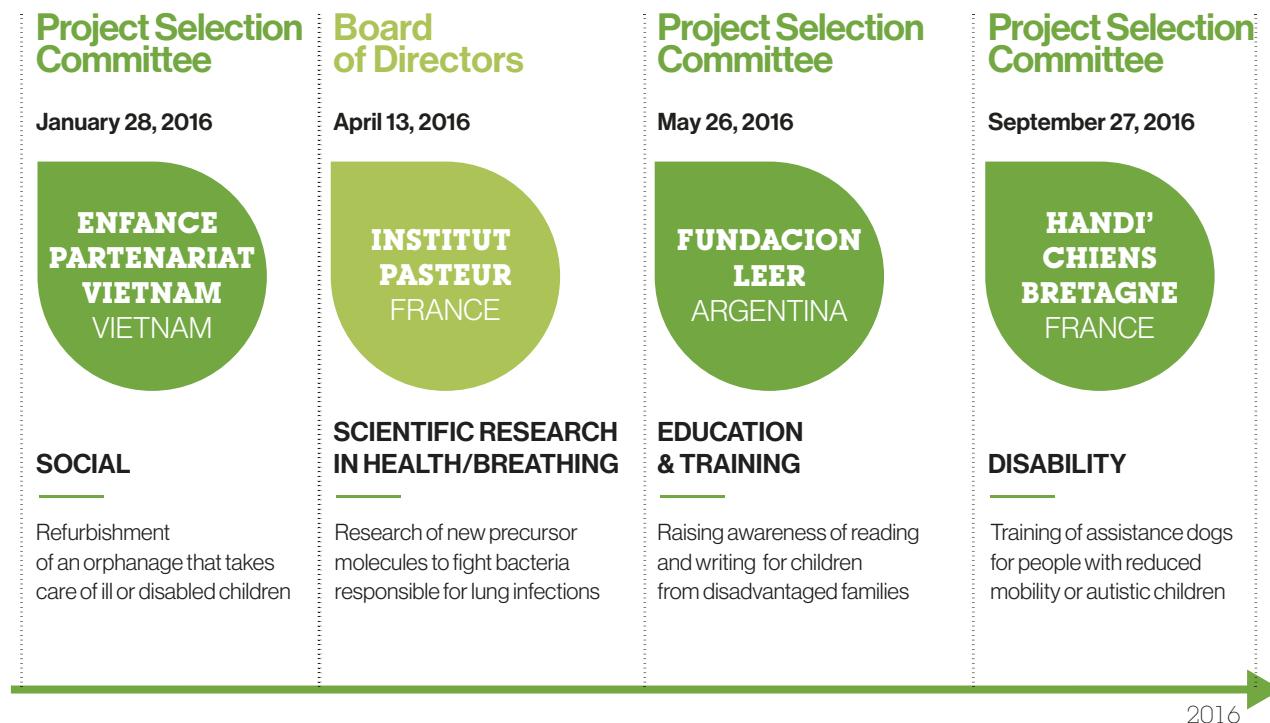
Social and human commitment is an ongoing concern for Air Liquide. Since its very beginning, the Group has carried out corporate philanthropic actions, especially in fields related to the environment and local development.

Created in 2008, the Air Liquide Foundation has a worldwide scope and supports projects in all countries in which the Group operates. With a budget of almost 3 million euros over five years, the Air Liquide Foundation provides financial, material and Human Resources to the supported projects.

The Air Liquide Foundation's action is in line with the Group's Sustainable Development strategy which aims at improving air quality and is committed to the stakeholders of the Group. In this context, it has set the following three missions:

- **environment:** support scientific research projects in the environmental protection field that contribute to preserving our planet's atmosphere;
- **health/breathing:** support scientific research projects aimed at improving respiratory function and gas metabolism in the human body in the healthcare field or exploration fields (space, deep-sea diving, sport);
- **local development:** support local development micro-initiatives which contribute to improving living conditions in communities in the following fields: access to water, energy and care, the environment, disability, micro-entrepreneurs, social education and training.

Examples of projects supported by the Air Liquide's Foundation in 2016

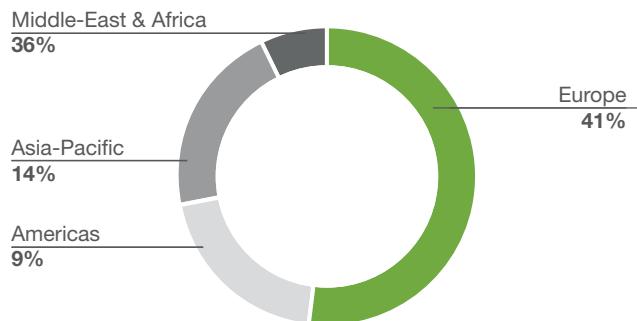


In 2016, the Foundation's undertook projects in 16 countries, including three new countries, Bulgaria, Poland and Portugal:

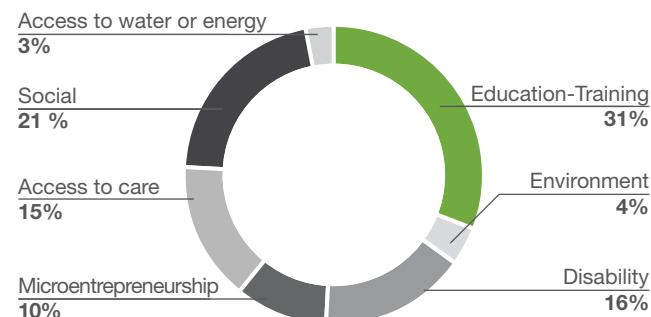
- an environmental research project;
- three health/breathing research projects;
- 31 local development micro-initiatives.

The Air Liquide Foundation has supported 254 projects, including 222 local development micro-initiatives and 32 environment and health/breathing scientific research projects in around 50 countries since its creation.

BREAKDOWN OF LOCAL DEVELOPMENT MICRO-INITIATIVES SUPPORTED BY CONTINENT

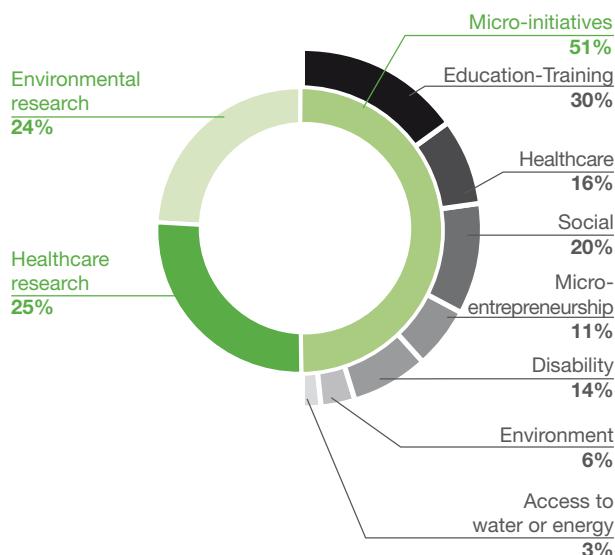


BREAKDOWN OF LOCAL DEVELOPMENT MICRO-INITIATIVES SUPPORTED BY FIELD



A dedicated Air Liquide Foundation website enables projects to be directly submitted online, in French or English. The website address is: <https://www.fondationairliquide.com/en>.

THE AIR LIQUIDE FOUNDATION'S ACTIONS PER MISSION SINCE ITS CREATION IN 2008^(a)



(a) By amount contributed to the projects supported.

The Foundation and the environment

Forests and mangroves are known for being an excellent ecosystem for capturing CO₂, but tangible data must be measured and collected. For this reason, the Air Liquide Foundation in 2016 supported the work of:

- the Institut de Recherche pour le Développement (IRD) on mangroves in the Indo-Pacific region: Vietnam, New Caledonia, New Zealand. The IRD is carrying out a quantitative and qualitative study of CO₂ flow in these mangroves located in different climatic regions;
- WWF France which is implementing a sustainable surveillance system of carbon storage in Gabonese forests.

The aim of the IRD and WWF France is to assign value to the forest and the mangroves in order to ensure their conservation.

Furthermore, in order to protect the planet's atmosphere, it is important to understand past climate change and pollution. In 2016, the Foundation's Board of Directors approved a program, in Antarctica, to create an archive of ice cores from mountain glaciers, which are endangered due to climate change. These glaciers carry information regarding past atmospheric composition. The Foundation of the University of Grenoble-Alpes, which runs this project with other international scientific organizations, will analyze these ice samples to determine their composition in terms of pollutants. This ice archive conserved in Antarctica, will enable future generations of scientists to carry out other types of analysis with new technologies that have not yet been invented.

The Foundation and Health/Breathing

The Foundation has joined forces with two major research institutes in the fight against respiratory infections triggered by viruses and bacteria:

- the Institut National de la Recherche Agronomique (National Institute of Agronomic Research – INRA) in France, in partnership with the Helmholtz Institute of Shandong University in China is conducting research on therapeutic molecules to fight respiratory diseases caused by the Respiratory Syncytial Virus. This virus is a common factor in respiratory diseases like bronchiolitis, pneumonia, and chronic pulmonary infections;
- the Institut Pasteur in Paris is conducting research on bacteria responsible for respiratory infections. These bacteria are increasingly resistant to antibiotics. Scientists from the Institut Pasteur in Paris, working with Cochin hospital, are conducting research on new precursor molecules capable of fighting against these bacteria. The results obtained are of particular interest to patients suffering from cystic fibrosis, who are the most vulnerable to respiratory infections.

In 2016, the Foundation approved a total of three Health/Breathing Research projects.

The Foundation and Local Development

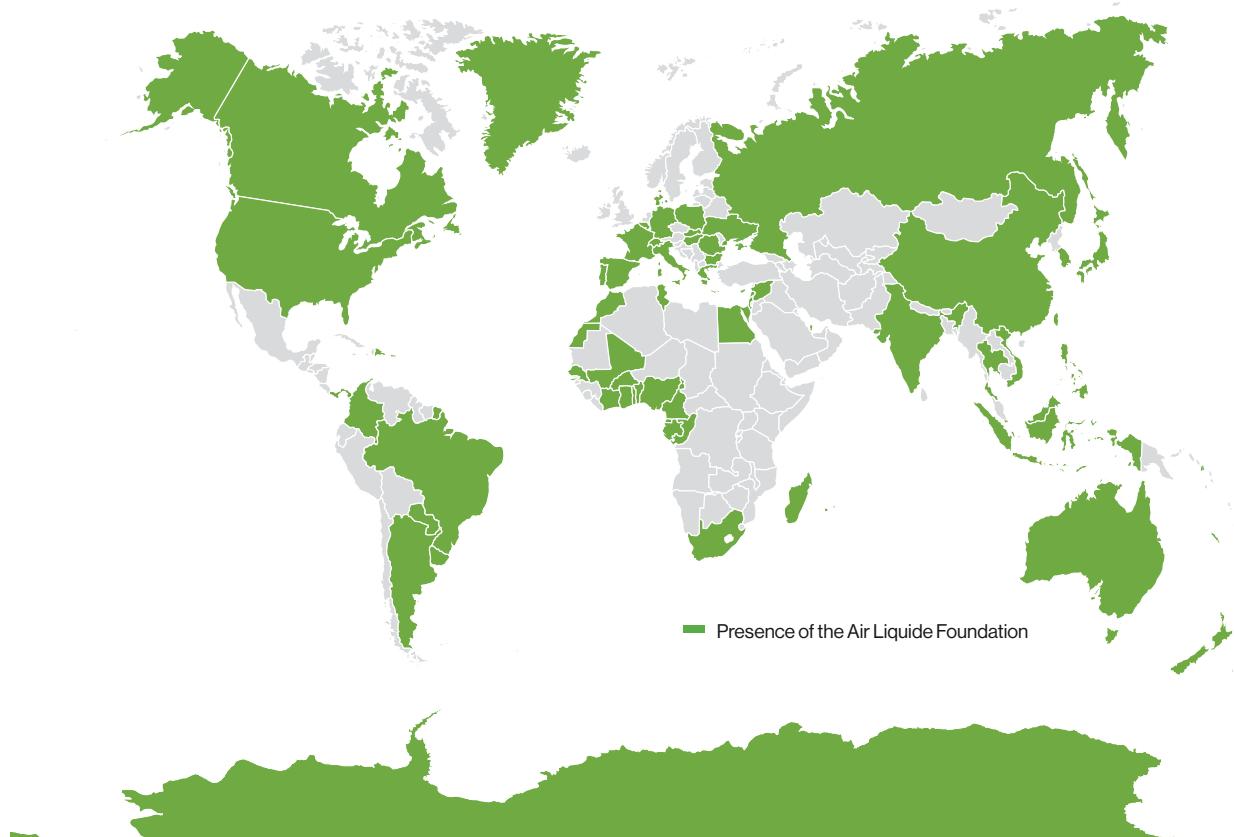
In the framework of its micro-initiatives support program, the Foundation favors actions aimed at developing local communities over the long term in countries in which the Air Liquide Group operates.

In 2016, the Foundation supported projects in the fields of education and training (12 projects in nine countries), access to care (three projects in three countries), the environment (one project), disability (five projects in two countries), social (11 projects in seven countries).



Focus on a micro-initiative

The association L'Envol, based in the Paris region (France), cares for children suffering from serious illnesses, such as leukemia. L'Envol offers them the possibility of going to summer holiday camps, either alone or with their families. The children regain confidence and learn to socialize again through the therapeutic (recreational) activities. The children are accompanied by an educational and medical team 24 hours a day. The Foundation's grant enabled L'Envol to purchase medical equipment and soft furnishings to decorate the infirmary.



Employee commitment

Air Liquide employees support the Foundation's works by sponsoring local development micro-initiatives. It provides employees who wish to take part in community work with the opportunity to express their social and human commitment. The role of a sponsor is broken down into three steps:

- **making contact and feasibility study:** the sponsor visits the project in order to meet the organizational teams on site. The sponsor checks that the micro-initiative meets the Foundation's selection criteria and is eligible to receive its support. The sponsor is also involved in assessing the project's technical feasibility and financial viability. The sponsor's report is submitted to the Foundation's Project Selection Committee;
- **follow up and support:** the sponsor visits a project supported by the Foundation at its mid-way point and prepares a project advancement report with the project initiator;
- **final evaluation:** when the project is completed, the sponsor visits the site of the initiative to compile a report on the implementation of the project.

Moreover, Group employees are also encouraged to recommend projects in organizations close to their hearts.

Currently, 330 employees are involved in the Foundation's activities.

2016 Awards of the Air Liquide Foundation

The Air Liquide Foundation, on January 13, 2016, presented its first Awards as a recognition for the most innovative organizations among the ones supported by the Foundation.

- The Air Liquide Foundation Scientific Research Awards, in the Environmental and Health/Breathing fields, were issued respectively to the **CNRS**, for its study of natural insecticides in French Guiana, and to the **PremUp Foundation**, for its research work on premature babies' lungs.
- In this category, two other organizations were also nominated: the **Institut du Cerveau et de la Moelle Épinière**, and **Inserm** in partnership with the Bichat hospital, both located in Paris.
- The Air Liquide Foundation Social Innovation Awards were granted to three associations in recognition of their local development micro-initiatives:
 - Agronomes et Vétérinaires Sans Frontières, for their projects aimed at upgrading fruit production by rural families in **Brazil**, and at providing access to energy in **Senegal**;
 - Energie Jeunes, for their fight against school drop-out in priority education areas in **France**;
 - Village Pilote, for its program focused on the work integration of street children in Dakar, **Senegal**.

Two other associations were also nominated in this category: **Initiatives**, for an educational project in Morocco, and the **World Federation of Societies of Anesthesiologists**, for an access to care project in Togo.

In addition to the Foundation's support for all of the projects, each of the winning organizations received 10,000 euros.

Air Liquide shareholders' commitment: the Project Selection Committee

Air Liquide shareholders also contribute to the Foundation's missions. A shareholder may also be a member of the Project Selection Committee. The representation of shareholders in this way is a special feature of the Air Liquide Foundation. Their presence is important: shareholders provide an external perspective while being familiar with the Group. The other seven members of the Project Selection Committee are Group employees. The Project Selection Committee examines the projects put forward by the Foundation's team three times a year.

The Committee assists the Foundation's Board of Directors which is chaired by Benoît Potier, the Air Liquide's CEO. The Board is composed of senior managers of the Group, a staff representative and outside experts, and meets twice a year to determine corporate philanthropy focuses and to examine the scientific research projects selected by the Project Selection Committee.

3.1.2. SUBSIDIARIES' DIRECT CORPORATE PHILANTHROPY

Subsidiaries committed to communities

Throughout the world, and in addition to the initiatives of the Air Liquide Foundation, subsidiaries are also directly involved with the communities, supporting local corporate philanthropy initiatives. As well as financial support, these actions were successfully conducted with the enthusiastic involvement of employees.

In October 2016, a category five cyclone (the highest level) struck the Caribbean, leading to major loss of lives and the destruction of homes in Haiti. Air Liquide employees from the neighboring Dominican Republic took part in rescue efforts and supplied the large tarpaulins required to insulate the shelters of those who had lost their homes. Air Liquide's teams were also in contact with the hospitals to provide oxygen for emergency care.

Air Liquide's teams in Spain and Japan also rallied to help children.

In 2016, in Spain, Air Liquide Healthcare joined forces with the Theodora Foundation, whose mission is to bring a little cheer to hospitalized children. For example, visits by artists, who are specially trained to work in medical environments, were organized as well as several workshops.

In Japan, Air Liquide donated musical instruments to an elementary school in Sendai, in the north east of the country. Since 2011, Air Liquide in Japan has been supporting particular areas affected by earthquakes and tsunamis.

3.1.3. DEVELOPING THE LOCAL ECONOMY THROUGH SUPPLIERS

The total amount of Group procurement in 2016 was 9.9 billion euros^(a), including energy and transportation procurement.

Sub-contracting

In 2016, sub-contracting for Air Liquide came to a total of 1.57 billion euros. Sub-contracted activities are mainly those which are too far removed from the Group's activities or that require specific resources or that are linked to a concentrated workload at particular times.

Since 2008, Air Liquide has published the number of lost-time accidents of its subcontractors and temporary workers. In 2016, there were 91 lost-time accidents of this type, including one fatal road accident recorded.

Local procurement

More than 80% of Air Liquide's procurement expenditures are made locally, limiting the environmental impact relating to transportation and developing the local economy. As an example in this area, Air Liquide is a partner and member of the Board of Directors of "Pacte PME", an association which puts innovative small and medium-sized enterprises (SMEs) in contact with major French groups. In 2016, of the 55 public and private corporate accounts, the association gave Air Liquide the best score for its exemplary approach to the development of collaborative working relationships with SMEs. One of the Group Procurement initiatives involves the launch of a physical network for the coordination and consolidation of the work done in France by the Air Liquide's Procurement teams. This approach rallies the Group's 26 Procurement teams around a central objective: the creation of value through the development of collaborative working relationships with our ecosystem of suppliers (open innovation platform, sharing of expertise, best practices in terms of intellectual property, etc.) which contribute to the growth of French SMEs. The Group's Procurement Department has started discussions with other countries to launch similar initiatives.

(a) Including Airgas.

3.2. Development and commitment of employees

Air Liquide employees, through their knowledge and their commitment, make the Group what it is and contribute to its long-term performance. Meeting the expectations of customers who have a wide range of different activities worldwide, requires a wide range of talents and the capacity for innovation. Air Liquide is also involved in promoting diversity, facilitating and accelerating knowledge transfer, motivating and involving its employees, and encouraging social and human commitment.

As part of the NEOS 2016-2020 company plan, Air Liquide's Human Resources has set a goal of developing and recruiting employees in a more organized and efficient manner by relying on new methods of

working to gain agility and promoting talent in a constantly changing environment.

In 2016, this change was highlighted by the acquisition of Airgas in the United States. This marks the beginning of a new chapter for the Group, which now has 66,700 employees in 80 countries forming multicultural teams with a host of skills.

The role of the Group's Human Resources in the years ahead will therefore be to support the transformation which employees experience and introduce worldwide.

Group employees^(a)

	2012	2013	2014	2015	2016
Group employees	49,500	50,250	50,300	51,500	66,700* ^(e)
■ Women	12,800	13,500	13,600	14,200	17,000 ^{(e) (f)}
as a %	26%	27%	27%	28%	25% ^(e)
■ Men	36,700	36,750	36,700	37,300	49,700 ^{(e) (f)}
as a %	74%	73%	73%	72%	75% ^(e)
Joining the Group ^(b)	19.9%	14.9%	14.8%	16.5%	17.1% ^(g)
Leaving the Group ^(c)	12.7%	13.1%	14.7%	14.0%	15.1% ^(g)
% of employees having resigned during the year ^(d)	4.6%	4.9%	5.8%	5.3%	5.4% ^(g)

(a) Employees under contract, excluding temporary employees.

(b) Hiring or integration due to acquisitions. The percentage is based on the number of employees as of December 31 of the preceding year.

(c) Retirement, resignations, layoffs (around 20% of the departures), departures due to disposals, etc. The percentage is calculated based on the number of employees as of December 31 of the preceding year.

(d) Calculated on the number of employees as of December 31 of the preceding year.

(e) Including Airgas and Welding.

(f) Estimation.

(g) Excluding Airgas and Welding.

* Indicator verified by the independent verifier.

**Human Resources indicators in the Group**

	2012	2013	2014	2015	2016 ^(h)
Parity and diversity					
Diversity					
% of women among managers and professionals	26%	27%	28%	29%	30%*
% of women among managers and professionals hired during the year	28%	36%	31%	34%	39%*
% of women among employees considered as high potential	41%	40%	41%	38%	40%
Number of nationalities					
Among expatriates	44	45	44	50	44
Among Senior Managers	29	28	31	33	30
Among employees considered as high potential	44	46	44	48	49
Number of nationalities among senior managers/Number of countries where the Group is present	36%	35%	39%	41%	38%
Training					
% of total payroll allocated to training	About 2%				
Average number of days of training per employee, per year (order of magnitude)	3.6 days	3.5 days	3.5 days	3.5 days	3.1 days* ^(a)
% of employees who attended a training program at least once during the year (order of magnitude)	78%	75%	78%	77%	72%*
Performance review					
% of employees who have had a performance review meeting with their direct supervisor during the year	79%	78%	79%	80%	76%*
% of employees who have had a career development meeting with the HR department during the year	17%	14%	16%	15%	17%
Remuneration					
% of employees with an individual variable share as part of their remuneration	54%	56%	58%	60%	63%
Absenteeism					
Absence rate of Air Liquide employees (estimate)	3.2% ^(b)	3.6% ^(c)	2.4% ^(d)	2.7% ^(d)	2.7% ^(d)
Ethics					
% of employees belonging to an entity with a local Code of Conduct	91%	94%	94%	97%	96%
Employee loyalty					
Average seniority in the Group	10 years				
Retention rate of managers and professionals over a year ^(e)	95.4%	94.8%	93%	95%	95%
Social performance					
% of disabled employees ^(f)	1.3%	1.4%	1.3%	1.4%	1.4%
% of employees having access to a representation/dialogue/consultation structure	76%	76%	76%	79%	82%
% of employees belonging to an entity at which an internal engagement survey was conducted within the last three years	>50%	>50%	>55%	68%	65%
Employee shareholders					
% of capital held by Group employees ^(g)	1.5%	1.6%	1.5%	1.5%	1.5%
% of Group employees that are shareholders of L'Air Liquide S.A.	Almost 50%	More than 50%	More than 50%	Almost 50%	More than 50%

(a) 23 hours a year according to counting in hours (base: 1 day = 7.5 hrs).

(b) Calculated for France.

(c) Calculated for Europe.

(d) Calculated Worldwide.

(e) This rate takes only dismissals into account.

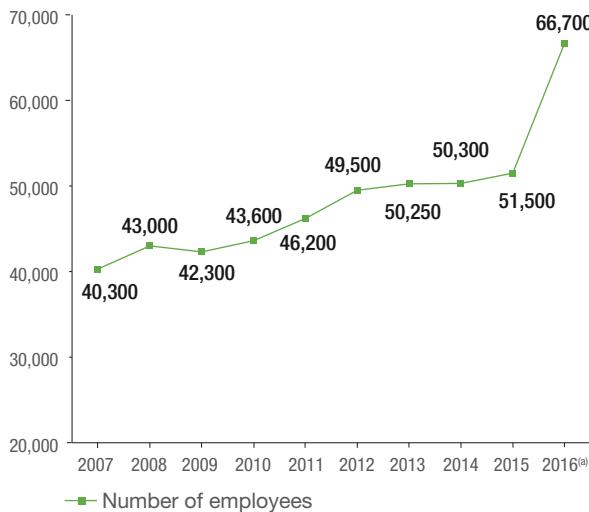
(f) For the countries where regulations allow this data to be made available.

(g) Within the meaning of article L. 225-102 of the French Code of Commerce.

(h) Excluding Airgas and Welding.

* Indicator verified by the independent verifier.

GROUP EMPLOYEES



(a) Including Airgas and Welding.

3.2.1. NEW WAYS OF WORKING

Today's trends encourage companies to adapt rapidly to their external environment by responding to changes in the world of work which include Digital Transformation, collaboration and performance.

A new organizational structure

To meet these challenges and encourage efficient decision making, Air Liquide has introduced a more decentralized organizational structure which relies on its hubs and Clusters (groups of countries or entities) located throughout the world. This global scale network structure is more agile, fosters efficiency and initiatives and strengthens proximity with customers.

Collaborative working methods

Digital Transformation has led to the blossoming not just of new ways of working, but also of collaborating, creating and maintaining networks within the Company.

Kite: a digital workplace

A collaborative workplace called "Kite" was launched Group-wide in 2014.

Technologically innovative, Kite is changing the ways of working, making it more collaborative and participatory, and represents a major digital evolution for the Group, improving its agility and responsiveness, including with customers. Kite is constantly changing to offer new services to its users. For example, a new customizable portal is now available for all Air Liquide employees on computers, tablets and mobile phones. Resources have been made available to employees to help familiarize them with the Kite platform: the Kite Corner, a Google

extension dedicated to training, as well as a MOOC (an online training course open to all) and the Kite Champions within each team, who are on hand to answer any questions employees may have. Kite Champions receive training to become leaders of change within their entities and train employees in these new tools and any changes to them. At the beginning of 2017, an exchange day was organized to provide information and support to users. A "Fly with Kite" community also provides employees with the opportunity to share their experiences.

Google+ communities

Networking and collective intelligence drive innovation and entrepreneurship. The Group therefore provides employees with the opportunity to create and access Google+ communities through the Kite collaborative workplace. The topics of these communities vary – expertise, tools, events, processes, shared interests, etc. – but they are all based on the same desire to share information and best practices. The growth of internal networks, which is driven by new tools, has also led to improved performance and a better service for the Group's customers and patients.

At Air Liquide, the arrival of Google+ communities has introduced a new state of mind. Community members are opening themselves up to the eyes and comments of others. Communities also contribute to creating commitment and getting employees involved in many subjects. Finally, they transform ways of working, placing an emphasis on agility, efficiency, diversity and collective intelligence.

Example of the NEOS Google+ community

When the NEOS company program was announced, in March 2016, the Google+ NEOS community was created. Rapidly joined by almost 3,000 employees, it is the largest of the Group's communities to date. Its aim is to enable employees to adopt this program and to take part in the various stages of its implementation. The success of this community highlighted the power of collaborative work: it led to a rush of ideas and a wide range of contributions.

Digital solutions and Human Resources management

In order to meet the objectives set out in the NEOS company program, the Group's Human Resources rely on digital solutions to facilitate the implementation and monitoring of projects and to improve agility and efficiency.

Thus, the MyTalent Online platform, which harmonizes Human Resources processes within the Group, is accessible to all employees and covers the following fields in one personal online account:

- **attracting talent with the "Talent Acquisition System"**, which lists all of the Group's internal mobility offerings. This platform is also used by HR Departments around the world for external recruitment;
- **talent management with the "Talent Management System"**, a space dedicated to Air Liquide employees, their managers and HR professionals for performance reviews and career management;

- **training with the “Learning Management System”,** which provides a platform dedicated to training and employee development.

A passport for a digital journey

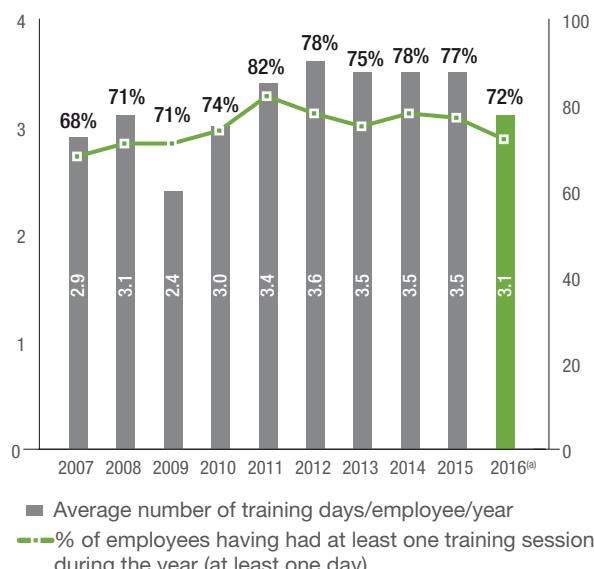
To support the Group's Digital Transformation, Air Liquide University has launched a training course which leads to the award of a digital passport. This consists of several self-assessment questionnaires on digital culture in general, but also on the knowledge of Kite (with various levels: basic, intermediate and advanced). The digital passport will first be tested in English, and then rolled out in several other languages in 2017.

3.2.2. DEVELOPING TALENT

Training

Air Liquide takes particular care to develop the competencies and expertise of its employees. The Group enables its employees to improve their performance, their contribution and their employability. In 2016, 72% of the Group's employees had at least one training session during the year. The average number of training days per employee, per year was 3.1 in 2016. This represents a total of more than 1,130,000 training hours for 2016.

AVERAGE NUMBER OF TRAINING DAYS PER EMPLOYEE, PER YEAR AND PERCENTAGE OF EMPLOYEES HAVING ATTENDED AT LEAST ON TRAINING SESSION DURING THE YEAR



(a) Excluding Airgas.

University for all!

Through its Corporate University, Air Liquide develops its training programs to meet the needs of employees while incorporating the Group's values. The Air Liquide University is based on a decentralized model and trains Group employees with modern pedagogic techniques like e-learning.

The University has a dual objective:

- formalizing and rolling out the training processes and disseminating good practices that go hand in hand with the Group's training dynamic;
- offering about 20 specific programs, ranging from integrating new employees to developing leadership abilities, as well as “professional” training programs given by the different business lines. The Group's values, Principles of action and key challenges are systematically included in the various modules.

At the university, a digital training library

An e-learning platform provides employees with support for their training. It offers more than 1,400 interactive training modules (in more than 10 languages) designed by the Air Liquide University, the business lines and the entities. At the end of 2016, e-learning modules were followed by more than 44,000 Group employees and more than 220,000 modules were completed.

During the “Printemps des Universités d'Entreprise” event, which gathered more than 400 decision-makers, heads of Human Resources, corporate university managers, representatives from a number of Ministries and several professional bodies, Air Liquide University was awarded the trophy for “best digital integration”. This award recognizes digital integration within the learning and development mechanism, through a smart combination of tools, methods and topics such as e-learning modules, virtual classes, videos, etc. Digital Transformation and its impact are therefore recurrent topics in the programs developed by the University. The jury was particularly impressed by the fact that digital programs are available to a wide internal public, and even certain external participants (customers, service providers and shareholders). This successful digital integration promotes new ways of working in the 80 countries in which Air Liquide is present.



Sustainable procurement awareness-raising and training

Several measures have been implemented to raise awareness and train buyers in the context of the Group's Sustainable Procurement policy, thus strengthening its application within the organization:

- a Sustainable Procurement e-learning module has been developed. It is aimed at everyone in the Group that is involved in procurement and allows:
 - the presentation of consistency between the Sustainable Procurement approach and the Group's strategy,
 - the challenges of the Sustainable Procurement approach to be explained and positioned as a source of value creation for the Company,
 - for the presentation of various tools to facilitate the roll-out of this approach.

To date, the e-learning has been completed by 555 Air Liquide employees. 68% of those who have completed this module consider that they have become more efficient in their role as buyers;

- specific training sessions covering the methodology for the sustainable development evaluation of suppliers and the implementation of corrective action plans were organized for the Group's buyers, in line with preceding years. To date, more than 150 buyers worldwide have received training in these tools;
- the main social, environmental and ethical risks relating to procurement have been mapped and monitored since 2010 so that they can be assessed and their development checked over time. Factsheets presenting sustainable development challenges specific to certain purchasing categories and certain geographic locations are available, enabling buyers to identify the most critical subjects;

Since 2015, a "Sustainable Procurement" network of correspondents from the Group's main procurement organizations has been set up and is used as a local intermediary for the implementation of the Sustainable Procurement approach. Thus, more than 20 Air Liquide Heads of Procurement in France met for a conference on sustainable procurement.

A training module covering social and environmental audits of Air Liquide suppliers' sites will be rolled out at the beginning of 2017. It will enable buyers to better understand audit tools and be capable of identifying crucial factors and areas for improvement at suppliers' sites in terms of social and environmental factors during on-site visits.

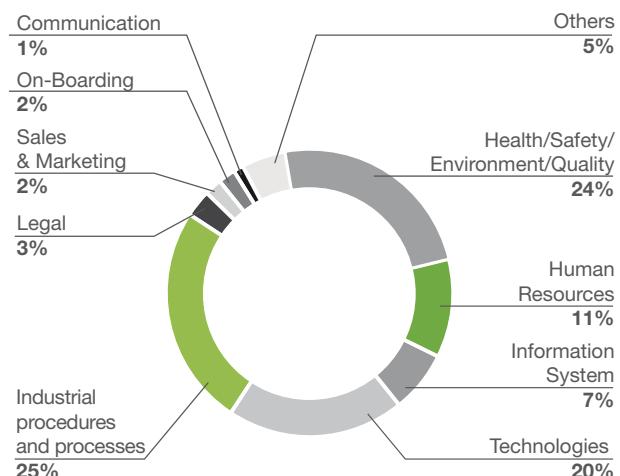
Training topics

The online training offer is upgraded every year and covers many topics such as safety, ethics, Human Resources processes, digital technology and management.

For example, the Industrial Safety Department and the Air Liquide University have provided Group employees with five online training modules concerning safety.

Topics include: personal protection equipment, confined spaces, falling and slipping, and defensive driving. Analysis of the Group's accidents show that these subjects involve 30% of accidents occurring in the activities. These modules include videos and questionnaires and have been made widely available. They are available in several languages.

BREAKDOWN OF TRAINING TOPICS ^(a)



^(a) Excluding Airgas – This breakdown includes over 3/4 of the Group entities in which the Learning Management System has been rolled out.

Employee performance reviews

Employee performance is monitored and measured during performance review meetings that each employee has every year with his or her direct supervisor, but also during career development meetings that enable each employee to talk about more long-term prospects with the local Human Resources Department. The Group's Human Resources Department fosters these meetings as they are one of the cornerstones of the Company's Human Resources policy. In 2016, 76% of employees had a performance review meeting with their immediate supervisor. In addition, 17% of employees had a career development meeting with their entity's Human Resources Department.

Technical expertise recognition and enhancement

Technical expertise is crucial to design innovative solutions and anticipate customers' needs. Air Liquide has a portfolio of 11,000 patents.

The Technical Community Leaders (TCL) program plays a role in strengthening this expertise over the long term. Launched in 2003, this program enables talent in the technical sectors to access careers that offer recognition, satisfaction and influence. The Group's experts therefore have the opportunity to develop their talent in their chosen field. Since TCL was created, more than 3,200 experts have been recognized, thus playing a key role in sharing expertise, knowledge and technical excellence. In 2016, two International Fellows, 18 International Senior Experts and 71 International Experts from several regions of the world received recognition. TCL experts are invited to work in a network organization. A directory showing the contact details of all TCL experts is available to all employees. This tool is accessible via the My Talent Human Resources platform. The directory currently lists more than 800 international experts and will soon be expanded to include more than 2,000 local experts.

This community of the Group's technology experts contributes to the transfer of technical know-how, to the sharing of best practices, and to the long-term development of the skills that Air Liquide will need in the future. Experts are selected for their strong expertise in science and technology and their active contribution to innovation. They also demonstrate entrepreneurial spirit, their customer-oriented mindset, analytical and decision-making skills.

Each TCL expert contributes in the following four areas:

- communication & network: submit publications, grow networks, deliver audits and represent the Group externally;

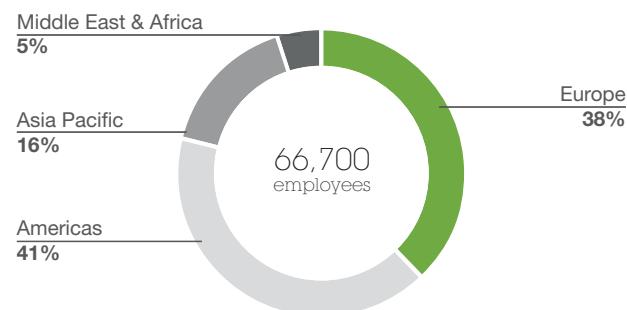
- innovation & technology: lead their technological area, contribute to strategic decision-making, develop creative new ways of working and anticipate needs;
- business development: design solutions, submit patents, and identify new project opportunities;
- knowledge management: design and deliver training, mentor talent and peers, develop TCL locally and contribute to knowledge sharing.

Internal mobility: a key element in career development

Mobility corresponds to an employee's ability and commitment to change job or location, either within the same country or abroad, to meet the Company's needs and develop on a personal level.

Internal mobility, whether in terms of shifting job function or geography, is encouraged by the Group. This talent management practice not only promotes diversity within teams but also opens a wide range of career opportunities for employees. Internal mobility also builds extremely strong and lasting networks within the Group.

BREAKDOWN OF GROUP EMPLOYEES BY GEOGRAPHIC REGION IN 2016^(a)



(a) Including Airgas and excluding Welding.

The choice of diversity

Diversity is a priority of Air Liquide's Human Resources policy and the Group considers it a source of dynamism, creativity and performance. A team in the Human Resources Department is in charge of steering the diversity projects. The five axis of the Group's Human Resources diversity policy are: nationality, gender, educational background, age and disability. Through this diversity policy, Air Liquide is strongly committed to fight any form of discrimination.

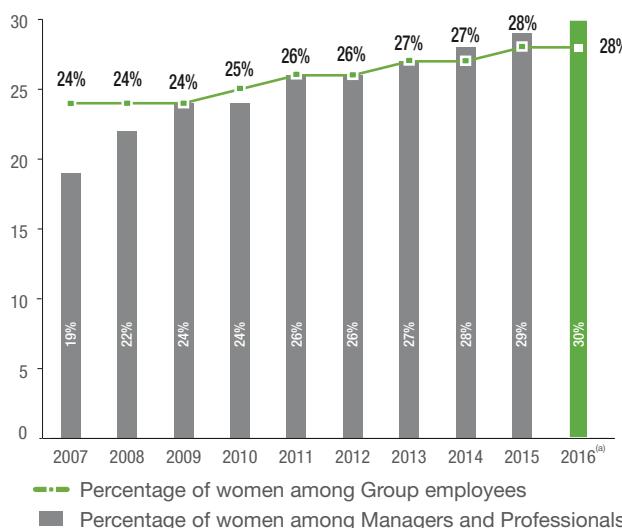
Nationality

Air Liquide's senior managers are of 30 different nationalities. The Group's Board of Directors is composed of six different nationalities.

Gender

Equality between men and women is an essential point in the expression of this diversity. Between 2003 and 2016, the percentage of women who were hired for managerial and professional positions rose from 14% to 30%^(a). The percentage of women among managers and professionals is higher than the overall percentage of women in the Group (28%)^(a), which illustrates the good representation of women in Air Liquide's management. Women now represent 40% of employees considered as high potential. Five women are now members of the Group's Board of Directors.

PERCENTAGE OF WOMEN AMONG MANAGERS AND PROFESSIONALS (INCLUDING OR EXCLUDING AIRGAS)



(a) Excluding Airgas and Welding.

These results are the fruit of a concrete, global Human Resources strategy based on the following four priorities:

1. **Recruiting:** strengthening the place of women in the Group, in particular through hiring managers and professionals.
2. **Developing careers and increasing responsibilities for women in the Company:**
 - for every management position that becomes available, Human Resources examines the application of at least one woman among the applicants;
 - a meeting before and after maternity leave has been organized in a certain number of entities in France.

(a) Excluding Airgas and Welding.

3. Involving all the managers:

In the framework of Air Liquide's policy on promoting equality, the hiring and career development of women and strengthening their place and responsibilities in the Company, a program on awareness-raising and discussions on the benefits that equality brings was organized in the Group, aimed at managers.

4. Better balancing of professional and private life:

The Diversity Charter that Air Liquide signed in France is available online and is an illustration of the Group's commitment to diversity. Air Liquide renewed its commitment in 2015.

Within the Air Liquide management training program called GEAR UP, one session is dedicated to theme of diversity and the value of differences. More than 4,000 managers worldwide have already received this training.

Each year Air Liquide joins forces with International Women's Day, celebrated on March 8. This is also when Air Liquide takes part in the annual InterElles seminar. The Cercle InterElles brings together the networks of 13 technology companies which are focused on promoting gender equality and equal opportunities. The Cercle InterElles network has stood out in recent years as a pioneer in the battle against stereotyping and as a supporter of gender equality in companies and of equal opportunities.

Educational background

Air Liquide is continually looking to recruit different profiles to build multidisciplinary and complementary teams.

The Group's diversity is characterized by the fact that there is no "standard career path". Quite the contrary, each employee adapts his or her career path according to their individual objectives and the career opportunities offered by the Group. Internal mobility and technical expertise are two major factors in career development.

Age

The Group has invested in better professional qualifications and training programs for young people to facilitate their integration into the business world. As a result, in France, almost 580 young people have benefited from work-study contracts and around 450 in internships, combining theoretical learning in their university or school and a practical internship at Air Liquide.

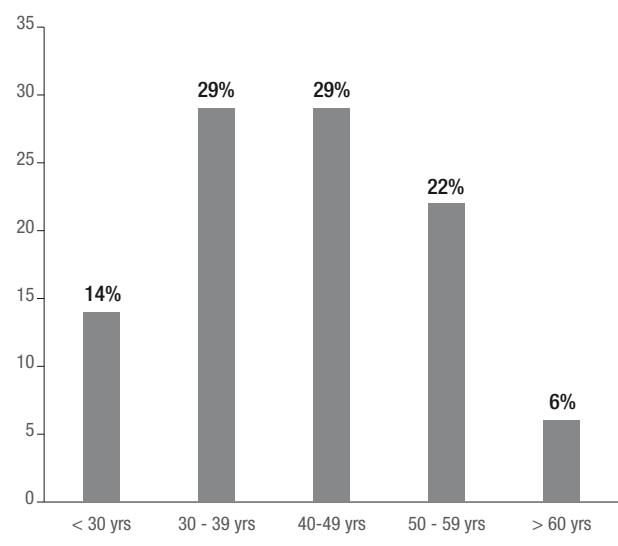
Each year, a "Happy Trainees" survey is carried out with interns from more than 800 companies in France. The results published in the press revealed that Air Liquide is ranked as the second best rated company: 93% of interns recommend the Group.

The survey includes several aspects: career development, working environment, management, motivation, enjoyment and pride. The Company's contribution to personal development of young people is also a key criteria of the analysis.

This ranking awards the commitment of the Group to supporting its interns. In Air Liquide entities in France, each trainee benefits from an adapted program that offers a real support from their arrival and throughout their experience. CV workshops, exploratory interviews about their career plans... opportunities are numerous for the students joining Air Liquide each year!

Seniors will represent an increasing share of Air Liquide employees in the coming years. Their contribution to mentoring and training programs aimed at younger generations will be further promoted.

DISTRIBUTION OF EMPLOYEES BY AGE BRACKET IN 2016^(a)



■ Distribution of employees by age bracket

(a) Including Airgas and excluding Welding.

Disability

Disability can be a factor of openness, innovation, unity and performance. That is why Air Liquide is committed to making the integration of employees with disabilities commonplace within the Company.

Air Liquide's disability policy has five axis:

- recruitment and integration;
- job security and career development;
- training;
- informing and raising awareness among all employees;
- relations with, and subcontracting to, firms which are part of the adapted and protected sector^(a), particularly in France.

In 2016, employees with a disability represented 1.4% of the Group's employees worldwide.

In France, the Air Liquide's "Mission Handicap" calls on employees who are "disability advisors" divided among the main French subsidiaries. They are supported by multidisciplinary working groups that meet several times a year to work on different subjects connected to disabilities.

Within the scope of the 4th Workplace agreement signed in 2016 in favor of recruiting employees with disabilities over the 2016-2018 period, Air Liquide has committed to an employee, intern and work-study recruitment objective in order to contribute to improving the employment rate for workers with a disability.

A Disability Hotline has also been set up. This Hotline is committed to providing free and confidential advice to questions relating to disabilities at Air Liquide (disability policy, agreement, beneficiaries' conditions, disability in general).

In France, since 2007, the rate of employment of workers with a disability at Air Liquide has more than doubled.

Air Liquide spends over one million euros in France in the adapted and protected work sector, and is actively committed to increasing the amount of socially inclusive procurement. To do so, the Group organizes training measures.

For example, during a day to raise awareness of socially inclusive procurement, buyers from the French subsidiaries visited an Adapted Company, who has been a partner of Air Liquide Medical Systems for almost 20 years, which assembles and packages medical devices in a controlled atmosphere.

Moreover, thanks to a partnership between the Procurement Department and a specialized association, several tools (directory listing all establishments in the protected and adapted sector, online marketplace, etc.) are available to Air Liquide's buyers.

During European Disability Employment Week, Air Liquide organized a day of collaborative workshops on the theme "Our differences are our strength". Around 150 people from Air Liquide took part in this day aimed at co-creating measures for 2017 to promote the inclusion of people with disabilities.

The Air Liquide Foundation takes part in Group measures to promote the inclusion of people with disabilities. It supports disability-related projects as part of its Local Development mission. In 2016, five projects in France and Egypt were supported, such as projects providing access to artistic and educational activities; projects which boost the personal development of children and adults with disabilities. Since its creation in 2008, the Foundation has supported 36 projects in eight countries which represents 14% of projects supported by the Foundation.

(a) Sector of economic activity giving priority to employing workers with disabilities.

3.2.3. EMPLOYEES' COMMITMENT

Participation of employees in the capital of Air Liquide S.A.

The Group wishes to continue increasing the involvement of its employees at the global level in its development by having its employees more broadly participate in the capital of L'Air Liquide S.A. Thus, since 1986, 13 capital increase operations have been reserved especially for Group employees, so that they can take advantage of preferential conditions. These employee share ownership transactions contribute significantly to increasing employee motivation and sense of belonging to the Group.

At the end of 2016, the share of capital held by the Group's current and former employees was estimated at 2.4%, of which 1.5% (within the meaning of article L. 225-102 of the French Code of Commerce) corresponds to shares subscribed by employees during employee reserved capital increase operations or held through mutual funds.

Remuneration

The comprehensive remuneration of Group employees is based on three criteria:

- the position held;
- the degree of responsibility;
- performance.

Plus the factoring in of the situation of the local market, the Group's fair pay at hiring policy and current legislation.

It is generally made up of a basic salary plus additional remuneration elements.

The variable portion of remuneration is devised locally for certain categories of employees to reward performance. In general, it depends on parameters such as the Group's earnings, the entity's earnings and individual performance, which is measured in quantitative and qualitative terms. By rewarding collective and individual performance, Air Liquide encourages everyone to collaborate and contribute to overall earnings. In 2016, 63% of employees received an individual variable portion as part of their remuneration. Most of the managers and professionals have a variable remuneration, which includes sustainable development objectives. 15% of managers' variable remuneration is linked to sustainable development criteria, such as safety, customer satisfaction, energy efficiency and equality.

Finally, the top 370 Group executives have a significant portion of their variable remuneration mandatorily linked to these criteria, safety for example, but also sustainable development program targets for their entity.

Remuneration may also include benefits such as disability-incapacity-death insurance, health insurance, profit sharing^(a) or solutions to help balance work and family life which vary by country (for example, childcare places).

In 2016, almost 100% of employees benefited from some sort of social security coverage through the Group, in particular in terms of pension plans.

Health and safety at the workplace

Integrated safety

Individual responsibility is a key factor in developing a culture of safety within the Group. This individual responsibility is based on three factors: implication, sharing and vigilance.

The Group encourages its employees to play an active role in the drawing up and implementation of corrective and preventive measures to achieve its "zero accidents" objective but also to engage in dialogue and the sharing of experience.

Air Liquide also encourages its employees to adapt their behavior and in particular their work habits to carry out tasks safely for themselves and for their surrounding colleagues. The Group's safety statistics highlight that behavior is the main cause of 80% of all accidents. Group employees are also encouraged to act when they witness a situation in which a colleague is about to carry out a dangerous act. It is each individual's responsibility to react.



Safety Awards

Over the past six years, the European Safety Awards have been organized to recognize the best safety achievements in the Industrial Gases and Healthcare activities. This event highlights the contributions of the most safety-aware employees. During the 6th European Safety Awards, which took place in 2016, 21 European sites were awarded for their outstanding safety initiatives.

Similar Awards are also organized in the United States.

Prevention in the field of health in the workplace

Air Liquide is particularly concerned with ensuring that its employees' working conditions do not present any health risks. This includes preventive measures in various areas.

In 2016, several preventative actions were undertaken by different entities.

For example, in terms of the ergonomics of workstations, Air Liquide regularly organizes awareness-raising campaigns and trainings in the subsidiaries on safety, health and risk management, especially in the working environment, such as the risk of musculoskeletal disorders (MSD).

(a) This method of remuneration, used in certain countries, is at the Company's initiative or in response to local legislation or market requirements.

At the new Shanghai Research and Technology Center (SRTC) in China, an ionisation and filtration system has been installed which ensures a better indoor air quality with regards to small particles and organic components in the air. The Engineering & Construction (E&C) entity in Hangzhou, measured noise levels in its workshop. With the installation either of a sound absorbing wall or the provision of movable sound-absorbing shields the noise level has been successfully reduced.

In South Africa, a focus has been put on health check's for drivers and employees who spend a lot of time on the road.

In the countries of Western Africa, infrared body temperature measurements at the entrance to Air Liquide sites have been introduced during the Ebola crisis and are still in place.

In order to minimize the exposure to extreme heat conditions, the working schedule has been adjusted at filling centers in Greece during summer.

Subcontractors' safety

The Group has responsibilities in terms of the health and safety of its subcontractors.

Working with subcontractors implies that each party understands the role entrusted to it in terms of health and safety. At the subcontractor selection stage, Health and Safety specifications are included in the call for tender to guarantee the Group's requirements in this area. Moreover, several departments are involved in the validation of a new subcontractor (Procurement, Safety, HSE, Logistics and the local entity).

Communication with subcontractors is also important to ensure that requirements in terms of health and safety in the workplace are fully understood. When suppliers themselves subcontract, these subcontractors must also follow and comply with the same rules and this must be included in the contractual provisions.

Regular meetings with subcontractors at the managerial and operational level are organized to address, in particular, measures relating to strengthening their culture of safety, their compliance with life-saving rules, feedback or analysis of any accidents or near-miss incidents.

Well-being

The official definition of well-being in the workplace provided by the World Health Organization (WHO) considers well-being in the workplace to be "a dynamic state of mind characterized by reasonable harmony between a person's abilities, needs and expectations, and environmental demands and opportunities". Moreover, in 2015, the 193 UN Member states set 17 Sustainable Development Goals (SDGs) for 2030. Almost all of these goals have a health component or contribute to improving global health. One sustainable development goal is specifically focused on health and well-being. It aims to "ensure healthy lives and promote well-being for all at any age".

The quality of life in the workplace may also have a direct impact on the motivation of employees and their productivity. In order to strengthen occupational well-being within Air Liquide, various initiatives were implemented in France to promote the personal/professional life balance of its employees:

- an e-portal enabling employees to access practical, administrative and legal information to facilitate daily life. It can be used by the employee and his or her family via a personal access code. Over 70% of the Group's employees in France now have access to this portal;
- a telephone service enables employees to call, from their office or home, specialists (for example, doctors, legal specialists, social workers, guidance counselors, etc.) who answer their questions with complete confidentiality on areas as varied as the family, housing, well-being and healthcare, unforeseen events, budget management, taxation and retirement. Air Liquide is a forerunner in this area as the Group is currently one of the few in France to offer its employees such a large range of services;
- nursery places in inter-company crèches are offered to employees of subsidiaries covered by this partnership. At the end of 2016, 51 places had already been financed by Air Liquide for its employees;
- the CESU (Universal Service Employment Check), whose aim inter alia is to facilitate childcare in the home, has been implemented for certain entities in France for men and women in the Group who have young children;
- in September 2016, workshops were offered to employees at the head office in Paris to discover, learn and experiment with what could help to improve their well-being. These workshops, covering sleep, nutrition and the optimization of work postures, were run by healthcare professionals.

Raising employee awareness of Sustainable Development

An increasing number of initiatives are created at Air Liquide to raise employee awareness on Sustainable Development issues and encourage employees to promote them in their daily activities.

Conferences on air quality

In 2016, Air Liquide organized two conferences for its employees, in Shanghai and Paris, to raise awareness about the improvement of air quality which is one of the aims of the NEOS company program.

In Shanghai, the seminar held on November 10 brought together Air Liquide China's employees. Tony Xie, Head of the Clean Air Alliance of China (CAAC), presented the health issues in China caused by poor air quality, as well as solutions that will be implemented to improve this situation. Participating companies, including Air Liquide, presented their clean technologies during this workshop.

Air quality was also the subject of a conference entitled "Restoring air quality, a challenge for public health" at the Paris head office, on December 5, at the beginning of a week of disruption for the city due to poor air quality. PhD Linda Fried, Dean of Columbia University's School of Public Health in the United States, spoke about the consequences of poor air quality and encouraged the industry to play an active role in solving this issue.

Air quality at the heart of the Group's Corporate Sustainability Program

With its NEOS objective to improve air quality, Air Liquide recognizes that the situation is worrying in several parts of the world. In 2016, the Group defined a five-point Corporate Sustainability Program. This program promotes clean industry and transport, as well as the improvement of our supply chain, in addition to our local social responsibility initiatives.



Employees' commitment to the Foundation's projects

The Foundation is supported in its work by Air Liquide employees who sponsor local development micro-initiatives. It provides employees who wish take part in community work with the opportunity to express their social and human commitment. For further information, see section 3.1.1 "The Air Liquide Foundation".

3.2.4. SOCIAL DIALOGUE AND THE ORGANIZATION OF WORKING HOURS

Social dialogue

In accordance with its Principles of action, Air Liquide is particularly committed to respect the highest standards in ethics and safety. The Group ensures that social dialogue is encouraged and in this context, 82% of Air Liquide's employees have access to a representation, dialogue or consultation structure.

The European Works Council has 28 employee representatives from 13 countries^(a).

The composition of the Council evolves with the Group's acquisitions or disposals, the expansion of the European Union and according to the rules established by the Council's constitutional agreement. An agreement was signed in 2014 to strengthen the role and nature of exchanges within this body. It meets at least twice per year under the chairmanship of a member of the Executive Committee. The main themes dealt with during this discussion and consultation are safety,

the news on the Group's activities, especially in Europe, the annual financial statements, the Sustainable Development policy, strategy and its implementation in the different countries of Air Liquide's operations.

In 2016 in France, 151 agreements were signed in total with the unions in various areas, including profit sharing and incentives for employees in the Company's performance, planned management of jobs and skills (GPEC), professional equality between men and women, disability, the youth-employment contract, as well as working time organization, particularly in the context of the agreements relating to telecommuting.

In the other European countries, 11 collective agreements were also signed during 2016. For example, several agreements have dealt with working time, particularly in Sweden and Finland. The agreement on annual working hours signed by Finland is directly related to the subsidiary's competitiveness. In Poland, an agreement was signed on the aspects of variable remuneration for employees who do not have an individual variable remuneration. Agreements involving social benefits ranging from healthcare to mobility were signed in Bulgaria, Greece, and Italy. Italy also implemented a telecommuting system for the first time.

Organization of legal working hours

In France, the general framework of legal working hours has been defined by all of the agreements signed more than 10 years ago. Very few activities operate with shift work. These concern fewer than 10 plants in France, mainly in the Large Industries business line. A project is currently underway within this activity to reduce shift work. On the other hand, most of the industrial activities, as well as those in Healthcare, include on-call systems that are regularly discussed with the unions.

With regard to telecommuting, the pilot program negotiated and signed as a one-year fixed-term agreement set up in France in 2013 at Air Liquide France Industrie and Air Liquide Santé France was extended and made permanent. It meets the needs of employees as expressed during a prior survey on work-life balance. Following a dialogue phase with various stakeholders, almost 500 employees and managers have chosen to work from home, on the basis that it is a voluntary arrangement, that involves trust and that employees retain the option to return to the workplace. Under the supervision of the individual entities' Human Resources Departments, a series of educational and training measures was conducted among employees, managers and unions to support the shift to telecommuting. This resulted in many additional ideas and demonstrated the benefits as well as the limitations of this method of working.

These agreements demonstrate the wish of all parties to modernize managerial and organizational practices. The aim is to improve quality of life and working conditions, promote a better personal/professional life balance for employees, and implement a new method of organizing working hours.

(a) Austria, Belgium, Denmark, France, Germany, Great Britain, Italy, the Netherlands, Poland, Portugal, Romania, Spain and Sweden.

3.3. Responsible share ownership

Air Liquide's long-term profitable growth strategy and its commitment to its shareholders, regardless of whether they are individual shareholders or institutional investors, are closely linked. To preserve the balance between individual shareholders and institutional investors and satisfy everyone's needs, the Group has set up a dedicated organization:

- Shareholder Services, which reports directly to the Chairman & Chief Executive Officer, is dedicated to individual shareholders;
- the Investor Relations Department, attached to the Finance Department, is dedicated to institutional investors and financial analysts of brokerage companies.

Air Liquide is committed on a daily basis to a close relationship based on dialogue with its shareholders that is founded on the following key principles:

- promoting long-term share investment;

- encouraging shareholder loyalty through registered shares;
- offering a made-to-measure organization and services;
- promoting dialogue and meetings;
- recognizing and promoting the shareholder's key role.

3.3.1. PROMOTING LONG-TERM SHARE INVESTMENT

Shareholders have been contributing to and supporting the Group's growth since its creation and represent an element of stability and independence. Today, it is thanks to their loyal support that the Company can continue to change and grow. At end-2016, the 410,000 individual shareholders owned 33% of the capital, the highest percentage among companies in the CAC 40. French and non-French institutional investors represent respectively 20% and 47% of the capital.

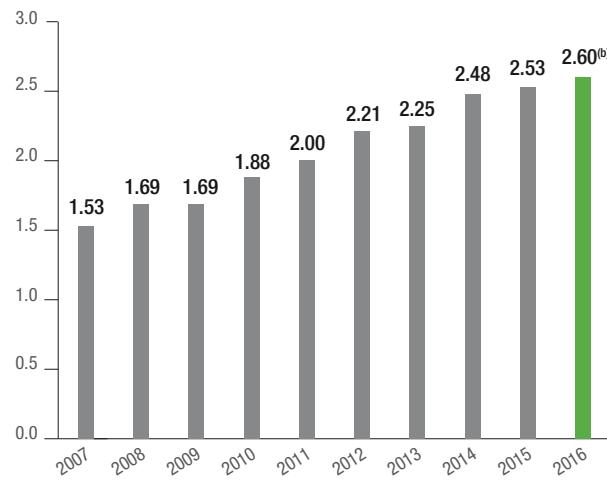
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Individual shareholders	37%	38%	38%	36%	37%	37%	36%	37%	36%	33%
French institutional investors	30%	26%	26%	23%	21%	19%	19%	17%	18%	20% ^(b)
Non-French institutional investors	32%	35%	36%	40%	42%	44%	45%	46%	46%	47% ^(b)
Treasury shares	1%	1%	>0%	< 1%	>0%	>0%	>0%	>0%	>0%	>0%
Registered capital	37% ^(a)	33%	32%	34%	35%	36%	35%	36%	36%	33%
Capital eligible for the loyalty bonus	26%	26%	25%	25%	28%	29%	30%	30%	30%	26%

(a) In 2007, the share of registered capital increased in particular following the entry of a large institutional investor who sold its shares in 2008.

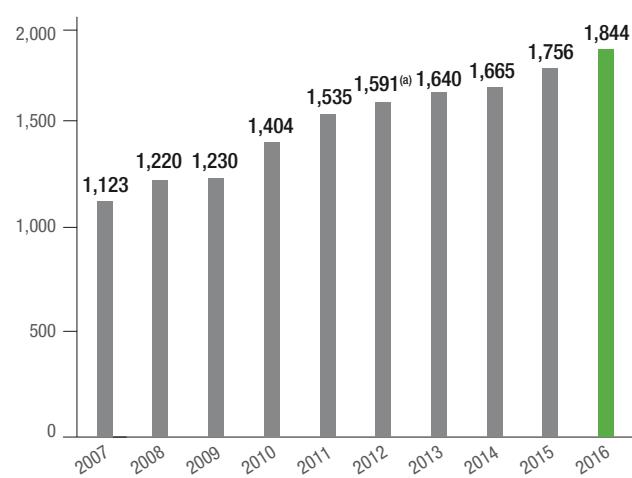
(b) In 2016, the proportion of institutional investors in the Group's capital increased due to their over-subscription to the capital increase.

Air Liquide has always shared the fruits of its growth and rewards its shareholders' confidence through a remuneration and loyalty policy that is based on regular dividend distribution, free share attribution and a loyalty bonus.

ADJUSTED DIVIDEND PER SHARE (in euros/share) ^(a)



NET PROFIT – GROUP SHARE (in millions of euros)



(a) Adjusted to take into account the 2007 share split, free share attributions and the 2016 share capital increase due to the acquisition of Airgas.

(b) Subject to the approval of the Combined Shareholders' Meeting of May 3, 2017.

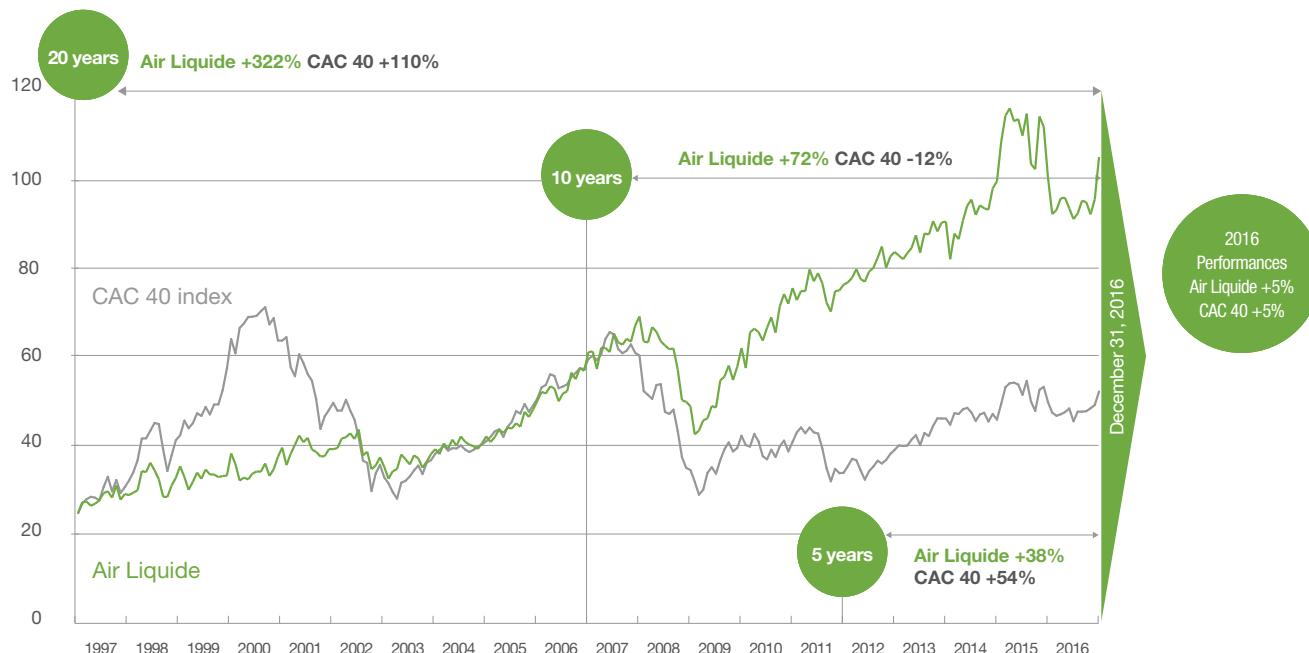
(a) Corresponds to the amounts as of December 31, 2012 restated for the impacts of IAS19 revised "Employee Benefits".

Since it was first listed on the French Stock Market in 1913, the Company has always shown a profit. Over the last 20 years, Air Liquide's revenue has shown an average annual growth rate of +6.4%. This growth has been profitable: the Group's adjusted net earnings per share have followed a similar trend with an average annual growth rate of +7.7%.

Over the same period, the dividend has seen an average annual growth rate of +9.5%.

During the last 10 years, more than 50% of earnings have been distributed to shareholders.

STOCK MARKET PRICE EVOLUTION (in euros)



TSR, as of December 31, 2016

Over 20 years, Total Shareholder Return (TSR) on invested capital is +10.9% for Air Liquide registered shares^(a), and +10.3% for Air Liquide bearer shares^(a), versus +7.8% for the CAC 40 index with reinvested^(b) dividends. TSR is an annualized return rate for a shareholder who buys shares at the beginning of a period and sells them at the end of the

period. This calculation takes into account the share price performance, dividends paid, including loyalty bonuses, considering that they are reinvested in shares, as well as free share attributions. Since 1962, the Group has carried out 28 free share attributions.

Preferential Subscription Rights related to the capital increase carried out in September 2016 are accounted for as if they had been sold and then reinvested in shares.

(a) Based on the average annual number of shares (excluding treasury shares) and adjusted to account for increases in capital via capitalization of reserves or additional paid-in capital, cash subscription and the two-for-one share split on June 13, 2007.

(b) Subject to the approval of the Combined Shareholders' Meeting of May 3, 2017.

3.3.2. ENCOURAGING SHAREHOLDER LOYALTY THROUGH REGISTERED SHARES



Different shareholding options

Direct registered shares:

Direct registered shares are managed by Air Liquide and recorded in its register. They are held in a securities account opened at Air Liquide.

Intermediary registered shares:

Intermediary registered shares are registered in Air Liquide account and held in a securities account or a personal equity plan at the shareholder's financial institution.

Bearer shares:

Bearer shares are held in a securities account or a personal equity plan at a financial intermediary.

To increase the investment value of shares and reward long-term shareholders, Air Liquide seeks to showcase registered shares which offer several advantages. This option allows shareholders to benefit from a loyalty bonus, for registered shares held for more than two full calendar years: +10% on the amount of the dividends received and on the number of free shares granted during attribution transactions. To benefit from the loyalty bonus, shareholders must continue to hold their shares in registered form on the day of the dividend payment or of the free share attribution.

Air Liquide directly manages the accounts of its shareholders who hold direct registered shares. They pay no handling fees, and broker fees are 0.18% excluding tax of the gross amount of the transaction, and reduced to 0.10% (excluding tax) for stock market orders placed online and paid by bank card or account debit.

3.3.3. OFFERING A MADE-TO-MEASURE ORGANIZATION AND SERVICES

Shareholder Services, with approximately 30 employees, is a unique service at Air Liquide and reports directly to the Chairman & Chief Executive Officer. It provides expertise in all aspects of account management. This team manages the accounts of some 92,000 shareholders who hold direct registered shares and supports them by offering personalized services, without intermediaries.

This service meets shareholders' needs at the dedicated Shareholders' Lounge at corporate headquarters, or by telephone via the toll-free number. Access to information and services is also supported by digital solutions: mobile application, personal online account, interactive publications, web conferences, live chat, webcasts, electronic invitations and voting by Internet for the Shareholders' Meeting.

Innovating and educating

Educating is a major issue in information documents and media for shareholders such as the Annual Report, the Shareholders' Guide and the Invitation to the Shareholders' Meeting which presents resolutions submitted to shareholders and which is sent to all shareholders who own at least one share. Air Liquide also publishes, in the month after the event, a report of its Shareholders' Meeting that is sent to all shareholders

who exercised their right to vote and presents all the discussions. These publications are available in French and English.

The website provides detailed information which is personalized according to the Internet user's profile, with sections dedicated in particular to shareholders' and investors. The Shareholders section provides share price information and Group news, access to tax simulators and differed access to videos on key events in the Group's calendar.

Direct registered shareholders have access to a personal secure space on the Internet, so that they can consult their share portfolio and documents useful for managing their account and also modify their personal information. They can also place buy and sell orders on the stock market online and view, in real time, the operations conducted on their share account.

Moreover, Air Liquide was the first company to set up a Shareholders' Communication Committee (SCC). The SCC is made up of 12 shareholders and is consulted on a regular basis. Apart from plenary meetings with the Chairman & CEO, the Committee is involved through the year in working groups. A Committee member is part of the Air Liquide Foundation's Project Selection Committee.

3.3.4. PROMOTING DIALOGUE AND MEETINGS

The Shareholders' Meeting, a privileged moment of exchange and the expression of shareholder democracy

Each year, all the Air Liquide shareholders who hold at least one share are invited to the Shareholders' Meeting. In order to attend, more than one month before the Shareholders' Meeting, they receive all the documentation relating to their vote either by mail or by email. In accordance with the principle of shareholder equality to which Air Liquide is very committed, each share entitles its owner to one vote. Air Liquide endeavors to make all this material available in English to its non-French shareholders in similar time frames. Air Liquide centralizes its Shareholders' Meeting by collecting the votes of its shareholders directly and offers also voting by Internet.

In 2016, almost 4,000 people came to the Shareholders' Meeting. During the event, attendees were given a preview of the exhibition presenting the Group's business lines, the Air Liquide Foundation and Shareholder Services through the mobile application "Periscope". The entire Shareholders' Meeting is broadcasted online on the Group's website.

On this occasion, Sustainable Development was also showcased by a presentation of the Group's sustainable development stakes' mapping. Moreover, Bénédicte Faivre-Tavignot, Director of Air Liquide Foundation, a lecturer at HEC Business School, and founder of the "Social Business / Enterprise and Poverty" chair, gave her expert view on Corporate Social Responsibility. The immense social and environmental challenges facing our society present opportunities for growth and reinventing companies. They offer powerful innovation potential for companies such as Air Liquide. By placing social challenges at the heart of their strategy, companies take practical action for the future of the planet, adopting a long-term approach.

After the Shareholders' Meeting, the Chairman & CEO continues his discussions with shareholders by traveling to several towns and cities in France for regional meetings during which he presents the Group's results, strategy and outlook. His speech is followed by a panel discussion and a question and answer session. For the first time this year, one of these regional meetings was live webcast on the Group website and Internet users could ask their questions directly to the Chairman & CEO.

The dates for the next Air Liquide Combined Shareholders' Meeting are Wednesday May 3, 2017; Wednesday May 16, 2018; Tuesday May 7, 2019.

Moreover, the Director of Shareholder Services regularly meets with shareholders during conferences and trade shows. In 2016, more than 8,500 individual shareholders attended these meetings. He also hosts talks at business schools, universities and colleges, so that the economic agents and decision-makers of the future have an early awareness of the culture of the stock market and of the major role of the shareholder in financing the economy.

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0 800 166 179 Service & appel gratuits or +33 (0)157 05 0226

from abroad

<http://contact.actionnaires.airliquide.com>

The Investor Relations Department organizes roadshows and takes part in conferences to present international institutional investors with the solidity of Air Liquide's business model, the dynamism of its growth levers and the soundness of its strategy. In addition, sustainable development-focused roadshows are regularly organized in Paris and London. On average, the Investor Relations Department meets over 300 institutions each year. It also regularly organizes Investor Days, bringing together the international financial community and Air Liquide's management, with a theme that varies according to economic issues and current events.

3.3.5. RECOGNIZING AND PROMOTING THE SHAREHOLDER'S KEY ROLE

Individual shareholders have been key to Air Liquide's development from the beginning. The shareholders funded the Group's initial development through successive capital increases. It was, therefore, natural that Air Liquide would want to involve them in the Group's development and growth as part of the capital increase carried out in September 2016 for the refinancing of the Airgas acquisition. The capital increase offered to existing Air Liquide shareholders through the allocation of Preferential Subscription Rights (PSR), gave each eligible shareholder the opportunity to expand their share portfolio by exercising their PSR, or to sell these on the market and obtain an immediate inflow of cash. For this, Air Liquide rolled out a unique system to directly manage its direct registered shareholders.

The accelerated decline in the number of individual shareholders in France is a major social challenge. Air Liquide is committed to defending individual shareholders' rights and promoting equity investments. The Group supports, in particular, stock market initiatives such as those of the ANSA (Association Nationale des Sociétés par Actions), the Observatoire des Actionnaires d'Avenir and the F2iC (the French Federation of Investors and Investment Clubs).

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3.4. Sustainable relationships with customers and patients

3.4.1. REVENUE LINKED TO LIFE AND THE ENVIRONMENT

Numerous applications of industrial and medical gases protect the environment for the Group's customers and the life of patients. These applications represent 44% of revenue^(a).

■ In the Environmental field:

- using hydrogen in refineries to remove sulfur from hydrocarbons and convert them into lighter fuels which respect current regulations, thus reducing the emissions of sulfur oxide, which are responsible for acid rain;
- using oxygen in blast furnaces to reduce the consumption of coke, whose production and usage is very polluting;
- modified atmosphere packaging to protect foods and reduce chemical additives;
- inerting with nitrogen for the safety of industrial installations;
- fusing glass by using pure oxygen, which considerably reduces emissions of nitrogen oxides, one of the gases that causes acid rain;
- treating water with oxygen at sewage plants to reduce the use of chemicals;
- using rare gases, like krypton, to improve the insulation of double-glazed windows;
- using industrial gases for photovoltaic cells fabrication;
- selling equipment for valorizing biogas.

■ In the Healthcare field:

- using oxygen in hospitals and for the Home Healthcare activity;
- using hygiene products in the fight against nosocomial infections;
- manufacturing adjuvants for vaccines.



The percentage of Air Liquide's revenue related to life and the environment increased sharply between 2005 and 2016, going from 33% to 44% of the Group's total revenue. This growth illustrates the development of the applications linked to protecting life and the environment in Air Liquide's global revenue.

(a) 2015 data. 2016 data will be available mid-2017.

3.4.2. INNOVATION RELATED TO LIFE AND THE ENVIRONMENT

Almost 60% of the Group's innovation expenses in 2016 were related to work to improve air quality, health and the environmental footprint.

Close to 30% of the Group Innovation expenses is devoted to reducing CO₂ emissions (by reducing carbon content of its products or those of its customers).

■ Environment:

- research and development programs for new technologies that improve the energy efficiency of the Group's production units and thus reduce the environmental impact of the Group's activities and help to improve that of its customers and partners;
- all the hydrogen production and distribution processes, whether removing the sulfur from hydrocarbons in the refineries or supporting the roll-out of hydrogen energy;
- CO₂ capture and recovery;
- biogas purification for sale in the form of Natural Biogas or as Bio-NGV fuel;
- work on mobile refrigeration with liquid nitrogen for transporting fresh produce.

■ Healthcare:

- research and development on medical gases, in particular for analgesia and in respiratory diseases;
- support for patients through remote-monitoring platforms;
- work on hygiene and disinfection products to fight against nosocomial infections;
- development of ingredients and active ingredients for cosmetics.

Detailed information on these innovative initiatives for our customers and our patients is presented in the "Innovation" section of Chapter 1 of the Reference Document.

3.4.3 CUSTOMERS AT THE HEART OF AIR LIQUIDE'S STRATEGY

Air Liquide contributes to the performance of its customers. The Group is attentive to the satisfaction of its customers and patients and puts action plans in place to continually improve on this satisfaction. The Group enables its industrial customers to carry out their production in a safer, cleaner and more economical manner. It supports them in their national and international development.

Proximity and expertise

Air Liquide serves more than two million customers in 80 countries. These customers come from various sectors such as steel, the food industry, electronics, pharmaceuticals and craftsmen. The Group aims to support its customers by acquiring a deep understanding of their business in order to offer them innovative services and solutions.

The Group's organization enables each entity, in each geographic region, to meet the specific expectations of local customers, building a close relationship with individual customers. Customers demand flexibility, responsiveness, service, availability and a real partnership over the long term. In addition, some international customers require fully coordinated global management services. An organization dedicated to key strategic accounts helps support them and meet their specific needs. The program relies on a team of Key Account Managers, whose task is to develop a thorough knowledge of these customers.

THE CUSTOMER AT THE HEART OF ATTENTION AND ACTION

In an ever more dynamic and competitive environment, Air Liquide focuses its attention on its customers and their satisfaction in order to bring growth to them over the long term. In order to strengthen this priority and continue to make progress in this area, the "Customer Development Group" department is supervised by a member of the Executive Committee. The goal of this team, which is organized in such a way as to cross all business lines, is to ensure that customers are the key focus of the Group's thinking and actions. The "Customer Development Group" is the control center for customer satisfaction measurement and customer experience improvement programs, for managing the Group's strategic accounts, for commercial excellence, and for sharing best practices across regions and the various business lines of the Group.

Customer safety in product use

Air Liquide makes sure that its customers know how to use its products and equipment safely and are aware of the related risks, especially through specific training programs. In addition, the Group constantly updates safety information on its products through product safety data sheets and also responds to requirements of national and international directives (REACH – Registration, Evaluation, Authorisation and Restriction of Chemical substances; GHS – Globally Harmonized System of Classification and Labelling of Chemicals). This information is available in the Air Liquide Gases Encyclopedia, available on the Group's Internet site at the following address: encyclopedia.airliquide.com or using a freely available app.

Dialogue with customers about Sustainable Development

Air Liquide also responds to its customers' growing requirements regarding its sustainable development approach. This enables the Group to contribute to its customers' own sustainable development approach. Over the last five years, in addition to many questions asked at a local level, about a hundred customers have questioned the Group on this subject, including through detailed questionnaires. The Group's

Sustainable Development Department therefore provides support to local entities so that they can respond to this type of customer request.

Moreover, Air Liquide, as a supplier, was assessed in 2016 based on Responsibility and Sustainable Development criteria. The Group scored 67/100, ranking Air Liquide as an "advanced" supplier in terms of sustainable development and in the "gold" category by EcoVadis, the main global rating platform for the social and environmental performance of supply chains. The assessment covered the following subjects: environment, social, business ethics and responsible procurement.

Air Liquide also works with this platform to assess the sustainable development performance of its own suppliers.

From listening to action

The Group carries out surveys to measure customer satisfaction and establishes action plans to continuously improve satisfaction levels. Air Liquide's relationship with industrial customers of very diverse sizes and sectors as well as with healthcare professionals, patients and associations in the Healthcare activities are at the heart of the concerns of the Group's teams and guide the Company's development. The quality of this relationship involves each entity and employee. It is based on the definition of precise commitments that the Group's teams endeavor to respect in their daily activities, in a spirit of professionalism and service.

In a context of a change in its customers' expectations and growing diversity of its customers and patients, the Group has set itself the following objectives:

- ensure customer loyalty over the long term;
- gain the trust of new customers to ensure the Group's growth.

The Group has implemented a customer satisfaction measurement program for all of its World Business Lines around the world. The tool is rolled out at all subsidiaries as part of an on-going improvement in a three-step process:

1. Listening to customers through interviews conducted by specialized companies, along with customer site visits, and measuring the improvement in satisfaction from one satisfaction survey to the next.
2. Creating action plans and getting Group employees involved in areas for improvement as identified through survey analysis and interviews conducted in the field.
3. Implementing action plans: managers are responsible for implementing the action plans and measuring their progress. Some action plans are shared with customers.

In 2016, the percentage of the Group's revenue concerning the units where customer satisfaction surveys and action plans were carried out during the past two years was about 86%.

In 2017, the customer satisfaction measurement program will be upgraded with the launch of the digital platform for collecting customer feedback. This tool will enable all Group subsidiaries to listen to customers even more closely.

A commitment to customers which is bringing results

In the past two years, the 21,000 industrial customer satisfaction surveys conducted in all regions revealed that 93% of industrial customers are satisfied or very satisfied with Air Liquide. Customers particularly appreciated product and service quality, safety, and the behavior and efficiency of teams in contact with them. The somewhat dissatisfied customers are subject to a specific follow-up by teams and specific action plans are implemented in order to improve their satisfaction.

NEOS: a customer-focused transformation

As part of the customer-focused transformation strategy announced within the NEOS program, Air Liquide is increasing its initiatives to offer an exceptional customer experience. For the Group, this means striving to further satisfy customers by strengthening proximity, particularly through digital tools, by guaranteeing operational excellence, and by putting forward ever more innovative proposals. Therefore, in 2016 in Germany, a pilot program was launched within the Industrial Merchant activity. Following the analysis of satisfaction surveys and the organization of collaborative workshops with distributors, customers and employees, areas of improvement were identified. To address these issues, solutions were put forward at various key stages of the customer experience. In two months, two of these solutions were tested on a sample of customers and their satisfaction was measured on-the-spot. This simple and efficient methodology, which relies on collective intelligence, is currently being rolled out in other countries.

Innovation at the service of our customers

At the end of 2016, Air Liquide organized a Hackathon, a 24-hour challenge bringing together start-ups, designers, and developers of digital solutions around problems specific to Air Liquide. Nineteen start-ups took part in this challenge and the winning projects are undergoing incubation by the Group.

Working with start-ups is essential to accelerate our digitization and improve our customer experience.

3.4.4. AIR LIQUIDE AND ITS PATIENTS: PROTECTING VULNERABLE LIVES

Air Liquide provides patients, from the hospital to their home, with medical products, specialty ingredients and services that help to protect vulnerable lives. Vulnerability refers to the fragility of existence. At any stage of our lives, each one of us can become vulnerable, whether temporarily or permanently either as a consequence of age, illness or loss of independence that increases our exposure to this risk. Air Liquide's aim is to be one of the leaders in the healthcare sector by demonstrating its long-term performance and behaving responsibly.

Our current society is faced with many public healthcare challenges:

- an aging population: in the near future, almost a quarter of the population will be over 60 years old;

- the increase in chronic diseases, pandemics and nosocomial infections;
- urbanization and lifestyle changes;
- the evolution of hospitals, which is becoming a social challenge.

To meet these public healthcare challenges, Air Liquide relies on its fundamentals – placing the patient at the heart of its strategy, promoting the growth of the Healthcare activity and its geographic expansion – and the objectives of its NEOS company program.

Air Liquide's areas of expertise

With a long-term vision and in order to provide services all along the continuum of care, Air Liquide, in its role as a benchmark healthcare player, provides products and services in hospitals and in patients' homes in the following areas:

- Home Healthcare;
- Hospital Healthcare;
- Hygiene and
- Specialty Ingredients.

Home Healthcare

Air Liquide's Home Healthcare activity cares for more than 1.4 million patients worldwide in their homes suffering from chronic diseases. These treatments require medical respiratory equipment or nutritional assistance and treatment through perfusion. The human dimension is extremely important in this field because it focuses on having patients and their families accept a treatment which can be long term and constraining.

Air Liquide's employees provide home support to patients suffering from chronic pathologies such as respiratory insufficiency, sleep apnea, diabetes or Parkinson's disease. These multidisciplinary teams of pharmacists, nurses, nutritionists and technicians are dedicated to providing services as cost-effectively as possible. Innovative training and support programs therefore aim to improve the patients' quality of life by helping reinforce treatment follow-up and increasing their autonomy.

The Home Healthcare activity sits at the heart of the healthcare system between the patient, hospital, doctors, nurses, health insurance organizations and pharmacists. Air Liquide supplies the products and medical equipment necessary to start treatment at the patient's home, following the medical prescription, and trains the patients and their families in the proper use of devices. Air Liquide, therefore, makes a major contribution to the care chain by ensuring patients' follow-up care at home. This activity demands high quality service on a daily basis and is focused on the long term, with all the caregivers dedicated to improving the patient's quality of life at home.

In 2016, Air Liquide opened EXPLOR! in Gentilly (France), a new center of expertise dedicated to home healthcare. This center brings together a wide range of activities under one roof with three main objectives: expertise, assessment and exchange. It also provides the scientific community with a place to foster dialogue. The center mainly focuses on fields, such as perfusion and breathing – including sleep disorders and oxygen therapy. Experts, who publish the results of their work in scientific journals, also train Air Liquide's Home Healthcare employees to use the various medical apparatus and equipment.

Hospital care

Air Liquide is one of the world leaders in medical gas production and distribution for hospitals and related services. The Group supplies medical oxygen for emergency wards operating theaters and intensive care units. Air Liquide aims to help the professionals to care for their patients by facing the constantly arising challenges in the healthcare environment, by supplying medical gases, expertise, and innovative solutions. For example, the Group supplies medical oxygen for operating theaters and intensive care units. Air Liquide has developed a global solution bringing together the gas and medical equipment, and services to provide care for pulmonary arterial hypertension. It also provides a medical gas for pain relief, used in some countries during childbirth and for procedures carried out at dental surgeries. Air Liquide also offers services for example "Total Gas Management" (TGM) which remains permanently at the hospital in order to optimize the supply of medical gases and to monitor the different supply parameters. Air Liquide supports the transformation of hospital care and the development of outpatient care with a significant presence in the urban medical sector and care centers.

Hygiene

According to the World Health Organization (WHO), 5 to 10% of people hospitalized in advanced economies contract a nosocomial infection, and this proportion can exceed 25% in some developing economies^(a). This is a major public health issue, often caused by pathogenic multi-drug resistant bacteria. Prevention and hygiene help to reduce these risks. With its subsidiary Schülke, a specialist in hygiene and hospital disinfection, Air Liquide is developing an offer particularly dedicated to hospital healthcare, which will contribute to the fight against nosocomial infections and ensure the safety of patients and medical staff. The Group supplies disinfectants for hospitals, medical instruments and hand-cleansing for medical staff. It also supplies skin cleansers for pre-operative preparation for patients and antiseptics for wound-healing.

In 2016, Air Liquide announced the acquisition of Vic Pharma by its subsidiary Schülke. Founded in 1990, Vic Pharma, the second largest independent player in the Brazilian hygiene market, has more than 100 employees. It offers a broad range of hygiene products for disinfecting surfaces, instruments and medical devices, as well as antiseptic solutions for pre- or post-operative care. Through this acquisition, Air Liquide has strengthened its Healthcare position in South America.

Air Liquide currently supplies more than 15,000 hospitals and clinics worldwide with these products and services.

Specialty ingredients

As an Air Liquide Healthcare company, for over 70 years SEPPIC has created and supplied innovative specialty ingredients for the healthcare and beauty markets, in particular excipients and active ingredients for the cosmetics, pharmaceutical, and nutraceutical markets.

Air Liquide announced in 2016 that its subsidiaries Seppic and Schülke had laid the cornerstone for an ultra-modern production site in Sandston, Virginia in the United States. The commissioning of this new unit is scheduled for the first half of 2018. This new site will produce ingredients for the global cosmetics and pharmaceuticals industry. Specialty ingredients for cosmetics represent a market of more than 10 billion dollars worldwide, of which 25% in the United States. This production unit will allow the two companies to strengthen their proximity with their US customers. It will be managed by Polykon Manufacturing, a joint-venture between SEPPIC and Schülke. The resulting synergies will help to create value added in their fields of expertise and also meet the growing needs of these markets in terms of innovation.

Partnership with patient associations

Since 2011, the Group's Healthcare World Business Line has worked in partnership with the EFA (European Federation of Allergy and Airways Diseases Patients' Associations). This Brussels-based European organization brings together the national associations of patients with respiratory ailments, with 22 countries represented. In the framework of this partnership, Air Liquide supports the actions on information and raising awareness initiated by the EFA in public opinion and the European authorities.

Through its partnership with the EFA, Air Liquide also contributed to a publication establishing care standards for patients with COPD, incorporating the patients' point of view and distributing the publication to the European Commission and healthcare professionals. Air Liquide has also supported a study on patients with portable oxygen concentrators wishing to travel by air in Europe.

(a) WHO. Background to Clean Care is Safer Care. <http://www.who.int/gpsc/background/en/>.

Specific indicators for the Home Healthcare activity linked to the issue of socially responsible bonds

In 2012, Air Liquide issued its first SRI-labeled bond^(a) under its Euro Medium Term Notes (EMTN) program, for a total amount of 500 million euros. This bond was mostly placed with investors having SRI management mandates and permitted the Group to diversify its financing sources. After numerous public authorities and supranational issuers, Air Liquide became the first company in the world to issue

bonds meeting the criteria of SRI investors. Obtaining a rating from the extra-financial rating agency Vigeo about the Home Healthcare activity led to this issue being given an SRI label. This evaluation is based on the social, environmental and governance criteria of the Home Healthcare activity that concerns more than 1.4 million patients worldwide.

In the framework of this SRI bond issue, Air Liquide made a commitment to publishing during the life of these bonds, i.e., nine years, indicators specific to the Home Healthcare activity in the area of the environment, safety and employee diversity.

Number of patients treated	2012	2013	2014	2015	2016
Total number of patients treated by the Air Liquide Home Healthcare Division	1,000,000	1,100,000	1,200,000	1,300,000	1,400,000
Group employees					
Home Healthcare activity employees ^(a)	7,303	7,748	8,183	9,112	9,492
Safety					
Number of lost-time accidents of at least one day among employees ^(b)	42 ^(b)	77 ^(b)	62 ^(b)	79 ^(b)	63 ^(b)
Number of accidents of subcontractors and temporary workers ^(c)	10 ^(b)	13 ^(b)	9 ^(b)	16 ^(b)	21 ^(d)
Equality					
% of women among managers and professionals	55%	56%	58%	58%	57%
% of women among managers and professionals hired during the year	40%	70%	56%	58%	62%
Training					
Average number of days of training per employee, per year	1.6	2	2	1.6	2.1 ^(e)
Kilometers driven and CO₂ emissions related to transportation					
Kilometers driven per patient monitored per year	155	147	124	123	131
CO ₂ emissions related to transportation per patient (kgCO ₂ /patient) per year	39	35	29	30	29

(a) Employees under contract, excluding temporary employees.

(b) No fatal work accidents.

(c) Personnel working under an Air Liquide contract at a Group site, or at a customer site, or as a delivery vehicle driver.

(d) Fatal accident (road accident).

(e) 16 hours a year according to counting in hours (base: 1 day = 7.5 hrs).

Digital technology serving Public Healthcare

In 2016, Air Liquide Healthcare created a digital information platform entirely dedicated to sleep apnea, a pathology which is often overlooked by the general public and of which little is known among patients. Sleep apnea is a pathology characterized by short and repetitive pauses of breathing during sleep. This syndrome affects the patient's quality of life and can trigger serious side effects including major cardiovascular disorders. This syndrome affects 1% to 6% of the global adult population; however only one in five people are currently diagnosed and therefore monitored.

Present for more than 20 years as an expert in the treatment of this illness, in September 2015 Air Liquide Healthcare launched the

<http://www.all-about-sleep-apnea.com> website aimed at raising awareness and providing information to the general public and patients by providing accounts from healthcare professionals. This educational website includes short and informative articles on the subject of sleep apnea syndrome. This platform currently exists in French and English, but will soon be available in other languages. Meanwhile of the website, Air Liquide has developed a mobile app and a Twitter account.

This approach highlights one of the NEOS company program guidelines which involves becoming more connected with stakeholders and, in this case, using digital solutions. By using new digital tools, Air Liquide Healthcare plays a key role in bringing the Group closer to the general public and its patients.

(a) Socially Responsible Investment: application of sustainable development principles to investment. Approach consisting in systematically considering the three dimensions – environment, social/societal, governance – in addition to the usual financial criteria.

3.5. Relationships with the public sphere

Socio-economic changes in recent decades, such as the development of the digital economy (Big Data, the Cloud, the Internet of Things), the necessary energy transition (greenhouse gas emissions, energy efficiency, renewable energy sources, clean mobility) and finally health challenges (home healthcare, chronic diseases) are all strategic priorities for Air Liquide.

Air Liquide has formalized a "Public Affairs" policy governing the Group's interactions with public authorities worldwide and more generally the national, regional and international public sphere (institutions, professional bodies, non-governmental organizations (NGOs), think tanks, etc.) to develop growth opportunities for the Group, reduce risks relating to regulatory changes, and more generally make the Group an active player in public debate.

This policy specifies that Air Liquide work with the public authorities of each country in which it does business, constructively and in a transparent manner, following ethical rules and applying political neutrality. All the Group's actions respect the official lobbying regulations in force in the countries in which it is present. Air Liquide is thus registered in the "Transparency Register" of European institutions and has committed to following the rules enacted by this register's Code of Conduct.

Managers specialized in public affairs have been appointed in the principal countries, comprising a network of around 20 people worldwide, coordinated at Group level by the European and International Affairs Division. The coordination and operation of this network allows the Group to work together on the definition of joint positions on cross-divisional challenges such as the circular economy, energy transition and innovation, and to share information on changes to social challenges in different parts of the world. This coordination also relies on close internal cooperation with the Group's thematic experts which ensures the sharing of relevant information, a closer analysis of impacts and technical support during interactions with the public sphere.

The tasks of these managers are to follow public initiatives that may have an impact on the Group and to interact with the public authorities to defend or promote Air Liquide's interests. Air Liquide's Public Affairs policy aims to establish and develop constructive and sustainable

relationships with public authorities and professional bodies which represent the sectors in which the Group operates. This includes political leaders (members of government, parliament), public institutions (administrations and public bodies), but also other players such as non-governmental organizations and think tanks. These interactions can take place either directly or through national or international associations of professional bodies such as the European Roundtable of Industrialists, currently chaired by Air Liquide's Chairman & CEO, Benoît Potier. The Group also calls on outside consultants to support its actions.

Public affairs cover all the Group's activities. The priorities in this area form part of a long-term process:

- the competitiveness of companies at worldwide level;
- air quality as a key public health challenge;
- energy transition and the environment with the boom in alternative energies (hydrogen energy, biogases, photovoltaic, wind turbines, etc.), their applications in particular in terms of mobility and energy efficiency;
- the carbon market with changes in European regulations and the development of regional markets in North America and Asia Pacific;
- the opportunities and risks relating to the digitalization of the economy;
- the defense of Air Liquide's shareholding model;
- at the European level, space exploration;
- the defense of intellectual property and the launch of the European unitary patent and of the Unified Patent Court;
- extra-financial reporting challenges.

In relation to fiscal matters, Air Liquide is particularly attentive to paying taxes in the countries where the Group is present and to the desire for good relations with the different local tax authorities.

➤ REPORTING METHODOLOGY

Protocol and definitions

In the absence of a relevant and recognized protocol for industrial gas operations, Air Liquide has created its own protocol to define its reporting methods for Human Resources, safety and environmental indicators. This protocol includes all the definitions, measurement procedures and collection methods for this information. In line with the Group's commitment to continuous improvement, Air Liquide is progressively completing the work of adjusting to its sustainable development indicators protocol to reflect changes in the Group.

This protocol is based on the general principles defined by the Group with regard to scope, responsibilities, controls and limits, and establishes definitions, the departmental responsibilities, tools and data-tracing methods for each indicator. This document is regularly updated. Moreover, this protocol takes into account all the Group's formalized procedures in the framework of the IMS (Industrial Management System) and the global protocol for Group Policies, Codes and Procedures called the BLUEBOOK.

Scope and consolidation methods

Human Resources and environmental indicators are consolidated worldwide for all companies integrated within the financial consolidation scope. Entities accounted for by the equity method.

Safety indicators are consolidated worldwide for all companies in which Air Liquide has operational control or is responsible for safety management.

Apart from these general rules, there are certain specific ones:

- information on the impact of transportation (kilometers traveled by delivery trucks, CO₂ emitted) is calculated on the basis of data collected in the main countries where the Group is established around the world;
- information on kilometers saved and CO₂ emissions avoided through on-site air gas production units and efficiency measures pertains to fully-consolidated subsidiaries;
- environmental and energy indicators for the main types of production units operated by the Group cover about 99% of the Group's Gas & Services revenue, and 98% of the Group's total revenue;
- for environmental and energy indicators, production units are included in the reporting system from the effective date of their industrial commissioning;
- electricity consumption, and the indirect CO₂ emissions related to it, are only taken into account when Air Liquide pays for this electricity. Energy consumption of on-site units, as well as water consumption specific to the sale of treated water (which is not part of the Group's core business) are excluded from the consolidation scope of the data. When the Group has cogeneration units in a country where ASUs are available, the indirect emissions from the electricity of these units are not taken into account;
- the segmentation between advanced economies and developing economies used for direct and indirect greenhouse gas emissions is the same as that used by the Finance Division.

Reporting and responsibilities

The Human Resources, safety and environmental indicators are produced by several data-collection systems in the Group, each under the responsibility of a specific department:

- Human Resources indicators included in the Group's general accounting consolidation tool fall under the responsibility of the Human Resources Department;

- the energy consumption and CO₂ emissions indicators for the main air separation units, and cogeneration, hydrogen and carbon monoxide units are tracked by the Large Industries business line using a dedicated Intranet tool;
- as a complement, environmental and safety reporting is carried out by the Safety and Industrial Management System Department using a dedicated Intranet tool, and includes:
 - for all units, the data of the Group's accident reporting,
 - for the units of the Large Industries business line, other environmental indicators (atmospheric emissions, water consumption, discharge to water, etc.),
 - for the smaller units (acetylene, nitrous oxide, carbon dioxide units and Hygiene and Specialty Ingredients activities), the Engineering & Construction business units, the Research & Development sites and the Technical Centers, all indicators (energy use, atmospheric emissions, water consumption, discharge to water, etc.);
- indicators on Industrial Merchant transportation are the responsibility of this business line;
- indicators on the transportation of Medical Gases and Home Healthcare are the responsibility of the Healthcare business line;
- the estimate of the percentage of the Group's revenue with respect to the implementation of the Industrial Management System (IMS), as well as ISO9001, ISO14001 and OHSAS18001 are indicators under the responsibility of the Safety and Industrial System Department;
- among the subjects covered by the French "Grenelle 2" law, soil pollution and the consideration of noise pollution are not relevant for the Industrial Gas business, given the size of the Group's sites and the noise levels generated. They are therefore not mentioned in this report.

Controls

Each department in charge of collecting data is responsible for the indicators provided. Control occurs at the time of consolidation (review of changes, inter-entity comparisons).

Safety and energy indicators are tracked monthly. In addition, audits of environmental data are carried out by the Safety and Industrial System Department on a sample of sites representative of the various types of units monitored. Where the data reported are inconsistent or missing, an estimated value may be used by default.

Methodological limits

The methodologies used for certain Human Resources, safety and environmental indicators can have certain limits due to:

- the absence of nationally or internationally recognized definitions, in particular for indicators on managers and professionals and social performance indicators;
- the representativeness of the measurements taken and required estimates. This is particularly the case for indicators regarding CO₂ emissions avoided, water consumption, kilometers avoided per on-site unit, and training.

► INDEPENDENT VERIFIER'S REPORT

Independent verifier's report on the consolidated social, environmental and societal information presented in the management report

This is a free translation into English of the original report issued in the French language and it is provided solely for the convenience of English-speaking users. This report should be read in conjunction with, and construed in accordance with, French law and professional standards applicable in France.

To the Shareholders,

In our quality as independent verifier of L'Air Liquide of which the admissibility of the application for accreditation has been accepted by the COFRAC, under the number n° 3-1050^(a), we present our report on the consolidated social, environmental and societal information established for the year ended December 31, 2016, presented in the chapter "Corporate Social Responsibility and Sustainable Development Report" of the management report, hereafter referred to as the "CSR Information," pursuant to the provisions of article L. 225-102-1 of the French Commercial Code (*Code de commerce*).

RESPONSIBILITY OF THE COMPANY

It is the responsibility of the Board of Directors to establish a management report including CSR Information referred to in article R. 225-105-1 of the French Commercial Code (*Code de commerce*), in accordance with the protocols used by the company (hereafter referred to as the "Criteria"), mainly composed of BLUEBOOK protocols, supported by the procedures defined in the Industrial Management System which were applicable in 2016, and of which a summary is included in the chapter "Reporting methodology" of the management report and available on request.

INDEPENDENCE AND QUALITY CONTROL

Our independence is defined by regulatory requirements, the Code of Ethics of our profession as well as the provisions of article L. 822-11 of the French Commercial Code (*Code de commerce*). In addition, we have implemented a quality control system, including documented policies and procedures to ensure compliance with ethical standards, professional standards and applicable laws and regulations.

RESPONSIBILITY OF INDEPENDENT VERIFIER

It is our role, based on our work:

- to attest whether the required CSR Information is present in the management report or, in the case of its omission, that an appropriate explanation has been provided, in accordance with the third paragraph of article R. 225-105 of the French Commercial Code (*Code de commerce*) (Attestation of presence of CSR Information);
- to express a limited assurance conclusion, that the CSR Information, overall, is fairly presented, in all material aspects, in accordance with the Criteria (Limited assurance on CSR Information).

Our verification work was undertaken by a team of six people between October 2016 and February 2017 for an estimated duration of fifteen weeks.

We conducted the work described below in accordance with professional standards applicable in France and the Order of May 13, 2013 determining the conditions under which an independent third-party verifier conducts its mission, and in relation to the opinion of fairness, in accordance with the international standard ISAE 3000.^(b).

(a) Scope available at www.cofrac.fr

(b) ISAE 3000 – Assurance engagements other than audits or reviews of historical information

1. Attestation of presence of CSR Information

NATURE AND SCOPE OF THE WORK

We obtained an understanding of the company's CSR issues, based on interviews with the management of relevant departments, a presentation of the company's strategy on sustainable development based on the social and environmental consequences linked to the activities of the company and its societal commitments, as well as, where appropriate, resulting actions or programs.

We have compared the CSR Information presented in the management report with the list as provided for in article R. 225-105-1 of the French Commercial Code (*Code de commerce*).

In the absence of certain consolidated information, we have verified that the explanations were provided in accordance with the provisions of article R. 225-105-1, paragraph 3, of the French Commercial Code (*Code de commerce*).

We verified that the CSR Information covers the consolidated perimeter, namely the entity and its subsidiaries, as aligned with the meaning of article L. 233-1 of the French Commercial Code (*Code de commerce*) and the entities which it controls, as aligned with the meaning of article L.233-3 of the same Code, with the limitations related to the progressive inclusion of Airgas, specified in each of the chapters concerned.

CONCLUSION

Based on this work, and given the limitations mentioned above, we confirm the presence in the management report of the required CSR information.

2. Limited assurance on CSR Information

NATURE AND SCOPE OF THE WORK

We undertook more than ten interviews with people responsible for the preparation of the CSR Information in the departments in charge of the data collection process and, if applicable, the people responsible for internal control processes and risk management, in order to:

- Assess the suitability of the Criteria for reporting, in relation to their relevance, completeness, reliability, neutrality, and understandability, taking into consideration, if relevant, industry standards;
- Verify the implementation of the process for the collection, compilation, processing and control for completeness and consistency of the CSR Information and identify the procedures for internal control and risk management related to the preparation of the CSR Information.

We determined the nature and extent of our tests and inspections based on the nature and importance of the CSR Information, in relation to the characteristics of the Company, its social and environmental issues, its strategy in relation to sustainable development and industry best practices.



For the CSR Information which we deemed to be the most important^(a):

- At the level of the consolidating entity and business lines, we consulted documentary sources and conducted interviews to corroborate the qualitative information (organization, policies, actions, etc.), we implemented analytical procedures on the quantitative information and verified, on a test basis, the calculations and the compilation of the information, and also verified their coherence and consistency with the other information presented in the management report.
- At the level of the representative selection of entities and sites that we selected^(b), based on their activity, their contribution to the consolidated indicators, their location and a risk analysis, we undertook interviews to verify the correct application of the procedures and undertook detailed tests on the basis of samples, consisting in verifying the calculations made and linking them with supporting documentation. The sample selected therefore represented on average 20% of the energy consumption (thermal and electric), and 18% of Group employees, that were considered as representative characteristics of the environmental and social domains.

For the other consolidated CSR information, we assessed their consistency in relation to our knowledge of the company.

Finally, we assessed the relevance of provided explanations related to, if appropriate, the partial or total absence of certain information, by taking into account, if appropriate, good professional practice.

We consider that the sample methods and sizes of the samples that we considered by exercising our professional judgment allow us to express a limited assurance conclusion; an assurance of a higher level would have required more extensive verification work. Due to the necessary use of sampling techniques and other limitations inherent in the functioning of any information and internal control system, the risk of non-detection of a significant anomaly in the CSR Information cannot be entirely eliminated.

CONCLUSION

Based on our work, we have not identified any significant misstatement that causes us to believe that the CSR Information, taken together, has been fairly presented, in compliance with the Criteria.

Paris-La Défense, 3rd of March 2017

The independent verifier

ERNST & YOUNG et Associés

Eric Duvaud – Sustainable Development – Partner

Bruno Perrin – Partner

(a) Environmental and societal information:

- Indicators (quantitative information): Annual electricity (GWh) and thermal energy consumptions (TJ PCI), evolution of energy consumption per m³ of air gas produced and per m³ of hydrogen produced (base 100 in 2007), evolution of the distance traveled per ton of industrial gas delivered as liquid (oxygen, nitrogen, carbon monoxide, base 100 in 2007), direct & indirect greenhouse gas (GHG) emissions (scopes 1&2, in MtCO₂), estimation of the annual water consumption (Mm³).

- Qualitative information: General environmental policy (management of the industrial system and certification), sustainable use of resources (energy consumption, measures undertaken to improve energy efficiency), water supply considering local constraints, economic and social territorial impacts (impact on regional and local populations especially regarding homecare activities) measures taken in favor of consumer health and safety, relation with stakeholders (activities related to life and environment), climate change (the most significant greenhouse gas emissions generated as a result of the company's activity, in particular the use of the goods and services it produces).

Social information:

- Indicators (quantitative information): Headcount (Nb), recruitments and departures (% headcount), rate of women within the managers and professionals population (present and hired %), rate of employees having attended at least a training session during the year (%) and number of days of training per employee per year, rate of performance appraisals performed by managers during the year (%), accident frequency rate of the group employee.

- Qualitative information: health and safety at the work place, training policies, diversity and equality of treatment and opportunities (The measures taken on gender equality, the employment and integration of disabled people, the fight against discrimination).

(b) Environmental indicators: Air separation units and conditioning site of industrial merchant of Dabrowa Gornicza (Poland), the air separation units of the air gases network managed by OCC Houston (Bayport – Gulf Coast pipeline) in the USA, the hydrogen units of Yanbu 1&2 (Saudi Arabia) and Bayport in the USA, cogeneration units of Bayport (USA). Follow-up audits of the air separation units of Rizhao and Huailan (China).

Safety & Social indicators: On-site audits of AL Canada, AL Advanced Materials (New Jersey, USA), ALKAT (Poland), AL Khafrah Industrial Gases (Saudi Arabia), AL Advanced Technologies and Orkyn (France). Follow-up audits of large industries AL China and AL Morocco.

APPENDIX

Link between Air Liquide's Sustainable Development indicators and the indicators of the Global Reporting Initiative (GRI)^(a)

Air Liquide indicators	GRI indicators
Human Resources	
Group employees	G4-LA1
Distribution of employees by geographic area	G4-LA1
Turnover of employees (leaving the Group)	G4-LA1
Retention rate of managers and professionals	G4-LA1
% of women in the Group	G4-LA12
% of women among managers and professionals	G4-LA12
Average number of days of training per employee, per year	G4-LA9
% of employees who have had a performance review meeting with their direct supervisor during the year	G4-LA11
Diversity indicator (number of nationalities)	G4-LA12
Safety	
Number of lost-time accidents of Group employees	G4-LA6
Accident frequency of Group employees	G4-LA6
Number of lost-time accidents of subcontractors and temporary workers	G4-LA6
Energy and environment	
Total annual electricity consumption	G4-EN3/EN4
Total annual thermal energy consumption	G4-EN3/EN4
Evolution of energy consumption per m ³ of air gas produced (ASU)	G4-EN5
Evolution of energy consumption per m ³ of hydrogen produced (HyCO)	G4-EN5
Evolution of the distance traveled per ton of gas delivered	G4-EN30
Total annual water consumption	G4-EN8
Total direct greenhouse gas emissions	G4-EN15
Total indirect greenhouse gas emissions	G4-EN16
Total direct and indirect greenhouse gas emissions	G4-EN15/EN16
Consumption of materials (calcium carbide, ammonium nitrate, raw materials for the Welding business)	G4-EN1
Emissions into the atmosphere (NO _x)	G4-EN21
Emissions into the atmosphere (SO _x)	G4-EN21
GHG emissions avoided in Air Liquide operations and at customers' facilities	G4-EN19
Estimate of emissions into the atmosphere (VOCs)	G4-EN21
Discharge to water (oxidizable matter, suspended solids)	G4-EN22
Total mass of waste by type and waste treatment	G4-EN23
Transportation	
Estimate of CO ₂ emissions generated by truck delivery	G4-EN30
Estimate of CO ₂ emissions avoided through on-site units	G4-EN19
Social	
% of employees belonging to a unit with a local Code of Conduct	G4-SO3
Responsibility	
% of Group sales concerning entities where a customer or patient satisfaction survey has been conducted	G4-PR5

(a) Global Reporting Initiative (GRI): an independent body that designs and promotes guidelines aimed at improving the quality, stringency and usefulness of reporting on economic, environmental and social performance.



2016 SUSTAINABLE DEVELOPMENT REPORT

Appendix



3

CORPORATE GOVERNANCE

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► MANAGEMENT AND CONTROL

Board of Directors as of December 31, 2016

DIRECTORS CURRENTLY IN OFFICE

Changes in 2016

Members of the Board	Appointment	Renewal	Nationality	Age ^(a)	Gender	Year of first appointment	Years of service on the Board ^(a)
Benoît POTIER Chairman and Chief Executive Officer			French	59	M	2000	12
Thierry DESMAREST Lead Director			French	71	M	1999	17
Pierre DUFOUR Senior Executive Vice President	May 12, 2016		Canadian	61	M	2012	4
Jean-Paul AGON			French	60	M	2010	6
Geneviève BERGER			French	61	F	2015	1
Philippe DUBRULLE Director representing the employees			French	44	M	2014	2
Brian GILVARY	May 12, 2016		British	54	M	2016	7 months
Siân HERBERT-JONES			British	56	F	2011	5
Karen KATEN	May 12, 2016		American	67	F	2008	8
Sin Leng LOW			Singaporean	64	F	2014	2
Thierry PEUGEOT			French	59	M	2005	11
Annette WINKLER			German	57	F	2014	2

(a) Number of full years of service as of December 31, 2016. The term of office of Mr Benoît Potier as President of the Management Board (2001-2006) is not taken into account.

(b) Independent Director within the meaning of the Board of Directors' internal regulations. For information regarding independence criteria, please refer to this Reference Document – page 130.

(c) In accordance with the recommendation of the AFEP/MEDEF Code.

(d) Expiration of term at the end of the Shareholders' Meeting of May 3, 2017, in compliance with the internal regulations of the Board of Directors.

(e) Renewal of term proposed to the Shareholders' Meeting of May 3, 2017.

CENTRAL WORKS COUNCIL DELEGATES

Joël PIERRET Central Works council delegate
Patrick RECOURT Central Works council delegate

APPOINTMENT PROPOSED TO THE ANNUAL GENERAL MEETING OF MAY 3, 2017

Xavier HUILLARD

End of current term	Independent Director ^(b)	Board Committees			Number of directorships in listed companies ^(c)	Experience and expertise
		Audit and Accounts Committee	Nomination and Governance Committee	Remuneration Committee		
2018	No				1	Chairman and Chief Executive Officer
2017 ^(d)	Yes		President	Member	1	Executive Officer of a large international company and knowledge of important markets for the Air Liquide Group (oil and chemicals)
2020	No				1	Senior Executive Vice President
2018	Yes		Member	President	1	Executive Officer of an international corporation with an understanding of consumer products markets
2019	Yes				1	Expertise in hospital, health and research
2018	No				0	Knowledge of the Air Liquide Group and its activities as an employee
2020	Yes				1	Knowledge of the oil and gas industry, financial expertise, as well as the global vision of a large international group
2019	Yes	President			2	Finance and knowledge of the Service sector in an international listed company
2020	Yes		Member		1	Managerial experience within a large pharmaceutical group and knowledge of the health sector particularly in North America and the rest of the world
2018	Yes	Member			0	Management of industrial activities and knowledge of the Asian markets
2017 ^(e)	Yes	Member			1	Management experience within a large company in the automotive sector
2018	Yes			Member	0	Senior Management of a division of a large German industrial group with an international reach in the automotive sector

Executive Management and Executive Committee as of December 31, 2016

Benoît Potier Chairman and Chief Executive Officer ^(a) Born in 1957 – French	Fabienne Lecorvaisier Vice President, Chief Financial Officer Finance, Operations Control, Diving, Welding Born in 1962 – French
Pierre Dufour Senior Executive Vice President ^(a) Chairman of the Board of Airgas (since May 2016), Integration Airgas, Engineering & Construction, Chief Executive Officer of ALGMS, Large Industries World Business Line Born in 1955 – Canadian	Kwong Weng Mok Vice President, Deputy Head of Asia Born in 1953 – Singaporean
François Darchis Senior Vice President Strategy, IDST (Innovation, Digital, Science, Technologies), Information Technologies, Industrial Merchant World Business Line Born in 1956 – French	François Abrial Vice President Group Human Resources Born in 1962 – French
Jean-Marc de Royere Senior Vice President International, Governance, Corporate Social Responsibility Born in 1965 – French	Pascal Vinet Vice President Chief Executive Officer of Airgas (since July 2016) Born in 1962 – French
Michael J. Graff Senior Vice President Houston hub Executive Vice President, Vice-Chairman of the Board of Airgas (since May 2016), supervising Electronic World Business Line, Safety and Industrial systems Born in 1955 – American	François Jackow Vice President Supervising the Dubaï hub, Healthcare, Healthcare World Business Line, Customers Born in 1969 – French
Guy Salzgeber Senior Vice President Europe Industries Frankfurt hub Executive Vice President, Group Procurement Born in 1958 – French	François Venet Vice President Shanghai hub Executive Vice President Born in 1962 – French

(a) Within the meaning of the French Commercial Code.

Mr Jean-Pierre Duprieu ceased to be Executive Vice President on August 31, 2016 and Mr Augustin de Roubin left his position as Vice President South America on May 31, 2016, to exercise their rights to retirement.

► REPORT FROM THE CHAIRMAN OF THE BOARD OF DIRECTORS (prepared pursuant to article L. 225-37, paragraphs 6-9, of the French Commercial Code)

This Report has been prepared by the Chairman of the Board of Directors. For the section relating to the composition, preparation and organization of the work of the Board of Directors, it has been drawn up on the basis of contributions by several of the Company's Corporate Functional Divisions, and in particular the Legal and Financial Departments. Upon the recommendation of the Appointments and Governance Committee, it was approved by the Board of Directors on February 14, 2017.

Composition, preparation and organization of the work of the Board of Directors

As of December 31, 2016, the Board of Directors comprises 12 members: 11 members appointed by the Annual Shareholders' Meeting, including six foreign members (British, American, Canadian, German and Singaporean) and five women (representing 45%); and one Director representing the employees appointed by the France Group Committee. A Director's term of office is four years. Expiry dates of terms of office are staggered. In May 2017, at the close of the Shareholders' Meeting, subject to the approval of the proposed resolutions, the Board of Directors will comprise 12 members and the structure of the composition indicated above will remain unchanged.

CODE OF CORPORATE GOVERNANCE

The Board of Directors confirmed that, in keeping with the Group's previous practices, the AFEP/MEDEF Code of corporate governance for listed companies is the code to which the Company voluntarily refers. This Code, as last updated in November 2016, is available on the website <http://www.afep.com/contenu/focus/code-de-gouvernement-d-entreprise-des-societes-cotees>

At the meeting in January 2017, the Appointments and Governance Committee and the Remuneration Committee reviewed the Company's current practices with regard to the provisions of the AFEP/MEDEF Code of corporate governance as amended in November 2016 and interpreted by the application guide for the AFEP/MEDEF Code published by the Haut Comité de gouvernement d'entreprise (French High Committee on Corporate Governance) (December 2016). Following this review, it was noted that the Company was in compliance with almost all its provisions and that the deviations with regard to the provisions of the Code had decreased. These Committees also reviewed the AMF Report on corporate governance and executive compensation dated November 17, 2016.

Pursuant to article L. 225-37 of the French Commercial Code, those provisions of the aforementioned code that are currently not applied and the reasons for this are stated in this Report. A summary is presented in table format on page 145.

The principles governing the professional ethics of Directors, the composition, the role and the rules of operation of the Board and its Committees are defined in the internal regulations. The text of the internal regulations is published in its entirety on the Company's website.

COMPOSITION OF THE BOARD OF DIRECTORS

The internal regulations stipulate that:

"Members are chosen for their skills, their integrity, their independence of mind and their determination to take into account the interests of all shareholders."

"The composition of the Board of Directors, with regard to its members appointed by the Annual Shareholders' Meeting upon the proposal of the Board of Directors, shall reflect diversity and complementarity of experience, nationalities and cultures, including a significant number of executive managers or former executive managers; the Board of Directors shall look for persons possessing skills in the following areas: marketing, services, industry, finance, health, research and technology."

The internal regulations include guidelines, although not written in stone, for the Board's composition, particularly in terms of the number of Directors appointed by the Shareholders' Meeting (normally between 10 and 12), the balance between (former) executive managers and external members, the duration of the terms of office (four years, principle of staggering of renewals, the proportion of members appointed by the Shareholders' Meeting in office for more than 12 years cannot exceed one-third), age or the proportion of members who qualify as independent, thus aiming to comply with the recommended principles in terms of good corporate governance practices. Since 2014, a Director representing the employees appointed by the France Group Committee has served on the Board. In accordance with the AFEP/MEDEF Code, the internal regulations provide for a limit of four other terms of office in French or foreign listed companies for non-executive Directors and two other terms of office for the executive Directors. Moreover, an obligation to provide information on the terms of office held in other companies, including their participation on the Board Committees of such companies, is provided for non-executive Directors; an obligation of asking for the opinion of the Board of Directors (which makes a decision on the recommendation of the Appointments and Governance Committee) before accepting a new corporate office in a listed company is also provided for the Company's Executive Officers.

INDEPENDENCE OF BOARD MEMBERS

Based on the full definition of independence set out in the AFEP/MEDEF Code of corporate governance, the internal regulations define the criteria applied within the Company to assess the **independence** of Board members.

"A member of the Board of Directors is independent when he/she has no relationship of any kind with the Company, its Group or its management which may interfere with his/her freedom to exercise his/her judgment.

In this spirit, the criteria which may provide guidance to the Board in order to classify a member as independent will be as follows:

- he/she is not and has never been an employee or member of the Executive Management of the Company;
- he/she does not hold office as Chairman, Chief Executive Officer, Chairman or member of the Management Board of a company in which the Chairman of the Board of Directors, the Chief Executive Officer or a Senior Executive Vice President of Air Liquide is a Director or member of the Supervisory Board;
- he/she must not have any business relations with the Air Liquide Group which represent a significant part of the business activities (i) of the Company of which the Director is a member of the Executive Management or (ii) of Air Liquide;
- he/she does not have any close family links with the Chief Executive Officer or a Senior Executive Vice President;
- he/she must not have been an auditor of the Company during the previous five years."

The criteria used are very largely based on the aforementioned AFEP/MEDEF Code of corporate governance. However, the Board did not consider that terms of office exceeding 12 years disqualify the member concerned from being independent. Highly capital-intensive investment projects within the scope of long-term contracts, with a typical length of 15 years, but which can sometimes be as long as 20 or 30 years, are at the heart of the industrial gases business. Experience acquired on the Board over time therefore allows a Director to follow the Group's development cycle in the long term and accordingly make an informed,

critical judgment on the investment decisions to be made to ensure future growth. The Group, is however committed to compliance with best governance practices. With this in mind, the Board decided to make changes to its rules at the time of renewal of the term of office of the next Director concerned.

Conversely, the Board considered that former employees or Senior Management Executives of the Company may not be considered as independent even if their duties ended more than five years ago.

An assessment of the independence of its members appointed by the Shareholders' Meeting is included on the agenda for a Board meeting once a year. To support its analysis, the Board uses a chart summarizing the purchases and sales implemented during the previous year between companies of the Air Liquide Group and companies of groups within which an Air Liquide Director appointed by the Shareholders' Meeting (or proposed Director) also exercises a term of office or executive role. Such figures are weighted against the total purchases and sales of each group to measure their significance. For fiscal year 2016, such chart shows that the sales of the Air Liquide Group to any of the groups concerned or the purchases of the Air Liquide Group from any of these groups do not exceed 0.3% of the overall sales or purchases of the Air Liquide Group or any of the groups concerned. From a more qualitative standpoint, it was also noted that neither Air Liquide nor the groups concerned have a relationship of economic independence or exclusivity, as they are large international groups with highly diversified activities. It is asserted that, in light of the highly decentralized organization of the Air Liquide Group, its size, the diversity of its businesses that mostly have a very local dimension and its large geographical presence, the Directors concerned do not become involved in business relationships which are entirely conducted within the Air Liquide Group, by the managers of the hubs, the Clusters and the countries concerned. After a review of each individual situation, the Board concluded that no Director has (or will have) a direct or indirect decision-making power in the contractual negotiations leading to the flows of business mentioned. If this is not the case, it would be up to him or her to report the conflict of interest situation to the Board. This point would then be addressed in accordance with the rules of ethics provided for by the internal regulations.

After review, the Board thus determined that, at the end of the 2016 fiscal year, the following members elected by the Shareholders' Meeting were independent: Thierry Desmarest, Thierry Peugeot, Karen Katen, Jean-Paul Agon, Siân Herbert-Jones, Sin Leng Low, Annette Winkler, Geneviève Berger and Brian Gilvary. It was also considered that Xavier Huillard, whose appointment is submitted to the Shareholders' Meeting on May 3, 2017, is independent.

Further to the recommendation made by the AMF, a table showing the list of Directors in 2016 who are considered as independent in the light of the criteria of the internal regulations compared with the AFEP/MEDEF Code is set out below.

**At 12/31/2016
Independence of the Directors elected by the
Shareholders' Meeting in light of the criteria in the**

	Internal regulations	AFEP/MEDEF Code
Benoît Potier (Chairman & CEO)	No	No
Pierre Dufour (Senior Executive Vice-President)	No	No
Thierry Desmarest	Yes	No ^(a)
Thierry Peugeot	Yes	Yes
Karen Katen	Yes	Yes
Jean-Paul Agon	Yes	Yes
Siân Herbert-Jones	Yes	Yes
Sin Leng Low	Yes	Yes
Annette Winkler	Yes	Yes
Geneviève Berger	Yes	Yes
Brian Gilvary	Yes	Yes
Philippe Dubrulle Director representing the employees	N/A	N/A

(a) Length of term of office exceeding 12 years.

PROFESSIONAL ETHICS OF DIRECTORS – RIGHTS AND OBLIGATIONS OF DIRECTORS

The internal regulations summarize the main obligations imposed on Directors.

The Directors represent all the shareholders and shall act in all circumstances in the Company's best interests.

Each Director undertakes to meet the obligations imposed upon him/her by the articles of association and the various legal, regulatory or internal Company provisions and, more specifically, the internal rules relating to the prevention of market abuse or the obligations to report transactions in respect of the Company's shares.

Each Director is bound by an obligation of secrecy.

Each Director shall endeavor to take part in all meetings of the Board and the Committees of which the Director is a member, and attend the Shareholders' Meetings.

Each Director shall keep him/herself informed and devote the time and attention required to perform his/her duties.

Under the Company's articles of association, each Director must hold at least 500 registered shares in the Company. This provision does not apply to the Director representing the employees.

Under the internal regulations:

"the members of the Board of Directors must inform the Board of any situation of conflict of interest, even if it is only potential, with the Company and must refrain from taking part in the vote on the corresponding decision."

This obligation is completed by a formal annual declaration provided to the Company by each Director attesting to the absence of a potential conflict of interest involving him/her. Finally, the Appointments and Governance Committee, under the management of the Lead Director, currently has the task of preventing potential situations of conflict of interest on the Board.

An internal memo on the prevention of market abuse was sent to the Directors at the beginning of 2017 which outlines in greater detail the applicable legal and regulatory obligations by which they are bound pursuant to the new European and national provisions; it sets restrictions for dealing in Company shares by defining abstention periods during which members may not trade in those shares.

The Directors were also informed of the provisions relating to obligations to report any transactions carried out involving the Company's shares that apply to them pursuant to the new European and national provisions.

All the provisions governing Directors' rights and obligations are included in the manual for members of the Board of Directors updated every year.

COMBINATION OF THE ROLES OF CHAIRMAN AND CHIEF EXECUTIVE OFFICER

In 2014, the Board of Directors confirmed its intention of maintaining the combination of the roles of Chairman and Chief Executive Officer, both roles being held by Benoit Potier. Within the scope of the evaluation questionnaire with regard to the way the Board operates prepared at the end of 2016, the Directors confirmed their agreement to this General Management organization.

The continued combination of the roles is in keeping with the Company's history, the regular improvement in the Company's performance having mainly taken place with a form of governance involving combination of roles (since the origin of the Company except for the period from 2001 to 2006). This organization responds to the very specific shareholder structure of Air Liquide, which has always consisted, alongside institutional investors from all continents, of a significant number of individual shareholders (who hold 33% of the capital at the end of 2016), accompanying the Group over the long term. The regular, personalized exchanges offered by the dialogue between the shareholders and General Management through a single contact person, with in-depth knowledge of the Group and its businesses, make it possible to ensure that definition of the Group's strategy takes due account of the expectations and interests of shareholders over the long term. Maintaining the combination of roles therefore promotes, in the Air Liquide tradition, a close, trustful relationship between its Executive Officers and the shareholders.

The combination of the roles of Chairman and Chief Executive Officer takes place in compliance with balanced rules of governance, guaranteeing the Group's continued success and the loyalty of its shareholders. These are currently based on:

- a composition of the Board with the predominance of independent Directors and Committees specialized in the areas of appointments and governance, remuneration and audit, consisting exclusively of independent members. The composition of the Board is also balanced in terms of skills and nationalities;
- a collective decision-making process by the General Management;

- a balanced organization of the relations between the General Management and the Board based on (i) limits on the powers of the General Management, the Board's agreement being required for significant transactions; (ii) regular interactions between the non-executive Directors and the members of the Executive Committee at the time of specific presentations made to the Board in particular during the full-day session on strategy or during Committee meetings; and (iii) the regular information provided to the Directors, including in-between Board meetings;
- a role of vigilance entrusted to the Appointments and Governance Committee which has been tasked, since 2010, with overseeing the proper functioning of the governance bodies. In this respect, pursuant to the terms of the internal regulations, this Committee is the instrument of dialogue between the non-executive Directors and the Chairman and Chief Executive Officer, in particular in case of conflicts of interest on the Board; it also monitors the changes in corporate governance practices and the process for evaluation of the Board;
- an annual review of the assessment of the performance and remuneration of the Executive Officer by the Committee which is always carried out without the presence of the Executive Officer concerned;
- the authority given by the articles of association to one-third of the Directors to convene a Board meeting and to set the agenda for the meeting, if the Board has not met for over two months; and
- the appointment of a Lead Director.

LEAD DIRECTOR

Pursuant to the terms of article 13 of the articles of association, the Board of Directors is obliged to appoint a Lead Director as long as the roles of Chairman and Chief Executive Officer are combined. Within this framework, the Board of Directors on May 7, 2014 appointed Thierry Desmarest as Lead Director. As Thierry Desmarest's term of office as Director is due to expire at the Annual Shareholders' Meeting on May 3, 2017, the Board of Directors, confirmed its intention to appoint Jean-Paul Agon, Independent Director, as Lead Director at the close of the Annual Shareholders' Meeting on May 3, 2017.

The internal regulations of the Board of Directors:

- A. define the roles and responsibilities and powers of the Lead Director as follows:

"Roles and responsibilities and powers of the Lead Director

The Lead Director has the following roles and responsibilities and powers:

1. He conducts the work of the Appointments and Governance Committee, upon delegation from the Chairman of that Committee when he is not the Chairman of the Committee himself, concerning the governance tasks entrusted to the Committee, notably for the examination of the choice of General Management organization, the review of changes in and application of the rules of corporate governance, the preparation of the evaluation of the functioning of the Board, the review of ethical issues, the attention paid to the proper functioning of the governance bodies, and in particular the transmission of the information requested by independent Directors; on all these points, the Lead Director can formulate all proposals and make any suggestions he considers necessary.

More specifically, the Lead Director coordinates, within the Committee, the implementation of the procedures aimed at identifying and analysing potential situations of conflicts of interest on the Board; he draws the attention of the Chairman and Chief Executive Officer to potential situations of conflicts of interest identified in this manner.

He reports on these matters to the Board of Directors.

2. The Lead Director, after receiving the opinion of the Appointments and Governance Committee, may ask the Chairman of the Board of Directors to convene a meeting of the Board of Directors on any specified agenda, at any time and as often as required in the interests of the Company.

Under the conditions provided for in article IV of these regulations, the Lead Director may also receive a delegation of authority to convene a meeting of the Board of Directors at the request of at least one-third of its members.

3. The Lead Director, after receiving the opinion of the Appointments and Governance Committee, may propose the inclusion of additional points on the agenda for any Board meeting to the Chairman of the Board of Directors.
4. The Lead Director convenes and chairs the annual joint session of the Appointments and Governance Committee and the Remuneration Committee on the questions related to the performance and conditions of remuneration of the Executive Officers, which is held outside the presence of any executive Director under the conditions provided for in paragraph 5.2 (c) of these regulations. He reports to the Board on this meeting.
5. The Lead Director reviews the requests made by shareholders with regard to governance and makes sure that they are answered.
6. The Lead Director reports on his activities to the Board of Directors every year.
7. The Lead Director makes sure that a report is made to the shareholders on the governance issues falling within the scope of his responsibilities. A report on his activities is made in the Reference Document."

- B. provide for an annual joint session to be chaired by the Lead Director of the Directors on the Appointments and Governance Committee and the Remuneration Committee, outside the presence of the executive members.
- C. provide that, within the scope of the annual evaluation of the Board, the Directors will be systematically asked to indicate whether it appears to them necessary for the Company's General Management organization to be re-examined.

For the report on the performance of the term of office of the Lead Director in 2016, see pages 142 and 143.

ROLE OF THE BOARD OF DIRECTORS

The Board of Directors determines the major orientations of the Company's activities. Accordingly, it examines and approves **the Group's major strategic orientations**.

It ensures the implementation of these orientations by General Management.

Subject to the powers attributed to Shareholders' Meetings and within the limit of the corporate purpose, the Board deals with any issues concerning the smooth running of the Company and manages corporate business pursuant to its decisions.

The internal regulations stipulate that the **specific powers** legally attributed to the Board of Directors include in particular the choice of Executive Officers, the determination of the terms and conditions governing the remuneration and performance of their duties, the appointment of the Lead Director, the convening of Shareholders' Meetings, the determination of the agenda and proposed resolutions, the preparation of the financial statements and Annual Management Report as well as the determination of its internal rules (formation of Committees, distribution of Directors' fees, etc.). The Board also exercises **the powers delegated to it by the Shareholders' Meeting**, particularly with regard to the granting of stock options or award of performance shares, issues of marketable securities, share buyback or employee savings programs or simple bond issues.

RELATIONSHIP WITH GENERAL MANAGEMENT

The internal regulations specify the rules limiting the powers of General Management, by defining the thresholds above which certain key decisions require prior authorization by the Board of Directors, in accordance with article 13 of the articles of association:

- sureties, endorsements and guarantees for an individual amount in excess of 100 million euros or for an annual cumulative amount in excess of 500 million euros;
- external sales or contributions (to non-controlled companies) of equity investments or lines of business, certain mergers, demergers or partial business transfers, completed for an individual amount in excess of 250 million euros or for an annual cumulative amount, for each of these categories of transactions, in excess of 400 million euros; external sales or contributions of real estate assets for an individual amount in excess of 80 million euros or for an annual cumulative amount in excess of 150 million euros;
- creation of pledges or security for an individual amount in excess of 80 million euros or for an annual cumulative amount in excess of 150 million euros;
- commitments to invest, acquisitions which will be listed under "Fixed Assets" on the balance sheet, subscriptions to share capital increases, for an individual amount in excess of 250 million euros or for an annual cumulative amount in excess of 400 million euros; the Board of Directors is informed, if possible ex ante and in any case ex post, of transactions for an individual amount in excess of 250 million euros (i) involving purchases of items that cannot be listed under "Fixed Assets" on the balance sheet, such as electricity or natural gas purchases, and (ii) involving sales to third parties of goods or engineering or construction services;
- financing operations concerning the Group for an amount likely to substantially alter the Group's financial structure;
- operations likely to substantially alter the Group's strategy.

Furthermore, the Board shall be given prior information in the event of a fundamental modification of the Group's information system leading to development costs exceeding an amount of 250 million euros.

FUNCTIONING OF THE BOARD OF DIRECTORS

Informing the Directors: the internal regulations define the methods for informing the Directors. They specify, in particular, that prior to Board meetings, a file of meeting documentation dealing with key items on the agenda is sent out to Board members. The Chairman and Chief Executive Officer, assisted, if need be, by General Management members presents to the Board of Directors a quarterly report on the Company's management, the draft annual and interim financial statements and the various issues requiring the Board's authorization or opinion. Any member of the Board of Directors may request any additional information he/she considers necessary. He/she makes such request to the Chairman of the Board.

Conduct of meetings: the internal regulations define the frequency of meetings and the rules of convening meetings and participation by videoconference or telecommunications. They provide, in particular, for the right for the Lead Director to ask for convening of a meeting of the Board of Directors with regard to any specified agenda and for the conditions of the annual joint session of the Appointments and Governance Committee and the Remuneration Committee which is held outside the presence of any executive Director.

Formation of Committees: the internal regulations define the task and operating procedures of the three Committees set up (see below).

The Board of Directors decided that a 4th Committee in charge of examining environmental and societal issues would be created in 2017. Amendment of the internal regulations is in process, in order to specify its tasks and rules of functioning.

Training measures: the internal regulations stipulate that training relating to the Company's businesses is offered to Directors, particularly through site visits or meetings with senior executives. More particularly, information on the Group's accounting, financial and operational specificities is offered to members of the Audit and Accounts Committee. The Director representing the employees may furthermore receive training relating to his rights and obligations as a Director, in accordance with the regulations in force.

A standard training program is now systematically proposed once a year to each Director and to new Directors. It consists of proposals of meetings with the heads of each of the World Business Lines and the main central functions and site visits.

Within this framework, the Directors may thus ask to meet Executive Committee members or ask for specific training for each business line, activity or geographical zone.

PARTICIPATION OF EMPLOYEE REPRESENTATIVES ON THE BOARD

With a deliberative vote

The Director representing the employees appointed by the France Group Committee in 2014 is subject to all the provisions of the internal regulations governing the rights and obligations of the Directors described above. He sits on the Board with a deliberative vote. Since his appointment, he has had several training opportunities (meetings

with the members of the Executive Committee and with the Senior Management Executives at the time of the Board's trips to sites in Houston, Aix-en-Provence and Frankfurt).

Pursuant to the decree of June 3, 2015, on the recommendation of the Appointments and Governance Committee, the Board of Directors has defined the amount of time allocated to the Director representing the employees for (i) the preparation of meetings (15 hours/meeting) and (ii) training (20 hours/year or 80 hours on a cumulative basis over the entire length of his term of office). This time is considered as actual working time and remunerated as such. Within this framework and in agreement with the person concerned, the Board adopted the internal training program for the end of the 2015 fiscal year and the external training program for 2016. Within this framework, in 2016, the Director representing the employees followed the training course provided by Sciences-Po in partnership with the IFA and obtained the company director's certificate.

Within the scope of the agreement entered into with the various stakeholders (see below) and pursuant to the provisions in force within the Group applicable to all the employees performing duties on Boards of Directors of the companies of the Group, it was agreed that the employee Director would not receive Directors' fees.

With regard to the possible participation of the Director representing the employees on a Committee, practice in the Company is usually to leave new Directors time to adapt before proposing their appointment to a Committee. The Appointments and Governance Committee examines, on a case-by-case basis, whether it is appropriate to propose to the new Directors their participation in one of the Committees, according to the most appropriate timetable (see summary table on the application of the AFEP/MEDEF Code, page 145). The Director representing the employees will be asked to participate on a Committee in 2017.

The European Works Council is the competent body if a second post needs to be filled.

With an advisory vote

The law of June 14, 2013, which provides for the system of a Director representing the employees, in principle reduces the number of Central Works Council delegates participating on the Board with an advisory vote to one inasmuch as the number of members on the Board elected by the Shareholders' Meeting does not exceed 12.

At the request of the employee representatives and with the agreement of the Board of Directors, it was provided in an agreement entered into with the various stakeholders that two Central Works Council delegates (and not one as provided for by law) would continue to participate in meetings with an advisory vote; this participation is in addition to that of the employee Director who sits on the Board with a deliberative vote; the purpose of this agreement is to allow balanced representation of the most representative trade unions on the Board.

As a result of the above-mentioned agreement, two members of the Central Works Council delegated by this Council had the possibility to attend all the Board of Directors' meetings held during the 2016 fiscal year with an advisory vote. The delegates receive the same documents as those provided to the Directors on the occasion of these meetings.

At meetings, the delegates are able to express their opinion on the questions discussed.

A preparatory meeting in the presence of a member of the Executive Committee and the Secretary of the Board of Directors is systematically held before each Board meeting. This preparatory meeting is the opportunity to go through the whole file for the Board meeting with the Director representing the employees and the Central Works Council delegates and comment on the items on the agenda. It offers the participants the opportunity to raise their questions and make their initial comments.

APPRAISAL OF THE BOARD OF DIRECTORS

The internal regulations stipulate that:

"The Board will ensure that an evaluation is carried out periodically of its composition, its organisation and its functioning as well as those of its Committees. An update will be made by the Board on this topic once a year and a formal evaluation will be carried out under the authority of the Chairman of the Board of Directors every three years. Within the scope of the evaluation of the Board, the directors will be asked to state whether it appears to them to be necessary for the choice of the Company's General Management organisation to be re-examined."

An evaluation of the functioning of the Board of Directors is carried out every year, alternating between a full appraisal questionnaire leading to a summary showing the replies and the adoption of recommendations for action one year and a questionnaire aimed at making an assessment of the actions implemented in the light of the recommendations made the next year. Following on from the formal appraisals carried out most recently in 2013, the functioning of the Board of Directors and its Committees was fully evaluated in 2015. The summary of responses presented by the Chairman of the Appointments and Governance Committee to the February 2016 Board meeting revealed a very positive assessment of the Board's operation overall, with again particular emphasis on the freedom of expression. The points that were particularly appreciated by the Directors were: (i) the monitoring of large projects (particularly Airgas in 2015), (ii) the holding of on-site meetings (meeting in Aix-en-Provence focused on the Healthcare business line in 2015) and (iii) the quality of the files. A few points to which attention needs to be paid could be seen from the survey as a whole concerning the mix of skills on the Board to be re-examined after the acquisition made in the United States, the information provided in-between meetings and the medium used for the electronic version of the file which was to be changed in favor of a solution which is easier to use.

In consequence, in 2016, reflections were conducted with regard to the mix of skills on the Board and will continue in 2017. Furthermore, the monthly press review was simplified and is now systematically sent at the beginning of each month. In addition, significant information concerning the Group is systematically sent. A new tool for making files available electronically that is simpler and more efficient has also been put in place. Finally, a standard training program is now systematically proposed to each Director once a year and to new Directors.

The responses to the assessment questionnaire for 2016 show that all these measures were very favorably received by the Directors. They also showed satisfaction with regard to the practice of "round-the-table" comments on significant topics, freedom of speech at meetings and the meeting held in Frankfurt in November 2016. Expectations were expressed for 2017: (i) implementation of the Committee tasked with monitoring environmental and societal issues, (ii) presentation on the Company's shareholder policy and (iii) introduction of executive sessions.

In light of the collective nature of the Board, the assessment questionnaire concentrates on an appraisal of the collective contribution of members to the Board's operation. However, in order to improve the Group's practices by ensuring compliance with the AFEP/MEDEF Code, the questionnaire invites Directors to make an evaluation of the participation by Directors in the development of the reflections of the Board of Directors. In any event, the contribution by each Director is assessed by the Appointments and Governance Committee and then by the Board of Directors at the time of the renewal of the terms of office of Directors and Committee members.

ANNUAL SESSION OF THE APPOINTMENTS AND GOVERNANCE COMMITTEE AND OF THE REMUNERATION COMMITTEE

Concerning the possibility for non-executive Directors to meet without the presence of the executive Directors, the internal regulations provide that:

"With a view to a discussion on questions related to the performance and conditions of remuneration of the Chairman and Chief Executive Officer or the Senior Executive Vice-Presidents, an annual joint session of the Appointments and Governance Committee and the Remuneration Committee is furthermore organised, outside the presence of the executive Directors. It is convened and chaired by the Lead Director who conducts the session, where applicable, on the basis of the reports on the work and recommendations made by each Committee. The Lead Director reports on this meeting at the Board of Directors' meeting asked to deliberate on these issues."

The session takes place in January; a report is made on this session to the Board of Directors in February (see the report on the activities of the Lead Director on pages 142 and 143). In the context of the current discussions, this session could be replaced in 2017 by an executive session held after a Board meeting, outside the presence of the executive officers and of Group internal persons, once a year and that would be conducted by the Lead Director.

THE BOARD OF DIRECTORS' WORK IN 2016

In 2016, the Board of Directors met six times with an effective attendance rate or attendance rate by telephone of 97.22% of its members. The meeting in November was held in Frankfurt.

The Board's activities related to the following issues:

Monitoring of the Group's day-to-day management

Monitoring of the Group's day-to-day management is carried out particularly by:

- reviewing the quarterly activity reports presented by General Management, the annual and interim parent company and consolidated financial statements (the financial statements of Airgas being consolidated within the Group since May 23, 2016) in the presence of the Statutory Auditors used to determine the distribution policy;
- reviewing the Group's financial position regularly, and more specifically: financing and debt management strategies;
- reviewing the minutes of Committee meetings;
- making decisions, in particular with respect to the investments necessary for the Group's medium-term development and corresponding financing capacities and the bond program;
- share buyback / cancellation policy;
- the granting of stock options and the award of performance shares;
- reviewing at each meeting the report on acquisitions, sales and major projects in progress;
- reviewing employment-related documents: the social balance sheet (report on employee-related matters) and forward-planning documents;
- preparing the Annual Shareholders' Meeting (agenda, proposed resolutions, Annual Management Report and other reports or sections contained in the Reference Document prepared or approved by the Board of Directors, answers to shareholders' written questions);
- Human Resources issues; the annual deliberation with regard to the Company's professional gender equality and equal pay policy pursuant to the law of January 27, 2011 and the signature of a three-year professional gender equality agreement within Air Liquide SA; the involvement of employees within the scope of the process for consultation of the Central Works Council on the Company's strategic orientations pursuant to the law of June 14, 2013; the increase in capital reserved for the employees which took place in March 2016;
- the annual review of regulated related-party agreements in progress.

Monitoring of the Group's main strategies on significant issues

Following the presentations made by General Management and certain senior executives, the Board of Directors closely considered the following in 2016:

- (i) finalization of the **Airgas acquisition**, its financing, increase in capital carried out in the autumn, the specific plan for the award of performance shares showing the Company's recognition for the work carried out;

- (ii) questions relating to **strategy** and particularly the new “NEOS” medium-term company-wide program including Airgas presented to the market in July, Innovation and technology development strategy in the Engineering & Construction, Large Industries and Industrial Merchant businesses during the trip to Frankfurt; review of the portfolio of businesses; examination of the mergers taking place in the industry;
- (iii) **governance** issues concerning the changes in composition of the Board and its Committees, the replacement of the Lead Director, the review of risk monitoring in liaison with the Audit Committee; the succession plans;
- (iv) the questions relating to **Corporate Social Responsibility** within the scope of the presentation of the sustainable development program launched in September 2016; the decision to create a specialist Board Committee in charge of examining the Group's environmental and societal issues in 2017.

Functioning of the corporate governance bodies

With respect to the functioning of the corporate governance bodies, as well as applying the AFEP/MEDEF Code of corporate governance, the Company strives to reflect the international environment in which the Group carries out its business activities.

Concerning General Management:

Benoit Potier, Chairman and Chief Executive Officer, is assisted in the General Management by Pierre Dufour, Director and Senior Executive Vice President. Mr Jean-Pierre Duprieu, Executive Vice President, decided to apply for his pension entitlements at the end of August 2016. The Board of Directors thanked Jean-Pierre Duprieu warmly for his contribution and his collaboration in the Company's development over his 40 years of service within the Group.

Employment contract / corporate office of the Chairman and Chief Executive Officer and the Senior Executive Vice President

In accordance with the AFEP/MEDEF Code of corporate governance, which recommends that Chairmen and Chief Executive Officers of listed companies do not combine an employment contract with their corporate office, Benoit Potier put an end to his employment contract as of May 5, 2010.

Pierre Dufour, in charge of managing the hub based in Frankfurt, put an end to his French employment contract at the end of 2013. Besides his offices as Director and Senior Executive Vice President of the Company, Pierre Dufour performs the duties of Managing Director of the German entity coordinating the Group's activities from its base in Frankfurt (ALGMS) and no longer benefits from the protection of French labor law.

Remuneration

The Board determined the remuneration policy applicable to the Executive Officers and the changes made therein as from 2017 to take into account the Group's new size. This policy is set out in detail in the section on remuneration on pages 153 et seq. below.

The elements of remuneration due or allocated to the Executive Officers in respect of 2016 described in this section are subject to the opinion of the shareholders at the Annual Shareholders' Meeting on May 3, 2017 in accordance with the AFEP/MEDEF Code.

Moreover, in accordance with the Law of December 9, 2016 relating to transparency, the fight against corruption and the modernization of economic life, the principles and criteria for determination, allocation and award of the fixed, variable and exceptional elements making up the total remuneration and the benefits of any kind that may be allocated to the Chairman and Chief Executive Officer and to the Senior Executive Vice President from 2017 onwards, described in the Report on pages 191 et seq, are submitted for a vote by the Shareholders' Meeting, in specific resolutions for each Executive Officer.

Shareholding obligation

The rules with regard to the holding of shares set by the Board of Directors are described in detail in the section on remuneration set out later in this document.

Concerning the Board of Directors itself:

Composition

Appointment – Renewal of terms of office:

- the Board proposed to the Shareholders' Meeting on May 12, 2016 to renew the terms of office of Pierre Dufour and Karen Katen for a period of four years and to appoint Brian Gilvary as a new Board member;
- following the Shareholders' Meeting on May 12, 2016, the Board renewed Karen Katen's term of office on the Appointments and Governance Committee;
- the Board proposed to the Shareholders' Meeting on May 3, 2017 to renew Thierry Peugeot's term of office, which is due to expire, for a period of four years.

Thierry Desmarest's term of office expires at the end of the Shareholders' Meeting on May 3, 2017 and cannot be renewed in the light of the age limit rule set by the internal regulations. A Board member since 1999, Thierry Desmarest made a big contribution to the Board's operation in his capacity as Chairman of the Appointments and Governance Committee and a member of the Remuneration Committee for many years. Since 2014, Thierry Desmarest has been the Lead Director. The Board thanked him warmly for his significant contribution to Air Liquide's development throughout all these years;

The Board of Directors announced its intention to appoint Jean-Paul Agon as Lead Director starting from this date.

- the Board proposed to this same Shareholders' Meeting to appoint Xavier Huillard as a new member of the Board. This proposal is the result of a recruitment process led by the Appointments and Governance Committee, with the assistance of an external advisor, which took place over several months. This process consists of (i) the identification by the Committee of candidates who would comply with the rules on composition of the Board defined in the internal regulations, (ii) shortlisting of potential candidates, and (iii) continues with individual interviews with the shortlisted candidate(s). In this way, several Committee members and Benoît Potier met individually

with Xavier Huillard; a report on this process was made to the Board prior to discussion and then a decision was made.

Directors' fees

The Board set the formula for distributing Directors' fees among its members for 2016 within the budget authorized most recently by the Annual Shareholders' Meeting of May 7, 2014 for a maximum amount of 1,000,000 euros per fiscal year. On the Remuneration Committee's remuneration and after a review of market practices, the Board decided to increase the amount of certain elements of the variable part of the Directors' fees and, more specifically, the remuneration paid to the non-resident Directors in respect of their trips to attend meetings. This makes it possible to maintain an attractive and competitive level of remuneration for the Directors which will allow Air Liquide to attract new Directors, in particular non-resident Directors (see the detailed presentation in the section on remuneration on pages 179 and 180 below).

Appraisal (see above)

- In 2016, the Board carried out an evaluation of the implementation of the recommendations made by the Directors in 2015 within the scope of the full assessment of the way it operates.
- The Board assessed the independence of each of its members.

Several days prior to each of the Board's meetings, a preparatory file of meeting documentation dealing with key items on the agenda is sent out to Board members; since 2013, the file is also accessible in electronic format. For material substantive issues, a very comprehensive summary note is prepared. Every meeting then includes a short presentation on all items, leaving a lot of room to exchange views and for discussions.

The meeting in November held in Frankfurt offered Board members the opportunity to hear presentations by Executive Committee members and senior executives in charge of Innovation and technology development in the Engineering & Construction, Large Industries and Industrial Merchant businesses. It also enabled the Directors, thanks to the time reserved for discussions with the management teams and the visits to customers and distributors to understand the dynamics and variety of the Group's actions in these business lines.

In addition, the Statutory Auditors are asked to give their views in meetings where financial statements are reviewed.

Presentations give rise to questions and discussions follow. "Round-the-table" comments are systematically obtained with regard to significant points before the topics on the agenda are put to the vote. Detailed written minutes are then sent to members for review and comment before being approved by the Board of Directors at the next meeting.

THE COMMITTEES OF THE BOARD OF DIRECTORS

The Board of Directors had set up 3 Board Committees; a 4th Committee in charge of environmental and societal issues will be created from 2017 onwards.

The Audit and Accounts Committee

As of December 31, 2016, the Audit and Accounts Committee had three members: Siân Herbert-Jones, Chair of the Committee, Thierry Peugeot and Sin Leng Low. All the members, including the Chair, are independent.

The Committee members combine experience in business management with economic and financial expertise (see professional careers in the bibliographical memos on Directors on pages 220 et seq.). A qualified chartered accountant who worked in an audit firm for 13 years (PwC), Siân Herbert-Jones joined the Sodexo group in 1995 in which she was Group Chief Financial Officer from 2001 until December 2015. Siân Herbert-Jones provides the Committee with her extensive financial expertise.

Composition and tasks as defined in the internal regulations

The Committee must be comprised of three to five members of the Board of Directors and at least two-thirds of its members must be independent.

TASKS

"The purpose of the Committee is to prepare the decisions to be taken by the Board of Directors by examining the following issues and reporting on them to the Board:

By receiving reports:

Jointly and separately, in order to compare and combine different points of view, from:

- the Finance & Management Control and Legal Divisions;
- the Internal Audit and Control Management;
- the external auditors.

Concerning the following points:

- existing organisation and procedures in the Group;
- their actual functioning;
- how the financial statements and the accounts are drawn up.

In order to reach:

- by comparing and combining the points of view collected and using their business judgement based on professional experience, a reasonable judgement concerning:
 1. accounts and accounting principles used (their conformity in relation to the reference standards, a fair and complete reflection of the Group's situation, transparency, readability, consistency over time);
 2. Existence and functioning of control organisations and control procedures adapted to the Group, making it REASONABLY possible to identify and manage the risks incurred and to report on them;
 3. organisation of the internal audit function, the plans for assignments and actions in the internal audit field, the findings of these assignments and actions and the recommendations and ensuing measures taken;
 4. choice and renewal of the external auditors, review of the tendering process, opinion on the selection of external auditors and the rotation of audit partners, review of proposed fees, information on the overall fees paid indicating the amount of fees paid for non-audit services.

The Committee:

1. collects the observations of the Executive Management on these various issues. It hears the Chief Executive Officer or Senior Executive Vice Presidents at the Committee's request or at the request of the persons concerned;
2. reports to the Board of Directors on its work, informing it of any problems that may be encountered, observations made to the Executive Management and progress made in relation to these observations."

The Committee meets at least three times a year, and always before the Board meetings during which the annual or interim financial statements are reviewed.

An initial verbal report is given to the Board by the Committee Chairman. Written minutes of the meeting are transmitted to the Directors. The Committee may ask to convene Group employees. It may meet the Statutory Auditors or members of the Group Internal Control Department in person. It may call on external experts for assistance. The Chairman and Chief Executive Officer does not attend meetings of the Audit and Accounts Committee.

The Audit and Accounts Committee's work in 2016

The Audit and Accounts Committee met four times with an effective attendance rate or attendance rate by telephone of 100% of its members.

- The Committee reviewed the annual and interim consolidated financial statements (the financial statements of Airgas being consolidated within the Group since May 23, 2016) and the annual parent company financial statements and took due note of the Company's financial situation, cash flow position and commitments.

During the presentation by the Group Vice President Finance, the Committee more particularly analyzed provisions, the "other operating income and expenses" items, cash flow, taxation, risk exposure and off-balance sheet items. It reviewed the drafts of the analyst presentation relating to the financial statements.

- In addition, the Committee heard the presentations of the Statutory Auditors underlining the key points of the results and the accounting options adopted and took note of their conclusions.
- At the beginning of the year, the Committee reviewed the amount of the fees paid to the Statutory Auditors in respect of the prior year.
- The Committee reviewed more specifically the Group's financing policy, debt and liquidity management in the light of the financing of the Airgas acquisition.
- The Committee also heard regular reports on the main assignments carried out by the Group Internal Control Department, the follow-up of any corrective actions taken and the Group Internal Control Department's main assignments for the forthcoming year. Within this framework, a report was made to the Committee in particular on the implementation of the Ethics Plan in 2016 and of these orientations for 2017. The Committee also regularly monitored the process for deployment of the risk management procedure within the Group. It reviewed the Group's risk map and the changes made to it. The Committee reviewed the section in this Report on internal control and risk management procedures and recommended its approval by the Board of Directors.
- In accordance with longstanding practice in the Group, the Committee is tasked with carrying out the monitoring of the management of all the risks identified by the Group, even if particular attention is paid to accounting or financial risks; a methodology for the monitoring of each type of risks identified by the Group (including, in particular, the identification of the management and control bodies and procedures) and an appropriate time scale (annual review or regular review at less frequent intervals depending on the type of risks) were defined. At year-end, the Committee ensures that all of the risks identified on the risk map and subject to regular review have been examined by the Audit Committee according to the frequency specified. The work program prepared for fiscal year 2017 is in line with this approach. It was presented to the Board for discussion. The Board discussed the topics that could be presented to the Board to improve the fit between the work of the Committee and that of the Board on this subject.
- The Committee analyzed the statutory audit reform introduced by the European legislation and proposed to the Board of Directors a procedure for approval of the Group's non-audit services by the Audit Committee. The Committee authorized non-audit services in compliance with this procedure approved by the Board of Directors.

- In addition, specific presentations were made to the Committee on the following matters: the pro forma Airgas financial statements, the changes in the organization in Engineering & Construction; major crisis management procedures; process for the deployment of ERP systems within the Group; energy management policy; investment control procedure; country risk management; insurance; disputes and tax risks.

Several days prior to each meeting, a file of meeting documentation is sent out to Committee members and is now available in electronic form. Each Committee meeting is preceded by a preparatory meeting attended by the Committee Chair assisted by the Committee Secretary, the Group Vice President Finance and the Group Internal Audit Director. In order to prepare the meetings where financial statements are reviewed, the Chair of the Committee assisted by the Committee secretary, meets with the auditors and outside the presence of the company representative. During the meeting, each presentation made by the Group Vice President Finance, the Group Internal Audit Director, the senior executive specializing in the area under discussion or the Statutory Auditors during the financial statement review meetings is followed by discussions. A verbal report and then written minutes of each meeting are prepared for the Board of Directors.

The Committee Chair receives the internal audit report summaries. In addition, after presentation meetings for the accounts for the fiscal year, Committee members meet alone with the Statutory Auditors without the presence of Company representatives.

As recommended in the AFEP/MEDEF Code of corporate governance, the following measures are taken so that the time during which the financial statements are available to be reviewed is sufficient: preparatory meeting with the Committee Chair more than one week prior to the meeting as provided for above; dispatch of files, now also available in electronic form, to Committee members five to seven days in advance. These measures enable the members to review the financial statements well in advance of the meeting. When compatible with the schedules of the members travelling from abroad, the Committee meetings relating to the financial statements are held the day before the Board meeting.

The Appointments and Governance Committee / the Lead Director

As of December 31, 2016, the Appointments and Governance Committee had three members: Thierry Desmarest, Chairman of the Committee and Lead Director, Jean-Paul Agon and Karen Katen. All the Committee members are independent.

Composition and purpose as defined in the Company's internal regulations

The Appointments and Governance Committee must be comprised of three to five members of the Board of Directors and the majority of its members must be independent, according to the assessment made by the Board. The Chairman and Chief Executive Officer attends Committee meetings and is closely involved in its discussions. However, he may not be present for any discussions of the Committee relating to him personally. The Committee meets at least three times a year. The conclusions of Committee meetings are presented by the Committee Chairman for discussion and decision-making at the next Board of Directors' meeting.

TASKS

Pursuant to the internal regulations, the tasks of the Appointments and Governance Committee are as follows:

1. Concerning the Board of Directors:

- make proposals to the Board of Directors for renewal and appointment of directors. This Committee looks for new members on the basis of its evaluation of the needs and developments expressed by the Board of Directors, and taking into consideration, in particular, the principle of attempting to achieve balanced gender representation on the Board of Directors;
- make proposals to the Board of Directors for the creation and composition of Board Committees;
- periodically evaluate the structure, size and composition of the Board of Directors and submit to it recommendations regarding any potential change;
- the Committee periodically reviews the criteria applied by the Board to classify a Director as independent; once a year, it examines, on a case-by-case basis, the situation of each Director or each candidate for the duties of director in light of the criteria applied and makes proposals to the Board of Directors.

2. Concerning the Chairman and Chief Executive Officer or the Chief Executive Officer, as the case may be:

- examine, as necessary and, in particular at the time of expiry of the term of office concerned, the renewal of the term of office of the Chairman and Chief Executive Officer, or the terms of office of both the Chairman and of the Chief Executive Officer;
- examine the changes in these duties and provide for solutions for their renewal, where applicable;
- examine the succession plan for members of the Executive Management applicable in particular in the case of an unforeseen vacancy;
- examine periodically developments with regard to the Senior Executive Vice Presidents, hear the Chairman and Chief Executive Officer (or the Chief Executive Officer) on the needs and the potential proposals for their replacement;
- more generally, ensure that it is kept informed by the Chairman and Chief Executive Officer (or the Chief Executive Officer) of planned changes in Executive Management resources (and, in particular, the Executive Committee).

3. Concerning governance:

- examine, at the time of renewal of the term of office of the Chairman and Chief Executive Officer or of the terms of office of the Chairman and of the Chief Executive Officer, or when a request in that respect is made by directors within the framework of the evaluation of the Board, whether it is appropriate to continue to combine these roles (or to separate them);
- monitor the changes in the rules of corporate governance, in particular within the scope of the code to which the Company refers and inform the Board of Directors of its conclusions; follow up on the application of the rules of corporate governance defined by the Board of Directors and make sure of the information given to the shareholders on this topic;
- prepare the evaluation of the way the Board operates provided for by the internal regulations;
- examine issues of ethics that the Audit and Accounts Committee, the Board of Directors or its Chairman may decide to refer to it;
- ensure the proper functioning of the governance bodies and in particular the transmission of information requested by independent Directors;
- assist, at their request, the Chairman and the Chief Executive Officer in their dealings with independent Directors, and be the instrument of dialogue aimed at preventing potential situations of conflict on the Board.

The Committee can request the assistance of outside experts if necessary. The Company shall provide the Committee in such a case with the corresponding funding.

The Lead Director, upon delegation from the Chairman of the Committee when he is not the Chairman of the Committee himself, conducts the Committee's work concerning the above-mentioned points of governance: The Lead Director can formulate all proposals and make any suggestions that he considers to be necessary in this field. More particularly, the Lead Director coordinates, within the Committee, the implementation of the procedures aimed at identifying and analysing potential situations of conflicts of interest on the Board; he draws the attention of the Chairman of the Board of Directors to potential situations of conflicts of interest identified in this manner.

He reports on these matters to the Board of Directors."

The powers and tasks of the Lead Director are described in the section on "Combination of the roles of Chairman and Chief Executive Officer" above.

The Appointments and Governance Committee's work in 2016

The Appointments and Governance Committee met four times in 2016 with an effective attendance rate or attendance rate by telephone of 91.67% of its members.

Concerning the Board of Directors

The Committee reviewed the desirable future changes in the composition of the Board of Directors in the short and medium term.

It recommended proposing the renewal of the terms of office as Director of Pierre Dufour and Karen Katen to the Shareholders' Meeting on May 12, 2016 and of Thierry Peugeot to the Shareholders' Meeting on May 3, 2017.

It continued to coordinate the procedure for the search for and assessment of possible candidates, which led to proposing the appointment of Brian Gilvary to the Shareholders' Meeting on May 12, 2016 and the appointment of Xavier Huillard to the Shareholders' Meeting on May 3, 2017 (see the description of his career on page 232).

Concerning the Committees / working group

The Committee reviewed the composition of the Committees following the changes that had taken place in the composition of the Board at the end of the May 2016 Shareholders' Meeting and recommended renewing Karen Katen's term of office on the Appointments and Governance Committee for the length of her term of office as a Director. It also reviewed the composition of the Committees in the light of the changes to be made in the Board's composition in May 2017 and made recommendations for appointments at the close of the Shareholders' Meeting on May 3, 2017.

As Thierry Desmarest's term of office ends at the close of the Shareholders' Meeting on May 3, 2017, the Committee has proposed to the Board of Directors, in particular, that Jean-Paul Agon be appointed as the Lead Director at the time of the meeting to be held at the close of the Shareholders' Meeting.

The Committee proposed to the Board of Directors that it set up a Committee in charge of environmental and societal issues on the Board of Directors in order to involve the members of the Board of Directors more in the Group's reflections with regard to environmental and societal issues, to benefit from people specifically dedicated to this topic on the Board and to stimulate the consideration of such issues by the internal teams in charge of deployment. The Board of Directors confirmed that this Committee would be created in May 2017. The rules on composition and functioning will be adopted within the scope of the ongoing changes to the internal regulations. The appointments will be made at the end of the Shareholders' Meeting on May 3, 2017.

Concerning the General Management

The Committee formally provided, in a specific procedure, for the scenario envisaged in the event of replacement of the General Management in an emergency situation. This procedure is reviewed and updated every year where applicable.

The Committee looked at the composition of the General Management and Executive Committee, the prospects of changes therein and the succession plans, in particular following the decisions made to retire by Pierre Dufour, Senior Executive Vice President in May 2017, and Jean-Pierre Duprieu, Executive Vice President, at the end of August 2016. It also looked at the pool of high-potential young talents.

Concerning governance

The Committee went through the provisions of the AFEP/MEDEF Code revised in November 2016. It recommended that a few adaptations be made to the rules of the internal regulations to take into account the new provisions of the code and recent changes in the regulations. The internal regulations will be posted online on the Company's website after adoption by the Board of Directors in May 2017.

The Committee examined the personal situation of each member of the Board of Directors with regard to the independence criteria defined in the internal regulations. It re-examined the Board's position concerning the independence criteria and, in particular, the criterion relating to terms of office of over 12 years recommended by the code and made its recommendations in this regard. In addition, it reviewed the chart summarizing the purchases and sales implemented during the previous year between companies of the Air Liquide Group and companies of groups within which an Air Liquide Director (or proposed Director) also exercises a term of office or executive role and made its evaluation in the light of both quantitative and qualitative criteria. It made recommendations in this respect to the Board.

It reviewed the recommendations of the Annual Report of the AMF on corporate governance published on November 17, 2016 and the Report of the Haut Comité de gouvernement d'entreprise of October 2016 (including the application guide for the AFEP/MEDEF Code issued by the HCGE in December 2016) and made its recommendations in light of the practices followed by the Company. It reviewed the draft of this report and recommended its approval by the Board of Directors.

It reviewed the table showing deviations in the Group's practices as compared to the AFEP/MEDEF Code of November 2016 which is set out on page 145.

The Committee reviewed the summary of the replies to the evaluation questionnaire on the actions conducted in 2016 to respond to the points raised by the Directors in the full evaluation questionnaire in 2015.

In order to reinforce the training actions proposed by Air Liquide to its Directors, the Committee recommended the systematic sending of a training request form which will be enclosed each year with the assessment questionnaire sent to the Directors.

Tasks of the Lead Director: report on his activities

The Lead Director's activities during the fiscal year related to the following points:

- The Lead Director conducted the work of the Appointments and Governance Committee concerning the governance tasks entrusted to the Committee and in particular:
 - a review of the Company's practices in light of the recommendations of the new AFEP/MEDEF Code, the AMF and the HCGE included in their respective 2016 reports,

- a review of the expectations expressed by the shareholders at the Shareholders' Meeting on May 12, 2016 through an analysis of voting on the more specific resolutions for the fiscal year (Say on Pay, stock options-performance shares); recommendations concerning the actions to be taken, in particular, to reinforce the dialogue with the institutional investors were proposed; they were followed by the holding of very in-depth interviews with a large number of institutional investors as from the autumn of 2016, well ahead of the event, to prepare the Shareholders' Meeting on May 3, 2017;
 - examination, in accordance with the regulations concerning regulated related-party agreements, of all the agreements in progress in an overall perspective and for Pierre Dufour from the perspective of his retirement;
 - preparation of the questionnaire for evaluation of the functioning of the Board which included a specific section enabling each Director to give his/her opinion on the individual contributions of the Directors to the Board's reflections. The Lead Director presented to the Board in February 2017 a summary of the assessments made with regard to the functioning of the Board and the recommendations made by the Committee which led to debate.
- In general, the Lead Director held discussions with the Chairman and Chief Executive Officer on a very regular basis with regard to all the significant governance topics for the fiscal year; he also spoke at length with the independent Directors, notably at the time of the meeting in Frankfurt, ensuring in particular that the Directors who had joined the Board more recently were well informed.
- Finally, in January 2016, the Lead Director chaired the annual joint session of the Directors on the Appointment and Governance

Committee and the Remuneration Committee, without the presence of any executive member.

- He reported on his activities to the Board at its meeting in February 2017.
- During the fiscal year 2016, the Lead Director participated in all the Board meetings (6 meetings including the meeting in Frankfurt which required his presence for two days), the meetings of the Appointments and Governance Committee that he chairs (three meetings) and of the Remuneration Committee (four meetings). He chaired the annual joint session of the Appointments and Governance Committee and the Remuneration Committee.

The Remuneration Committee

As of December 31, 2016, the Remuneration Committee had three members: Jean-Paul Agon, Chairman of the Committee, Thierry Desmarest and Annette Winkler. All the Committee members are independent.

Composition and purpose as defined in the internal regulations

The Remuneration Committee must be comprised of three to five members of the Board of Directors and the majority of its members must be independent. The Chairman and Chief Executive Officer may not be present for any deliberations of the Committee relating to him personally. The Committee meets at least three times a year. The conclusions of Committee meetings are presented by the Committee Chairman for discussion and decision-making at the next Board of Directors' meeting.

TASKS

Pursuant to the internal regulations, the tasks of the Remuneration Committee are as follows:

- examine the performance and all the components of remuneration including stock options, or other forms of deferred remuneration, pension plans and, in general, the conditions of employment of the Chairman and Chief Executive Officer or both the Chairman and the Chief Executive Officer as well as the Senior Executive Vice Presidents and make the corresponding recommendations to the Board of Directors;
- propose, where applicable, the remuneration of the Vice-Chairman or Vice-Chairmen;
- examine the remuneration and retirement policy applied to Executive Management and in particular to Executive Committee;
- examine the proposals by the Executive Management concerning the granting of stock options and other incentive systems related to the share price to other Group employees and propose their granting to the Board of Directors;
- examine and propose to the Board of Directors the allocation of Directors' fees among Board members.

The Committee can request the assistance of outside experts if necessary. The Company shall provide the Committee in such a case with the corresponding funding.

The Remuneration Committee's work in 2016

The Remuneration Committee met four times in 2016 with an effective attendance rate or attendance rate by telephone of 100% of its members. The Chairman and Chief Executive Officer is not present for any discussions of the Committee relating to him personally. At Board meetings, the Committee Chairman reports on the work of the Remuneration Committee. At the Shareholders' Meeting, the Chairman of the Committee reports on the Board's decisions concerning the Group's Executive Officer remuneration policy.

Executive Officer remuneration / long-term incentive policy

The Committee examined the principles of the Executive Officer remuneration policy and its various components.

For the 2016 fiscal year, the Committee made recommendations to the Board of Directors for the setting of the fixed remuneration and the criteria and objectives for the variable remuneration of the members of the General Management. In accordance with its previous recommendation, it ensured, in particular, that a Corporate Social and

Environmental Responsibility criterion is structurally included in the personal objectives set for determination of the variable remuneration of the Executive Officers.

Concerning the long-term incentive elements, it made recommendations aimed, in particular, at awarding performance shares and stock options to the Executive Officers on the basis of the IFRS value (and no longer of the volumes awarded), for all recurring stock option and performance share plans combined.

It took into account the remarks made by the shareholders to determine the performance conditions applicable to the 2016 performance share and stock option plans, calculated over a period of three years and applicable to all the beneficiaries for all the shares and options granted. They are from now on set at the beginning of the year in order to comply with a reference period of three full years. The Committee reviewed the rules for the holding of shares. For all the improvements made with regard to this point, see pages 158 et seq..

The Committee looked at the measures on transparency and communication and issued its recommendations. A report was made on all these points at the time of the presentation made by the Committee Chairman at the Shareholders' Meeting in May 2016.

In addition, the Committee recommended the implementation of the specific Airgas performance share plan, intended to show the Company's recognition for the work carried out by all the teams who contributed to completion of the Airgas acquisition.

It reviewed all the regulated related-party agreements in progress concerning the Executive Officers and made its recommendations concerning the financial conditions for Pierre Dufour's retirement in 2017.

For the 2017 fiscal year, the Committee recommended making changes to the remuneration policy applicable to the Chairman and Chief Executive Officer to take into account the increased level of responsibility resulting from the Group's new size after the Airgas acquisition. With regard to this point, see the Report on Remuneration on page 166 below.

The Committee reviewed the draft resolutions submitted for the opinion of the Annual Shareholders' Meeting on May 3, 2017 on the Executive Officers' remuneration for 2016 pursuant to the recommendations of the AFEP/MEDEF Code.

The Committee made recommendations concerning the draft resolutions to be put to the opinion of the Shareholders' Meeting on May 3, 2017 on Executive Officer remuneration policy as presented in the report on pages 191 et seq pursuant to new article L. 225-37-2 of the French Commercial Code (resulting from Law No. 2016-1691 of December 9, 2016 relating to transparency, the fight against corruption and the modernization of economic life).

Directors' fees

The Committee made recommendations for changes in certain components of the variable part of Directors' fees to be allocated in respect of fiscal year 2016 within the total amount authorized by the Shareholders' Meeting. Its recommendations took into account the need to set a level of remuneration of the Directors which remains attractive and competitive enabling Air Liquide to attract new Directors, in particular non-resident Directors (see table of Directors' fees on pages 179 and 180).

Corporate Social Responsibility

A report was made to the Committee on the employee savings transaction launched in March 2016.

Corporate governance

The Committee reviewed the practices adopted by the Company in the light of the recommendations of the AFEP/MEDEF Code revised in November 2016, the AMF's Annual Report on Executive Officer Remuneration in Listed Companies published on November 17, 2016 and the Report of the Haut Comité de gouvernement d'entreprise of October 2016 (including the application guide for the AFEP/MEDEF Code issued by the HCGE in December 2016) and made its recommendations.

The Committee reviewed the section on remuneration below and the Reports attached and recommended their approval by the Board of Directors.

PARTICIPATION OF SHAREHOLDERS AT THE SHAREHOLDERS' MEETING

In accordance with article L. 225-37 of the French Commercial Code, it is specified that the specific terms and conditions relating to the participation of shareholders at the Shareholders' Meeting are set out in articles 5 to 10 and 18 and 19 of the Company's articles of association (set out on pages 368 et seq. of this Reference Document).

FACTORS LIKELY TO HAVE AN IMPACT IN THE EVENT OF A TAKEOVER BID

In accordance with article L. 225-37 of the French Commercial Code, it is specified that the factors likely to have an impact in the event of a takeover bid are set out and explained pursuant to article L. 225-100-3 of the French Commercial Code on pages 379 and 380 of this Reference Document.

APPLICATION OF THE AFEP/MEDEF CODE OF CORPORATE GOVERNANCE: SUMMARY TABLE

L'Air Liquide applies the AFEP/MEDEF Code (as revised in November 2016) except for the following recommendations:

Recommendations	L'Air Liquide's practice and justification
Independence criteria for the Directors Article 8.5: In order to qualify as independent, a Director: <ul style="list-style-type: none">■ must not have been "over the past five years, an employee or executive Director of the Company, an employee or executive Director or a Director of a company that the latter consolidates; an employee, executive Director or Director of the parent company or a company consolidated by this parent company";■ must not "have been a Director of the Company for more than twelve years."	The Board considered that former employees or Senior Management Executives of the Company cannot be considered as independent, even if their duties ended more than five years ago (see page 130). The Board did not consider that the performance of a term of office for more than 12 years disqualified the member concerned from being independent. Highly capital-intensive investment projects within the scope of long-term contracts, with a typical length of 15 years, but which can sometimes be as long as 20 or 30 years, are at the heart of the industrial gases business. Experience acquired on the Board over time therefore allows a Director to follow the Group's development cycle in the long term and make an informed, critical judgment on the investment decisions to be made to ensure future growth. The Group is however committed to compliance with best governance practices. With this in mind, the Board decided to make changes to its rules at the time of renewal of the term of office of the next Director concerned (see page 130).
Remuneration Committee Article 17.1: "It is recommended [...] that an employee Director be a member (of such Committee)." Article 17.3: "At the time of the presentation of the Report on the Remuneration Committee's work, it is necessary for the Board to deliberate on the elements of remuneration of the Executive Officers without their presence."	A Director representing the employees appointed by the France Group Committee has participated in Board meetings since July 2014. The Company's practice is usually to leave new Directors time to adapt. The Director representing the employees will be asked to participate on a Committee in 2017; At the Remuneration Committee meeting, the Chairman and Chief Executive Officer does not attend deliberations by the Committee relating to his personal case (see page 143).
The deviations with regard to the AFEP/MEDEF Code noted in 2015 also concerned the absence of an obligation, in the event of the award of performance shares, for the Executive Officers to purchase a defined quantity of shares at the time of availability of the shares awarded, and	on the review of the financial statements by the Audit Committee at least two days prior to their review by the Board. As these recommendations were removed from the AFEP/MEDEF Code in November 2016, these deviations are no longer included in the above table.

The deviations with regard to the AFEP/MEDEF Code noted in 2015 also concerned the absence of an obligation, in the event of the award of performance shares, for the Executive Officers to purchase a defined quantity of shares at the time of availability of the shares awarded, and

on the review of the financial statements by the Audit Committee at least two days prior to their review by the Board. As these recommendations were removed from the AFEP/MEDEF Code in November 2016, these deviations are no longer included in the above table.

Internal control and risk management procedures instituted by the Company

The Group Control Director was requested by the Chairman and CEO to compile the elements of this report, which was prepared with contributions from several departments (particularly Finance, Group Control, Legal, Safety and Industrial System).

This report was transmitted to the Statutory Auditors and presented to Executive Management, which deemed it compliant with existing Group measures. It was approved by the Board of Directors, upon the recommendation of the Audit and Accounts Committee.

The report is based on the Internal Control and Risk Management Systems Reference Framework, developed under the supervision of the French financial markets authority (AMF).

INTERNAL CONTROL OBJECTIVES

In addition to the Principles of action, which reaffirm the Group values for each major area (shareholders, customers and suppliers, employees, etc.), the Group's policies are grouped together in an overall Reference Document, the BLUEBOOK, which is available to employees on the Intranet. They constitute a set of internal control and risk management procedures, which must be implemented by each entity included in the Group's consolidated financial statements.

The BLUEBOOK is the cornerstone of the Group's internal control system.

The internal control system aims to ensure that:

- the Group's activities and the conduct of its members:
 - comply with laws and regulations, internal standards and applicable best practices,
 - comply with the objectives defined by the Company, especially in terms of risk prevention and management policies,
 - contribute to safeguarding the Group's assets;
- all financial and accounting information communicated either internally or externally gives a true and fair view of the situation and activity of the Group and complies with prevailing accounting standards.

Generally, the Group's internal control system should contribute to the management of its activities, the efficiency of its operations and the efficient use of its resources.

As with other "assurance systems", it cannot provide an absolute guarantee that the Group's objectives will be met.

In 2016, the Group pursued the actions undertaken in previous years, with more than 70 material Group entities and shared service platforms (representing over 90% of consolidated Group revenue, excluding Airgas), reviewing the appropriateness of their internal control system in relation to the Reference Framework for internal control and risk management systems. These entities also implemented actions aimed at improving their control system in terms of annual guidelines defined at the beginning of the year by the hubs and World Business Units, the Group Control Department and the Finance and Operations Control Department. The latter two together organize these improvement measures and report on their progress and the Group's accounts to Executive Management then to the Audit Committee.

Audits are coordinated by the Group Control Department and the Statutory Auditors, based on a joint work program, to verify assessments of the internal control system and the correct implementation of key operating controls, including in small- and medium-sized entities based on a framework of key control processes adapted for their use.

In 2016, the Group continued its measures to improve the quality of its internal control and risk management system, and in particular:

- the Group started the integration with Airgas following the finalization of the acquisition in May 2016, focusing on a first step on certain financial risk management processes (particularly reporting, investment and cash management). As a listed US company, Airgas historically had its own internal control and risk management processes based on the Sarbanes-Oxley law in particular;
- realignment of governance, especially for managing investment decisions, to the evolution of the Group's organization that is now based on the hubs and the entities grouped in Clusters;

- in the Engineering & Construction activity, the overhaul of structures and processes and the strengthening of skills is aimed at better managing contractual commitments and strengthening the monitoring and execution of projects;
- setting up an Ethics Committee that supervises the actions undertaken by the Group in this area, with continued roll-out in 2016 of the whistleblowing system that enables all employees to provide fast notification of a deviation from the Code of Conduct. More than 95% of employees excluding Airgas now have access to the system (Airgas will adopt the Group's system in the future as it currently has its own system);
- in the area of digital security, user awareness and training, particularly for data processing tools and processes for the most sensitive information, as part of the roll-out of a new work environment;
- a project to improve the BLUEBOOK's user-friendliness aimed at facilitating its use, fast access to the documents and to specific information.

ORGANIZATION

The Group is organized and based on a consistent Group strategy.

It is supported by a method of management which centers on mid-term objectives that are categorized by business, as well as a steering process for activities based on annual budgetary objectives, which are further categorized down to the individual plan level.

The organization breaks down into:

- entities, grouped in Clusters for better sharing of certain resources, which ensure the operational management of their activities in the countries where the Group is located;
- hubs which ensure the Group's presence in the main global regions (Houston, Frankfurt, Shanghai and Dubai); they accommodate the representatives of Group functions and World Business Lines that ensure that the Group strategy is properly implemented locally;
- World Business Lines:
 - that present mid-term strategic objectives for their related activities to Executive Management,
 - that are responsible for strategic Marketing, the Industrial Policy and the appropriateness of skills in their field of activity;
- the World Business Units specific to certain activities (Healthcare, Engineering & Construction, etc.) that define their strategy and undertake a global operational responsibility.

This organization also includes Holding and Group Departments, which notably comprise the three key control departments that report independently to Executive Management:

- the Finance Department, which is responsible for:
 - the reliability of accounting and financial information,
 - the Group financial and tax risk management,

- management control through the drafting of Group objectives and monitoring of performance, on the basis of financial data prepared by the accounting teams and analyzes conducted by the financial teams of the various entities;
- the Group Control Department, which:
 - provides expertise and assistance to entities in the roll-out of their risk management approach (see below) and builds a Group synthesis;
 - verifies the effective application of internal control and risk management procedures through audits carried out according to a defined program presented to the Group's Audit and Accounts Committee. This program, developed and based on the risk analysis, is regularly monitored by the Audit and Accounts Committee itself. Audit Reports are systematically supplemented by corrective action plans, which are supervised by a member of the Executive Committee. These reports, as well as subsequent follow-up reports, are the subject of various communications and periodic discussions with the Statutory Auditors,
 - helps Group entities ensure compliance both with the Group's ethical values, particularly through training and awareness-raising actions and the treatment of fraud and deviations, as well as with international trade regulations,
 - provides guidance to Group entities, through the Digital Security Department, which reports directly to the Group Control Department, on the identification and protection of their data and digital applications (definition of rules, roll-out expertise and advice, control of proper implementation);
- the Legal Department, which identifies legal risks, issues internal guidelines and codes, and then oversees their proper implementation. It also monitors the main litigation cases and manages insurance.

Finally, this organization relies on a framework of authorizations and delegations granted by Executive Management:

- to members of the Executive Committee and certain departments and services in order to define their commitment and payment powers for commercial transactions (sales or purchasing);
- to certain executives in charge of entities or sites in France, in order to ensure the prevention and control of industrial risks in terms of hygiene and safety;
- to certain financial executives, in order to ensure the security of transactions and financial flows.

The managers of the various Group subsidiaries exercise their duties under the control of the Boards of Directors and in accordance with laws and regulations applicable in the countries where they operate.

RISK MANAGEMENT

To ensure the continued development of its activities, the Group must actively pursue an approach to prevent and manage the risks (especially industrial and financial risks) to which it is exposed.

In terms of the Group's business activities, industrial risk management must essentially focus on prioritizing safety and security while maintaining a permanent focus on the reliability of installations.

Financial risk management requires strict control over investments, combined with prudent and rigorous practices regarding the accounting and financial aspects of the activities.

The Group risk management approach, which has been formalized since 2009, aims to ensure:

- the regular identification of the different forms of risk (industrial, financial and other) encountered by the Group during the pursuit of business activities, which are assessed according to both potential damage and probability of occurrence;
- the assessment of the risk management level of each risk based on a common scale with respect to the quality of policies, organizations, processes and controls in place;
- the progress of the main corrective action plans undertaken to mitigate the risks, by focusing monitoring activities on a limited number of priorities.

This three-phase risk management process (mapping, management levels, mitigation plans) covers over 70 entities representing more than 90% of consolidated Group revenue (excluding Airgas that currently has its own risk analysis process).

The Risk Management Department within the Group Control Department leads this approach using:

- resources dedicated by the hubs, World Business Units and World Business Lines to manage the approach in their respective scopes of responsibility (under the supervision of the Boards of Directors of the entities concerned) and provide a summary thereof;
- the work of members of the Risk Committee that it coordinates. This Committee brings together the main Group support functions, which provide their expertise to the hubs, World Business Units and World Business Lines. Presided by Executive Management, it meets twice a year to report on the progress of initiatives, particularly in terms of priorities, and to establish a Group risk management synthesis as well as define the directions for the following year.

The Audit and Accounts Committee reviews Group risk management based on presentations covering:

- the progress of the approach (on an annual basis);
- each major risk management system based on a multi-year program structured according to the challenges;
- internal audit summaries of these risk management systems.

Finally, an annual summary of risk management actions undertaken by the Group is presented to the Board of Directors; each year it validates the Audit Committee's provisional program which is presented to it beforehand, as well as a list of subjects of strategic interest or with particular relevance that will be presented in a more specific manner.

CONTROL ACTIVITIES

Control activities aim to ensure that internal control procedures are properly implemented and respected and notably rely on strict control of Group investments and commitments, with:

- an in-depth review of investment requests using very strict assessment criteria as well as the medium- and long-term contractual commitments which may arise therefrom, within the Resources and Investments Committees. These Committees remain in each hub or World Business Unit; they comprise regional, technical and financial managers as well as World Business Lines managers that vary depending on the nature of the project considered, and are chaired by an Executive Committee member;
- control of investment decisions through the specific follow-up of authorizations granted as well as contributions expected and seen during the initial years. In addition, the subsidiaries are obliged to report (above certain thresholds) all budget overruns and implement corrective action plans aimed at ensuring the profitability of the investments concerned;
- more in-depth analyzes (comparative profitability analyzes prior and subsequent to completion) for certain significant investments.

The main internal control and risk management procedures drafted and communicated by the Group in the BLUEBOOK aim to:

- 1. Ensure the safety and security of employees, products and installations, as well as the reliability of operations, in compliance with the rules and regulations for accident prevention**

To this end, the Company has an Industrial Management System (IMS), which operates based on:

- empowerment of the Management bodies governing the Group's various entities for the effective implementation of this system;
- the issue of key management and organizational procedures that aim to ensure:
 - regulatory compliance,
 - design management,
 - industrial risk management,
 - hygiene, health and environmental management,
 - training and certification of personnel,
 - management of operating and maintenance procedures,
 - management of industrial purchasing,
 - change management,
 - analysis and treatment of incidents and accidents,

- system effectiveness control through Management audits and reviews,
- shared technical standards within Group entities.

The IMS document base is updated and supplemented on an ongoing basis.

The Safety and Industrial System Department and the Industrial Departments of the relevant World Business Lines supervise and control the effective implementation of the IMS, by notably relying on:

- on-going awareness-raising actions for teams by providing specifically related training, and the distribution of a monthly security report on the Group Intranet;
- the presentation of various indicators designed to review performance in terms of the safety and reliability of operations, as well as the deployment of certain Group key standards;
- the process audits conducted by the Safety and Industrial System Department to verify the implementation conditions and compliance of operations with IMS requirements;
- technical audits carried out by the Industrial Departments to ensure the compliance of operations with Group security and technical rules.

Changes in the safety performance of operations and their level of compliance with IMS requirements are regularly monitored by the Executive Committee.

- 2. Ensure control of energy purchasing, particularly with respect to availability and matching with Group commitments to customers**

The energy management policy defines rules governing energy purchasing and the related decision-making processes. The Enrisk Group Committee reviews the procurement strategies of the entities, validates the most significant commitments and ensures the relevant policies are properly applied.

Each month, the Enrisk Group Committee brings together the Vice President in charge of the Large Industries Global Business Line, the Energy Vice President and the Group Deputy Chief Financial Officer.

Meeting minutes are sent to Executive Management.

- 3. Ensure the protection of Group IT data and applications**

The Digital Security Policy sets the basic rules governing the identification of digital security stakes and handling of associated risks, and outlines the roles and responsibilities in this area. It is accompanied by:

- procedures describing, in particular, how to secure data and applications, detect and deal with incidents;

- codes outlining principles to be respected by IT users and administrators.

The Digital Security Department reports directly to the Group Control Department and uses resources set aside in the hubs, Clusters, World Business Units and World Business Lines to coordinate and control the roll-out of this policy, in conjunction with the IT Department. This roll-out is centered on a long-term operational program aimed at defining the key areas and measures to be taken under the supervision of a member of the Executive Committee.

This plan aims to raise awareness among all employees on cyber security issues in the exercise of their duties and to improve the protection of information and data systems with, in particular:

- greater consideration to Digital Security from the design phase of projects, as an inherent dimension of any resulting solution;
- the continuation of the treatment of IT system vulnerabilities, and the protection of critical applications and of the most sensitive information;
- diagnosis and audits aimed at assessing the quality and efficiency of the protection of our sensitive digital assets and the correct implementation of the long-term program.

4. Ensure the development of the Group's expertise and talents

The Human Resources policy defines the main rules, together with the roles and responsibilities of the different parties in their implementation, with respect to, among others:

- the acquisition and sustaining of requisite skills, in particular through the SPRING long-term program, which identifies and manages critical skills. Training provided under the Air Liquide University brand also contributes to this goal and in particular e-learning courses attended by an increasing number of users (more than 44,000 in 2016) in a wide range of domains (ethics, industrial security, competition law, etc.);
- accompanying employees in their personal development with the continuing roll-out of improvement tools for the management of training programs (LMS: Learning Management System), the management of careers and skills (TMS: Talent Management System) and the communication of career advancement opportunities (TAS: Talent Acquisition System);
- measuring and recognizing performance and contributions for all employees. Other than remuneration policies, the Group's specific programs promote, for example, technical expertise (Technical Community Leaders), inventors (inventor recognition program) and entrepreneurs.

5. Ensure that laws, regulations and internal management rules are respected within the Group, notably in the legal and intellectual property areas

- With the Group legal policy, which encompasses:
 - a Group procedure relating to Powers (limitations and delegations) for use by Group entities;
 - a Group procedure on the governance of subsidiaries (Boards of Directors);
 - an Insurance Guide for all Group entities;
 - Group codes on how to behave in order to comply with competition laws (including Europe and the United States), accompanied by surprise audits and training that includes e-learning;
 - a Group code recapping the rules of ethical behavior to prevent the risk of corruption, and related procedures, accompanied by regular training sessions;
 - a memorandum, specifying the rules to be observed to prevent market abuse (insider trading);
 - various contract guides (for Large Industries, Engineering & Construction, Industrial Merchant, Electronics and Financing) and Codes of Good Practices (for Healthcare).

- In the intellectual property area, with a Group policy and procedures aimed at:
 - ensuring Air Liquide's compliance with valid patents held by third parties in its different areas of activity;
 - protecting Group intellectual property, by protecting its inventions, designs and brands through their identification (on an official filing basis) and in the event of partnerships or other third-party relations targeting innovation;
 - managing the Group's obligations in terms of the recognition of their inventors.

To this end, the Group relies on an Intellectual Property Department, comprising professionals located at the Group's head office and in the main geographic regions.

6. Manage financial and tax risks

Financial decision-making governance is the responsibility of the two Finance Committees (Strategic Financial Committee and Operational Financial Committee), with the former considering the financing strategy and the latter dealing with the practical implementation of the financial policy.

The Company has defined financial policies, which forbid speculative transactions notably on financial instruments, and that are subject to regular review. These policies were brought together in a Group financial policy. These procedures set out the principles and procedures for the management of financial risks to which the activity is exposed, notably in relation to:

- liquidity risks: the Company has defined rules aimed at ensuring an appropriate level of "confirmation" and diversification (by type and maturity) for all external financing sources. The Group staggers short- and long-term repayment maturities over time in order to limit amounts to be refinanced each year;
- counterparty risks: the Company has defined rules aimed at ensuring that there is sufficient diversification and financial solidity of counterparties at Group level (commitment limits / minimum rating);
- interest rate risk: the Company has defined methods managed on a centralized basis for the hedging of interest rates related to indebtedness that is carried in major currencies (mainly EUR, USD, JPY, and CNY), which represent more than 90% of total net indebtedness with:
 - a selection of authorized tools,
 - the hedging decision processes,
 - the methods of executing transactions.

For other foreign currency indebtedness, rules have been defined in order to ensure that the transactions initiated to hedge interest rate risk are consistent with Group objectives;

- foreign exchange risk: the Company has defined methods for hedging foreign exchange risk, whether this is carried by the holding companies or the operating entities, in terms of authorized hedging instruments, the decision process and the execution of transactions.

These measures are supplemented by treasury management rules adapted to local circumstances, which are aimed at ensuring secure transactions and optimizing the management of liquidity (forecasting of cash in / cash out, etc.).

The application of this financial policy is controlled by the Finance Department. The majority of transactions are executed on a centralized basis (financing and management of related interest rate risk, hedging of foreign exchange risk), which is completed by consolidated reports provided by various Group entities on a monthly or quarterly basis, depending on the type of risk.

In terms of tax, the Group attaches great importance to compliance with local regulations which are monitored by its Tax Department and its Financial Departments.

7. Ensure the reliability of financial and accounting information

In order to guarantee the quality and reliability of financial and accounting information produced, the Group primarily relies on a set of accounting principles and standards, as well as a consistent accounting and management reporting system for data which feeds both the

Group consolidation process and the business analysis that is under the responsibility of independent departments, which report to the Finance Department.

The Group accounting manual, which includes the Group financial policy, defines the accounting rules and principles as well as the consolidation methods applicable and states the formats applicable for reporting financial and accounting information. This manual is regularly updated by the Finance Department with the amendments to IFRS or their interpretations.

Management and Accounting Reports are each prepared under the responsibility of independent but interactive departments that follow identical methods and principles:

- this independence allows for the enhancement of information and analyzes through the use of complementary indicators and data, particularly those which are specific to each activity;
- the fact that these bodies are interactive provides for better control of the reliability of information through the systematic and regular reconciliation of data.

The reports primarily include:

- monthly management reporting, known as the "Monthly Flash Report", that provides information on revenue and the main financial indicators: income statement, cash flow from operating activities, net indebtedness and the amount of investments authorized and committed;
- quarterly reporting, known as the "Management Control Report", which provides details of the primary items of the income statement, balance sheet and cash flow statement;
- a quarterly "variance analysis" report to assess the various components of the change in operating income recurring.

These three documents are compiled by each management entity according to a predefined yearly timetable.

They are systematically accompanied by comments on activities drawn up by the Director and the controller within the entity, and are consolidated at Group level with a breakdown for each hub and activity;

- quarterly reporting for accounting consolidation is compiled by each subsidiary which, in addition, must provide (on a semi-annual basis) information on off-balance sheet commitments that may include:
 - energy purchasing,
 - financial guarantees and deposits,
 - all other contractual commitments.

Accounting consolidation statements and monthly reporting are sent to the Central Consolidation Department. This department prepares the consolidated data and works in conjunction with the Operations Control Department, whose duty is to analyze and comment on the results, identify and explain any differences with respect to forecasts, and to update the forecasts.

Within the monthly Executive Management meetings, a rolling forecast for the current year is systematically presented by the Finance Department, in order to identify, when applicable, any differences with respect to yearly targets and take the necessary steps.

Through regular controls, the Finance Department ensures the effective application of accounting methods and principles in the various Group entities. The most complex accounting standards, particularly those relating to employee benefits (IAS19R), methods of consolidation (IFRS10/11) and derivative financial instruments (IAS32/39, IFRS7) are subject to tighter controls or treated directly by the Finance Department.

It also relies on audits carried out by the Group Control Department, with which it has regular contact.

The quality and reliability of financial and accounting information also depends on information systems which are increasingly integrated (such as ERP), a Group consolidation software package and a treasury consolidation package.

The project, which aims to further harmonize ERPs, continues (mainly in the Asia Pacific, Americas and Africa, Middle East & India zones) based on the definition of an accounting and financial framework tailored to the various business lines.

8. Manage environmental and climate risks

The Group has a policy that aims to ensure its development while limiting its carbon footprint and other environmental impacts.

Indeed, the carbon footprint as well as other environmental risks (emissions into the atmosphere, annual water supply, etc.) are part of the criteria for analyzing investment projects.

In addition, the Group initiated an approach that promotes purchasing energy from suppliers with the best carbon footprint and aims to continually improve its energy efficiency (in particular for air gas and hydrogen production) and that of its transport used to deliver products to its customers. These improvements are monitored using indicators collected and consolidated at Group level.

Finally, as well as the vigilance it exercises over its own activities, the Group offers its customers many applications and services to help them reduce their own carbon footprint.

The Group is also attentive to climatic risks and particularly risks related to the extreme weather-related phenomena, which are the subject of specific adaptation plans on the main sites located in high-risk areas.

All these subjects are detailed in the Responsibility and Sustainable Development Report in chapter 2 of the Reference Document.

MONITORING OF CONTROL MEASURES

The Board of Directors exercises its control over Group management based on the various quarterly activity reports it receives from Executive Management and the work of the Audit and Accounts Committee, according to the methods and principles described above (reports, debriefings, etc.).

Executive Management exercises its control over risk management, particularly through monthly meetings with the Chairman and CEO, the Senior Executive Vice President and the Executive Vice President aided by the Finance Director, and the Legal Director who also acts as secretary.

It also relies on existing reports and:

- Executive Committee meetings, with, in particular, debriefings from the Safety and Industrial System Department regarding Group performance in terms of security and the progress of current actions;
- work carried out by the Finance Department, and the Group Control Department, which report directly to Executive Management;
- recommendations made by various Group Committees set up to ensure enhanced management of certain commitments and more significant stakes (the role and members of these Committees are described below).

These control measures are enhanced by the involvement of operational departments and the Executive Committee in the implementation and follow-up of actions needed to improve and strengthen the quality of internal controls.

THE RISK COMMITTEE

The purpose of this Committee is to provide support and expertise to the hubs, World Business Units and World Business Lines which must implement and coordinate the risk management approach in their respective scopes of responsibility.

It brings together the Group's major support functions: Legal, Finance, Communication, Safety and Industrial System, Human Resources and Group Control.

Chaired by Executive Management, it meets twice a year to report on the progress of initiatives, particularly in terms of priorities, and to prepare a Group risk management synthesis.

THE FINANCE COMMITTEES

The Strategic Finance Committee

The purpose of this Committee is to verify the effective application of the Group's financial policy, to approve financial management proposals and suggestions that have been submitted and to approve the rules governing the Group's financial policy, which are subjected to regular review.

It brings together the Chief Financial Officer, the Corporate Finance Director and the Group Treasury and Financing Director, who meet under the authority of the Chairman and CEO.

The Committee meets at least three times a year and upon request, if necessary.

The Operational Finance Committee

The purpose of this Committee is to make day-to-day decisions concerning the financial management of the Group, to propose structuring transactions to the Strategic Finance Committee and to ensure their implementation after approval.

It brings together the Chief Financial Officer, the Corporate Finance Director and the Group Treasury and Financing Director, assisted by a Committee secretary.

The Committee meets every four to six weeks, and the minutes of these meetings are sent to the Chairman and CEO.

THE RESOURCES & INVESTMENT COMMITTEES

The purpose of these Committees is to assess and approve requests for investments that have been submitted, as well as medium- and long-term contractual commitments and Human Resource requirements that may arise therefrom.

They meet regularly (usually once or twice a month) for each hub (Houston, Frankfurt, Shanghai, and Dubai) and World Business Unit (Healthcare, Engineering & Construction, 'Innovation, Digital, Science & Technologies' (IDST)). Each Committee meeting is chaired by a member of the Executive Committee and brings together business managers concerned by the investment, as well as representatives of the Group Finance Department.

The Committee's decisions are reviewed by Executive Management.

THE ETHICS COMMITTEE

The purpose of this Committee is to supervise the Group's ethics program (monitoring of actions undertaken to prevent deviations, proposing short- and medium-term orientations) and to recommend sanctions in case of significant deviation.

It brings together the Legal, Group Control, and Human Resources Departments as well as a representative of operational functions.

It meets once per year under the chairmanship of the Group Control Director to supervise the ethics program and also on one-off occasions when significant deviations make it necessary.

► REMUNERATION OF THE EXECUTIVE OFFICERS AND DIRECTORS OF L'AIR LIQUIDE S.A.^(a)

(pursuant to article L. 225-102-1 of the French Commercial Code)

This section describes the remuneration and benefits granted to the corporate officers during the 2016 fiscal year and the remuneration structure adopted for the 2017 fiscal year as approved by the Board of Directors on February 14, 2017. It incorporates, by reference, certain sections which should be part of the Report from the Chairman, included here in order to present full information in a single section of the Reference Document, for the purpose of clarity.

To determine all the various components of remuneration of the executive officers, as proposed by the Remuneration Committee, the Board of Directors takes into account the principles of comprehensiveness, balance, comparability, consistency, understandability and proportionality as recommended by the AFEP/MEDEF Code of corporate governance. Taking account of several external reviews, the Board of Directors adopts a remuneration policy providing strong incentives for the executive officers and related to the steady operational performance that the shareholders expect from Air Liquide over time.

This remuneration policy includes incentive elements reflecting the Group's strategy which is oriented toward profitable long-term growth while acting responsibly with regard to all stakeholders. In a highly capital-intensive industry, profitable long-term growth requires constant attention to be paid to each investment decision and to the competitiveness of every transaction, while maintaining an ongoing effort over time in favor, in particular, of innovation, employee training, safety and security and energy efficiency. In this context, the elements taken into account in the determination of the remuneration are as follows:

- a **short-term component**, composed of a fixed portion and a variable portion;
- a **long-term incentive** (hereinafter "LTI") via the granting of share subscription options or, since 2015, performance shares, both tools being subject in full to the same performance conditions calculated over three years;
- **other earnings** attached to the performance of the terms of office of the executive officers, including:
 - a **defined benefit** pension plan applicable to eligible senior managers and executives and executive officers,
 - a **collective life insurance plan**,
 - a **death and disability benefits plan**,
 - **commitments to pay an indemnity in the event of termination of their duties** on the Company's initiative in certain circumstances subject to performance conditions calculated over a three-year period,
 - entitlement to the **unemployment insurance for company managers and corporate officers**, in the absence of an employment contract with the Group.

A full description of all these components of remuneration is set out below, and, when such commitments are subject to the regulated agreements and commitments procedure, they are also described in the Statutory Auditors' Special Report on pages 354 et seq. In accordance with the AFEP/MEDEF Code, the remuneration components of the executive officers are made public after the Board meeting during which they are approved.

The information included in this document takes into account the provisions of the AFEP/MEDEF Code of corporate governance for listed companies (revised in November 2016) as interpreted by the Haut Comité de Gouvernement d'Entreprise (French High Committee on Corporate Governance) (application guide for the AFEP/MEDEF Code updated in December 2016; Activity report of the Haut Comité de Gouvernement d'Entreprise of October 2016) and the AMF's recommendations included in the Guide on preparation of reference documents updated by the AMF on April 13, 2015 and the AMF Report on corporate governance and executive compensation of listed companies of November 17, 2016. For the summary of the application of the AFEP/MEDEF Code, see the summary table in the Report from the Chairman, on page 145.

Pursuant to the recommendations of the AFEP/MEDEF Code, the components of remuneration due or awarded to each executive officer in respect of 2016 are subject to the opinion of the Annual Shareholders' Meeting on May 3, 2017, in a specific resolution for each executive officer (see tables on pages 181 et seq. below). Furthermore, in accordance with article L. 225-37-2 of the French Commercial Code (resulting from Law No. 2016-1691 of December 9, 2016 relating to transparency, the fight against corruption and the modernization of economic life), the principles and criteria for determination, allocation and distribution of the fixed, variable and exceptional elements of the total remuneration and the benefits of all kinds that may be granted to the executive officers, as shown in the Report set out on pages 191 et seq., are subject to the approval of the Annual Shareholders' Meeting in a specific resolution for each executive officer.

(a) For the purposes of transparency and in order to ensure the provision of complete information, all references to the remuneration of Pierre Dufour in this document take into account his remuneration in respect of his offices in France and Germany.

Summary of the remuneration of the General Management

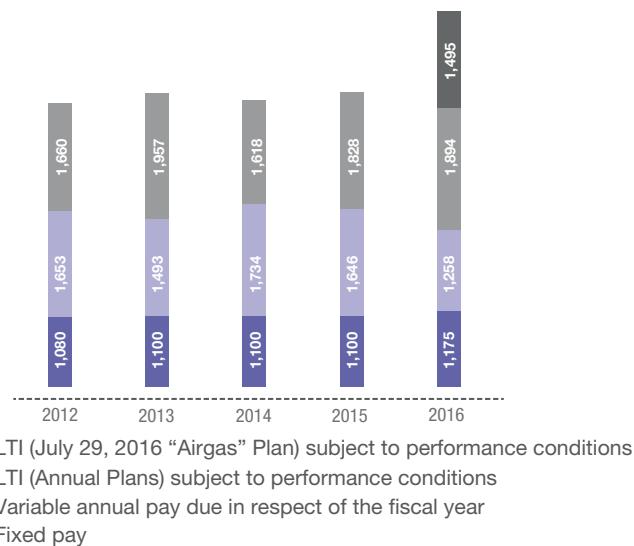
Table 1 below presents a summary of all remuneration components paid to the executive officers with regard to fiscal years 2014, 2015 and 2016. They are then more fully described in the other tables below.

Table 1 – Summary of remuneration and stock options and performance shares granted to each executive officer

(in thousands of euros, rounded off)	2014	2015	2016
Benoit Potier – Chairman & Chief Executive Officer:			
Remuneration due in respect of the fiscal year (see breakdown in Table 2)	2,843	2,757	2,433
Value of stock options granted during the fiscal year (see breakdown in Table 4)	1,618	893	619
Value of performance shares granted during the fiscal year (see breakdown in Table 6):			
■ Annual plan	N/A	935	1,275 ^(a)
■ July 29, 2016 “Airgas” plan	N/A	N/A	1,495
TOTAL	4,461	4,585	5,832
Pierre Dufour – Senior Executive Vice-President:			
Remuneration due in respect of the fiscal year (see breakdown in Table 2)	1,669	1,653	1,498
Value of stock options granted during the fiscal year (see breakdown in Table 4)	922	509	N/A
Value of performance shares granted during the fiscal year (see breakdown in Table 6):			
■ Annual plan	N/A	533	N/A ^(a)
■ July 29, 2016 “Airgas” plan	N/A	N/A	747
TOTAL	2,591	2,695	2,245

(a) November 29, 2016 plan.

BREAKDOWN OF THE REMUNERATION OF THE CHAIRMAN & CHIEF EXECUTIVE OFFICER OVER THE LAST FIVE YEARS



2016 – Total annual remuneration (fixed portion, variable portion, LTI)

1. SHORT-TERM BENEFITS

Gross annual remuneration before tax paid to each executive officer of L'Air Liquide S.A. by the Company (and all Group companies), with respect to his corporate office for the Chairman and Chief Executive Officer and for his duties as executive officer in France and since 2014 in Germany for the Senior Executive Vice-President, including the benefits in kind, amounted to the figures presented in Table 2 below for fiscal years 2014, 2015 and 2016:

Table 2 – Summary of the remuneration of each executive officer

(in thousands of euros, rounded off)	2014		2015		2016	
	Amounts due	Amounts paid	Amounts due	Amounts paid	Amounts due	Amounts paid
Benoît Potier – Chairman & Chief Executive Officer^{(a) (b)}						
■ fixed remuneration	1,100	1,100	1,100	1,100	1,175	1,175
<i>including Directors' fees</i>	0	0	0	0	0	0
■ variable annual remuneration	1,734	1,494	1,646	1,734	1,258	1,646
■ benefits in kind	9	9	11	11	10	10
TOTAL	2,843	2,603	2,757	2,845	2,443	2,831
Pierre Dufour – Senior Executive Vice-President^{(b) (c)}						
■ fixed remuneration	650	650	650	650	675	675
<i>including Directors' fees</i>	0	0	0	0	0	0
■ variable annual remuneration	755	660	739	755	564	739
■ benefits in kind	14	14	14	14	9	9
■ other elements of remuneration ^(d)	250	250	250	250	250	250
TOTAL	1,669	1,574	1,653	1,669	1,498	1,673

(a) In accordance with the recommendations of the AFEP/MEDEF Code of corporate governance, Benoît Potier resigned from his employment contract in May 2010. Benoît Potier receives all his remuneration in his capacity as a corporate officer.

(b) During 2016, the Group paid contributions to third parties on behalf of Benoît Potier with respect to the supplementary defined contribution pension plan (9,233 euros), the collective life insurance contract (205,416 euros) and the additional death and disability benefits plan (3,151 euros), and on behalf of Pierre Dufour, with respect to the savings contract entered into by the German subsidiary (250,000 euros). The total sum of these contributions amounts to 467,800 euros.

These plans are described in further detail below.

(c) For Pierre Dufour, the amounts include, for the 2014, 2015 and 2016 fiscal years, the remuneration due in respect of his duties as Managing Director of ALGMS GmbH, it being specified that Pierre Dufour does not receive any remuneration from other Group companies.

(d) Payments by the German subsidiary of an amount of 250,000 euros including an indemnity corresponding to the benefits in kind (housing) from which Pierre Dufour benefited under his employment contract in France.

Traditionally, **fixed remuneration** is determined based on the level of responsibility and experience in the management function, as well as with reference to current market practices. The variable remuneration, the maximum amount of which is capped at a predetermined percentage of the fixed remuneration for each of the executive officers, is based on two financial criteria, which have been the same for a number of years, and on personal objectives, adopted by the Board of Directors at the beginning of the fiscal year in line with the Group's strategic priorities. The results are assessed, after fiscal year-end, on the basis of the consolidated financial statements for the fiscal year and the evaluation of the performance of each executive officer by the Board of Directors. The entire variable part of the remuneration, due in respect of a fiscal year, is paid in the following fiscal year, after approval of the financial statements by the Annual Shareholders' Meeting.

The fixed remuneration and variable remuneration are examined by the Board on the basis of a study of the practices of companies of a comparable size in France and of companies in the same business sector worldwide on the basis of market surveys carried out by external consultants.

1.1. 2016 fixed remuneration

For 2016, in order to remain competitive as compared to the reference markets, it had been decided to set the amount of the fixed remuneration, which was unchanged since 2012 for Benoît Potier, and since 2014 for Pierre Dufour, as set out in the table below.

	2015 (in thousands of euros)	% change 2015/2016	% change per year since the last increase	2016 (in thousands of euros)
Benoît Potier	1,100	+6.8	+1.7 ^(a)	1,175
Pierre Dufour	650	+3.8	+1.9 ^(b)	675

(a) Unchanged remuneration since 2012.

(b) Unchanged remuneration since 2014.

This increase represents:

- an increase of +6.8% as compared to 2015 for Benoît Potier, i.e. +1.7% per year since the last increase;
- an increase of +3.8% as compared to 2015 for Pierre Dufour, i.e. +1.9% per year since the last increase.

1.2. 2016 variable remuneration

1.2.1. Criteria and objectives for 2016

Financial criteria

For 2016, the Board Directors had decided in February 2016 that the variable remuneration would be based on two financial criteria:

- growth in **recurring net earnings per share** (recurring EPS) (excluding the foreign exchange impact and exceptional items; the calculation is made without the impact of the Airgas acquisition and its financing). The growth objective had been set on a consistent basis with regard to historical performances; it took into account the Group's growth ambition and the economic environment;
- the level of **return on capital employed** (ROCE) (excluding exceptional items; the calculation is made without the impact of the Airgas acquisition). The objective had been set in absolute value in line with best performances in the industry, and at a level significantly higher than the weighted average cost of capital. It reflects the importance for the Group of the balance between growth and return on investment.

The objectives set were identical to those for previous fiscal years.

For each financial criterion, a formula adopted by the Board makes it possible to calculate the amount of the variable remuneration due taking into account the value achieved for the criterion as compared to the target objective set. Thus, in the event of a performance below the lower limit set for each objective, the fraction of the variable remuneration corresponding to this criterion is equal to zero.

The objectives set are not made public for confidentiality reasons.

Personal criteria

The 2016 variable remuneration is also based on personal objectives which comprise:

- for two-thirds, qualitative objectives, most of which are shared by the two executive officers, in particular:
 - finalization of the Airgas acquisition, its financing, in particular through the capital increase, and its integration,
 - implementation of the NEOS 2016-2020 plan,
 - preserving the Group's main financial balances with continued pursuit of a selective investment policy,
 - progress of the young managers and organization of the succession plans,
 - pursuit of the Corporate Social Responsibility policy, in particular in terms of safety, reliability and preparation for the CSR integration of Airgas;
- for one-third, individual performance.

Importance of each criterion

For the record, in respect of **2016**, the variable portion, expressed as a percentage of fixed remuneration, can amount to a maximum of 180% for the Chairman and Chief Executive Officer and 140% for the Senior Executive Vice-President.

The weight of each criterion, expressed as a percentage of the fixed remuneration, was as follows:

(as a percentage of the fixed remuneration)	Benoit Potier	Pierre Dufour
Financial criteria	110	85
EPS	65	50
ROCE	45	35
Personal criteria	70	55
TOTAL (maximum expressed as a percentage of fixed remuneration)	180	140

1.2.2. Rate of achievement of the objectives for 2016

At its meeting on February 14, 2017, the Board of Directors made an assessment of the performance of the executive officers for 2016.

Financial criteria

The estimated results in 2016 (calculated without the impact of the financing and the Airgas acquisition) were lower than the objectives set for the **criterion of recurring EPS** and for the **ROCE criterion**. The variable remuneration in respect of the financial criteria amounts to:

- Recurring EPS:
 - Benoit Potier: 26.65% of his fixed remuneration,
 - Pierre Dufour: 20.50% of his fixed remuneration;
- ROCE:
 - Benoit Potier: 13.95% of his fixed remuneration,
 - Pierre Dufour: 10.85% of his fixed remuneration.

Personal criteria

The performance with regard to the **personal objectives** of the executive officers, which included the objective of finalisation of the Airgas acquisition, was considered to be very good: the Airgas acquisition was finalised on time and its financing proved to be a success with an overall subscription rate for the capital increase of 191%; the integration process was initiated without any problem with the effective merger of the two organisations on October 1; the NEOS 2016-2020 strategic plan integrating the Group's new dimension following the Airgas acquisition was presented to the market in July; the main financial balances were preserved, with the debt/equity ratio being brought down to below the threshold of 90% at fiscal year-end; implementation of the new organisation based on the hubs and clusters has been completed; the succession plans are in place following the decisions to retire made by Jean-Pierre Duprieu and Pierre Dufour; finally, with regard to CSR, safety in terms of the lost-time accident frequency rate improved, with a decrease in the rate from 1.59 in 2015 to 1.43 in 2016 based on a comparable scope. With respect to this same scope, the number of lost-time accidents fell from 152 in 2015 to 137 in 2016. Furthermore, implementation of the CSR policy began with the deployment of the strategy defined within the scope of NEOS aimed at improving the environment and health through air quality and strengthening links with the communities. A specialist committee will be created on the Board in 2017 with regard to this topic.

The amount of the variable remuneration in respect of the personal objectives represents:

- Benoit Potier: 66.50% of his fixed remuneration;
- Pierre Dufour: 52.25% of his fixed remuneration.

Total

In total, the amount of the variable remuneration, as a percentage of the fixed remuneration, totals:

- Benoit Potier: 107.1% (out of a maximum of 180%) of the fixed remuneration, 24% lower than the variable remuneration for 2015;
- Pierre Dufour: 83.6% (out of a maximum of 140%) of the fixed remuneration, 24% lower than the variable remuneration for 2015.

1.3. Other elements of annual remuneration for 2016

The benefits in kind paid for the benefit of the executive officers in 2016 include the use of a company car for each of the two executive officers as well as, for Benoît Potier, contributions to unemployment insurance for company managers and corporate officers.

In addition, the Group paid to third parties, for Benoît Potier, the contributions to the supplementary defined contribution pension plans, to the collective life insurance plan and the additional death and disability benefits plan, and for Pierre Dufour, the contributions in respect of the savings contract entered into by the German company. The amount of such contributions is disclosed in the footnotes to table 2.

Other elements of remuneration: Pierre Dufour, who is in charge of the management of the hub in Frankfurt, also receives an annual amount of 250,000 euros paid by the German subsidiary, which includes, in particular, for approximately one half, an amount corresponding to the benefits in kind (housing) from which he previously benefited under his employment contract in France.

1.4. In total

The total fixed and variable remuneration for 2016 is 11.4% lower than in 2015 for Benoît Potier and 10.8% lower for Pierre Dufour corresponding, in terms of an annualized average for the last five years, to a decrease of 2.1% and 1.8% per annum respectively.

In 2016, a year of successful transformation for the Group, its operating performance is solid. In the context of moderate world growth, the comparable growth of the Group's annual sales amounts to +0.9% and the results obtained for the recurring EPS and ROCE criteria are lower than the objectives, which accounts for the significant decrease in variable remuneration. These very ambitious objectives had been set at the start of 2016 on the basis of the forecast increases in the industrial production indices per country at the end of 2015 which have been cut significantly.

2. STOCK OPTIONS AND PERFORMANCE SHARES

2.1. 2016 stock option and performance share plans

2.1.1. Changes in the principles

Within the scope of the performance share and stock option plans implemented in 2016, the Board decided to continue the policy initiated in 2015 aimed at giving preference to performance shares rather than stock options in the volumes granted. Thus, for employees who up until now had received a mixed grant, the weight of performance shares has increased considerably as compared to that of stock options and, for many of them, performance shares have completely replaced stock options.

In the case of the executive officers, the Board decided that the grant of performance shares and stock options and changes in such grant over time will from now on be evaluated in terms of the IFRS value (and no longer in terms of the volumes granted), for all recurring stock option and performance share plans combined.

2.1.2. Performance conditions of the Plans implemented in 2016

All the stock options and performance shares granted to any beneficiary are subject to the following performance conditions that apply to both the stock option and performance share plans and are calculated over three years.

The performance conditions applicable to the plans decided in the autumn are set by the Board of Directors at the start of the year at the Board meeting in February, in order to have a reference period of three full years.

For confidentiality reason, the objectives set for each performance condition are made public ex post, at the end of the Board of Directors' meeting in February following the end of the three fiscal years during which the performance must be achieved. The rate of achievement of the performance conditions and the percentage of stock options that vest/performance shares definitively awarded are also published at the end of this Board meeting.

The performance conditions applicable to the stock option and performance share plans implemented in 2016 were adopted by the Board of Directors on February 15, 2016. Improvements were made as communicated on March 24, 2016 in order to take into account the remarks by certain shareholders with regard to the following elements:

- recurring EPS: the objective of the average of the annual rates of growth over the period of three fiscal years was increased. In addition, it was stated that this growth objective falls within the range of +6% to +10% per annum;
- TSR – absolute part: the absolute TSR objective was made public ex ante for the 2016 plans;

- TSR – relative part: the calculation formula for the rate of achievement of Air Liquide TSR as compared to the average of the two indexes applied was revised in order to decrease on a straight-line basis and now makes it impossible to make any grant in the event of a performance lower than the average of these two indexes. This change significantly reinforced the expected performance for this criterion.

The number of stock options that may be exercised out of the total number of stock options granted and the number of performance shares definitively awarded within the scope of the 2016 Plans will therefore depend:

- (i) **for 65% of the stock options/performance shares granted**, on the rate of achievement of an objective, set by the Board, consisting of the average of the annual rates of growth in Group undiluted net earnings per share excluding foreign exchange impact and excluding exceptional items ("Recurring EPS") for fiscal years 2016, 2017 and 2018. At the objective set, the grant is 100% then decreases on a straight-line basis to zero if there is no growth in EPS. In order to take into account the impact of the Airgas acquisition and its financing, the principle was adopted:

- of calculating Recurring EPS on the basis of pro forma financial statements, which make it possible to take into account comparable data for the periods concerned (2016, 2017, 2018),
- of increasing the objective of the average of the annual rates of growth over this period. This objective, which was previously set at +5% per annum, has now been set at a level of growth within a range of +6% to +10% per annum. The precise objective will be communicated ex post;

- (ii) **for 35% of the stock options/performance shares granted**,

- for 50% of the stock options/performance shares referred to in sub-paragraph (ii): on an objective of Total Shareholder Return set by the Board, defined as the average annual growth rate of an investment in Air Liquide shares for fiscal years 2016, 2017 and 2018 ("AL TSR"). The absolute TSR objective remains unchanged as compared to the previous plans, at +8% as already published. At the objective set, the grant is 100% then decreases on a straight-line basis to a lower limit which remains significantly higher than the rate of return on capital,
- for 50% of the stock options/performance shares referred to in sub-paragraph (ii): on the rate of Total Shareholder Return from an investment in Air Liquide shares, reinvested dividends – sourced from Bloomberg ("B TSR"), compared to a reference index made up of:
 - for half, the CAC 40 index, reinvested dividends (sourced from Bloomberg), and
 - for half, the Total Shareholder Return of the companies in the industrial gases sector (the average of Air Liquide, Linde, Praxair and Air Products), reinvested dividends (sourced from Bloomberg).

The objective with regard to the relative part of TSR is based on the average of the two indexes. The rate of achievement of the performance conditions will be 0% if Air Liquide TSR is lower than the average of the two indexes, 50% if it is equal to the average of the two indexes and 100% if it is more than 3% higher than the average of the two indexes, on the basis of a straight-line change. Any grant for a performance lower than the average of the two indexes is impossible.

The rate of achievement of the performance conditions will be recorded by the Board at the time of its adoption of the financial statements for the 2018 fiscal year. The absolute TSR objective was communicated ex ante for the 2016 plans. The precise objective set for EPS will be made public ex post, at the end of the Board meeting determining the rate of achievement of the performance conditions. The result achieved and the percentage of performance shares definitively awarded/stock options that are exercisable will also be communicated.

DIAGRAM SHOWING THE PERFORMANCE CONDITIONS APPLICABLE TO ALL THE STOCK OPTIONS AND PERFORMANCE SHARES IN 2016



2.1.3. Rules specific to the executive officers

The grant to the executive officers is examined by the Remuneration Committee at the same time as the plan for the grant to Group employees and decided by the Board of Directors. It is made within the scope of plans, adopted at pre-established periods in the autumn, in the form of share subscription options granted without any discount, and performance shares. By way of exception, in 2016, as the regulatory constraints related to the capital increase did not make it possible to make the annual grants in September, it was therefore at the meeting on November 29, 2016 that the Board of Directors adopted the 2016 performance share and stock option plans.

The grant of stock options and performance shares is examined in the light of the total amount of the executive officer's annual remuneration, taking into account several external market surveys and ensuring that the interests of the shareholders are respected.

Every year, before the grant of stock options and performance shares, it is verified that the conditions provided for in articles L. 225-186-1 and L. 225-197-1 of the French Commercial Code aimed at involving all the staff in France in the Company's performance are met. In 2016, all the Company's employees and 96% of the employees of the Group's French entities are covered by an incentive plan or a special or voluntary profit sharing plan.

Limits on grants to the executive officers

Within the scope of the sub-limits authorized for 38 months by the Annual Shareholders' Meeting ^(a), the Board of Directors sets annual limits for the grants to the executive officers, expressed (i) as a percentage of the share capital and (ii) as a multiple of their remuneration, in accordance with the recommendations of the AFEP/MEDEF Code.

The limits set by the Board of Directors in 2015 were confirmed for 2016 and are as follows:

- for all the executive officers:
 - the total number of performance shares granted to the executive officers in one fiscal year (for all Plans combined) cannot grant entitlement to a total number of shares exceeding 0.017% of the capital (namely an amount significantly lower than the average sub-limit on grants set at 0.15% of the capital for 38 months by the Annual Shareholders' Meeting of May 12, 2016),
 - the total number of stock options granted to the executive officers in one fiscal year cannot grant entitlement to a total number of shares exceeding 0.05% of the capital (namely an amount significantly lower than the average sub-limit on grants set at 0.3% of the capital for 38 months by the Annual Shareholders' Meeting of May 12, 2016);
- for each executive officer individually: the limit relating to the total cumulative IFRS value of the stock options and performance shares granted in one fiscal year (for all stock option and performance share plans combined) to each executive officer is set at 1.5 times the amount of his maximum gross annual remuneration.

Shareholding and share ownership obligations

- Shareholding obligation pursuant to the French Commercial Code

On the Remuneration Committee's recommendation, the Board has defined the shareholding obligations resulting from articles L. 225-185 and L. 225-197-1 of the French Commercial Code applicable to the shares resulting from the exercise of stock options and performance shares respectively as from September 28, 2015 as follows:

For each stock option/performance share plan implemented for the benefit of the executive officers from September 28, 2015 onwards, the executive officers will be required to hold, in registered form, until the termination of their duties, a minimum quantity of shares corresponding to 50% of the capital gain on acquisition net of social charges and tax resulting from each exercise of stock options/each definitive award of performance shares.

However, this percentage will be lowered to 5%, as soon as the quantity of shares held by the executive officer resulting from the exercise of stock options or the definitive award of performance shares, for all plans combined from the 2007 plan onwards for Benoit Potier and from the 2008 plan onwards for Pierre Dufour, would represent a minimum amount at least equal to three times the gross annual fixed remuneration of the executive officer concerned.

This rule is regularly re-examined by the Board at the time of each grant. In 2016, the Board of Directors decided to maintain the same rule.

The previous obligations for holding shares resulting from the exercise of stock options, decided by the Board of Directors on May 9, 2007, applicable as from the grant of stock options on May 9, 2007 for Benoît Potier and the grant on July 9, 2008 for Pierre Dufour, remain in force with respect to the option plans concerned, up to the September 22, 2014 stock option plan inclusive.

A report was made to the Board of Directors on February 14, 2017 on the application of this rule for the exercise of stock options made within the scope of the 2008 and 2009 stock option plans.

(a) Last authorized by the Combined Shareholders' Meeting on May 12, 2016 (18th and 19th resolutions).

- Additional shareholding obligation – Recommendation made by the AFEP/MEDEF Code

In addition, the internal rule defined by the Board of Directors since 2008, pursuant to which the executive officers must hold in a registered share account a number of shares equivalent to double his gross annual fixed remuneration for the Chairman and Chief Executive Officer and equal to his gross annual fixed remuneration for the Senior Executive Vice-President, remains in effect. This obligation will remain in force until it is exceeded by the effect of the above-mentioned rules resulting from the French Commercial Code. The number of shares required to be held is assessed as of January 1, and July 1 of each year. The Board noted that the valuation of the shares held at January 1 and July 1, 2016 and at January 1, 2017 by the Chairman and Chief Executive Officer and the Senior Executive Vice-President was much higher than the required amounts and concluded that the stock ownership obligation is complied with by each of the executive officers.

Recommendations encouraging the holding of a minimum number of shares of the Company equivalent to 0.5 times their gross annual fixed remuneration have also been made to Executive Committee members since 2009.

Other rules applicable to the executive officers

- Obligations regarding the restriction on the exercise of stock options and the sale of performance shares during the "blackout periods" surrounding the publication of the financial statements defined by the Company. These abstention periods open 30 days before the date of publication of the annual and half-yearly consolidated results and 15 days before the date of publication of the financial information relating to the 1st and 3rd quarters. They end on the date of publication of the information at close of business.
- Commitment not to carry out hedging transactions with regard to the risk concerning stock options/shares resulting from the exercise of stock options and concerning the performance shares awarded, throughout the length of their term of office.

2.2. Grants to the executive officer within the scope of the November 29, 2016 plans

2.2.1. Stock options granted to the executive officer on November 29, 2016

Plan Regulations

The November 29, 2016 Plan regulations, and in particular the performance conditions, are the same for all the beneficiaries of stock options within the Group, it being specified that the executive officer is subject to additional conditions as described above. The term of the plan is 10 years and includes a lock-up period of four years during which the stock options cannot be exercised. Furthermore, a requirement of continued employment/presence in the Group at the time of exercise of the options is also defined.

Stock option mechanism

2016	2019	2020	2026
Exercise price	Lock-up period (4 years)		Exercise period (6 years)
Date of grant of the conditional stock options	Recording of fulfilment of the performance conditions	Start of the exercice period	End of the validity period

Volume

Table 4 below shows the number and value of the share subscription options granted to the executive officer by the Board of Directors on November 29, 2016. The Board of Directors decided not to grant any share subscription options to Pierre Dufour within the scope of the November 29, 2016 Plan inasmuch as he has decided to claim his pension entitlements and not to seek the renewal of his office as Senior Executive Vice-President in May 2017 (see pages 171 and 172).

Table 4 – Share subscription options granted during the 2016 fiscal year to the executive officer

Plan grant date	Option type	Number of options granted in 2016	Option value (pursuant to IFRS2) ^(a)	Strike price (in euros)	Exercise period	Performance conditions
Benoît Potier	11/29/2016	Share subscription options	60,000	619,440	93 11/29/2020 to 10/28/2026	2 performance conditions calculated over 3 years: ■ Recurring EPS ■ Total Shareholder Return including an element of relative comparison

(a) At November 29, 2016. See page 205.

The stock options granted to the executive officer in 2016 represent 0.015% of the number of shares making up the share capital. This grant is made by the Company to the exclusion of any other Group company.

Options exercised during the 2016 fiscal year and remaining to be exercised at December 31, 2016

Table 5 – Share subscription options exercised during the 2016 fiscal year by each executive officer

Plan grant date	Number of options exercised during the fiscal year	Exercise price (in euros)
Benoît Potier	07/09/2008	82,222 64.66
Pierre Dufour	06/15/2009	51,971 50.03

Total adjusted stock options remaining to be exercised by the executive officers at December 31, 2016

	Total number of outstanding adjusted stock options	Average price (in euros)
Benoît Potier	767,181	78.89
Pierre Dufour ^(a)	335,606	83.48

(a) Stock options granted in respect of his corporate office since his appointment in November 2007.

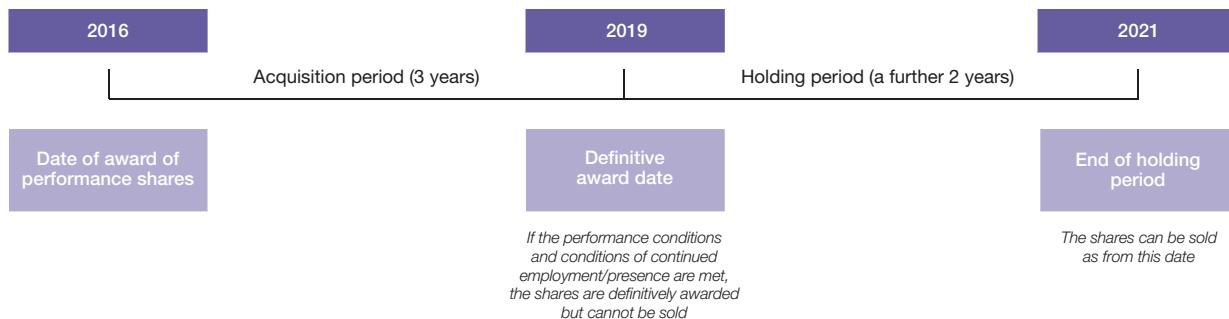
2.2.2. Performance shares awarded to the executive officer on November 29, 2016

Plan regulations

The grant to the executive officer is governed by the November 29, 2016 "France" performance share plan which is applicable to all the beneficiaries in France. This Plan comprises:

- a three-year vesting period;
- followed by a two-year holding period during which the shares cannot be sold.

Diagram of the performance share mechanism – France Plan



The presence/continued employment condition required in order to be able to benefit from the performance shares at the end of the acquisition period is, for an executive officer, aligned with that applicable to him in the stock option plans, the loss of the rights occurring in cases of resignation or removal from office for serious cause.

The executive officer is also subject to additional conditions as described above.

Volume

The table below shows the number and value of the performance shares awarded to Benoît Potier on November 29, 2016. The Board of Directors decided not to award any performance shares to Pierre Dufour within the scope of the November 29, 2016 Plan inasmuch as he has decided to claim his pension entitlements and not to seek the renewal of his office as Senior Executive Vice-President in May 2017 (see pages 171 and 172).

Performance shares awarded within the scope of the November 29, 2016 “France” Plan to the Chairman and Chief Executive Officer

	Plan grant date	Number of performance shares awarded	Value of the performance shares (pursuant to IFRS2) ^(a) (in euros)	Definitive award date	Availability date	Performance conditions
Benoît Potier	11/29/2016	17,800	1,275,281	11/29/2019	11/29/2021	2 performance conditions calculated over 3 years: ■ Recurring EPS ■ Total Shareholder Return including an element of relative comparison

(a) At November 29, 2016. See page 208.

The performance shares awarded to Benoît Potier on November 29, 2016 represent 0.005% of the number of shares making up the share capital. This award is made by the Company to the exclusion of any other Group company.

Performance shares that became available in 2016**Table 7 – Performance shares that became available during the 2016 fiscal year for each executive officer**

Not currently applicable; the first performance share plan for which the executive officers were beneficiaries was implemented in 2015: the performance shares resulting from this plan will become available in 2020.

2.2.3. On a combined basis (November 29, 2016 stock option and performance share plans)

On a combined basis, the grants decided by the Board on November 29, 2016 to Benoît Potier are as follows:

	Volume	Value pursuant to IFRS2^(a) (in euros)	% of share capital
Benoît Potier	60,000 stock options 17,800 performance shares	619,440 1,275,281	0.015 0.005
TOTAL		1,894,721	0.020

(a) At November 29, 2016. See pages 205 and 208.

The IFRS value of these grants, which represents a variation of +3.7% as compared to 2015, is close to, but still lower than, the value granted in 2013 (1,957,000 euros). It corresponds to an average annual increase since 2008, the year before the crisis, of 0.62%.

2.3. July 29, 2016 “Airgas France” performance share plan

At its meeting on July 29, 2016, the Board of Directors decided on a specific grant of performance shares, separate from the November 29, 2016 Plans and intended to show the Company's recognition for the work carried out by all the teams who contributed to successful completion of the Airgas acquisition. For Benoît Potier, there has been no other cases of specific grant since he took up his duties at the head of the Group in 2001. This is also the case for Pierre Dufour since he was appointed as Senior Executive Vice-President in 2007.

This is a major, transforming acquisition for the Group. The Group's workforce has increased by over 15,000 people to 67,000 employees at the end of 2016; revenue has increased by +30%; the Group's customers have doubled in number. This exceptional transaction was moreover completed in record time, all the required authorizations having been obtained in less than six months, making it possible to finalize the acquisition in May 2016. Finally, the transaction led to the preparation and implementation, immediately after its finalization, of refinancing operations via bond issues in euros and in US dollars as well as a capital increase which proved to be a success with an overall subscription rate of 191% and which received the 2016 Grand prix de l'opération financière Grands Emetteurs awarded by Euronext in January 2017.

This result was possible thanks to the very strong commitment shown by the teams involved, for whom this transaction added to their normal responsibilities, thereby justifying this grant to reward this exceptional effort.

The two executive officers benefited from this specific grant under the “Airgas France” Plan, which presents identical characteristics to those of the November 29, 2016 France Plan (in particular the acquisition and holding periods and the performance conditions). Furthermore, all the specific rules applicable to the executive officers within the scope of the November 29, 2016 Plans is applicable to the “Airgas” Plan: limits on grants, “blackout periods” and commitment not to carry out hedging transactions as described in pages 160 and 161 above. The shareholding and share ownership obligations described on the same pages also apply.

The table set out below shows the number and value of the performance shares granted to Benoît Potier and to Pierre Dufour within the scope of the "Airgas France" Plan.

Performance shares awarded within the scope of the July 29, 2016 "Airgas France" Plan to each executive officer

	Plan grant date	Number of performance shares awarded	Value of the performance shares (pursuant to IFRS2) ^(a) (in euros)	Definitive award date	Availability date	Performance conditions
Benoît Potier	07/29/2016	20,000	1,494,710	07/29/2019	07/29/2021	2 performance conditions calculated over 3 years: ■ Recurring EPS ■ Total Shareholder Return including an element of relative comparison
Pierre Dufour	07/29/2016	10,000	747,355	07/29/2019	07/29/2021	

(a) At July 29, 2016. See page 208.

Table 6 – Performance shares awarded during the 2016 fiscal year to each executive officer

	Plan grant date	Number of performance shares awarded in 2016	Value of the performance shares (pursuant to IFRS2) (in euros)	Definitive award date	Availability date	Performance conditions
Benoît Potier	07/29/2016 ^(a)	20,000	1,494,710	07/29/2019	07/29/2021	2 performance conditions calculated over 3 years: ■ Recurring EPS ■ Total Shareholder Return including an element of relative comparison
Benoît Potier	11/29/2016	17,800	1,275,281	11/29/2019	11/29/2021	
Pierre Dufour	07/29/2016 ^(a)	10,000	747,355	07/29/2019	07/29/2021	

(a) "Airgas" Plan.

2.4. Recording of the achievement of the performance conditions under the 2014 share subscription option plan

On the basis of the financial statements adopted for the 2016 fiscal year submitted for the approval of the next Annual Shareholders' Meeting, the Board of Directors recorded, at its meeting on February 14, 2017, the rate of achievement of the **performance conditions** defined at the time of implementation of the **stock option plan** of September 22, 2014.

The 2014 stock option plan provided that the number of options that could effectively be exercised by the beneficiary of a conditional grant of options would depend on the level of achievement of the following objectives:

(i) **for 65% of the options granted**, an objective of growth in recurring EPS for the 2016 fiscal year as compared to that for the 2013 fiscal year set at +15% in order to be able to exercise all the stock options subject to this criterion, and decreasing on a straight-line basis down to 0% growth.

The Board of Directors recorded that growth in recurring EPS over the above-mentioned period amounted to +14.56% (i.e., an objective achieved at 97.12%);

(ii) **for 35% of the options granted**, an objective of Total Shareholder Return:

- for 50% of the stock options referred to in sub-paragraph (ii): objective of the average annual growth rate of an investment in Air Liquide shares for fiscal years 2014, 2015 and 2016 ("AL TSR"), set at 8% in order to be able to exercise all the options subject to this criterion, and decreasing on a straight-line basis down to 4%.

The Board of Directors recorded that this growth over the above-mentioned period amounted to 5.99% per annum (i.e., an objective achieved at 49.75%),

- for 50% of the stock options referred to in sub-paragraph (ii): objective of Total Shareholder Return for an investment in Air Liquide shares, reinvested dividends – sourced from Bloomberg ("B TSR"), compared to a reference index made up of:
 - for half, the CAC 40 index, reinvested dividends (sourced from Bloomberg), and

- for half, the Total Shareholder Return of the companies in the industrial gases sector (the average of Air Liquide, Linde, Praxair and Air Products), reinvested dividends (sourced from Bloomberg),

for fiscal years 2014, 2015 and 2016.

The rate of achievement was 100% for a rate of return for Air Liquide which is more than 3% higher than the average of the two indices.

The rate of return for Air Liquide over the above-mentioned period is 7.7%. That of the CAC 40 index over the same period is 7.8% and that of the companies in the business sector amounts to 6.8%. Consequently, the difference between the rate of return for Air Liquide and the average of the rate of return for the CAC 40 and Peers amounts to 0.451%. Thus, the proportion of options that can be exercised in respect of this relative criterion is 66.02%.

Accordingly, the Board of Directors recorded that the total proportion of the options subject to conditions that could be exercised by the beneficiary was equal to 83.38%.

2.5. Recording of the achievement of the performance conditions for the 2014 performance share plan

As no executive officer was among the beneficiaries of the plan concerned, the recording of the achievement of the performance conditions for this plan is described in detail in the section entitled "Description of the share subscription option and performance share plans" on page 209 below.

2017: Total annual remuneration (fixed remuneration, variable remuneration, LTI)

1. MR. BENOÎT POTIER

Changes

The acquisition of Airgas in May 2016 led to a profound change in the Group's size, leading to an increase in revenue of +30%; the workforce grew by over 15,000 people to 67,000 employees at the end of 2016; the number of customers has doubled, increasing from one million to two million customers; geographical presence in the United States has been extended, with the United States now representing the leading company in the Group in terms of revenue and workforce. On the Paris marketplace, this change has led to an increase of +15.2% in stock market capitalization, which has risen from 35,672 billion euros at December 31, 2015 to 41,085 billion euros at December 31, 2016, with Air Liquide advancing and reaching the 8th place in the CAC 40 at that date.

For Benoit Potier, who is tasked with the Group's leadership, this leads to a higher level of responsibility both to ensure the good integration of Airgas and realization of the anticipated synergies and to conduct the development and long-term strategy of the new combined group. On the Remuneration Committee's recommendation, the Board of Directors has therefore considered it necessary to change the remuneration policy applicable to Benoit Potier in order for it to be adapted to the Group's new context, to remain competitive and to be an incentive to promote the Group's performance over the medium- to long-term in compliance with the company's interests and the interests of all the stakeholders.

Through a progressive approach and after consulting the main shareholders, the Board of Directors' desire was to give a certain visibility to the objectives envisaged with regard to medium-term remuneration; it also confirmed the remuneration structure, in particular with regard to the respective weight given to the fixed part and the variable components. Finally, it stressed that the proposed implementation timetable was subject to good performance and good integration of Airgas and was conditional on achievement of the Airgas synergies. In this context, the Board of Directors adopted the remuneration policy applicable to Benoit Potier from 2017 onwards.

1.1. Change in remuneration policy

1.1.1. Definition of a target medium-term remuneration objective

- To determine an objective for 2018/2019, the Board based itself on external market surveys and, in particular, on a study of the practices of the "large industrial groups" in the CAC 40 (which excludes groups in the services, consumer goods, banking and insurance sectors). It noted that the positioning envisaged in the top part of this reference panel for a good performance would however lead to a level of remuneration that is still much lower than the amounts of remuneration received by the executive officers of competing groups.

In the United States, the level of total annual remuneration of the executive officers of industrial gases groups amounts to between USD 10 and USD 13 million in 2015.

- The Board moreover decided that the change will be made by stages until 2018/2019, with growth in target and maximum total annual remuneration of around 8% per year and an increase in each remuneration component from one year to the next that is kept under good control, subject to a good performance and integration of Airgas.

1.1.2. New remuneration structure

Within the scope of this change, the Board of Directors has set itself the objective of:

- maintaining a proportionate balance between the three components of remuneration (fixed and variable remuneration and long-term incentives or "LTI") such that, in accordance with recurring practice in Air Liquide:
 - the **weight of the variable elements** (variable part and LTI combined) continues to represent approximately **75% of the total annual remuneration**, and that
 - in the balance between the three above-mentioned elements, a slightly greater weight continues to be given to LTI (with the fixed part representing approximately 25%, the variable part 35% and LTI 40% of the total remuneration);
- gradually increasing the fixed annual remuneration in 2017 and 2018;
- substantially **modifying the structure** of the annual variable part of remuneration **as from 2017**, as follows:
 - (i) **the variable remuneration is now expressed as a target variable part** (as a % of the fixed remuneration) and also as a **maximum**: the total target variable part set represents approximately 90% of the total maximum variable part, for a very good performance. Accordingly, for fixed remuneration of 100, the target remuneration is 150% and the maximum 167%.

The absolute value remains stable in 2017 and now represents 167% of the fixed remuneration,

- (ii) **the quantitative criteria** are changed to include an objective of growth in **revenue** which is one of the four major objectives of the NEOS strategic plan,
- (iii) **the qualitative criteria are simplified**, being two-thirds based on three to four categories of objectives defined every year and one-third based on an evaluation of individual performance,
- (iv) **in the weighting** of the various criteria adopted (see table hereinafter),
 - **the weight of the quantitative criteria as compared to the qualitative criteria has been increased**, with a greater relative weight being assigned to the quantitative criteria as compared to the qualitative criteria,
 - **each quantitative criterion is assigned a target weighting** (expressed as a % of the fixed remuneration) corresponding to achievement at a level of 100% of the target objective set at the beginning of the year, **and a maximum weighting** (expressed as a % of the fixed remuneration),
 - the target weighting and the maximum weighting are communicated ex ante; the actual weight of each criterion in the determination of the variable remuneration due in respect of the fiscal year will be established on the basis of the performance measured for each criterion in the light of the target objective, on the basis of the application of a formula for the financial criteria and the assessment of the executive officer's performance by the Board of Directors upon the Remuneration Committee's recommendation for the qualitative criteria. The actual weight (as a % of the fixed remuneration) of each quantitative criterion depending on achievement of the objective will be communicated ex post.

1.2. Implementation for the 2017 remuneration

Applying the principles defined above, the Board of Directors, at its meeting on February 14, 2017, adopted the components of Benoit Potier's remuneration for 2017 as follows:

1.2.1. Fixed remuneration

The fixed remuneration is set at 1,275,000 euros, +8.5% higher than in 2016. The average annual increase in the fixed remuneration over the last five years is +3%.

1.2.2. Variable remuneration

The Board of Directors decided that the variable remuneration would be based on:

- (i) three financial criteria as follows:
 - increase in net Earnings Per Share (EPS) excluding foreign exchange impact and significant exceptional items,

- Return on Capital Employed after tax (ROCE),
- comparable growth in consolidated revenue (excluding significant impact, foreign exchange impact and energy costs).

The increase in EPS criterion makes it possible to take into account all the income statement items. The ROCE criterion, which makes it possible to measure return on capital employed, is relevant in a highly capital-intensive industry. When all taken together, the three criteria of growth in revenue, EPS and ROCE reflect the balance achieved each year between profitable growth and return on investment.

The criteria of ROCE and growth in revenue are among the four objectives of the NEOS strategic plan.

For the increase in EPS and revenue, the calculation will be made on the basis of the consolidated financial statements of the new Group for 2017 compared to the estimated financial statements for 2016 including Airgas as of January 1 and excluding the businesses available for sale.

For each criterion, the Board of Directors has defined a target objective.

The target objectives set are exacting. They fit, completely consistently, into the trajectory of the NEOS Company Program which targets, for the period 2016-2020, annualized average growth in Group revenue of +6% to +8%, including in 2017 a change in scope due to the consolidation of Airgas corresponding to +2% in annualized average, and Return on Capital Employed (ROCE) of over 10% within five to six years.

They are not made public for confidentiality reasons.

For each financial criterion, a formula adopted by the Board makes it possible to calculate the amount of the variable remuneration due (within the limit of a maximum) taking into account, on the basis of the consolidated financial statements for the fiscal year, the value achieved for the criterion as compared to the target objective set. Thus, in case of a performance that exceeds the objective set, the value of the variable part is adjusted upward within the limit of the maximum set for each criterion. In the event of a performance below the lower limit set for each objective, the fraction of the variable remuneration corresponding to this criterion is equal to zero;

(ii) qualitative criteria related:

- for two-thirds to the following three fields:
 - integration of Airgas:
 - finalising the integration of Airgas,
 - achieving the amount of synergies announced for 2017,
 - CSR:
 - safety and reliability – Continuing the efforts to improve safety in terms of the lost-time accident frequency rate – Increasing vigilance with regard to prevention in terms of road/professional accidents,
 - continuing the deployment of the Corporate Sustainability Program (CSP). Ensuring the due and proper setting-up of the specialised committee on the Board,
 - Organization/Human resources:
 - progress by young managers,
 - organisation of the succession plans,
- for one-third to individual performance.

A target and maximum total weight is set for the qualitative criteria;

(iii) the key for the breakdown of the quantitative/qualitative criteria and, in each category, the target and maximum weights of each element, determined by applying the principles set out above, are as follows:

	Minimum variable part	Target variable remuneration (as a % of the fixed remuneration)	Maximum variable remuneration (as a % of the fixed remuneration)
Financial criteria, of which	0	105	122
■ EPS	0	40	47
■ ROCE	0	45	52
■ Revenue	0	20	23
Personal objectives, of which:	0	45	45
■ CSR, Airgas integration, Organization/HR and personal appraisal			
TOTAL	0	150	167

The total amount of the variable remuneration due in respect of the 2017 fiscal year in respect of the term of office will be paid in 2018 after approval of the financial statements by the Annual Shareholders' Meeting. Payment of this amount is conditional on approval by the Annual Shareholders' Meeting of the elements of Benoît Potier's remuneration for 2017, under the conditions provided by Article L. 225-100 of the French Commercial Code.

1.2.3. Long-term remuneration components

Principles of grant

The performance share and stock option plans are aimed, beyond the granting of incentives and profit sharing, at involving the employees more in the company's performance and constitute a long-term motivation factor, aligned with the interests of the shareholders for value creation over time.

The following principles were adopted by the Board of Directors on February 14, 2017 for the grant scheduled for the autumn of 2017:

- the Board decided to continue with the policy initiated in 2015 aimed at giving preference to performance shares rather than stock options in the volumes granted. The Board confirmed that, according to the principle adopted in 2016, the award of performance shares and stock options to the executive officers and the changes therein over time will be assessed in terms of the IFRS value (and no longer in terms of the volume granted), for all stock option and performance share plans combined.

For 2017, the Board of Directors is envisaging, for Benoît Potier, a grant of LTI representing an IFRS value of approximately 2.1 million euros in view of the positioning targeted for 2018;

- all the stock options and performance shares granted are subject to performance conditions that apply to both the stock option and performance share plans and are calculated over a period of three years. From 2017 onwards, it was decided to simplify the relative TSR criterion which will from now on consist of a comparison with only one published index: the CAC 40 TSR index, reinvested dividends. For the fraction of the performance conditions that are based on this relative TSR criterion, no grant of stock options or performance shares will be possible if the average of Air Liquide TSR (reinvested dividends) over the period is lower than the average of CAC 40 TSR, reinvested dividends, over the same period.

The performance conditions applicable to the plans decided in the autumn are set by the Board of Directors at the start of the year at the Board meeting in February, in order to have a reference period of three full years.

The objectives set for each performance condition are made public ex post, at the end of the Board of Directors' meeting in February following the end of the three fiscal years during which the performance must be achieved. The rate of achievement of the performance conditions and the percentage of stock options that vest/performance shares definitively awarded are also published at the end of this Board meeting.

Performance conditions

As a result of the foregoing, the performance conditions applicable to all the beneficiaries of the stock option and performance share plans to be implemented in 2017 were adopted by the Board of Directors on February 14, 2017. The number of stock options that may be exercised out of the total number of stock options that will be granted and the number of performance shares that will be definitively awarded within the scope of the 2017 Plans will depend:

- (i) **for 65% of the stock options/performance shares granted**, on the rate of achievement of an objective, set by the Board, consisting of the average of the annual rates of growth in Group undiluted net earnings per share excluding foreign exchange impact and excluding significant exceptional items ("Recurring EPS") for fiscal years 2017, 2018 and 2019. At the objective set, the grant is 100% then decreases on a straight-line

basis to zero if there is no growth in EPS. In order to take into account the impact of the Airgas acquisition in May 2016 and its financing, the following principle was adopted:

- of calculating the increase in Recurring EPS for 2017, on the basis of the estimated financial statements for 2016 including Airgas as of January 1 and excluding the businesses available for sale and thus making it probable to take into account comparable data,
- of maintaining an exacting objective with regard to the average of the annual rates of growth over this period. This objective has therefore been set, like for the 2016 Plans, at a level of growth within a range of +6% to +10% per annum. The precise objective will be communicated ex post;

(ii) for 35% of the stock options/performance shares granted,

- for 50% of the stock options/performance shares referred to in sub-paragraph (ii): on an objective of Total Shareholder Return set by the Board, defined as the average annual growth rate of an investment in Air Liquide shares for fiscal years 2017, 2018 and 2019 ("AL TSR"). The absolute TSR objective is set on a consistent basis with historical performances. At the objective set, the grant is 100% then decreases on a straight-line basis, to a lower limit,
- for 50% of the stock options/performance shares referred to in sub-paragraph (ii): on the rate of Total Shareholder Return from an investment in Air Liquide shares, reinvested dividends – sourced from Bloomberg ("B TSR"), compared to the **CAC 40 TSR Index, reinvested dividends (sourced from Bloomberg)**.

The rate of achievement will be 0% if the average of Air Liquide TSR is lower than the average of the CAC 40 TSR, 50% if it is equal to the average of the CAC 40 TSR and 100% if it is more than 2% higher than the average of CAC 40 TSR on the basis of a straight-line change. This objective of 2%, which is slightly lower than in 2016, can be accounted for by the greater sensitivity of the performance conditions that are from now on based on a single TSR criterion (versus two previously: Peers TSR and CAC 40 TSR). Any grant for a performance lower than the average of CAC 40 TSR is impossible.

The rate of achievement of the performance conditions will be recorded by the Board at the time of adoption of the financial statements for the 2019 fiscal year.

Rules specific to the executive officers

The grant to the executive officers is examined by the Remuneration Committee at the same time as the plan for the grant to Group employees and decided by the Board of Directors. It is made within the scope of plans, adopted at pre-established periods in the autumn, in the form of share subscription options granted without any discount, and performance shares. At the time of the grant which will be decided in the autumn, the Board will have to specify and confirm the specific rules applicable to the executive officers as follows:

■ Limits on the grants to the executive officers

Within the scope of the sub-limits authorized for 38 months by the Annual Shareholders' Meeting ^(a), the Board of Directors sets lower annual limits for the grants to the executive officers, expressed (i) as a percentage of the share capital, and for each executive officer (ii) as a multiple of their remuneration, in accordance with the recommendations of the AFEP/MEDEF Code. In this manner, the total cumulative IFRS value of the LTI granted cannot exceed 1.5 times the amount of the executive officer's maximum gross annual remuneration.

■ Shareholding and share ownership obligations

Shareholding obligation pursuant to the French Commercial Code

On the Remuneration Committee's recommendation, the Board defined the shareholding obligations resulting from articles L. 225-185 and L. 225-197-1 of the French Commercial Code applicable to the shares resulting from the exercise of stock options and performance shares respectively as from September 28, 2015. They lead to the obligation for Benoît Potier to hold, in registered form, until the termination of his duties, a minimum quantity of shares corresponding to 50% of the capital gain on acquisition net of social charges and tax resulting from each exercise of stock options/each definitive award of performance shares.

This percentage will be lowered to 5%, as soon as the quantity of shares held by the executive officer would represent an amount at least equal to 3 times the gross annual fixed remuneration of the executive officer concerned.

Additional shareholding obligation – Recommendation made by the AFEP/MEDEF Code

In addition, the internal rule defined by the Board of Directors since 2008, pursuant to which the Chairman and Chief Executive Officer must hold in a registered share account a number of shares equivalent to double his gross annual fixed remuneration remains in effect. This obligation will remain in force until it is exceeded by the effect of the above-mentioned rules resulting from the French Commercial Code. The number of shares required to be held is assessed as of January 1, and July 1 of each year.

(a) Last authorized by the Combined Shareholders' Meeting on May 12, 2016 (18th and 19th resolutions).

■ Other rules applicable to the executive officer

- Presence/continued employment requirement: loss of the stock options/rights to the performance shares in the process of being acquired, in the event of dismissal or removal from office for serious cause,
- Obligations regarding the restriction on the exercise of stock options and the sale of performance shares during the "blackout periods" surrounding the publication of the financial statements defined by the Company. These abstention periods open 30 days before the date of publication of the annual and half-yearly consolidated results and 15 days before the date of publication of the financial information relating to the 1st and 3rd quarters. They end on the date of publication of the information at close of business,
- Commitment not to carry out hedging transactions with regard to the risk concerning stock options/shares resulting from the exercise of stock options and concerning the performance shares awarded, throughout the length of their term of office.

2. SITUATION OF PIERRE DUFOUR/RETIREMENT IN 2017

In addition to his office as Senior Executive Vice-President, Pierre Dufour is in charge of the management of the hub in Frankfurt. In this context, a service agreement entered into with the German subsidiary Air Liquide Global Management Services GmbH (ALGMS) defines the conditions for performance by Pierre Dufour of his office as Managing Director. The elements of remuneration received by Pierre Dufour in respect of this corporate office have been included in Tables 1 and 2 above.

Pierre Dufour has decided to claim his pension entitlements in 2017 and not to request the renewal of his office as Senior Executive Vice-President of L'Air Liquide S.A. at the end of the Annual Shareholders' Meeting in May 2017. His term of office as Managing Director of ALGMS will also end in 2017. Pierre Dufour will continue to be a Director of L'Air Liquide S.A., his current term of office ending at the close of the Annual Shareholders' Meeting in 2020 called upon to approve the financial statements for the 2019 fiscal year.

In this context, on the Remuneration Committee's recommendation, the Board of Directors determined Pierre Dufour's fixed remuneration and the principles applicable to determine his variable remuneration for 2017. It examined the financial conditions related to the end of Pierre Dufour's executive duties which will be adopted at the time of his departure and made public in accordance with the AFEP/MEDEF Code (as revised in November 2016):

- fixed and variable annual remuneration: the remuneration in respect of the offices as Senior Executive Vice-President of L'Air Liquide S.A. and Managing Director of ALGMS (fixed remuneration, variable remuneration, other elements of remuneration, contributions to the German savings contract) will be due on a prorated basis to the length of time worked in 2017.

The annual basis for the fixed remuneration will be identical to that for 2016, i.e. 675,000 euros.

For the financial criteria, the variable remuneration for 2017 will be calculated on the basis of the consolidated financial statements for the 2017 fiscal year and the estimated financial statements for 2016 including Airgas as of January 1 and excluding the businesses available for sale. The financial criteria and their weighting are identical to those for 2016 (see above page 157). The personal criteria are updated and relate:

- For two-thirds to the following three fields: Integration of Airgas, CSR, Organization/Human resources,
- for one-third to individual performance.

See details of the personal criteria on page 168.

■ The variable part of the remuneration due in respect of the 2017 fiscal year in respect of the term of office of the Senior Executive Vice-President (on a prorated basis to the length of time worked during the fiscal year) will be paid in 2018 after approval of the financial statements by an Annual Shareholders' Meeting. Payment of this amount is conditional on approval by the Annual Shareholders' Meeting of the elements of the Senior Executive Vice-President's remuneration for 2017, under the conditions provided by Article L. 225-100 of the French Commercial Code.

■ stock options and performance shares:

- as Pierre Dufour has decided to claim his pension entitlements in 2017, he will not benefit from any grant of stock options and performance shares in 2017,
- the Air Liquide stock option and performance share plan regulations provide that a beneficiary who leaves the Group due to retirement retains the benefit of the stock options that have not been exercised and the performance shares that have not yet been awarded, even if the period for fulfillment of the performance conditions has not yet terminated. On the Remuneration Committee's recommendation, after a review as recommended by the AFEP/MEDEF Code, the Board of Directors confirmed its agreement to allow Pierre Dufour to retain the benefit of these stock options and performance shares in accordance with the terms of the original regulations. The regulations of these plans, however, remain applicable and, in particular:
 - the performance conditions and the periods during which these conditions must be met,

- the lock-up period (stock options) and holding period (performance shares);

■ non-competition clause/termination indemnity:

- in Germany, as authorized by the initial service agreement, ALGMS decided to waive the post-contractual non-competition undertaking provided for in this agreement. In consequence, no non-competition indemnity will be due to Pierre Dufour after his departure. It was also agreed that no notice period indemnity would be due at the time of this departure,
- in France, no termination indemnity will be paid at the time of this departure (see "Commitments relating to termination of duties" below);

■ long-term commitments:

- Pierre Dufour will be able to claim his rights in France pursuant to the defined benefit and defined contribution pension plans and in Germany under the savings contract, as described in detail below (see the section on "Company's Pension benefit and similar benefit obligations"),
- Pierre Dufour will be able to claim his rights at any time pursuant to the life insurance plan (see section on "Life Insurance Plan" below).

Long-term commitments

The long-term commitments set out below are taken into account for the determination of the total remuneration of the executive officers.

1. COMPANY'S PENSION AND SIMILAR BENEFIT OBLIGATIONS

In addition to the mandatory basic and supplementary pension schemes (AGIRC/ARRCO) with which the executive officers are, or were, affiliated, Benoît Potier and Pierre Dufour have been authorized to benefit from various supplementary social protection schemes set up by L'Air Liquide S.A.

1.1. Defined benefit pension plan

Pursuant to articles L. 911-1 and L. 911-2 of the French Social Security Code, and in accordance with article L. 137-11 of the same Code, L'Air Liquide S.A. set up a defined benefit pension plan "S" for the benefit of the senior managers and executives and corporate officers:

- (i) whose remuneration exceeds 24 times the annual social security ceiling (PASS).
- (ii) who have three years' length of service with the Air Liquide Group, in accordance with the AFEP/MEDEF Code of corporate governance; and
- (iii) who do not have the capacity of participant under the supplementary defined benefit pension plan with guaranteed cover ("garantie de ressources") which was closed in 1996.

The Board authorized the application of this defined benefit pension plan to Benoît Potier in his capacity as Chairman and Chief Executive Officer and to Pierre Dufour in his capacity as Senior Executive Vice-President.

The rights of Benoit Potier and Pierre Dufour under this plan:

- (i) may be applied for if the beneficiaries end their professional career within the Company and decide to claim their basic pension and mandatory supplementary pension (ARRCO and AGIRC) entitlements, whether or not at the full rate.

In the event of termination of his corporate office at the Company's initiative, a beneficiary who is over 55 years of age and has at least five years' length of service shall retain his rights if he does not resume any professional activity until his retirement. The condition of ending his career in the Company is then considered to be met as he has not performed any other professional activity after leaving the Company. This rule, which is line with the position of the social security administration, reflects the human resources policy at Air Liquide, for which long careers within the Group constitute a key element; in the light of the length of service of the potential beneficiaries of this plan, some of whom have spent the whole of their career in the Group, it would not be justified for them to lose the benefit of this plan in the event of a forced departure (except in the event of gross or willful misconduct) at the end of their careers.

Furthermore, in accordance with the social security administration's position, the rules also provide for maintenance of the potential rights of the beneficiaries in the event of disability of the 2nd or 3rd category.

- (ii) will be equal to 1% for each year of service of the average of the three best years of the last five years of annual remuneration exceeding 24 times the annual social security ceiling (the "Reference Remuneration"). The basis for calculation of the pension annuity will be limited to the fixed and variable remuneration only, to the exclusion of any other form of remuneration, whether paid by the Company or any French or foreign subsidiary. For this calculation, the average of the total variable portions taken into account cannot exceed 100% of the average of the total fixed portions used

for this calculation. Where applicable, an annuity equal to 60% of the above-mentioned benefits will be paid to the surviving spouse, under certain conditions, notably with regard to age;

(iii) will be capped, in all cases, as they are for all the senior managers and executives benefiting from the defined benefit plan, and for all pension plans combined, whether public or private, in France or any other country, at 45% of the Reference Remuneration. Should this ceiling be reached, the amount paid under the defined benefit plan would be reduced accordingly;

(iv) have been the subject of:

- contributions paid to an insurance body that are deductible from the corporate income tax base, and
- provisions in the Group's consolidated financial statements;

(v) are estimated, at December 31, 2016, at:

- for Benoit Potier, 35 years' length of service in the Group: 478,916 euros gross per year, and
- for Pierre Dufour, 19 years' length of service in the Group: 79,790 euros gross per year;

(vi) will be subject to the employer's contribution due on pension annuities provided for by article L. 137-11 of the French Social Security Code at a rate of 32%.

The application of this plan to Benoit Potier and to Pierre Dufour was last authorized by a decision by the Board of Directors on February 17, 2014 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting on May 7, 2014 in a specific resolution for each executive officer (10th and 11th resolutions). The application of the plan to Benoît Potier and to Pierre Dufour had previously been authorized by a decision by the Board of Directors on February 12, 2010 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting on May 5, 2010 in a specific resolution for each executive officer (9th and 10th resolutions).

This commitment will be reviewed at the time of the renewal of the executive office of Benoît Potier to take account of the new provisions of the Macron Law of August 6, 2015.

As Pierre Dufour has decided to retire, he will be able to claim his rights pursuant to this plan in 2017.

1.2. Defined contribution pension plans

Pursuant to articles L. 911-1 and L. 911-2 of the French Social Security Code, and in accordance with article L. 242-1, paragraphs 6 and 7 of the same Code, the Air Liquide Group set up, in several companies including L'Air Liquide S.A., a defined contribution pension plan for the benefit of all the employees.

The Board authorized the application of this defined contribution pension plan to Benoît Potier in his capacity as Chairman and Chief Executive Officer. In the light of his situation within the Group, Pierre Dufour no longer benefits from this plan.

The pension entitlements of Benoît Potier and Pierre Dufour under this plan:

- (i) may be applied for, at the earliest, when they have claimed their pension entitlements under the French general social security scheme;
- (ii) are or have been financed by monthly contributions, broken down as follows:
 - 50% borne by the Company, and
 - 50% borne by the beneficiary.

These contributions are assessed on bracket A (portion of remuneration that is less than 1 PASS) at a rate of 2.32%, and on brackets B and C (portions of remuneration amounting, respectively, to between 1 PASS and 4 PASS and between 4 PASS and 8 PASS) at a rate of 6.50%. Furthermore, they are deductible from the corporate income tax base, subject to the social levy at the rate of 20%, and excluded from the basis for assessment of social security contributions, within the limit of the higher of the following two values: 5% of the PASS or 5% of the remuneration taken into account within the limit of 5 PASS;

(iii) are estimated, at December 31, 2016, at:

- 4,851 euros gross per year for Benoit Potier, and
- 1,663 euros gross per year for Pierre Dufour.

The individual application of this plan to Benoît Potier was authorized by a decision by the Board of Directors on February 12, 2010 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting on May 5, 2010 (9th resolution).

During the 2016 fiscal year, the amount paid by the Company to the third party responsible for managing the above-mentioned supplementary defined contribution pension plan on behalf of Benoît Potier is disclosed in the footnotes to Table 2.

In addition, pursuant to articles L. 911-1 and L. 911-2 of the French Social Security Code, and in accordance with article L. 242-1, paragraphs 6 and 7 of the same Code, L'Air Liquide S.A. set up a defined contribution pension plan for the benefit of the senior managers and executives, defined by reference to a collective bargaining agreement coefficient, and executive officers who have at least one year's length of service.

Since 2015, Benoît Potier no longer benefits from this defined contribution pension plan set up for the benefit of the senior managers and executives, the contribution paid for his benefit having been transferred to the life insurance plan (see below).

In the light of his situation within the Group, Pierre Dufour no longer benefits from this plan.

The pension entitlements of Benoît Potier and Pierre Dufour under this plan:

- (i) may be applied for, at the earliest, when they have claimed their pension entitlements under the French general social security scheme;
- (ii) were financed by annual contributions paid in their entirety by the Company;

These contributions were last set at 2.5% of the portion of remuneration that is lower than 8 PASS. Furthermore, they were subject to the same tax and social security treatment as those paid pursuant to the defined contribution pension plan set up in favor of all the staff (cf. above);

(iii) are estimated, at December 31, 2016, at:

- 171,467 euros gross per year for Benoit Potier, and
- 94,259 euros gross per year for Pierre Dufour.

As Pierre Dufour has decided to retire, he will be able to claim his rights pursuant to these plans in 2017.

2. OTHER LIFE BENEFITS

2.1. Savings contract in Germany for the benefit of Pierre Dufour

A savings contract was entered into by the German subsidiary with a financial institution for the benefit of Pierre Dufour. It makes it possible to create savings which are available at the end of the contract, of an amount that is at least equivalent to the contributions paid by the subsidiary. The amount of the contribution corresponds to the amount of the contributions previously paid into the French plans from which Pierre Dufour no longer benefits.

In 2016, the amount of the contribution paid by the subsidiary is disclosed in the footnotes under Table 2. At December 31, 2016, the total amount of the contributions paid by the German subsidiary under this savings contract amounts to 740,000 euros.

As Pierre Dufour has decided to retire in 2017, he will be eligible to claim his rights under this contract.

2.2. Life insurance plan

As the executive officers are no longer beneficiaries of the defined contribution pension plan for senior managers and executives (see above), L'Air Liquide S.A. has entered into a collective life insurance contract which enables them to create savings which are available at any time.

The life insurance contract provides that the beneficiaries can ask for the payment of a single capital sum or conversion of the capital into a life annuity.

In the event of conversion of the capital into a life annuity, the rights of Benoît Potier and Pierre Dufour under this plan:

(i) are estimated, at December 31, 2016, at:

- 30,604 euros gross per year for Benoit Potier, and
- 11,571 euros gross per year for Pierre Dufour;

(ii) are, or were, financed by contributions paid by the Company to an insurance body and which concern the brackets of remuneration ranging from 0 to 24 PASS.

The opening of this plan, for the 3rd bracket (16 to 24 PASS), and then the 2nd bracket (8 to 16 PASS), and finally its extension to the 1st bracket (0 to 8 PASS) of the reference remuneration, at an unchanged cost for the Company, responded to a concern for good management. The contributions paid by the Company to the third-party plan manager are assessed on the basis of the portions of the reference remuneration of the beneficiaries corresponding to each of the three brackets, in accordance with conditions identical to those of the previous plan.

These contributions are deductible from the corporate income tax base and subject to social security contributions.

For the executive officers, the signature of this contract, for the 3rd and then the 2nd bracket, was authorized by decisions made by the Board of Directors on November 20, 2012 and February 13, 2013 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting of May 7, 2013 in a specific resolution for each executive officer (7th and 8th resolutions). The extension of the plan to the 1st bracket concerning the band of reference remuneration amounting to between 0 and 8 times the annual social security ceiling was authorized by a decision made by the Board of Directors on November 20, 2014 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting of May 6, 2015 in a specific resolution for Benoît Potier (7th resolution).

The amount paid by the Company in 2016 to the life insurance plan manager on behalf of Benoît Potier is disclosed in the footnotes to Table 2.

In the light of his situation within the Group, Pierre Dufour no longer benefits from this plan.

2.3. Death and disability benefits plan

Benoît Potier benefits from the additional "incapacity, disability, death" benefits plan, unified as from January 1, 2015, covering all the personnel and the executive officers duly authorized to benefit from such plan, which provides in particular for:

(i) granting to the beneficiaries:

- of additional daily indemnities in the event of incapacity and a disability annuity set, all benefits combined, at a maximum annual amount of 432,500 euros, and
- of a death benefit, the maximum amount of which is set at 120 PASS in case of accident.

A life insurance contract was entered into with an insurer in this respect at the end of 2014 which specifies the limits on the incapacity/disability and death benefits for the same insured party.

(ii) the payment in full by the Company of the contributions that are set at 1.02% of the reference remuneration which is capped at:

- 16 PASS for the incapacity and disability cover, and
- 24 PASS for the death cover.

These contributions are deductible from the corporate income tax base, subject to the social levy at a rate of 8%, and excluded from the basis for assessment of social security contributions, within the limit of an amount equal to the sum of 6% of the PASS and 1.5% of the remuneration taken into account within the limit of 12% of the PASS.

The individual application of this unified benefit plan covering all the personnel to Benoît Potier, in respect of his duties as Chairman and Chief Executive Officer, was authorized by a decision of the Board of Directors on November 20, 2014 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting on May 6, 2015 in a specific resolution for Benoit Potier (7th resolution).

The amount of the contribution paid in 2016 by L'Air Liquide S.A. in respect of the benefit plan on behalf of Benoit Potier is disclosed in the footnotes to Table 2.

Commitments relating to termination of duties

1. TERMINATION INDEMNITIES

1.1. Benoît Potier

In accordance with the "TEPA" law and the AFEP/Medef Code of corporate governance, at its meeting on February 17, 2014, the Board of Directors set the terms of the agreement applicable to Benoit Potier as from the renewal of his terms of office as Chairman and Chief Executive Officer in May 2014, along the following main lines:

- (i) only the cases of forced departure of Benoit Potier from his offices as Chairman and Chief Executive Officer, whatever the form of such departure (removal from office, non-renewal, request for resignation) related to a change of strategy or a change in control may give rise to an indemnity;
- (ii) the amount of the indemnity in any of these cases is set at 24 months of gross fixed and variable remuneration;

- (iii) the amount of the indemnity due decreases gradually as Benoit Potier, as Chairman and Chief Executive Officer, approaches the age limit defined in the Company's articles of association; in the event of a forced departure in the 24 months preceding the date of departure due to the age limit set by the articles of association, the amount of the indemnity due will be capped at the number of months of gross remuneration separating the date of forced departure from the date when he reaches such age limit; in any case, no indemnity shall be paid should the beneficiary claim his pension entitlements on the date of his forced departure;
- (iv) the right to payment of the indemnity is subject to the achievement of performance conditions that were made stricter in 2014, with the proportion of the indemnity due decreasing depending on the rate of achievement of such conditions according to the formula described below.

The decision made by the Board of Directors on February 17, 2014 in accordance with the regulated agreements and commitments procedure provided for under the "TEPA" law was approved by the Annual Shareholders' Meeting of May 7, 2014 in a specific resolution for Benoit Potier (10th resolution). It is re-examined and subject to the approval of the Annual Shareholders' Meeting at the time of each renewal of Benoit Potier's term of office.

1.2. Pierre Dufour

In accordance with the "TEPA" law and the AFEP/MEDEF Code of corporate governance, at its meeting on February 17, 2014, the Board of Directors set the terms of the agreement applicable to Pierre Dufour as from the date of renewal of his office as Senior Executive Vice-President in May 2014, along the following main lines:

- (i) only the cases of forced departure of Pierre Dufour from his office as Senior Executive Vice-President, whatever the form of such departure (removal from office, non-renewal, request for resignation) related to a change of strategy or that takes place within 24 months following a change in control, may give rise to an indemnity;
- (ii) the amount of the indemnity in any of these cases (inclusive of any indemnity, including any notice period and non-competition indemnity due, where applicable, by the German subsidiary in the event of simultaneous termination of his agreement in Germany) is set at 24 months of gross fixed and variable remuneration received by Pierre Dufour on any basis whatsoever from any Group company;
- (iii) no indemnity will be paid if the beneficiary has the possibility to claim his full pension entitlements in the short term at the date of the forced departure;
- (iv) the right to payment of the indemnity is subject to achievement of the performance conditions (see below).

The decision made by the Board of Directors at its meeting on February 17, 2014 in accordance with the regulated agreements and commitments procedure provided for under the "TEPA" law was approved by the Annual Shareholders' Meeting of May 7, 2014 in a specific resolution for Pierre Dufour (11th resolution).

Following Pierre Dufour's decision to claim his pension entitlements, the Board of Directors placed on record, at its meeting on February 14, 2017, in agreement with Pierre Dufour, that, in accordance with the terms of the commitment, no indemnity could be paid in the event of forced departure. Accordingly, this commitment no longer applies.

1.3. Performance conditions applicable to the termination indemnity

The Board of Directors decided that the payment of the termination indemnities concerning Benoit Potier mentioned above is subject to compliance, duly acknowledged by the Board of Directors at the time of or subsequent to the termination of his duties, with conditions relating to the beneficiary's performance assessed in relation to the Company's performance, defined at the date hereof as follows:

Entitlement to the indemnity referred to above shall depend on, and the amount of the indemnity paid shall be adjusted on the basis of, the average of the annual gap between the Return On Capital Employed after tax (ROCE) and the Weighted Average Cost of Capital (WACC) (assessed using the net equity method) calculated (based on the certified consolidated financial statements approved by the Annual Shareholders' Meeting) with respect to the last three fiscal years prior to the fiscal year in which the departure occurs. For the purposes of this calculation, the gap between ROCE and WACC will be measured for each fiscal year and the average of the three annual gaps over the three fiscal years prior to the fiscal year during which the departure occurs shall be calculated. In the light of the fundamental importance of the process of management and control of capital expenditure in the highly capital-intensive industrial gases industry, this gap makes it possible to measure regular value creation over the three years prior to departure.

Within the scope of re-examination of the commitment, the Board of Directors **decided**, on February 17, 2014, on the Remuneration Committee's recommendation, **that an average ROCE-WACC gap over three years of 300 basis points (instead of 200 previously) would now** be required in order to benefit from the total amount of the indemnity. The declining formula was also made more exacting: the condition decreases down to a minimum gap of 100 basis points (instead of 0 previously), below which no indemnity is paid.

Average (ROCE – WACC) gap**Proportion of the indemnity due**

≥ 300 bp ^(a)	100%
≥ 200 bp and < 300 bp	66%
≥ 150 bp and < 200 bp	50%
≥ 100 bp and < 150 bp	33%
< 100 bp	0%

(a) *bp: basis points.*

The average gap over the last three fiscal years between the ROCE and the WACC amounted to 473 basis points and it amounts to 350 basis points at the end of 2016.

These conditions will be re-examined by the Board of Directors and, where applicable, amended to take account particularly of changes that have taken place in the corporate environment each time the beneficiary's term of office is renewed and, where applicable, during his term of office.

2. UNEMPLOYMENT INSURANCE FOR COMPANY MANAGERS AND CORPORATE OFFICERS

Pursuant to a decision made by the Board of Directors in May 2006, Benoît Potier benefits, in his capacity as an executive officer, from the unemployment insurance for company managers and corporate officers subscribed by the Company. The contributions paid by the Company are added back to Benoît Potier's remuneration as benefits in kind.

This decision had been approved by the Annual Shareholders' Meeting of May 9, 2007, in accordance with the regulated agreements procedure (7th resolution).

At its meeting in May 2014, the Board of Directors confirmed that Benoît Potier continues to benefit from this insurance within the scope of the latest renewal of his terms of office.

Table 8 (see page 204) and table 9 (see page 205).**Table 11**

The table below summarizes the commitments relating to the termination of the duties of the executive officers as set out above.

Executive Officers	Employment contract	Supplementary pension plan (see details above)	Indemnities or benefits due or that may be due on termination or a change of duties (see details above)	Indemnity relating to a non-competition clause
Benoît Potier Chairman and Chief Executive Officer Term of office start date: 2006 Date of renewal of term of office: 2014 Term of office end date: 2018	NO	Defined benefit pension plan for senior managers and executives and executive officers: YES Defined contribution pension plan for all the employees and executive officers: YES Defined contribution pension plan for senior managers and executives: NO	YES Termination indemnity: <ul style="list-style-type: none">■ case: forced departure related to a change of strategy or a change in control;■ maximum amount: 24 months of gross fixed and variable remuneration;■ subject to performance conditions;■ reduction as he approaches the age limit pursuant to the articles of association, exclusion should the beneficiary claim his pension entitlements on the date of forced departure.	NO
Pierre Dufour Senior Executive Vice-President Term of office start date: 2007 Date of renewal of term of office: 2014 Term of office end date: 2017	NO	Defined benefit pension plan for senior managers and executives and executive officers: YES Since January 1, 2014: savings contract governed by German law	NO Termination indemnity: this commitment no longer applies following the decision by Pierre Dufour to claim his pension entitlements (see above § "Commitments relating to termination of duties – Pierre Dufour")	NO Non-competition clause waived by the German subsidiary ALGMS. No non-competition indemnity is due.

Remuneration of the non-executive directors – directors' fees

1. DIRECTORS' FEES PAID IN 2015, 2016 AND 2017

Table 3 – Directors' fees and other exceptional remuneration received by the Group's non-executive and non-employee Directors

(in thousands of euros rounded off to the nearest whole figure)	Amounts paid in 2015 in respect of 2014	Amounts paid in 2016 in respect of 2015	Amounts paid in 2017 in respect of 2016
Thierry Desmarest ^(a)	99	103	105
Gérard de La Martinière ^{(b) (g)}	94	26	N/A
Béatrice Majnoni d'Intignano ^(c)	27	N/A	N/A
Cornelis van Lede ^{(d) (g)}	100	39	N/A
Thierry Peugeot	62	82	69
Paul Skinner ⁽ⁱ⁾	91	85	N/A
Karen Katen	67	72	71
Jean-Paul Agon ^(d)	56	65	85
Siân Herbert-Jones ^(b)	61	96	89
Sin Leng Low ^(e)	53	103	102
Annette Winkler ^(e)	46	64	76
Geneviève Berger ^(f)	N/A	46	63
Brian Gilvary ^(h)	N/A	N/A	47
TOTAL	756	781	707

(a) The disclosed amounts include additional remuneration of 10,000 euros for acting as the Chairman of the Appointments and Governance Committee and the remuneration (20,000 euros) in respect of the duties of Lead Director.

(b) The disclosed amounts include additional remuneration of 20,000 euros for acting as Chair of the Audit and Accounts Committee (on a *prorata temporis* basis).

(c) Term of office terminated on May 7, 2014.

(d) The disclosed amounts include additional remuneration of 10,000 euros for acting as Chairman of the Remuneration Committee (on a *prorata temporis* basis).

(e) Term of office begun on May 7, 2014.

(f) Term of office begun on May 6, 2015.

(g) Term of office terminated on May 6, 2015.

(h) Term of office begun on May 12, 2016.

(i) Term of office terminated on December 31, 2015.

The non-executive Directors did not receive any remuneration other than that mentioned in the above table.

The executive officers do not receive any Directors' fees with regard to their terms of office as Directors as long as they perform executive duties within L'Air Liquide S.A.

Within the scope of the agreement entered into with the various stakeholders and pursuant to the provisions in force in the Group applicable to all the employees who serve on Boards of Directors of Group companies, it was agreed that the employee Director would not receive Directors' fees.

2. CRITERIA

The maximum amount of Directors' fees to be allocated overall to the members of the Board of Directors was set at one million euros per fiscal year at the Annual Shareholders' Meeting of May 7, 2014 in its 14th resolution.

The allocation formula adopted by the Board of Directors comprises fixed remuneration and variable remuneration based on lump-sum amounts per meeting, thereby taking account of the effective participation of each Director in the work of the Board and its Committees/working group as well as a fixed amount per trip for Directors travelling from abroad.

In 2016, on the Remuneration Committee's recommendation and after a review of local market practices, the Board of Directors decided to increase the amount of certain elements of the variable part of the Directors' fees and, more specifically, the remuneration paid to the non-resident Directors in respect of their trips to attend meetings. This increase makes it possible to maintain an attractive and competitive level of remuneration for the Directors which will allow Air Liquide to attract new Directors, in particular non-resident Directors. For 2016, the amounts adopted break down as follows:

Fixed remuneration (for an entire fiscal year)

- Each member receives fixed annual remuneration of 20,000 euros for fiscal year 2016.
- The Chair of the Audit and Accounts Committee receives additional fixed annual remuneration of 20,000 euros.
- The Chairmen of the Appointments and Governance Committee and the Remuneration Committee each receive additional fixed annual remuneration of 10,000 euros.
- The Lead Director receives additional fixed annual remuneration of 20,000 euros.

Variable remuneration

Attendance at the various meetings is remunerated as follows:

- one meeting of the Board of Directors 5,500 euros;
- one meeting of the Audit and Accounts Committee 4,500 euros;
- one meeting of the Appointments and Governance Committee 3,500 euros;
- one meeting of the Remuneration Committee 3,500 euros;
- one meeting of the "Shareholder Relations" working group 3,000 euros;
- one trip for a non-resident:
 - in Europe 3,000 euros,
 - Intercontinental 6,000 euros.

Participation by telephone is remunerated at one-half of the lump-sum amounts set for each meeting.

Travel expenses incurred by non-French residents at the time of their trips to meetings are reimbursed by the Company.

The variable remuneration related to the participation in Board and Committee meetings predominates over the fixed remuneration.

The policy of distribution of Directors' fees is regularly examined and readjusted, where applicable, to ensure that the remuneration paid is competitive from an international standpoint, in order to benefit from the best and most suitable skills in the business sector and geographically, and to ensure that the values which have led to the Group's long-term success are maintained.

Elements of 2016 remuneration of the executive officers submitted for the opinion of the shareholders

ELEMENTS OF REMUNERATION DUE OR ALLOCATED TO MR. BENOÎT POTIER IN RESPECT OF FISCAL YEAR 2016, SUBMITTED FOR THE OPINION OF THE SHAREHOLDERS

Elements of remuneration due or allocated to Mr. Benoît Potier in respect of fiscal year 2016

	Amounts	Comments
Fixed remuneration	€1,175,000	Fixed remuneration is determined based on the level of responsibility and experience in the executive management function and current market practices. In order to remain competitive as compared to the reference market, the amount of the 2016 fixed remuneration, that has been unchanged since 2012, is +6.8% higher than in 2015, representing +1.7% a year since the last increase.
Variable annual remuneration	€1,258,425	<p>The variable remuneration is limited to 180% of the fixed remuneration..</p> <p>The variable portion expressed as a percentage of the fixed remuneration is linked in 2016:</p> <ul style="list-style-type: none"> ■ for 110% of the fixed remuneration, to two financial criteria that are based on: (i) for 65%, an objective of growth in recurring EPS (excluding foreign exchange impact and exceptional items; the calculation is made without the impact of the Airgas acquisition and its financing) set on a consistent basis with regard to historical performances; it takes into account the Group's growth ambition and the economic environment; (ii) for 45%, an objective of ROCE (excluding exceptional items; the calculation is made without the impact of the Airgas acquisition), set in terms of absolute value in line with best performances in the industry, and at a level significantly higher than the weighted average cost of capital. It reflects the importance for the Group of the balance between growth and return on investment. The objectives set are identical to those for previous years. For each financial criterion, a formula makes it possible to calculate the amount of the variable remuneration due taking into account the value achieved as compared to the target objective set. These two financial criteria have been constantly applied for many years; ■ for 70% of the fixed remuneration, to personal objectives comprising: (i) for two-thirds, qualitative objectives, shared by the two executive officers, in particular: finalization of the Airgas acquisition, its financing in particular through the capital increase, and its integration; implementation of the NEOS 2016-2020 plan; preserving the Group's main financial balances with continued pursuit of a selective investment policy; progress of the young managers and organization of the succession plans; pursuit of the Corporate Social Responsibility policy, in particular in terms of safety, reliability and preparation for the CSR integration of Airgas; (ii) for one-third, individual performance.

Assessment for 2016

On February 14, 2017, the Board of Directors recorded, on the basis of the estimated results for 2016 not taking into account the impact of the Airgas acquisition, that the rates of achievement of the objectives set for the recurring EPS and ROCE criteria are lower than the objectives set for 2016. The amount of the variable remuneration as a percentage of the fixed remuneration amounts to 26.65% in respect of recurring EPS and 13.95% in respect of ROCE. The achievement of the personal objectives, which included the objective of finalisation of the Airgas acquisition, was considered to be very good: the Airgas acquisition was finalised on time and its financing proved to be a success with an overall subscription rate for the capital increase of 191%; the integration process was initiated without any problem with the effective merger of the two organisations on October 1; the NEOS 2016-2020 strategic plan integrating the Group's new dimension following the Airgas acquisition was presented to the market in July; the main financial balances were preserved, with the debt/equity ratio being brought down to below the threshold of 90% at fiscal year-end; implementation of the new organisation based on the hubs and clusters has been completed; the succession plans are in place following the decisions to retire made by Jean-Pierre Duprieu and Pierre Dufour; finally, with regard to CSR, safety in terms of the lost-time accident frequency rate improved, with a decrease in the rate from 1.59 in 2015 to 1.43 in 2016 based on a comparable scope. With respect to this same scope, the number of lost-time accidents fell from 152 in 2015 to 137 in 2016. Furthermore, implementation of the CSR policy began with the deployment of the strategy defined within the scope of NEOS aimed at improving the environment and health through air quality and strengthening links with the communities. A specialist committee will be created on the Board in 2017 with regard to this topic. The amount of the variable remuneration in respect of the personal objectives represents 66.50% of the fixed remuneration.

In total, the amount of the variable remuneration as a percentage of the fixed remuneration is 107.1% (out of a maximum of 180%) of the fixed remuneration, 24% lower than the variable remuneration for 2015.

In 2016, a year of successful transformation for the Group, its operating performance is solid. In the context of moderate world growth, the comparable growth of the Group's annual sales amounts to +0.9% and the results obtained for the recurring EPS and ROCE criteria are lower than the objectives, which accounts for the significant decrease in the variable remuneration. These very ambitious objectives had been set at the start of 2016 on the basis of the forecast increases in the industrial production indices per country at the end of 2015 which have been cut significantly.

Amounts	Comments
There is no deferred annual variable remuneration or multi-annual variable remuneration mechanism.	
Stock options, performance shares or any other element of long-term remuneration 60,000 share subscription options Accounting valuation of the options (according to IFRS2): €619,440	<p>1. November 29, 2016 plans (share subscription options and performance shares)</p> <p>Change in principles</p> <p>In the case of the executive officers, the Board decided that the grant of performance shares and stock options and changes in such grant over time will from now on be evaluated in terms of the IFRS value (and no longer in terms of the volumes granted), for all recurring stock option and performance share plans combined.</p> <p>The IFRS value of the stock options and performance shares granted within the scope of the November 29, 2016 Plans amounts to €1,894,721 for Benoit Potier, an increase of +3.7% as compared to 2015. It is lower than the value granted in 2013. It corresponds to an average annual increase since 2008, the year before the crisis, of 0.62%.</p> <p>Limits on the grants to the executive officers</p> <p>For grants to the executive officers, the Board of Directors sets annual limits that are lower than the sublimits authorized by the Annual Shareholders' Meeting and are expressed (i) as a percentage of the capital and (ii) as a multiple of their remuneration, in accordance with the recommendations of the AFEP/MEDEF Code. The limits for 2016 are as follows:</p> <ul style="list-style-type: none"> ■ For all the executive officers: <ul style="list-style-type: none"> - the total number of performance shares granted in one fiscal year (for all Plans combined) cannot grant entitlement to a total number of shares exceeding 0.017% of the capital. The performance shares granted in 2016 represent 0.013% of the capital (0.01% for Benoit Potier), - the total number of stock options granted in one fiscal year cannot grant entitlement to a total number of shares exceeding 0.05% of the capital. The stock options granted in 2016 to Benoit Potier, the only executive officer who was a beneficiary, represent 0.015% of the capital; ■ for each executive officer individually: the limit relating to the total cumulative IFRS value of the stock options and performance shares granted in one fiscal year (for all plans combined) is set at 1.5 times the amount of his maximum gross annual remuneration. <p>Performance conditions</p> <p>The stock options and performance shares granted are subject in full to performance conditions that apply to both tools and are calculated over three years. They are based in 2016 on:</p> <ul style="list-style-type: none"> (i) for 65%, the rate of achievement of an objective consisting of the average of the annual rates of growth in Group undiluted net earnings per share excluding foreign exchange impact and excluding exceptional items ("Recurring EPS") for fiscal years 2016, 2017 and 2018. At the objective set, the grant is 100% then decreases on a straight-line basis to zero if there is no growth in EPS. In order to take into account the impact of the Airgas acquisition and its financing, the principle was adopted: <ul style="list-style-type: none"> - of calculating Recurring EPS on the basis of pro forma financial statements, which make it possible to take into account comparable data for the periods concerned, - of increasing the objective, which was previously +5% per annum, to a level of growth within a range of +6% to +10% per annum. The precise objective will be communicated ex post; (ii) for 35%: <ul style="list-style-type: none"> - for 50% of the stock options/performance shares referred to in sub-paragraph (ii): an objective of average annual growth rate of an investment in Air Liquide shares for fiscal years 2016, 2017 and 2018 ("AL TSR"). The absolute TSR objective remains unchanged as compared to the previous plans, at +8%. At the objective set, the grant is 100% then decreases on a straight-line basis to a lower limit which remains significantly higher than the rate of return on capital, - for 50% of the stock options/performance shares referred to in sub-paragraph (ii): the rate of Total Shareholder Return from an investment in Air Liquide shares (sourced from Bloomberg) ("B TSR"), compared to a reference index made up of: <ul style="list-style-type: none"> - for half, the CAC 40 index (sourced from Bloomberg), and - for half, the Total Shareholder Return of the companies in the industrial gases sector (sourced from Bloomberg). <p>The rate of achievement of the performance conditions will be 0% if Air Liquide TSR is lower than the average of the two indexes, 50% if it is equal to the average of the two indexes and 100% if it is more than 3% higher than the average of the two indexes, on the basis of a straight-line change. Any grant for a performance lower than the average of the two indexes is impossible.</p> <p>The absolute TSR objective is communicated ex ante for the 2016 Plans. The objective set for EPS will be made public ex post, as well as the result achieved and the percentage of performance shares definitively awarded/stock options that are exercisable.</p>
17,800 performance shares within the scope of the November 29, 2016 annual Plan. Accounting valuation of the performance shares (according to IFRS2): €1,275,281	

Amounts	Comments
	Other conditions/shareholding obligation The shareholding obligation defined pursuant to the French Commercial Code applies both to shares resulting from the exercise of stock options and performance shares that have been definitively awarded. It is completed by an internal rule requiring Benoît Potier to hold a number of shares equivalent to double his gross annual fixed remuneration. Benoit Potier has made a commitment not to carry out hedging transactions during his term of office.
	Plan regulations The stock option plan consists of a term of 10 years and a presence/continued employment requirement. The France performance share Plan comprises: (i) an acquisition period of three years; (ii) followed by a two year holding period during which the shares cannot be sold, as well as a presence/continued employment requirement aligned with that of the stock option plan.
20,000 performance shares within the scope of the July 29, 2016 "Airgas France" plan. Accounting valuation of the performance shares (according to IFRS2): €1,494,710	2. July 29, 2016 specific "Airgas France" performance share plan On July 29, 2016, the Board of Directors decided on a specific grant of performance shares intended to show the Company's recognition for the work carried out by all the teams who contributed to successful completion of the Airgas acquisition. For Benoît Potier, there has been no other specific grant since he took his duties at the head of the Group in 2001. This is a major, transforming acquisition for the Group. The Group's workforce has increased by over 15,000 people to 67,000 employees at the end of 2016; revenue has increased by +30%; the Group's customers have doubled in number. This exceptional transaction was completed in record time, all the required authorizations having been obtained in less than six months, making it possible to finalize the acquisition in May 2016. Finally, the transaction led to the preparation and implementation, immediately after its finalization, of refinancing operations as well as a capital increase which proved to be a success with an overall subscription rate of 191%. This result was possible thanks to the very strong commitment shown by the teams involved, for whom this transaction added to their normal responsibilities, thereby justifying this grant to reward this exceptional effort. The two executive officers benefited from this specific grant under the "Airgas France" Plan, which presents identical characteristics to those of the November 29, 2016 France Plan (in particular the acquisition and holding periods and the performance conditions described above). Furthermore, all the specific rules applicable to the executive officers within the scope of the November 29, 2016 Plans are applicable to the "Airgas" Plan: limits on grants, "blackout periods" and commitment not to carry out hedging transactions as described above. The shareholding and share ownership obligations, also described above, are applicable.
Other elements N/A	No allocation.
Directors' fees N/A	Benoit Potier does not receive any Directors' fees with regard to his term of office as Director.
Valuation of benefits of any kind €10,221	The benefits in kind (accounting valuation) include the use of a company car and the payment of contributions to a third party in respect of the unemployment insurance for company managers and corporate officers.

Elements of remuneration due or allocated to Mr. Benoît Potier in respect of fiscal year 2016 which are or have been subject to a vote by the Annual Shareholders' Meeting in accordance with the regulated agreements and commitments procedure

Amounts	Comments
Termination indemnity	€0 received
<p>The terms of the agreement applicable to Benoît Potier are as follows: (i) only the cases of forced departure related to a change of strategy or a change in control may give rise to an indemnity; (ii) the amount of the indemnity is set at 24 months of gross fixed and variable remuneration; (iii) it decreases gradually as he approaches the age limit defined in the articles of association; (iv) entitlement to the indemnity is subject to performance conditions that were made stricter in 2014: the amount of the indemnity paid is based on the average of the annual gap between Return On Capital Employed (ROCE) after tax and Weighted Average Cost of Capital (WACC) (net equity method) over the last three fiscal years prior to the year of departure. This gap, in a highly capital-intensive business, is a measure of regular value creation.</p> <p>An average ROCE – WACC gap over three years of 300 basis points is required to be able to benefit from the total indemnity.</p> <p>The declining formula was also made more exacting:</p>	
Average (ROCE – WACC) gap	Proportion of the indemnity due
≥ 300 bp ^(a)	100%
≥ 200 bp and < 300 bp	66%
≥ 150 bp and < 200 bp	50%
≥ 100 bp and < 150 bp	33%
< 100 bp	0%

(a) *bp: basis points.*

The decision made by the Board of Directors at its meeting on February 17, 2014 in accordance with the regulated agreements and commitments procedure provided for under the "TEPA" law was approved by the Annual Shareholders' Meeting of May 7, 2014 in a specific resolution (10th resolution). It is re-examined and subject to the approval of the Annual Shareholders' Meeting at the time of each renewal of Benoît Potier's term of office.

Non-competition indemnity: there is no commitment with regard to a non-competition indemnity.

Supplementary pension plans	€0 received	Pension benefit obligation under a defined benefit pension plan
		For the portion of his remuneration exceeding 24 times the annual social security ceiling (PASS), within the scope of a defined benefit pension system, Benoît Potier potentially benefits from a supplementary pension annuity equal to 1% for each year of service of the reference remuneration paid by the Company. The defined benefit pension plan only applies if the beneficiary is still with the Company at the time of his retirement and decides to claim his pension entitlements, whether or not at the full rate; in the event that the corporate office is terminated at the Company's initiative (except in the event of gross or willful misconduct), the beneficiary may nevertheless maintain his rights if he is over 55 years of age if he does not resume any professional activity until he retires. This rule, which reflects the human resources policy at Air Liquide encouraging long careers within the Group, is in line with the position of the social security administration. Benoît Potier joined the Group in 1981.
<p>Total pension benefits, under all pension plans combined, are capped at 45% of the reference remuneration. Should this ceiling be reached, the amount paid under the defined benefit plan would be reduced accordingly. The application of this plan was last authorized by the Board of Directors at its meeting on February 17, 2014 and approved by the Annual Shareholders' Meeting on May 7, 2014 (10th resolution).</p>		
<p>Pension benefit obligation under a defined contribution pension plan</p> <p>Benoît Potier benefits from the defined contribution pension plan applicable to all the employees and executive officers, the contribution to which is paid in equal shares by the employer and the beneficiary on the remuneration not exceeding 8 times the PASS. The application of this plan to Benoît Potier was authorized by the Board of Directors at its meeting on February 12, 2010 and approved by the Annual Shareholders' Meeting on May 5, 2010 (9th resolution).</p> <p>The amount of the contributions paid in 2016 in respect of the supplementary defined contribution pension plan for the benefit of Benoît Potier totals €9,233.</p>		

Amounts	Comments
Collective life insurance plan	<p>€0 received</p> <p>As the executive officers are no longer beneficiaries of the defined contribution pension plan for senior managers and executives, a collective life insurance contract was entered into which makes it possible to create savings for the beneficiary that are available at any time. The contributions paid by the Company are calculated under conditions identical to those of the previous plan. The opening of this plan, for the 3rd bracket (16 to 24 times the PASS), and then the 2nd bracket (8 to 16 times the PASS), and finally its extension to the 1st bracket (0 to 8 times the PASS) of the reference remuneration, at an unchanged cost for the Company, responded to a concern for good management</p> <p>For Benoît Potier, the signature of this contract was authorized by decisions made by the Board of Directors on November 20, 2012 and February 13, 2013 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting of May 7, 2013 in a specific resolution for each executive officer (7th resolution). The extension of this plan to the 1st bracket was authorized by a decision made by the Board of Directors on November 20, 2014 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting of May 6, 2015 in a specific resolution for Benoît Potier (7th resolution).</p> <p>The amount of the contributions paid in 2016 in respect of the life insurance plan on behalf of Benoît Potier totals €205,416.</p>
Collective death and disability benefits plan	<p>€0 received</p> <p>Benoit Potier benefits from the additional death and disability benefits plan, unified as from January 1, 2015, covering all the personnel and the executive officers duly authorized to benefit from the plan, in which (a) the remuneration taken into account for the calculation of the contributions is capped at (i) 16 times the annual social security ceiling for the incapacity and disability cover, (ii) 24 times the annual social security ceiling for the death cover; and (b) the rate of the employer's contribution is 1.02%, subject to subsequent changes that may take place pursuant to the contractual provisions.</p> <p>The individual application to Benoit Potier, in respect of his duties as Chairman and Chief Executive Officer, of this unified death and disability benefits plan covering all the personnel was authorized by a decision by the Board of Directors on November 20, 2014 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting of May 6, 2015 in a specific resolution for Benoît Potier (7th resolution).</p> <p>The amount of the contribution paid in 2016 in respect of the death and disability benefits plan on behalf of Benoît Potier totals €3,151.</p>

ELEMENTS OF REMUNERATION DUE OR ALLOCATED TO MR. PIERRE DUFOUR IN RESPECT OF FISCAL YEAR 2016, SUBMITTED FOR THE OPINION OF THE SHAREHOLDERS ^(a)

Elements of remuneration due or allocated to Mr. Pierre Dufour in respect of fiscal year 2016

Amounts	Comments
Fixed remuneration	€675,000 Fixed remuneration is determined based on the level of responsibility and experience in the executive management function and current market practices. In order to remain competitive as compared to the reference market, the amount of the 2016 fixed remuneration, that has been unchanged since 2014, is +3.8% higher than in 2015, representing +1.9% a year since the last increase
Variable annual remuneration	€564,300 The variable remuneration is limited to 140% of the fixed remuneration. The variable portion expressed as a percentage of the fixed remuneration is linked in 2016: <ul style="list-style-type: none"> ■ for 85% of the fixed remuneration, to two financial criteria that are based on: (i) for 50%, an objective of growth in recurring EPS (excluding foreign exchange impact and exceptional items; the calculation is made without the impact of the Airgas acquisition and its financing) set on a consistent basis with regard to historical performances; it takes into account the Group's growth ambition and the economic environment; (ii) for 35%, an objective of ROCE (excluding exceptional items; the calculation is made without the impact of the Airgas acquisition), set in terms of absolute value in line with best performances in the industry, and at a level significantly higher than the weighted average cost of capital. It reflects the importance for the Group of the balance between growth and return on investment. The objectives set are identical to those for previous years. For each financial criterion, a formula makes it possible to calculate the amount of the variable remuneration due taking into account the value achieved as compared to the target objective set. These two financial criteria have been constantly applied for many years; ■ for 55% of the fixed remuneration, to personal objectives comprising: (i) for two-thirds, qualitative objectives, shared by the two executive officers, in particular: finalization of the Airgas acquisition, its financing in particular through the capital increase, and its integration; implementation of the NEOS 2016-2020 plan; preserving the Group's main financial balances with continued pursuit of a selective investment policy; progress of the young managers and organization of the succession plans; pursuit of the Corporate Social Responsibility policy, in particular in terms of safety, reliability and preparation for the CSR integration of Airgas; (ii) for one-third, individual performance.

Assessment for 2016

On February 14, 2017, the Board of Directors recorded, on the basis of the estimated results for 2016 not taking into account the impact of the Airgas acquisition, that the rates of achievement of the objectives set for the recurring EPS and ROCE criteria are lower than the objectives set for 2016. The amount of the variable remuneration as a percentage of the fixed remuneration amounts to 20.50% in respect of recurring EPS and 10.85% in respect of ROCE.

The achievement of the personal objectives, which included the objective of finalisation of the Airgas acquisition was considered to be very good: the Airgas acquisition was finalised on time and its financing proved to be a success with an overall subscription rate for the capital increase of 191%; the integration process was initiated without any problem with the effective merger of the two organisations on October 1; the NEOS 2016-2020 strategic plan integrating the Group's new dimension following the Airgas acquisition was presented to the market in July; the main financial balances were preserved, with the debt/equity ratio being brought down to below the threshold of 90% at fiscal year-end; implementation of the new organization based on the hubs and clusters has been completed; the succession plans are in place following the decisions to retire made by Jean-Pierre Duprieu and Pierre Dufour; finally, with regard to CSR, safety in terms of the lost-time accident frequency rate improved, with a decrease in the rate from 1.59 in 2015 to 1.43 in 2016 based on a comparable scope. With respect to this same scope, the number of lost-time accidents fell from 152 in 2015 to 137 in 2016. Furthermore, implementation of the CSR policy began with the deployment of the strategy defined within the scope of NEOS aimed at improving the environment and health through air quality and strengthening links with the communities. A specialist committee will be created on the Board in 2017 with regard to this topic. The amount of the variable remuneration in respect of the personal objectives represents 52.25% of the fixed remuneration.

In total, the amount of the variable remuneration as a percentage of the fixed remuneration is 83.6% (out of a maximum of 140%) of the fixed remuneration, 24% lower than the variable remuneration for 2015.

In 2016, a year of successful transformation for the Group, its operating performance is solid. In the context of moderate world growth, the comparable growth of the Group's annual sales amounts to +0.9% and the results obtained for the recurring EPS and ROCE criteria are lower than the objectives, which accounts for the significant decrease in the variable remuneration. These very ambitious objectives had been set at the start of 2016 on the basis of the forecast increases in the industrial production indices per country at the end of 2015 which have been cut significantly.

There is no deferred annual variable remuneration or multi-annual variable remuneration mechanism.

(a) For the purposes of transparency and in order to ensure the provision of complete information, all references to the remuneration of Pierre Dufour in the following tables take into account his remuneration in respect of his offices in France and Germany.

Amounts	Comments
Stock options, performance shares or any other element of long-term remuneration 0 stock option. 0 performance share granted within the scope of the Nov. 29, 2016 Plans.	1. November 29, 2016 plans: no grant to Pierre Dufour As Pierre Dufour has decided to claim his pension entitlements and not to seek the renewal of his office as Senior Executive Vice-President in May 2017, the Board of Directors decided not to grant him any share subscription options or performance shares within the scope of the November 29, 2016 Plans.
10,000 performance shares within the scope of the July 29, 2016 "Airgas France" Plan. Accounting valuation of the performance shares (according to IFRS2): €747,355	2. July 29, 2016 specific "Airgas France" performance share Plan On July 29, 2016, the Board of Directors decided on a specific grant of performance shares intended to show the Company's recognition for the work carried out by all the teams who contributed to successful completion of the Airgas acquisition. For Pierre Dufour, there has been no other specific grant since he was appointed as Senior Executive Vice-President in 2007. This is a major, transforming acquisition for the Group. The Group's workforce has increased by over 15,000 people to 67,000 employees at the end of 2016; revenue has increased by +30%; the Group's customers have doubled in number. This exceptional transaction was completed in record time, all the required authorizations having been obtained in less than six months, making it possible to finalize the acquisition in May 2016. Finally, the transaction led to the preparation and implementation, immediately after its finalization, of refinancing operations as well as a capital increase which proved to be a success with an overall subscription rate of 191%. This result was possible due to the very strong commitment shown by the teams involved, for whom this transaction added to their normal responsibilities, thereby justifying this grant to reward this exceptional effort. The two executive officers benefited from this specific grant under the "Airgas France" Plan, which presents identical characteristics to those of the November 29, 2016 France Plan. The following rules thus apply to Pierre Dufour in respect of the grant under the "Airgas France" Plan.

Limits on the grants to the executive officers

For grants to the executive officers, the Board of Directors sets annual limits that are lower than the sublimits authorized by the Annual Shareholders' Meeting and are expressed (i) as a percentage of the capital and (ii) as a multiple of their remuneration, in accordance with the recommendations of the AFEP/MEDEF Code. The limits for 2016 are as follows for Pierre Dufour:

- for all the executive officers: the total number of performance shares granted in one fiscal year cannot grant entitlement to a total number of shares exceeding 0.017% of the capital. The performance shares granted in 2016 represent 0.013% of the capital (0.003% for Pierre Dufour);
- for each executive officer individually: the limit relating to the total cumulative IFRS value of the stock options (no grant to Pierre Dufour in 2016) and performance shares granted in one fiscal year (for all plans combined) is set at 1.5 times the amount of his maximum gross annual remuneration.

Performance conditions

The performance shares granted to Pierre Dufour are subject to **performance conditions**, based in 2016 on:

- (i) for 65%, the rate of achievement of an objective consisting of the average of the annual rates of growth in Group undiluted net earnings per share excluding foreign exchange impact and excluding exceptional items ("Recurring EPS") for fiscal years 2016, 2017 and 2018. At the objective set, the grant is 100% then decreases on a straight-line basis to zero if there is no growth in EPS. In order to take into account the impact of the Airgas acquisition and its financing, the principle was adopted:
 - of calculating Recurring EPS on the basis of pro forma financial statements, which make it possible to take into account comparable data for the periods concerned,
 - of increasing the objective, which was previously +5% per annum, to a level of growth within a range of +6% to +10% per annum. The precise objective will be communicated ex post;
- (ii) for 35%,
 - for 50% of the performance shares referred to in sub-paragraph (ii): an objective of an average annual growth rate of an investment in Air Liquide shares for fiscal years 2016, 2017 and 2018 ("AL TSR"). The absolute TSR objective remains unchanged as compared to the previous plans, at. +8%. At the objective set, the grant is 100% then decreases on a straight-line basis to a lower limit which remains significantly higher than the rate of return on capital,
 - for 50% of the stock options/performance shares referred to in sub-paragraph (ii): on the rate of Total Shareholder Return from an investment in Air Liquide shares (sourced from Bloomberg) ("B TSR"), compared to a reference index made up of:
 - for half, the CAC 40 index (sourced from Bloomberg), and
 - for half, the Total Shareholder Return of the companies in the industrial gases sector (sourced from Bloomberg).

Amounts	Comments
	<p>The rate of achievement of the performance conditions will be 0% if Air Liquide TSR is lower than the average of the two indexes, 50% if it is equal to the average of the two indexes and 100% if it is more than 3% higher than the average of the two indexes, on the basis of a straight-line change. Any grant for a performance lower than the average of the two indexes is impossible.</p> <p>The absolute TSR objective was communicated ex ante for the 2016 Plans. The objective set for EPS will be made public ex post, as well as the result achieved and the percentage of performance shares definitively awarded.</p> <p>Other conditions/shareholding obligation</p> <p>The shareholding obligation imposed defined pursuant to the French Commercial Code applies to the performance shares granted in 2016. It is completed by an internal rule requiring Pierre Dufour to hold a number of shares equivalent to his gross annual fixed remuneration.</p> <p>Pierre Dufour has made a commitment not to carry out hedging transactions during his term of office.</p> <p>"Airgas France" plan regulations</p> <p>The "Airgas France" performance share Plan provides for (i) an acquisition period of three years; (ii) followed by a two year holding period during which the shares cannot be sold, and a presence/continued employment requirement.</p>
Other elements	N/A No allocation.
Directors' fees	N/A Pierre Dufour does not receive any Directors' fees with regard to his term of office as Director.
Valuation of benefits of any kind	9 161 € The benefits in kind (accounting valuation) include the use of a company car.
Other elements of remuneration	250 000 € Pierre Dufour, who is responsible for the management of the hub in Frankfurt, also receives an annual amount paid by the German subsidiary, which includes, in particular, for approximately half, an amount corresponding to the benefits in kind (housing) from which he previously benefited pursuant to his employment contract in France.

Elements of remuneration due or allocated to Mr. Pierre Dufour in respect of fiscal year 2016 which are or have been subject to a vote by the Annual Shareholders' Meeting in accordance with the regulated agreements and commitments procedure^(a)

Amounts	Comments												
Termination indemnity €0 received	<p>The terms of the agreement applicable to Pierre Dufour are as follows: (i) only the cases of forced departure related to a change of strategy or a change in control may give rise to an indemnity; (ii) the amount of the indemnity (including any notice period indemnity and non-competition indemnity due by the German subsidiary in the event of termination of his agreement in Germany) is set at 24 months of gross fixed and variable remuneration received from any Group company; (iii) no indemnity will be paid if the beneficiary has the possibility to claim his full pension entitlements in the short term at the date of forced departure; (iv) the right to the indemnity is subject to performance conditions that were made stricter in 2014: the amount of the indemnity paid is based on the average of the annual gap between Return On Capital Employed (ROCE) after tax and Weighted Average Cost of Capital (WACC) (net equity method) over the last three fiscal years prior to the year of departure. This gap, in a highly capital-intensive business, is a measure of regular value creation.</p> <p>An average ROCE – WACC gap over three years of 300 basis points is required to benefit from the total indemnity. The declining formula was also made more exacting:</p> <table border="1"> <thead> <tr> <th>Average (ROCE – WACC) gap</th> <th>Proportion of the indemnity due</th> </tr> </thead> <tbody> <tr> <td>≥ 300 bp^(a)</td> <td>100%</td> </tr> <tr> <td>≥ 200 bp et < 300 bp</td> <td>66%</td> </tr> <tr> <td>≥ 150 bp et < 200 bp</td> <td>50%</td> </tr> <tr> <td>≥ 100 bp et < 150 bp</td> <td>33%</td> </tr> <tr> <td>< 100 bp</td> <td>0%</td> </tr> </tbody> </table> <p>(a) bp : point de base.</p> <p>The total amount of 24 months of remuneration includes the indemnities received from the German subsidiary in the event of simultaneous termination of his duties.</p> <p>The decision made by the Board of Directors at its meeting on February 17, 2014 in accordance with the regulated agreements and commitments procedure provided for under the "TEPA" law was approved by the Annual Shareholders' Meeting of May 7, 2014 in a specific resolution (11th resolution).</p> <p>Following Pierre Dufour's decision to claim his pension entitlements, the Board of Directors placed on record, at its meeting on February 14, 2017, in agreement with Pierre Dufour, that, in accordance with the terms of the commitment, no indemnity could be paid in the event of forced departure. Accordingly, this commitment no longer applies.</p>	Average (ROCE – WACC) gap	Proportion of the indemnity due	≥ 300 bp ^(a)	100%	≥ 200 bp et < 300 bp	66%	≥ 150 bp et < 200 bp	50%	≥ 100 bp et < 150 bp	33%	< 100 bp	0%
Average (ROCE – WACC) gap	Proportion of the indemnity due												
≥ 300 bp ^(a)	100%												
≥ 200 bp et < 300 bp	66%												
≥ 150 bp et < 200 bp	50%												
≥ 100 bp et < 150 bp	33%												
< 100 bp	0%												
Non-competition indemnity €0 received	In Germany, as authorized by the initial service agreement, the German subsidiary decided to waive the post-contractual non-competition undertaking provided for in this agreement. In consequence, no non-competition indemnity will be due to Pierre Dufour after his departure.												
Supplementary pension plans €0 received	<p>Pension benefit obligation under the defined benefit pension plan</p> <p>For the portion of his remuneration exceeding 24 times the annual social security ceiling (PASS), within the scope of a defined benefit pension system, Pierre Dufour potentially benefits from a supplementary pension annuity equal to 1% for each year of service of the reference remuneration paid by the Company or any subsidiary. The defined benefit pension plan only applies if the beneficiary is still with the Company at the time of his retirement and decides to claim his pension entitlements, whether or not at the full rate; in the event that the corporate office is terminated at the Company's initiative (except in the event of gross or willful misconduct), the beneficiary may nevertheless maintain his rights if he is over 55 years of age and if he does not resume any professional activity until he retires. This rule, which reflects the human resources policy at Air Liquide encouraging long careers within the Group, is in line with the position of the social security administration. Pierre Dufour joined the Group in 1997.</p> <p>Total pension benefits, under all pension plans combined, are capped in all cases at 45% of the reference remuneration. Should this ceiling be reached, the amount paid under the defined benefit plan would be reduced accordingly. The application of this plan was last authorized by the Board of Directors at its meeting on February 17, 2014 and approved by the Annual Shareholders' Meeting on May 7, 2014 (11th resolution).</p>												

(a) The German agreements are included to provide complete information, even though they are not subject to the regulated agreements and commitments procedure.

Amounts	Comments
	Pension benefit obligations under the defined contribution pension plan In the light of his situation in the Group, Pierre Dufour no longer benefits from this plan.
	Savings contract in Germany A savings contract was entered into by the German subsidiary with a financial institution for the benefit of Pierre Dufour. It makes it possible to create savings which are available at the end of the contract, of an amount that is at least equivalent to the contributions paid by the subsidiary. The amount of the contribution corresponds to the amount of the contributions previously paid into the French plans from which Pierre Dufour no longer benefits. The amount of the contribution paid in 2016 by the subsidiary totals €250,000.
Collective life insurance plan	€0 received In light of his new situation within the Group since January 1, 2014, Pierre Dufour has waived the right to benefit from this plan.
Collective death and disability benefits plan	€0 received Pierre Dufour no longer benefits from this plan since January 1, 2014.

Report on the principles and criteria for determination, allocation and distribution of the fixed, variable and exceptional elements of the total remuneration and the benefits of all kinds that may be granted to the executive officers

(submitted for the approval of the Annual Shareholders' Meeting pursuant to article L. 225-37-2 of the French Commercial Code)

This Report on executive officer remuneration policy describes the principles and criteria for determination, allocation and distribution of the fixed, variable and exceptional elements of the total remuneration and the benefits of all kinds that may be granted the executive officers in respect of their corporate office. The policy, adopted by the Board of Directors on February 14, 2017 on the Remuneration Committee's recommendation, is applicable from January 1, 2017 onwards.

In accordance with article L. 225-37-2 of the French Commercial Code, the principles and criteria set out in this Report are submitted for the approval of the Annual Shareholders' Meeting on May 3, 2017. This approval is requested in a specific resolution for each executive officer (resolution 10 relating to the Chairman and Chief Executive Officer and resolution 11 relating to the Senior Executive Vice-President).

I. REMUNERATION POLICY APPLICABLE TO THE CHAIRMAN AND CHIEF EXECUTIVE OFFICER

1.1 General principles and structure of total annual remuneration

1.1.1. General principles

- Traditionally, the remuneration policy adopted by the Board of Directors includes incentive elements reflecting the Group's strategy which is oriented toward profitable long-term growth while acting responsibly with regard to all stakeholders. In a highly capital-intensive industry, profitable long-term growth requires constant attention to be paid to each investment decision and to the competitiveness of every transaction, while maintaining an ongoing effort over time in favor, in particular, of innovation, employee training, safety and security and energy efficiency. In this context, the elements taken into account in the determination of the remuneration are as follows:
 - a **short-term component**, composed of a fixed portion and a variable portion;
 - a **long-term incentive** via the granting of share subscription options or, since 2015, an award of performance shares, both tools being subject in full to the same performance conditions calculated over three years;
 - **other benefits** attached to the performance of the executive officer's term of office, including:
 - a defined benefit **pension plan** applicable to eligible senior managers and executives and executive officers,
 - a **collective life insurance plan**,
 - a **death and disability benefits plan**,
 - **commitments to pay an indemnity in the event of termination of duties** on the Company's initiative in certain circumstances subject to performance conditions calculated over a three-year period,
 - **entitlement to the unemployment insurance for company managers and corporate officers**, in the absence of an employment contract with the Group.
- To determine the remuneration policy, the Board of Directors takes into account the principles of comprehensiveness, balance, comparability, consistency, understandability and proportionality as recommended by the AFEP/MEDEF Code of corporate governance.
- Following the Airgas acquisition, which was a major, transforming event for the Group, the Board of Directors set, on the Remuneration Committee's recommendation, the criteria for determination of a remuneration policy which (i) reflects the Group's executive officer's increased level of responsibility, and (ii) is adapted to the Group's new context, remains competitive and is an incentive to promote the Group's performance over the medium- to long-term, in compliance with the Company's interests and the interests of all the stakeholders.

The remuneration policy applicable to the Chairman and Chief Executive Officer applies whether the executive officer of the Group is the Chairman and Chief Executive Officer or, if circumstances so require, the Chief Executive Officer of the Company. If the case were to arise, the Chairman not holding the duties of Chief Executive Officer would receive fixed remuneration to the exclusion of any variable remuneration.

1.1.2. Structure of the total annual remuneration

- On the Remuneration Committee's recommendation, the Board of Directors set itself the objective of maintaining a proportionate balance between the three components of remuneration (fixed and variable remuneration and elements of long-term motivation) such that, in accordance with recurring practice in Air Liquide,
 - the **weight of the variable elements** (variable part and elements of long-term motivation combined) continues to represent approximately **75% of the total annual remuneration**; and that
 - in the balance between the three above-mentioned elements, a slightly greater weight continues to be given to the elements of long-term motivation (with the fixed part representing approximately 25%, the variable part 35% and the elements of long-term motivation 40% of the total annual remuneration).
- It adopted the structure of the annual variable part of remuneration **applicable as from 2017**, as follows:
 - (i) **the variable remuneration is expressed as a target variable part** (as a % of the fixed remuneration) and also as a maximum limited to 167% of the fixed remuneration;
 - (ii) there are three **quantitative criteria** including an objective of growth in **revenue**;
 - (iii) **the qualitative criteria are simplified**, being two-third based on three to four categories of objectives defined every year and one-third based on an evaluation of individual performance;
 - (iv) **in the weighting** of the various criteria adopted,
 - **the weight of the quantitative criteria as compared to the qualitative criteria has been increased**, with a greater relative weight being assigned to the quantitative criteria as compared to the qualitative criteria,
 - **each quantitative criterion is assigned a target weighting** (expressed as a % of the fixed remuneration) corresponding to achievement at a level of 100% of the target objective set at the beginning of the year, **and a maximum weighting** (expressed as a % of the fixed remuneration),
 - the target weighting and the maximum weighting are communicated ex ante; the actual weight of each criterion for the determination of the variable remuneration due in respect of the fiscal year will be established on the basis of the performance measured for each criterion in the light of the target objective, on the basis of the application of a formula for the financial criteria and the assessment of the executive officer's performance by the Board of Directors upon the Remuneration Committee's recommendation for the qualitative criteria. The actual weight (as a % of the fixed remuneration) of each quantitative criterion on the basis of achievement of the objective will be communicated ex post.

1.2. Implementation for determination of the 2017 remuneration

By applying the principles defined above, the criteria for determination, allocation and distribution of the elements making up the executive officer's total remuneration for 2017 are as follows:

1.2.1. Fixed remuneration

Fixed remuneration is determined based on the level of responsibility and experience in the executive management function and current market practices.

The fixed remuneration will represent approximately 25% of the total annual remuneration.

1.2.2. Variable remuneration

The variable remuneration will be based on:

- (i) three financial criteria as follows:
 - increase in net earnings per share (EPS) excluding foreign exchange impact and significant exceptional items,
 - Return on Capital Employed after tax (ROCE),
 - comparable growth in consolidated revenue (excluding significant scope impact, and excluding foreign exchange impact and energy costs).

For the increase in EPS and revenue, the calculation will be made on the basis of the consolidated financial statements of the new Group for 2017 compared to the estimated financial statements for 2016 including Airgas as of January 1, and excluding the businesses available for sale.

For each criterion, the Board of Directors has defined a target objective. These objectives are not made public for confidentiality reasons.

For each financial criterion, a formula adopted by the Board makes it possible to calculate the amount of the variable remuneration due (within the limit of a maximum) taking into account, on the basis of the consolidated financial statements for the fiscal year, the value achieved for the criterion as compared to the target objective set. Thus, in case of a performance that exceeds the objective set, the value of the variable part is adjusted upward within the limit of the maximum set for each criterion. In the event of a performance below the lower limit set for each objective, the fraction of the variable remuneration corresponding to this criterion is equal to zero;

(ii) qualitative criteria related:

- for two-thirds, to the following three fields:
 - Integration of Airgas,
 - CSR,
 - Organization/Human resources,
- for one-third, to individual performance.

A target and maximum total weight is set for the qualitative criteria;

(iii) the key for the breakdown of the quantitative/qualitative criteria and, in each category, the target and maximum weights of each element, determined by applying the principles set out above, are as follows:

	Minimum variable remuneration	Target variable remuneration (as a % of the fixed remuneration)	Maximum variable remuneration (as a % of the fixed remuneration)
Financial criteria of which:	0	105	122
■ EPS	0	40	47
■ ROCE	0	45	52
■ Revenue	0	20	23
Personal objectives of which:	0	45	45
■ CSR, Airgas integration, Organization/HR and personal appraisal			
TOTAL	0	150	167

The total amount of the variable remuneration due in respect of the 2017 fiscal year in respect of the term of office will be paid in 2018 after approval of the financial statements by the Annual Shareholders' Meeting. Payment of this amount is conditional on approval by an Annual Shareholders' Meeting of the elements of the executive officer's remuneration for 2017, under the conditions provided by Article L. 225-100 of the French Commercial Code.

1.2.3. Other components of annual remuneration

The benefits in kind paid include the use of a company car as well as contributions to the unemployment insurance for company managers and corporate officers.

In accordance with the Group's internal practice, the Chairman of the Board of Directors does not receive any Directors' fees if he holds executive duties in L'Air Liquide S.A..

1.2.4. Long-term remuneration components

Principles of grant

- The Board is continuing with the policy initiated in 2015 aimed at giving preference to performance shares rather than stock options in the volumes granted. The award of performance shares and the grant of stock options to the executive officers and the changes therein over time will be assessed in terms of the IFRS value (and no longer in terms of the volumes granted), for all stock option and performance share plans combined.
- All the stock options and performance shares granted are subject to performance conditions that apply to both the stock option and performance share plans and are calculated over a period of three years. The relative TSR criterion will consist of a comparison with only one published index: the CAC 40 TSR index, reinvested dividends. For the fraction of the performance conditions that is based on this relative TSR criterion, no grant of stock options or performance shares will be possible if the average of Air Liquide TSR (reinvested dividends) over the period is lower than the average of CAC 40 TSR, reinvested dividends, over the same period.

- The performance conditions applicable to the plans decided in the autumn are set by the Board of Directors at the start of the year at the Board meeting in February, in order to have a reference period of three full years.

The objectives set for each performance condition are made public ex post, at the end of the Board of Directors' meeting in February following the end of the three fiscal years during which the performance must be achieved. The rate of achievement of the performance conditions and the percentage of stock options that vest/performance shares definitively awarded are also published at the end of this Board meeting.

Performance conditions

As a result of the foregoing, the performance conditions applicable to all the beneficiaries of the stock option and performance share plans that will be implemented in 2017 were adopted by the Board of Directors on February 14, 2017. The number of stock options that may be exercised out of the total number of stock options that will be granted and the number of performance shares that will be definitively awarded within the scope of the 2017 Plans will depend:

- (i) **for 65% of the stock options/performance shares granted**, on the rate of achievement of an objective, set by the Board, consisting of the average of the annual rates of growth in Group undiluted net earnings per share excluding foreign exchange impact and excluding significant exceptional items ("Recurring EPS") for fiscal years 2017, 2018 and 2019. At the objective set, the grant is 100% then decreases on a straight-line basis to zero if there is no growth in EPS. In order to take into account the impact of the Airgas acquisition in May 2016 and its financing, the following principle was adopted:

- of calculating the increase in Recurring EPS for 2017, on the basis of the estimated financial statements for 2016 including Airgas as of January 1 and excluding the businesses available for sale and thus making it probable to take into account comparable data,
- of maintaining an exacting objective with regard to the average of the annual rates of growth over this period. The objective will be communicated ex post;

- (ii) **for 35% of the stock options/performance shares granted**,

- for 50% of the stock options/performance shares referred to in sub-paragraph (ii): on an objective of Total Shareholder Return set by the Board, defined as the average annual growth rate of an investment in Air Liquide shares for fiscal years 2017, 2018 and 2019 ("AL TSR"). At the objective set, the grant is 100% then decreases on a straight-line basis, down to a lower limit,
- for 50% of the stock options/performance shares referred to in sub-paragraph (ii): on the rate of Total Shareholder Return from an investment in Air Liquide shares, reinvested dividends – sourced from Bloomberg ("B TSR"), compared to the CAC 40 TSR Index, reinvested dividends (sourced from Bloomberg).

The rate of achievement will be 0% if the average of Air Liquide TSR is lower than the average of the CAC 40 TSR, 50% if it is equal to the average of the CAC 40 TSR and 100% if it is more than 2% higher than the average of CAC 40 TSR on the basis of a straight-line change. Any grant for a performance lower than the average of CAC 40 TSR is impossible.

The rate of achievement of the performance conditions will be recorded by the Board at the time of adoption of the financial statements for the 2019 fiscal year.

Rules specific to the executive officers

The grant to the executive officers is examined by the Remuneration Committee at the same time as the plan for the grant to Group employees and decided by the Board of Directors. It is made within the scope of plans, adopted at pre-established periods in the autumn, in the form of share subscription options granted without any discount, and performance shares.

■ Limits on the grants to the executive officers

Within the scope of the sub-limits authorized for 38 months by the Annual Shareholders' Meeting ^(a), the Board of Directors sets lower annual limits for the grants to the executive officers, expressed (i) as a percentage of the share capital, and for each executive officer (ii) as a multiple of their remuneration, in accordance with the recommendations of the AFEP/MEDEF Code.

■ Shareholding and share ownership obligations

- Shareholding obligation pursuant to the French Commercial Code

On the Remuneration Committee's recommendation, the Board defined the shareholding obligations resulting from articles L. 225-185 and L. 225-197-1 of the French Commercial Code applicable to the shares resulting from the exercise of stock options and performance shares respectively as from September 28, 2015. They lead to the obligation for the executive officer to hold, in registered form, until the termination of his duties, a minimum quantity of shares corresponding to 50% of the capital gain on acquisition net of social charges and tax resulting from each exercise of stock options/each definitive award of performance shares.

(a) Last authorized by the Combined Shareholders' Meeting on May 12, 2016 (18th and 19th resolutions).

This percentage will be lowered to 5%, as soon as the quantity of shares held by the executive officer would represent an amount at least equal to three times the gross annual fixed remuneration of the executive officer.

- Additional shareholding obligation – Recommendation made by the AFEP/MEDEF Code

In addition, the internal rule defined by the Board of Directors since 2008, pursuant to which the Chairman and Chief Executive Officer must hold in a registered share account a number of shares equivalent to double his gross annual fixed remuneration, remains in effect. This obligation will remain in force until it is exceeded by the effect of the above-mentioned rules resulting from the French Commercial Code. The number of shares required to be held is assessed as of January 1 and July 1 of each year.

■ Other rules applicable to the executive officer

- Presence/continued employment requirement: loss of the stock options/rights to performance shares in the process of being acquired, in case of resignation or removal from office for serious cause.
- Obligations regarding the restriction on the exercise of stock options and the sale of performance shares during the "blackout periods" surrounding the publication of the financial statements defined by the Company. These abstention periods open 30 days before the date of publication of the annual and half-yearly consolidated results and 15 days before the date of publication of the financial information relating to the 1st and 3rd quarters. They end on the date of publication of the information at close of business.
- Commitment not to carry out hedging transactions with regard to the risk concerning stock options/shares resulting from the exercise of stock options and concerning the performance shares awarded, throughout the length of his term of office.

1.3. Other remuneration components

The Board of Directors takes into account, in the overall assessment and determination of the executive officer's remuneration, the other elements of remuneration submitted for the approval of the Annual Shareholders' Meeting within the scope of the regulated agreements and commitments procedure.

For the record, in the case of Benoît Potier, these elements are as follows:

1.3.1. Long-term commitments

The Company's pension obligations

Benoit Potier has been authorized to benefit from various supplementary social protection schemes set up by L'Air Liquide S.A. as follows:

Defined benefit pension plan

For the portion of his remuneration exceeding 24 times the annual social security ceiling (PASS), within the scope of a collective defined benefit pension scheme, Benoît Potier potentially benefits from a supplementary pension annuity equal to 1% for each year of service of the reference remuneration paid by the Company. The defined benefit pension plan only applies if the beneficiary is still with the Company at the time of his retirement and decides to claim his pension entitlements, whether or not at the full rate; in the event that the relationship is terminated at the Company's initiative (except in the event of gross or willful misconduct), the beneficiary may nevertheless maintain his rights if he is over 55 years of age if he does not resume any professional activity until he retires. This rule, which reflects the human resources policy at Air Liquide encouraging long careers within the Group, is in line with the position of the social security administration. Where applicable, an annuity equal to 60% of the above-mentioned benefits will be paid to the surviving spouse, under certain conditions, notably with regard to age. Benoît Potier joined the Group in 1981.

Total pension benefits, under all pension plans combined, are capped at 45% of the reference remuneration. Should this ceiling be reached, the amount paid under the defined benefit plan would be reduced accordingly.

The application of this plan to Benoit Potier was last authorized by a decision by the Board of Directors at its meeting on February 17, 2014 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting on May 7, 2014 in a specific resolution for the executive officer (10th resolution). This commitment will be reviewed at the time of the renewal of the executive office of Benoit Potier to take account of the new provisions of the Macron Law of August 6, 2015.

Defined contribution pension plan

Benoit Potier benefits from the defined contribution pension plan applicable to all the employees and executive officers, the contribution to which is paid in equal shares by the employer and the beneficiary on the remuneration not exceeding 8 times the PASS.

The individual application of this plan to Benoit Potier was authorized by a decision made by the Board of Directors on February 12, 2010 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting on May 5, 2010 (9th resolution).

Other benefits

Life insurance plan

As Benoît Potier is no longer a beneficiary of the defined contribution pension plan for senior managers and executives, a collective life insurance contract was entered into which enables them to create savings on behalf of the beneficiary which are available at any time.

The executive officer's rights in respect of this plan are financed by contributions paid by the Company to an insurance body and concern the brackets of remuneration ranging from 0 to 24 PASS.

The opening of this plan, for the 3rd bracket (16 to 24 PASS), and then the 2nd bracket (8 to 16 PASS), and finally its extension to the 1st bracket (0 to 8 PASS) of the reference remuneration, at an unchanged cost for the Company, responded to a concern for good management. The contributions paid to the third-party plan manager are assessed on the basis of the portions of the reference remuneration of the beneficiaries corresponding to each of the three brackets, in accordance with conditions identical to those of the previous plan.

For Benoit Potier, the signature of this contract, for the 3rd and then the 2nd bracket, was authorized by decisions made by the Board of Directors on November 20, 2012 and February 13, 2013 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting of May 7, 2013 in a specific resolution (7th resolution). The extension of the plan to the 1st bracket concerning the band of reference remuneration amounting to between 0 and 8 times the annual social security ceiling was authorized by a decision made by the Board of Directors on November 20, 2014 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting of May 6, 2015 in a specific resolution for Benoit Potier (7th resolution).

Death and disability benefits plan

Benoit Potier benefits from the additional "incapacity, disability, death" benefits plan, unified as from January 1, 2015, covering all the personnel and the executive officers duly authorized to benefit from such plan in which (a) the remuneration taken into account for the calculation of the contributions is capped at (i) 16 times the annual social security ceiling for the incapacity and disability cover, (ii) 24 times the annual social security ceiling for the death cover; and (b) the rate of the employer's contribution is 1.02%, subject to any future changes that may be made pursuant to the contractual provisions.

The individual application of this unified benefit plan covering all the personnel to Benoit Potier, in respect of his duties as Chairman and Chief Executive Officer, was authorized by a decision of the Board of Directors on November 20, 2014 in accordance with the regulated agreements and commitments procedure, and approved by the Annual Shareholders' Meeting on May 6, 2015 in a specific resolution for Benoit Potier (7th resolution).

1.3.2. Commitments relating to termination of duties

Termination indemnities

Terms of commitment

The terms of the agreement applicable to Benoit Potier are as follows: (i) only the cases of forced departure related to a change of strategy or a change in control may give rise to an indemnity; (ii) the amount of the indemnity is set at 24 months of gross fixed and variable remuneration; (iii) it decreases gradually as he approaches the age limit defined in the articles of association; (iv) entitlement to the indemnity is subject to performance conditions that were made stricter in 2014: the amount of the indemnity paid is based on the average of the annual gap between Return On Capital Employed (ROCE) after tax and Weighted Average Cost of Capital (WACC) (net equity method) over the last three fiscal years prior to the year of departure. This gap, in a highly capital-intensive business, is a measure of regular value creation.

An average ROCE – WACC gap over three years of 300 basis points is required to be able to benefit from the total indemnity. The declining formula is as follows:

Average (ROCE – WACC) gap	Proportion of the indemnity due
≥ 300 bp ^(a)	100%
≥ 200 bp and < 300 bp	66%
≥ 150 bp and < 200 bp	50%
≥ 100 bp and < 150 bp	33%
< 100 bp	0%

(a) bp: basis points.

The decision made by the Board of Directors at its meeting on February 17, 2014 in accordance with the regulated agreements and commitments procedure provided for under the "TEPA" law was approved by the Annual Shareholders' Meeting of May 7, 2014 in a specific resolution relating to Benoit Potier (10th resolution). It is re-examined and subject to the approval of the Annual Shareholders' Meeting at the time of each renewal of Benoit Potier's term of office.

Unemployment insurance for company managers and corporate officers

Pursuant to a decision made by the Board of Directors in May 2006, Benoit Potier benefits, in his capacity as an executive officer, from the unemployment insurance for company managers and corporate officers subscribed by the Company. The contributions paid by the Company are added back to Benoit Potier's remuneration as benefits in kind.

This decision had been approved by the Annual Shareholders' Meeting of May 9, 2007, in accordance with the regulated agreements procedure (7th resolution).

At its meeting in May 2014, the Board of Directors confirmed that Benoit Potier continues to benefit from this insurance within the scope of the latest renewal of his terms of office.

II. REMUNERATION POLICY APPLICABLE TO THE SENIOR EXECUTIVE VICE-PRESIDENT

2.1. General principles

Traditionally, the remuneration policy adopted by the Board of Directors includes incentive elements reflecting the Group's strategy which is oriented toward profitable long-term growth while acting responsibly with regard to all stakeholders. In a highly capital-intensive industry, profitable long-term growth requires constant attention to be paid to each investment decision and to the competitiveness of every transaction, while maintaining an ongoing effort over time in favor, in particular, of innovation, employee training, safety and security and energy efficiency. In this context, the elements taken into account in the determination of the remuneration are as follows:

- a **short-term component**, composed of a fixed portion and a variable portion;
- a **long-term incentive** via the granting of share subscription options or, since 2015, an award of performance shares, both tools being subject in full to the same performance conditions calculated over three years;
- **other benefits** attached to the performance of the executive officer's term of office, including:
 - a defined benefit **pension plan** applicable to eligible senior managers and executives and executive officers,
 - a **collective life insurance plan**,
 - a **death and disability benefits plan**,
 - **commitments to pay an indemnity in the event of termination of duties** on the Company's initiative in certain circumstances subject to performance conditions calculated over a three-year period,
 - **entitlement to the unemployment insurance for company managers and corporate officers**, in the absence of an employment contract with the Group;

To determine the remuneration policy, the Board of Directors takes into account the principles of comprehensiveness, balance, comparability, consistency, understandability and proportionality as recommended by the AFEP/Medef Code of corporate governance.

2.2. Annual remuneration components

The elements of the annual remuneration of a Senior Executive Vice-President are set out below.

In the case of Pierre Dufour, who has decided to claim his pension entitlements in 2017 and not to request the renewal of his office as Senior Executive Vice-President of L'Air Liquide S.A. at the end of the Annual Shareholders' Meeting in May 2017, the fixed and variable remuneration and, the other elements of remuneration will be due on a prorated basis to the length of time worked in 2017.

2.2.1. Fixed remuneration

Fixed remuneration is determined based on the level of responsibility and experience in the executive management function and current market practices.

2.2.2. Variable remuneration

The variable remuneration is based on the following financial criteria: (i) increase in recurring net earnings per share (excluding foreign exchange impact and excluding significant exceptional items), and (ii) the Company's Return on Capital Employed after tax (ROCE). For 2017, the calculation of the increase in EPS will be made on the basis of the consolidated financial statements of the new Group for 2017 compared to the estimated financial statements for 2016 including Airgas as of January 1 and excluding the businesses available for sale.

For each criterion, the Board of Directors has defined an objective. This objective is not made public for confidentiality reasons.

For each financial criterion, a formula adopted by the Board makes it possible to calculate the amount of the variable remuneration due (within the limit of a maximum) taking into account, on the basis of the consolidated financial statements for the fiscal year, the value achieved for the criterion as compared to the objective set. Thus, in case of a performance that exceeds the objective set, the value of the variable part is adjusted upward. In the event of a performance below the lower limit set for each objective, the fraction of the variable remuneration corresponding to this criterion is equal to zero.

In addition to the above, there will also be personal objectives comprising:

- (i) for two-thirds, qualitative criteria based on three to four categories of objectives defined every year. For 2017, the qualitative objectives relate to the following three fields:
 - integration of Airgas,
 - CSR,
 - Organization/Human resources.
- (ii) for one-third, individual performance.

The weight of each criterion and the maximum amount of the variable remuneration, expressed as a percentage of the fixed remuneration, are as follows:

(as a percentage of the fixed remuneration)	Senior Executive Vice-President
Financial criteria	85
EPS	50
ROCE	35
Personal criteria	55
TOTAL (maximum expressed as a percentage of fixed remuneration)	140

The actual weight (as a % of the fixed remuneration) of each criterion will be communicated ex post.

The variable part of the remuneration due in respect of the 2017 fiscal year in respect of the term of office of the Senior Executive Vice-President (on a prorated basis to the length of time worked during the fiscal year in the case of Pierre Dufour) will be paid in 2018 after approval of the financial statements by the Annual Shareholders' Meeting. Payment of this amount is conditional on approval by an Annual Shareholders' Meeting of the elements of the Senior Executive Vice-President's remuneration for 2017, under the conditions provided by Article L. 225-100 of the French Commercial Code.

2.2.3. Other elements of annual remuneration

The benefits in kind paid for the benefit of the Senior Executive Vice-President include the use of a company car.

In the case of Pierre Dufour, who is responsible for the management of the hub in Frankfurt, he also receives an annual amount paid by the German subsidiary, which includes, in particular, for approximately half, an amount corresponding to the benefits in kind (housing) from which he previously benefited pursuant to his employment contract in France.

These two elements of remuneration are unchanged as compared to 2016 and will cease to be payable at the time of Pierre Dufour's retirement.

In accordance with the Group's internal policy, the Senior Executive Vice-President, if he is a Director, does not receive any Directors' fees with regard to his term of office as Director as long as he performs his duties as Senior Executive Vice-President at L'Air Liquide S.A.

2.3. Long-term remuneration components

Traditionally, the Senior Executive Vice-President benefits from the grant of long-term incentives within the scope of the policy defined in point I §1.2.4, it being specified that, pursuant to the internal rule defined by the Board of Directors since 2008, the Senior Executive Vice-President must hold in a registered share account a number of shares equivalent to his gross annual fixed remuneration

As Pierre Dufour has decided to claim his pension entitlements in 2017, no stock options and performance shares will be granted to him in 2017.

2.4. Other remuneration components

2.4.1 Long-term commitments

The Board of Directors takes into account, in the overall assessment and determination of the remuneration of the Senior Executive Vice-President, the other elements of remuneration submitted for the approval of the Annual Shareholders' Meeting within the scope of the regulated agreements and commitments procedure.

For the record, in the case of Pierre Dufour, these elements are as follows:

Defined benefit pension plan

For the portion of his remuneration exceeding 24 times the annual social security ceiling (PASS), within the scope of a collective defined benefit pension scheme, Pierre Dufour potentially benefits from a supplementary pension annuity equal to 1% for each year of service of the reference remuneration paid by the Company or any subsidiary. The defined benefit pension plan only applies if the beneficiary is still with the Company at the time of his retirement and decides to claim his pension entitlements, whether or not at the full rate; in the event that the relationship is terminated at the Company's initiative (except in the event of gross or willful misconduct), the beneficiary may nevertheless maintain his rights if he is over 55 years of age and if he does not resume any professional activity until he retires. This rule, which reflects the human resources policy at Air Liquide encouraging long careers within the Group, is in line with the position of the social security administration. Where applicable, an annuity equal to 60% of the above-mentioned benefits will be paid to the surviving spouse, under certain conditions, notably with regard to age. Pierre Dufour joined the Group in 1997. Total pension benefits, under all pension plans combined, are capped at 45% of the reference remuneration. Should this ceiling be reached, the amount paid under the defined benefit plan would be reduced accordingly. The application of this plan was last authorized by the Board of Directors at its meeting on February 17, 2014 and approved by the Annual Shareholders' Meeting on May 7, 2014 (11th resolution).

As Pierre Dufour has decided to retire, he will be able to claim his rights pursuant to this plan in 2017.

Other benefits: Savings contract in Germany

A savings contract was entered into by the German subsidiary with a financial institution for the benefit of Pierre Dufour. It makes it possible to create savings which are available at the end of the contract, of an amount that is at least equivalent to the contributions paid by the subsidiary. The amount of the contribution corresponds to the amount of the contributions previously paid into the French plans from which Pierre Dufour no longer benefits.

As Pierre Dufour has decided to retire in 2017, he will be eligible to claim his rights under this contract.

2.4.2. Non-competition clause/Termination indemnity

In Germany, as authorized by the initial service agreement, the German subsidiary decided to waive the post-contractual non-competition undertaking provided for in this agreement. In consequence, no non-competition indemnity will be due to Pierre Dufour after his departure. It has also been agreed that no notice period indemnity will be due at the time of this departure.

In France, no termination indemnity will be paid at the time of this departure.

➤ STATUTORY AUDITORS' REPORT

**Prepared in accordance with article L. 225-235 of the French Commercial Code (Code de commerce),
on the report prepared by the Chairman of the Board of Directors of L'Air Liquide**

This is a free translation into English of a report issued in French and it is provided solely for the convenience of English-speaking readers. This report should be read in conjunction with and construed in accordance with French law and professional standards applicable in France.

To the Shareholders,

In our capacity as Statutory Auditors of L'Air Liquide and in accordance with article L. 225-235 of the French Commercial Code (Code de commerce), we hereby report on the report prepared by the Chairman of the Board of Directors of your Company in accordance with article L. 225-37 of the French Commercial Code (Code de commerce) for the year ended December 31, 2016.

It is the Chairman's responsibility to prepare and submit for the Board of Directors' approval a report on the internal control and risk management procedures implemented by the Company and to provide the other information required by article L. 225-37 of the French Commercial Code (Code de commerce) relating to matters such as corporate governance.

It is our responsibility to:

- report on any matters as to the information contained in the Chairman's report in respect of the internal control and risk management procedures relating to the preparation and processing of the accounting and financial information; and
- confirm that the report also includes the other information required by article L. 225-37 of the French Commercial Code (Code de commerce), it being specified that it is not our responsibility to verify the fairness of this other information.

We conducted our work in accordance with professional standards applicable in France.

INFORMATION ON THE INTERNAL CONTROL AND RISK MANAGEMENT PROCEDURES RELATING TO THE PREPARATION AND PROCESSING OF ACCOUNTING AND FINANCIAL INFORMATION

The professional standards require that we perform the necessary procedures to assess the fairness of the information provided in the Report of the Chairman in respect of the internal control and risk management procedures relating to the preparation and processing of the accounting and financial information. These procedures consist mainly in:

- obtaining an understanding of the internal control and risk management procedures relating to the preparation and processing of the accounting and financial information on which the information presented in the Chairman's Report is based, and of the existing documentation;
- obtaining an understanding of the work involved in the preparation of this information and of the existing documentation;
- determining if any material weaknesses in the internal control procedures relating to the preparation and processing of accounting and financial information that we would have noted in the course of our work are properly disclosed in the Chairman's Report.

On the basis of our work, we have no matters to report on the information relating to the Company's internal control and risk management procedures relating to the preparation and processing of the accounting and financial information contained in the report prepared by the Chairman of the Board of Directors in accordance with article L. 225-37 of the French Commercial Code (Code de commerce).

OTHER INFORMATION

We confirm that the report prepared by the Chairman of the Board of Directors also contains the other information required by article L. 225-37 of the French Commercial Code (Code de commerce).

Neuilly-sur-Seine and Paris-La Défense, March 3, 2017

The Statutory Auditors
French original signed by

PricewaterhouseCoopers Audit

Olivier Lotz

Séverine Scheer

ERNST & YOUNG et Autres

Jeanne Boillet

Emmanuelle Mossé

► TRANSACTIONS INVOLVING COMPANY SHARES PERFORMED BY EXECUTIVE OFFICERS AND MEMBERS OF EXECUTIVE MANAGEMENT

In 2016, the following transactions involving Company shares were performed by Executive Officers and members of Executive Management, pursuant to article L. 621-18-2 of the French Monetary and Financial Code:

Nature of the transactions	Date of transaction	Average price (in euros)
Jean-Pierre Duprieu Exercise of 41,666 options of L'Air Liquide S.A.	January 12, 2016	71.54
Jean-Pierre Duprieu Purchase of 287 shares of L'Air Liquide S.A.	May 10, 2016	77.38
Jean-Pierre Duprieu Exercise of 6,394 options of L'Air Liquide S.A.	July 13, 2016	50.03
Benoît Potier Sale of 78,213 shares of L'Air Liquide S.A.	March 7, 2016	98.03
Benoît Potier Exercise of 82,222 options of L'Air Liquide S.A.	March 10, 2016	64.66
Pierre Dufour Exercise of 46,971 options of L'Air Liquide S.A.	March 10, 2016	50.03
Pierre Dufour Sale of 46,971 shares of L'Air Liquide S.A.	March 10, 2016	100.01
Pierre Dufour Exercise of 5,000 options of L'Air Liquide S.A.	March 17, 2016	50.03
Benoît Potier Purchase of 5,700 shares of L'Air Liquide S.A.	September 19, 2016	76.00
Benoît Potier Sale of 163,616 shares of L'Air Liquide S.A.	September 19, 2016	2.70
Pierre Dufour Sale of 516 shares of L'Air Liquide S.A.	September 20, 2016	2.7060

➤ DESCRIPTION OF STOCK OPTION AND PERFORMANCE SHARE PLANS

Allotment policy

Each year, the Company sets up in principle:

- a share subscription option plan for its executive officers and employees; and
- since 2008, performance share plans, that have been open to the executive officers and Executive Committee members since 2015.

These allotments are decided by the Board of Directors pursuant to the authorizations granted by the Annual Shareholders' Meeting, and most recently by the Combined Shareholders' Meeting of May 12, 2016 for a term of 38 months.

The introduction of performance share plans since 2008 has enabled the Company to offer a medium-term remuneration tool with features that are complementary to the long-term remuneration solution represented by the stock options and to increase the number of beneficiaries.

The allotment policy continued in 2016 aims at giving preference to performance shares rather than stock options in the volumes granted.

The stock option and performance share plan system is intended for three groups of beneficiaries:

- the Company's executive officers, beneficiaries of options and of performance shares for whom the Board has decided that the grant of performance shares and stock options and changes in such grant over time will from now on be evaluated in terms of the IFRS value

(and no longer in terms of the volumes granted), for all stock option and performance share plans combined;

- the members of the Executive Committee and Group managers who have a high level of responsibility or make specific contributions to the Group, who benefited up to now from an allotment of a mixture of options and performance shares, for whom the percentage of performance shares has increased considerably as compared to that of the stock options and, for many of them, performance shares have completely replaced stock options; specific contributors, such as employees who have distinguished themselves for the quality of their conduct in exceptional situations, inventors and innovators, are now rewarded with an exceptional allotment of performance shares;
- other employees corresponding to middle managers and a wider category of new employee beneficiaries, who receive performance shares only.

The criteria used to draw up the lists of employee beneficiaries reflect the business segments and geographical areas in which the Group conducts its business, as well as the specific contribution, particular potential, or individual or collective effort noticed in exceptional situations, of the relevant persons. The lists of employee beneficiaries are also prepared with the aim of ensuring a certain rotation and an enlargement of the population of beneficiaries. In this way, 39.4% of the beneficiaries of the November 29, 2016 Plans are employees to whom no stock options/performance shares were granted over the last five years.

Allotments of stock options and performance shares on November 29, 2016:

Total number of performance shares/performance share equivalents	474,093
% of share capital	0.15%
Number of beneficiaries	1,981
% of workforce	2.9%

Performance conditions apply to all the options and performance shares granted to all the beneficiaries. They are described on pages 158 and 159.

The total outstanding number of performance shares as of December 31, 2016 for which the definitive award date has not yet occurred, and of stock options not yet exercised, represents a number of shares amounting to less than 1.37% of the share capital at that same date.

Stock option plans

(Information to be regarded as the Special Report of the Board of Directors within the meaning of article L. 225-184 of the French Commercial Code)

Pursuant to the decisions of the Board of Directors, following the authorizations of the Annual Shareholders' Meeting and on the recommendation of the Remuneration Committee, the Company has adopted plans granting a certain number of stock options to certain employees of the Company and its subsidiaries worldwide, including the executive officers.

These options are granted for a price that may not be lower than the average of the trading prices over the 20 trading days prior to the date they are granted. The maximum exercise period is eight years for options granted until June 28, 2010 inclusive, and 10 years as from the October 14, 2011 stock option plan.

The options can only be exercised after a four-year minimum term from the date they were granted. The Board of Directors has the option of removing this lock-in period in the event of a takeover bid with regard to the Company's shares and the Company's merger or absorption.

The total number of options thus granted by the Board of Directors under the authorizations approved by the Annual Shareholders' Meetings, but not yet exercised, amounted, after adjustment, to 4,313,204 options (average price of 83.51 euros) at December 31, 2016, or 1.11% of the share capital, of which 1,102,787 options (average price of 79.01 euros) were granted, during their terms of office, to the executive officers present as of December 31, 2016.

Out of the total number of stock options authorized to be issued by the Annual Shareholders' Meeting on May 12, 2016, a possible allotment of 7,634,275 stock options remained at December 31, 2016.

Table 8 – Summary of the stock option plans in progress in 2016

	2008	2009	2010	2011	2012	2012	2013	2014	2015	2016	Total
Date of authorization by the EGM	05/09/07	05/09/07	05/05/10	05/05/10	05/05/10	05/05/10	05/07/13	05/07/13	05/07/13	05/12/16	
Date of Board meeting	07/09/08	06/15/09	06/28/10	10/14/11	05/11/2012 ^(e)	09/27/12	09/26/13	09/22/14	09/28/15	11/29/16	
Total number of share subscription options granted ^(d)	513,392	484,292	532,760	675,680	6,000	704,791	768,866	868,385	467,194	143,240	
<i>Of which the executive officers</i>	168,300	128,000	138,000	138,000	0	138,000	157,000	157,000	109,900	60,000	
Benoît POTIER ^(a)	88,000	88,000	88,000	88,000	0	88,000	100,000	100,000	70,000	60,000	
Klaus SCHMIEDER ^(a)	44,000										
Pierre DUFOUR ^(a)	36,300	40,000	50,000	50,000	0	50,000	57,000	57,000	39,900		
<i>Of which the top ten employee beneficiaries (excluding executive officers) receiving the highest number of options</i>	92,620	124,180	165,000	172,000	0	183,000	208,000	212,000	92,090	23,160	
Number of beneficiaries	328	308	305	578	1	672	727	863	399	243	
% of share capital represented by each grant	0.20%	0.18%	0.19%	0.24%	NS	0.23%	0.25%	0.25%	0.14%	0.04%	
Rate of achievement of performance conditions ^(f)									To be recorded in February 2018	To be recorded in February 2019	
100%	100%	98%		100%	90.5%	94.9%	83.4%				
Option exercise period start date	07/09/12	06/15/13	06/28/14	10/14/15	05/11/16	09/27/16	09/26/17	09/22/18	09/28/19	11/29/20	
Expiration date	07/08/16	06/14/17	06/27/18	10/13/21	05/10/22	09/26/22	09/25/23	09/21/24	09/27/25	11/28/26	
Subscription price in euros	84.00	65.00	83.00	87.00	97.00	96.61	102.00	97.00	105.00	93.00	
Subscription price in euros ^(b) as of 12/31/16	64.66	48.72	66.47	69.66	77.67	85.30	90.06	94.45	102.24	93.00	
Total adjusted number of stock options at 12/31/2016 ^(b)	648,808	627,227	657,438	832,377	7,495	794,943	846,940	891,511	479,612	143,240	
Number of shares subscribed at 12/31/16 ^(d)	634,125	335,733	180,041	145,800		22,688					
Number of stock options cancelled at 12/31/2016 ^{(b) (c)}	14,683	12,600	19,771	73,974		89,844	48,818	25,693	12,617		
NUMBER OF STOCK OPTIONS REMAINING AS OF 12/31/2016^(b)	0	278,894	457,626	612,603	7,495	682,411	798,122	865,818	466,995	143,240	4,313,204
									As a % of capital	1.11%	
										388,875,761	

(a) Stock options granted during corporate office (historical data).

(b) Adjusted to take into account share capital increases through free share issues (2014, 2012, 2010) and the share capital increase in cash on October 11, 2016.

(c) Loss of exercise rights.

(d) Number of shares or stock options (historical data).

(e) Pursuant to a delegation by the Board of Directors on May 9, 2012.

(f) The stock options granted to the executive officers depend on the following performance conditions:

- the objectives set are made public ex post. For the 2014 plan, the objectives set are described on page 209. For the 2016 plan, the terms of the performance conditions are described on pages 158 and 159;
- the May 2012 plan, which concerns one employee, is based on an objective of an average gap between ROCE and WACC (weighted average cost of capital) over seven years.

1. STOCK OPTIONS GRANTED IN 2016 (NOVEMBER 29, 2016 PLAN)

Pursuant to the authorization of the Combined Shareholders' Meeting on May 12, 2016, the Board of Directors, at its meeting on November 29, 2016, granted 143,240 share subscription options, representing 0.037% of the capital in terms of number of shares, at a unit price of 93 euros, without a discount, equal to 100% of the average of the opening trading prices of the Air Liquide share during the 20 trading days preceding the date on which the options were granted to 243 beneficiaries, representing 0.36% of the workforce.

The IFRS individual fair value (weighted average) of the stock options granted under the November 29, 2016 Plan to the Group's employees and executive officer amounts to 10.32 euros (see details of this IFRS

value in Note 22 "Shareholders' equity" of the consolidated financial statements).

The options granted as part of the November 29, 2016 plan are subject to the performance conditions calculated over three years described on pages 158 and 159.

For the grant in 2016, the rate of achievement of the performance condition will be recorded by the Board of Directors at the meeting adopting the financial statements for the 2018 fiscal year.

A requirement of continued employment or presence in the Group at the time the options are exercised is also stipulated.

The specific conditions that moreover apply to the executive officer in connection with the allotment of the stock options granted in 2016 are described in detail on pages 160 and 161.

Breakdown between the various beneficiary categories

In 2016	Number of beneficiaries	Number of options
Executive officers of L'Air Liquide S.A.	1	60,000
Senior executives and managers (excluding executive officers of L'Air Liquide S.A.) and other beneficiaries of a mixed grant	242	83,240

Table 9

Table 9.1 – Options granted to the 10 employees (excluding executive officers) who were granted the highest number of options

In 2016	Number of options	Average price (in euros)
For L'Air Liquide S.A.	0	N/A
For L'Air Liquide S.A. and its subsidiaries	23,160	93

2. STOCK OPTIONS EXERCISED IN 2016

Some of the options granted from 2008 to 2012 by the Board of Directors were exercised in fiscal year 2016 for a total of 511,408 shares at an average price of 63.21 euros.

Table 9.2 –Options exercised by the 10 employees of L'Air Liquide S.A. and its subsidiaries (excluding executive officers) with the highest number of options exercised

Grant date	Number of options exercised	Average price (in euros)
07/09/2008	40,666	64.66
06/15/2009	41,799	49.88
06/28/2010	10,597	68.09
10/14/2011	48,733	71.54
05/11/2012	0	-
09/27/2012	0	-
TOTAL	141,795	62.92

Table 9.3 – Options exercised by the 10 employees of L’Air Liquide S.A. (excluding executive officers) with the highest number of options exercised

Grant date	Number of options exercised	Average price (in euros)
07/09/2008	21,231	64.66
06/15/2009	19,121	49.91
06/28/2010	9,867	68.08
10/14/2011	45,181	71.51
05/11/2012	0	-
09/27/2012	0	-
TOTAL	95,400	65.30

Rate of achievement of performance conditions for the September 22, 2014 option plan

The rates of achievement of the performance conditions for the September 22, 2014 stock option plan, which includes the executive officers as beneficiaries, are reported on page 165.

Performance share plans

(Information to be regarded as the Special Report of the Board of Directors within the meaning of article L. 225-197-4 of the French Commercial Code)

1. DESCRIPTION

In order to retain and more dynamically motivate talented employees and compensate their medium-term performance, an additional compensation system was set up in 2008 involving performance share awards.

The Extraordinary Shareholders' Meeting authorized the Board of Directors to grant performance shares to Group employees, up to a maximum of 0.5% of the Company's share capital over a period of 38 months; within the framework of this maximum amount, it sets the limit on the number of shares that may be awarded to the executive officers over the same period, which amounts to 0.15% of the capital since 2013.

For each award, the Board adopts two different plan regulations ("France" Plan and "World" Plan) governing the award of performance shares to beneficiaries determined by the Board of Directors. The differences between the "France" and "World" Plans are mainly the length of continued employment or presence required—paragraph a) below, and the correlative absence of any holding requirement for the "World" Plan—paragraph c) below.

The performance shares are subject to:

- a) a continued employment or presence requirement during the acquisition period: shares granted to a beneficiary shall only

be definitively awarded if he or she has been an employee or executive officer of a Group company during an acquisition period, calculated as from the award date, of three years for "France" Plan beneficiaries and four years for "World" Plan beneficiaries. In the event of retirement, the beneficiary retains his or her rights, but is no longer required to satisfy the continued employment or presence requirement;

- b) performance conditions that, since the first award in 2008, have concerned all the performance shares granted to any beneficiary; see the performance conditions in the summary table of performance share awards below;
- c) a holding requirement: as from the definitive award date, the beneficiaries of the "France" Plan are required to hold their shares for two additional years during which such shares may not be transferred (except in the event of disability or death).

To date, the performance shares delivered represent treasury shares from the Company's buyback program (see pages 338 and 366).

The outstanding performance shares awarded by the Board of Directors pursuant to the authorizations approved by Annual Shareholders' Meetings, for which the definitive award date has not yet occurred, amounted, after adjustment, to 1,012,977 shares as of December 31, 2016, representing 0.26% of the share capital.

Out of the total number of performance shares for which the award was authorized by the Annual Shareholders' Meeting of May 12, 2016 for 38 months, a possible allotment of 1,442,803 performance shares remained at December 31, 2016.

Table 10 – Summary of performance share plans in progress in 2016

	Performance shares 2012	Performance shares 2013	Performance shares 2014	Performance shares 2015	PPR Plan Performance shares 2015	"Airgas" Plan performance shares 2016	Performance shares 2016	Total
Date of authorization by the EGM	05/05/2010	05/07/2013	05/07/2013	05/06/2015	05/06/2015	05/12/2016	05/12/2016	
Date of award by the Board meeting	09/27/2012	09/26/2013	09/22/2014	09/28/2015	09/28/2015	07/29/2016	11/29/2016	
Total number of performance shares awarded	117,285	122,595	140,472	287,172	1,132	75,230	426,346	
of which executive officers	-	-	-	15,700	-	30,000	17,800	
Benoît POTIER	-	-	-	10,000	-	20,000	17,800	
Pierre DUFOUR	-	-	-	5,700	-	10,000		
of which the top ten employee beneficiaries (excluding executive officers) receiving the highest number of shares	2,650	2,500	2,500	36,166	1,132	22,425	63,046	
Share capital represented by each award	0.04%	0.04%	0.04%	0.08%	0%	0.02%	0.11%	
Number of beneficiaries	1,022	1,077	1,248	1,744	5	89	1,955	
Performance conditions ("France" and "World" Plans), over a period of three years after the 2013 plan	Objective of growth in recurring EPS for FY 2013 as compared to 2011	Objective of growth in recurring EPS for FY 2015 as compared to 2012	Objective of growth in recurring EPS for FY 2016 as compared to 2013	2 performance conditions calculated over 3 years (2015-2017): * Recurring EPS * Total Shareholder Return, including an element of relative comparison	Objective over 3 years (2015-2017): Annual gap between Return (2015-2017): on Capital Employed (ROCE) and weighted average cost of capital (WACC)	2 performance conditions calculated over 3 years (2015-2017): ■ Recurring EPS ■ Total Shareholder Return, including an element of relative comparison	2 performance conditions calculated over 3 years (2015-2017): ■ Recurring EPS ■ Total Shareholder Return, including an element of relative comparison	
% award	100% if the objective is achieved in full, decreasing on a straight-line basis to 0% in the absence of growth				From 0 to 100%	From 0 to 100%	From 0 to 100%	From 0 to 100%
Objective set for the performance condition made public ex post since 2013	10% growth in recurring EPS	15% growth in recurring EPS	15% growth in recurring EPS	To be communicated in 2018	To be communicated in 2018	To be communicated in 2019	To be communicated in 2019	
Number of performance shares cancelled before definitive award	22,560	9,988	4,762	2,133	-	-	-	
Rate of achievement of the performance condition	62%	92.10%	97.12%	To be recorded in 2018	To be recorded in 2018	To be recorded in 2019	To be recorded in 2019	
France Plan								
Definitive award date	09/27/2014	09/26/2016	09/22/2017	09/28/2018	09/28/2018	07/29/2019	11/29/2019	
End of holding period	09/27/2016	09/26/2018	09/22/2019	09/28/2020	09/28/2020	07/29/2021	11/29/2021	
Definitive award	25,917	34,954	-	-	-	-	-	
Adjusted definitive award ^(a)	28,709	39,936	-	-	-	-	-	
Adjusted total number of performance shares not definitively awarded		45,382	117,457	1,166	55,928	178,688		
"World" Plan								
Definitive award date (no additional holding period)	09/27/2016	09/26/2017	09/22/2018	09/28/2019		07/29/2020	11/29/2020	
Definitive award	41,461	89	80					
Adjusted definitive award*	47,667	89	83					
Adjusted total number of performance shares not definitively awarded		78,235	93,886	173,202	0	21,375	247,658	
ADJUSTED TOTAL NUMBER OF PERFORMANCE SHARES DEFINITIVELY AWARDED ("FRANCE" AND "WORLD")	76,376	40,025	83	-	-	-	-	
ADJUSTED TOTAL NUMBER OF PERFORMANCE SHARES NOT DEFINITIVELY AWARDED ("FRANCE" AND "WORLD")		78,235	139,268	290,659	1,166	77,303	426,346	1,011,811

(a) Adjusted for free share issues.

2. NOVEMBER 29, 2016 PERFORMANCE SHARE PLANS

Pursuant to the authorization of the Combined Shareholders' Meeting of May 12, 2016, in connection with the November 29, 2016 "France" and "World" Plans, the Board of Directors conditionally awarded a total of 426,346 shares representing 0.11% of the capital in terms of number of shares to 1,955 beneficiaries (178,688 shares allotted to "France" Plan beneficiaries and 247,658 shares allotted to "World" Plan beneficiaries).

The IFRS individual fair value of these performance shares amounts to 71.65 euros for the "France" Plan and to 67.97 euros for the "World" Plan (see details of this IFRS value in Note 22 "Shareholders' equity" of the consolidated financial statements).

Subject to fulfilment of the continued employment and presence requirement and the performance conditions, these shares will be definitively awarded to the beneficiaries on November 29, 2019 for the "France" Plan (although they may not be sold prior to November 29, 2021) and on November 29, 2020 for the "World" Plan.

For both Plans, the Board adopted performance conditions calculated over three fiscal years, identical to those set for stock options (see full description on pages 158 and 159).

The rate of achievement of the performance conditions will be recorded by the Board of Directors at the meeting held to approve the 2018 financial statements.

3. JULY 29, 2016 AIRGAS PERFORMANCE SHARE PLANS

At its meeting on July 29, 2016, the Board of Directors decided on a specific award of performance shares intended to show the Company's recognition for the work carried out by all the teams who contributed to successful completion of the Airgas acquisition (see page 164).

Thus, within the scope of the July 29, 2016 "Airgas" Plans ("France" Plan and "World" Plan), a total number of 75,230 shares representing 0.022% of the capital in terms of the number of shares were conditionally awarded to 89 beneficiaries (54,430 shares awarded to the beneficiaries of the Airgas "France" Plan and 20,800 shares awarded to the beneficiaries of the Airgas "World" Plan).

The IFRS individual fair value of these performance shares amounts to 74.74 euros for the "Airgas France" Plan and to 70.84 euros for the "Airgas World" Plan (see details of this IFRS value in Note 22 "Shareholders' equity" of the consolidated financial statements).

Subject to fulfilment of the continued employment and presence requirement and the performance conditions, these shares will be definitively awarded to the beneficiaries on July 29, 2019 for the "France" Plan (although they may not be sold prior to July 29, 2021) and July 29, 2020 for the "World" Plan.

For each of these Plans, the Board adopted performance conditions calculated over three fiscal year (see full description on pages 158 and 159). These performance conditions are identical to those adopted for the November 29, 2016 stock option and performance share plans.

The rate of achievement of the performance condition will be recorded by the Board of Directors at the meeting held to approve the 2018 financial statements.

4. BREAKDOWN BETWEEN THE VARIOUS BENEFICIARY CATEGORIES (JULY 29 AND NOVEMBER 29, 2016 PERFORMANCE SHARE PLANS)

July 29, 2016 "Airgas" performance share plan

July 29, 2016	Number of beneficiaries	Number of shares
Executive officers of L'Air Liquide S.A.	2	30,000
Employee beneficiaries other than executive officers who contributed to the Airgas acquisition	87	45,230

November 29, 2016 performance share plan

November 29, 2016	Number of beneficiaries	Number of shares
Executive officers of L'Air Liquide S.A.	1	17,800
Senior managers and executives (excluding executive officers of L'Air Liquide S.A.), managers and specific contributors	216	88,586
Other employees receiving awards for the first time	1,738	319,960

The total number of beneficiaries of the above-mentioned of July 29 and November 29, 2016 performance share plans stands at 1,986 (after restatement of the number of beneficiaries to avoid double-countings).

5. SHARES AWARDED TO THE 10 EMPLOYEES (EXCLUDING THE EXECUTIVE OFFICERS OF L'AIR LIQUIDE S.A.) WHO WERE GRANTED THE HIGHEST NUMBER OF SHARES (JULY 29 AND NOVEMBER 29, 2016 PERFORMANCE SHARE PLANS)

July 29, 2016 "Airgas" performance share plan

July 29, 2016

For L'Air Liquide S.A.

For L'Air Liquide S.A. and its subsidiaries

Number of shares
15,525
22,425

November 29, 2016 performance share plan

November 29, 2016

For L'Air Liquide S.A.

For L'Air Liquide S.A. and its subsidiaries

Number of shares
42,231
63,046

**6. RATE OF ACHIEVEMENT
OF THE PERFORMANCE CONDITION
FOR THE 2014 PERFORMANCE SHARE PLAN**

On the basis of the financial statements for the 2016 fiscal year submitted for approval by the next Annual Shareholders' Meeting, the Board of Directors, at its meeting on February 14, 2017, recorded the rate of achievement of the performance condition defined at the time of implementation of the September 22, 2014 performance share plan.

The 2014 performance share plan (of which the members of the General Management and the Executive Committee are not beneficiaries)

provided that the number of shares definitively awarded would depend on the rate of achievement of the objective of growth in recurring EPS for fiscal year 2016 as compared to recurring EPS for fiscal year 2013 set by the Board at +15% in order for all the shares to be definitively awarded, and decreasing on a straight-line basis to 0% growth.

The Board of Directors recorded that growth in recurring EPS over the above-mentioned period amounted to 14.56%. Accordingly, the Board of Directors recorded that the proportion of shares subject to conditions definitely awarded to the beneficiaries will be 97.12%.

➤ EMPLOYEE SAVINGS AND SHARE OWNERSHIP

For many years, Air Liquide has pursued an active policy promoting employee profit-sharing and incentive schemes in connection with the Group's growth and the development of employee share ownership in the Company's capital.

Profit-sharing

Profit-sharing and incentive schemes have been organized for many years in Group companies in France and paid almost 41.9 million euros in 2016 for 2015 performance. This year these schemes cover over 95% of employees in France.

Under the main Company Savings Plans, Group employees in France can make payments to dedicated and diversified investment funds, managed by equal-representation supervisory boards, on a voluntary basis or based on profit-sharing, incentives and, where applicable, contributions, and thus benefit from the preferential tax regime applicable in consideration for locking-in their assets over a period of five years.

In 2016, L'Air Liquide S.A. paid 6.13 million euros to 1,246 beneficiaries in respect of profit-sharing and incentives. Company contributions to the Company savings plan are negotiated every year and amounted to nearly 0.68 million euros in 2016. These payments correspond to an average amount of 5,699 euros per employee excluding employer contribution.

In 2016, L'Air Liquide S.A. employees invested 88% of their profit-sharing and incentives in savings plans, respectively in bond-weighted assets (62%) and equity-weighted assets (38%).

A total of 16% of employee savings was invested in corporate mutual fund holding only Air Liquide shares.

Employee share ownership

The Group is keen to involve its employees in its development. These employee share ownership transactions contribute significantly to increasing employee motivation and sense of belonging to the Group.

Since 1986, the Company has regularly performed share capital increases reserved for Group employees, for which subscription is offered at a preferential rate. The most recent capital increase, conducted in March 2016, resulted in the subscription of 999,143 shares by 16,984 Group employees, representing 32.2% of the eligible employees in 74 countries (for details of this operation, see the Complementary Report page 211).

In France, the shares subscribed in these capital increases are also eligible for the preferential tax regime applicable provided that they

are blocked over a period of five years, while those held abroad are governed by the legal regulations prevailing in each relevant country.

At the end of 2016, the share of capital held by Group employees and former employees was estimated at 2.4%, of which 1.5% corresponds (within the meaning of article L. 225-102 of the French Commercial Code) to shares subscribed by employees under employee-reserved capital increases or held through mutual funds. The percentage of Group employees holding L'Air Liquide S.A. shares totaled more than 40% of the workforce (more than 53% Airgas excluded).

Air Liquide wishes to pursue this strategy and further the development of its employee share ownership, by regularly offering share capital increases to employees.

Increase in capital reserved for the employees (2016) – Additional Report

Dear Shareholder,

We are presenting to you this Additional Report pursuant to article R. 225-116 of the French Commercial Code, on the use we have made of the delegation of authority that you granted to the Board of Directors at the Company's Combined Shareholders' Meeting on May 6, 2015, in the 16th resolution, for a maximum period of 26 months, to increase the share capital, in accordance with the provisions of article L. 225-138-1 of the French Commercial Code and articles L. 3331-1 et seq. of the French Labor Code, on one or more occasions, within the limit of 5.5 million shares with a par value of 5.50 euros each, the subscription of such shares being reserved for employees of the Company and French or foreign companies which are affiliated to it within the meaning of article L. 225-180 of the French Commercial Code and article L. 3344-1 of the French Labor Code, who are members of a company or group savings plan.

AUTHORIZATIONS AND DECISIONS

We wish to remind you that pursuant to this delegation of authority by the Shareholders' Meeting:

- by decisions made on July 29, 2015 and October 23, 2015, and confirmed on February 15, 2016, the Board of Directors decided on the principle of an increase in capital limited to 1,000,000 shares in favor of Group employees who are members of a company or group savings plan in accordance with the provisions of articles L. 3331-1 et seq. of the French Labor Code and article L. 225-138-1 of the French Commercial Code;
- for this purpose, at its above-mentioned meetings, the Board of Directors delegated to the Chairman and Chief Executive Officer all the powers required to decide to carry out this increase in capital and to implement this transaction, and in particular:
 - to adopt the list of companies eligible for the transaction,
 - to set the subscription price (including, where applicable, the subscription prices applicable locally),
 - to set the terms and conditions and time period for paying up the shares subscribed,
 - to decide on the opening and closing dates of the subscription period,
 - to record the creation of the new shares and the completion of the corresponding increase in capital,
 - where applicable, to charge the expenses, dues and fees incurred due to the issue against the amount of the corresponding share premium,
 - to amend the articles of association accordingly, and
 - to do everything useful and necessary for the implementation of the transaction.

Accordingly, making use of the delegation of authority granted by the Board of Directors, the Chairman and Chief Executive Officer, on March 16, 2016, decided to carry out this transaction, set the opening and closing dates of the subscription period and determined the subscription price for the new Air Liquide shares within the framework of the increase in capital reserved for the employees, the principle of which was decided pursuant to decisions by the Board of Directors on July 29, 2015 and October 23, 2015 and confirmed on February 15, 2016.

MAIN FEATURES OF THE TRANSACTION

The increase in capital reserved for the employees fell within the framework, provided for by the applicable provisions of the laws and regulations, of the France share purchase plan (FSPP) and the International group share purchase plan (IGSPP) in force.

Subscription to this increase in capital was open to the employees of the Group's French and foreign subsidiaries of which over 50% of the capital or voting rights are owned by L'Air Liquide S.A. and who are members of the France share purchase plan or the International group share purchase plan, on condition that these employees had at least three months' length of service at the end of the subscription period (stricter conditions with regard to length of service are set by some countries pursuant to the local regulations).

It is specified that, by decisions made by the Chairman and Chief Executive Officer on March 30, 2009, November 2, 2010 and October 29, 2013, certain companies, of which L'Air Liquide S.A. directly or indirectly holds 40% to 50%, were allowed to become members of the FSPP or the IGSPP.

Pursuant to a decision made by the Chairman and Chief Executive Officer on March 16, 2016, this possibility was also granted to Group companies in Oman and Singapore whose employees were admitted within the scope of the 2016 transaction.

On the other hand, for reasons related to the local context, employees of the Group's foreign subsidiaries in the following countries: Algeria, Brunei, Egypt, Macao, Syria, Ukraine and Vietnam were not able to participate in the transaction.

The subscription price was set at 77.18 euros (82 euros for the United States) per share, the amount corresponding to the average of the opening trading prices of the Air Liquide share during the 20 trading days prior to the decision by the Chairman and Chief Executive Officer setting the dates of the subscription period, i.e. 96.46 euros per share ("the Reference Share Price"), with this average being reduced by 20% (15% for the United States) and rounded up to the nearest euro cent.

The maximum amount of the subscription per eligible employee was limited to 25% of the gross annual remuneration of each subscriber in accordance with the regulations on employee savings plans (with this limit including, in France, all other voluntary payments made into employees' saving plans or a corporate retirement savings plan (Perco)

over the course of 2016). An additional employer contribution in the form of shares was proposed by L'Air Liquide S.A. and the French subsidiaries that have adhered to the Group France share purchase plan and adopted the 2016 amendment agreement on this point, on the basis of one free share for every four shares subscribed up to a maximum of three free shares per employee.

The subscription period for the shares was open from March 21, 2016 to March 31, 2016 inclusive.

As the total requests for subscriptions made by the employees were greater than the total number of shares proposed within the scope of this increase in capital, the requests for subscription were reduced by a decrease in the amount of the largest subscription requests.

Pursuant to the powers that had been granted to him by the Board of Directors at its meetings on July 29, 2015 and October 23, 2015, the

increase in capital was recorded by the Chairman and Chief Executive Officer on May 10, 2016.

The total number of new shares issued is 999,143 with a par value of 5.50 euros each, for a total number of 16,984 subscribers.

The new shares issued are ordinary shares of Air Liquide of the same class and immediately identical to the Air Liquide shares that have already been admitted for trading on the Euronext Paris market (Compartment A). They will be admitted for trading on the Euronext Paris market under the same ISIN code (FR0000120073) as the existing Air Liquide shares and will grant entitlement to any distribution of dividends that may be decided by the Shareholders' Meeting after the date of the decision by the Chairman and Chief Executive Officer recording the increase in capital. The new shares will be subject to all the provisions of the articles of association.

IMPACT OF THE ISSUE OF 999,143 SHARES ON THE SITUATION OF THE SHAREHOLDER AND HIS/HER SHARE OF THE SHAREHOLDERS' EQUITY AND THEORETICAL IMPACT ON THE STOCK MARKET VALUE OF THE SHARE

Impact on the stake held by the shareholder in the Company's share capital

Based on the share capital of L'Air Liquide S.A. as at May 10, 2016 prior to the increase in capital reserved for the employees, i.e. 344,426,943 shares, the impact of the share issue on the stake in the capital of a shareholder holding 1% of the share capital of L'Air Liquide S.A. prior to the share issue who did not subscribe to such capital increase is as follows:

	% stake held by the shareholder	
	Non-diluted basis	Diluted basis ^(a)
Prior to the issue of the new shares resulting from this capital increase	1%	0.988%
After the issue of the new shares resulting from this capital increase	0.997%	0.985%

(a) The calculations are made on the assumptions of the exercise of all the Company's dilutive instruments existing as of May 10, 2016 that may be exercised taking into account an average price for the share over the last 20 trading days of 100.52 euros.

Impact of the share issue on the share of consolidated shareholders' equity

Based on the shareholders' equity as shown by the consolidated financial statements at December 31, 2015, the impact of the share issue on the share of shareholders' equity for the holder of one Air Liquide share prior to the share issue who did not subscribe to such capital increase is as follows:

	Share of shareholders' equity (in euros)	
	Non-diluted basis	Diluted basis ^(a)
Prior to the issue of the new shares resulting from this capital increase	29.76	30.27
After the issue of the new shares resulting from this capital increase	29.90	30.40

(a) The calculations are made on the assumptions of the exercise of all the Company's dilutive instruments existing as of May 10, 2016 that may be exercised taking into account an average price for the share over the last 20 trading days of 100.52 euros.

Theoretical impact on the stock market value of the Air Liquide share

The theoretical impact of the issue of 999,143 shares at the issue price on the stock market value of the share can be calculated as follows:

Theoretical price of the share prior to the transaction = average of the last 20 opening trading prices for the Air Liquide share prior to the decision by the Chairman and Chief Executive Officer setting the dates of the subscription period (calculated as the average of the opening trading prices for the share between February 17, 2016 and March 15, 2016). This theoretical share price amounts to 96.46 euros.

Price of the share after the transaction = (average of the last 20 opening trading prices of the share prior to the transaction x number of shares prior to the transaction) + (issue price x number of new shares)/(number of shares prior to the transaction + number of new shares).

The issue price for the reserved capital increase is set at 77.50 euros.

On the basis of these assumptions, the theoretical stock market value of the share after the transaction would amount to 96.41 euros for a theoretical value of the price of the share prior to the transaction of 96.46 euros.

It is specified that this theoretical approach is given for information purposes only and does not in any way prejudge future changes in the share price.

Paris, May 12, 2016

The Board of Directors of L'Air Liquide S.A.

Statutory Auditors' Supplementary Report on the increase in capital reserved for employees who are members of a company or group savings scheme

This is a free translation into English of a report issued in French and it is provided solely for the convenience of English speaking users. This report should be read in conjunction with, and construed with, French law and professional standards applicable in France.

To the Shareholders,

In our capacity as Statutory Auditors of your Company and in compliance with article R. 225-116 of the French Commercial Code (Code de commerce) and further to the special report dated March 4, 2015 by ERNST & YOUNG et Autres and MAZARS, we hereby report on the issue of shares with cancellation of preferential subscription rights, reserved for employees of your Company and of French and foreign companies who are affiliated with it within the meaning of articles L. 225-180 of the French Commercial Code (Code de commerce) and L. 3344-1 of the French Labor Code (Code du travail) who are members of a company or group savings scheme, authorized by your Shareholders on May 6, 2015.

This increase in capital had been submitted for your approval in accordance with articles L. 225-129-6 of the French Commercial Code (Code de commerce) and L. 3332-18 et seq. of the French Labor Code (Code du travail).

The Shareholders authorized your Board of Directors to decide on whether to proceed with such an operation for a period of twenty-six months and a maximum amount of 30,250,000 euros (i.e. 5.5 million shares at a par value of 5.50 euros), the limit set out in both the sixteenth and seventeenth resolutions brought before the Extraordinary General Meeting of Shareholders of May 6, 2015.

Exercising this authorization through decisions taken on July 29, 2015 and October 23, 2015, and confirmed on February 15, 2016, your Board of Directors decided to proceed with an increase in capital reserved for employees who are members of a company or group savings scheme by issuing up to a maximum of 1,000,000 ordinary shares and gave the Chief Executive Officer all powers needed to decide on the performance of this capital increase.

Exercising this authorization, on March 16, 2016, your Chief Executive Officer decided to proceed with this operation.

Subscription to this capital increase was open to employees of the French and foreign companies of the Group in which L'Air Liquide holds over 50% of the capital or voting rights and members of the France Employees Savings Plan (PEG – Plan d'Epargne France) or the International Group Savings Plan (PEGI – Plan d'Epargne de Groupe International) on condition that these employees have at least three months' seniority at the closing date of the subscription period (stricter seniority conditions were fixed by certain countries in accordance with local regulations).

It is hereby recalled that by decisions of the Chief Executive Officer of March 30, 2009, November 2, 2010 and October 29, 2013, certain companies, in which L'Air Liquide directly or indirectly holds 40% to 50%, were allowed to join the PEG or the PEGI.

By decision of the Chief Executive Officer of March 16, 2016, this ability was granted to companies of the Group located in Oman and Singapore, whose employees were allowed to enter the scope of the 2016 operation.

On May 10, 2016, your Chief Executive Officer recorded the subscription of 999,143 shares with a par value of 5.50 euros at the unit price of 77.18 euros (82 euros for the United States).

It is the responsibility of the Board of Directors to prepare a report in accordance with articles R. 225-115 and R. 225-116 of the French Commercial Code (Code de commerce). Our role is to report on the fairness of the financial information taken from the accounts, on the proposed cancellation of preferential subscription rights and on other information relating to the share issue contained in this report.

We have performed those procedures which we considered necessary to comply with the professional guidance issued by the French national auditing body (Compagnie nationale des commissaires aux comptes) for this type of engagement. These procedures consisted in verifying:

- the fairness of the financial information taken from the annual accounts, approved by the Board of Directors. ERNST & YOUNG et Autres and MAZARS performed an audit of these accounts in accordance with professional standards applicable in France;
- the compliance with the terms of the operation as authorized by the Shareholders;
- the information provided in the Board of Directors' Supplementary Report on the choice of constituent elements used to determine the issue price and on its final amount.

We have no matters to report as to:

- the fairness of the financial information taken from the accounts and included in the Board of Directors' Supplementary Report;
- the compliance with the terms of the operation as authorized by the Shareholders on May 6, 2015 and the information provided to them;
- the choice of constituent elements used to determine the issue price and its final amount;
- the presentation of the effect on the financial position of the share and capital security holders as expressed in relation to Shareholders' equity and on the market value of the shares;
- the proposed cancelation of the preferential subscription rights, upon which you have voted.

Neuilly-sur-Seine and Paris-La Défense, May 26, 2016

The Statutory Auditors
French original signed by

PricewaterhouseCoopers Audit

Olivier Lotz

Séverine Scheer

ERNST & YOUNG et Autres

Jeanne Boillet

Emmanuelle Mossé

➤ INCREASE IN CAPITAL WITH PREFERENTIAL SUBSCRIPTION RIGHTS

Additional report of the Board of Directors on the capital increase with retention of the preferential subscription right

To the shareholders,

In accordance with the provisions of articles L. 225-129-5 and R. 225-116 of the French Commercial Code (Code de commerce), the Board of Directors informs the shareholders of the decisions it made at its meeting on July 29, 2016, deciding pursuant to the twelfth resolution of the Extraordinary Shareholders' Meeting of May 6, 2015.

1. LEGAL FRAMEWORK FOR THE ISSUE

Pursuant to the terms of its twelfth resolution, the Extraordinary Shareholders' Meeting of May 6, 2015 delegated to the Board of Directors, with the option of subdelegation, its authority in order to decide on the issuance of new ordinary shares of the Company with retention of the preferential subscription right, for a maximum nominal amount of 470 million euros.

Pursuant to this delegation, the Board of Directors, at its meeting on July 29, 2016:

- approved the principle of an increase in the Company's capital in cash with retention of the preferential subscription right for a total amount, including the issue premium, of between 3 billion euros (three billion euros) and 3.5 billion euros (three billion five hundred million euros), with a level of dilution limiting the creation of new shares to 47,857,000 (forty-seven million eight hundred and fifty-seven thousand) new shares, to be carried out, where applicable, by December 31, 2016 at the latest;
- resolved to subdelegate to the Chairman and Chief Executive Officer and to the Senior Executive Vice President (acting separately), in accordance with the provisions of article L. 225-129-4 of the French Commercial Code, the powers in particular in order to: decide to carry out such an increase in capital; determine the form, nature and characteristics of the shares to be created, as well as the dates, issue periods and terms and conditions of the issue of such shares and completion of the capital increase; set the issue price reflecting a market discount, the amounts to be issued and the date

of entitlement to dividend and other rights with regard to the shares to be issued, even if it is retroactive, and, more generally, to decide on the structure, the methods and conditions of the issue including the subscription period, in accordance with the conditions and within the limits set by the Board of Directors and within the scope of the twelfth resolution of the Extraordinary Shareholders' Meeting of May 6, 2015.

The Chairman and Chief Executive Officer, acting upon subdelegation from the Board of Directors, decided, on September 12, 2016, to carry out an increase in capital of the Company in cash with retention of the preferential subscription right for a total nominal amount of two hundred and thirty-seven million six hundred and twelve thousand one hundred and forty-nine euros and fifty cents (237,612,149.50 euros), consisting of the issue of 43,202,209 new shares with a par value of 5.50 euros each (the "**New Shares**"), on the basis of one New Share for eight existing shares (eight preferential subscription rights making it possible to subscribe for one new share), to be subscribed and paid up in cash, for a subscription price of 76.00 euros per New Share, consisting of a par value of 5.50 euros and an issue premium of 70.50 euros.

The Autorité des marchés financiers (French financial markets authority) stamped approval No. 16-426 on September 12, 2016 on the offering memorandum relating to the issuance of the New Shares and their admission for trading on the Euronext regulated market in Paris.

On the basis of the certificate of the depository of the funds prepared by Société Générale Securities Services, through his decision of October 11, 2016, the Chairman and Chief Executive Officer recorded the final completion of the capital increase for a total gross amount of 3,283,367,884.00 euros representing the full amount of the cash payments, including the issue premium, made by the subscribers to the increase in the Company's share capital for a nominal amount of 237,612,149.50 euros with an issue premium of 3,045,755,734.50 euros.

Through this same decision, the Chairman and Chief Executive Officer placed on record that the Company's share capital had thus been raised from 1,900,897,223.50 euros to 2,138,509,373.00 euros.

2. TERMS AND CONDITIONS AND CHARACTERISTICS OF THE NEW SHARES

The conditions of issuance of the New Shares are set out below:

Number of new shares subscribed	43,202,209 shares.
Subscription price for the new shares	76 euros per share (par value of 5.50 euros and issue premium of 70.50 euros).
Final gross income from the issue	3,283,367,884 euros.
Estimated net income from the issue	Approximately 3,223.5 million euros.
Date of entitlement to the new shares	The shares will carry dividend rights as from their issue date.
Preferential subscription right	<p>The subscription of the new shares was reserved in preference for the holders of existing shares registered for accounting purposes on their securities account at the end of the accounting day on September 13, 2016, and for the transferees of the preferential subscription rights.</p> <p>The holders of preferential subscription rights were able to subscribe:</p> <ul style="list-style-type: none"> ■ on an irreducible basis 1 new share for 8 existing shares owned (8 preferential subscription rights made it possible to subscribe for 1 new share at the price of 76 euros per share); ■ and, on a reducible basis, the number of new shares that they wanted in addition to those to which they were entitled due to the exercise of their irreducible subscription rights. <p>The possibility to exercise the Company's share subscription options for which the subscription period was in progress, was suspended as from September 12, 2016 (0.01 a.m., Paris time) until October 11, 2016 (11.59 p.m., Paris time) inclusive, in accordance with the provisions of the laws and regulations and the provisions of the stock option plan regulations.</p> <p>The rights of the beneficiaries:</p> <ul style="list-style-type: none"> ■ of share subscription options of the Company for which the subscription was in progress and who did not exercise their options by September 11, 2016 (inclusive) at the latest, and ■ of plans for the conditional grant of shares / performance share plans, pursuant to which the rights of the beneficiaries could be subject to adjustment in accordance with their provisions (the "Share Plans"), <p>were adjusted in accordance, respectively, with the provisions of the laws and regulations and the provisions of the stock option plan regulations and the provisions of the Share Plans regulations, by a decision of the Company's Chairman and Chief Executive Officer on October 11, 2016.</p>
Theoretical value of the preferential subscription right	<p>2.18 euros (on the basis of the closing price for the Air Liquide share on September 9, 2016, i.e. 95.62 euros).</p> <p>The issue price of 76 euros for the new shares showed a facial discount of 20.52% (on the basis specified above). The theoretical ex-rights share value amounted to 93.44 euros (on the basis specified above). The issue price of the new shares showed a discount of 18.66% as compare to the theoretical ex-rights share value.</p>
Preferential subscription right attached to the treasury shares	The preferential subscription rights detached from the 1,221,001 treasury shares held by the Company, representing 0.4% of the Company's share capital at September 12, 2016, were sold on the market before the end of the subscription period under the conditions of article L. 225-210 of the French Commercial Code.
Number of shares subscribed on an irreducible basis	40,334,395 shares.
Number of shares subscribed on a reducible basis	2,867,814 shares.
Subscription period	From September 14, 2016 to September 28, 2016 (inclusive).
Payment-delivery	October 11, 2016.
Listing of the new shares	On the Euronext regulated market in Paris, as soon as they were issued on October 11, 2016, on the same listing line as the existing shares of the Company (ISIN code FR0000120073).
Suspension period for Air Liquide share subscription options	From September 12, 2016 (0.01 a.m., Paris time) to October 11, 2016 (11.59 p.m., Paris time).
Offering to the public	The offering was open to the public in France.

Underwriting	The issue of the new shares was the subject of a underwriting agreement concerning all the new shares signed on September 12, 2016 between the Company, Barclays Bank PLC, BNP PARIBAS and Société Générale as Joint Global Coordinators and Banca IMI S.p.A., Citigroup Global Markets Limited, Commerzbank Aktiengesellschaft – London Branch, Crédit Agricole Corporate and Investment Bank, HSBC Bank plc, J.P. Morgan Securities plc and Natixis as Joint Book Runners, Mizuho International plc, MUFG Securities EMEA plc and SMBC Nikko Capital Markets Limited as Co-Book Runners and Crédit Industriel et Commercial as Co-Lead Manager (together, the "Underwriters") pursuant to which the Underwriters made a several (but not joint) undertaking, to have subscribed or, failing this, to subscribe for, all the new shares issued in the event that new shares remain unsubscribed at the end of the subscription period. This underwriting agreement did not constitute a performance guarantee within the meaning of article L. 225-145 of the French Commercial Code and could be terminated by a majority of the Joint Global Coordinators, acting on behalf of the Underwriters, in the event of failure by the Company to restate the representations and warranties concerning the Company contained in such agreement on the date of payment-delivery.
Undertaking by the Company not to issue securities	For the period beginning on September 12, 2016 and ending 180 calendar days after October 11, 2016 (subject to certain exceptions).

3. IMPACT OF THE ISSUE OF THE NEW SHARES ON THE SITUATION OF THE HOLDERS OF SHARES AND SECURITIES CONFERRING ENTITLEMENT TO THE CAPITAL

3.1. Impact on the percentage of shareholders' equity

For information purposes, the impact of the issue on the percentage of consolidated shareholders' equity attributable to the Group per share (calculations made on the basis of the consolidated shareholders' equity attributable to the Group at June 30, 2016 as shown by the interim consolidated financial statements at June 30, 2016 (unaudited), and of a number of 344,358,623 shares making up the share capital of the Company at June 30, 2016 after deduction of treasury shares) was as follows:

Percentage of shareholders' equity per share (in euros)		
	Undiluted basis	Diluted basis ^(a)
Prior to the issue of the new shares resulting from this issue	34.76	35.32
After the issue of 43,202,209 new shares resulting from this issue	39.20	39.65

(a) The calculations were made on the basis of an assumption of exercise of all the Company's dilutive instruments existing at June 30, 2016.

3.2. Impact of the issue on the situation of a shareholder

For information purposes, the impact of the issue on the shareholding in the capital of a shareholder holding 1% of the Company's share capital prior to this issue and not subscribing to the issue (calculations made on the basis of a number of 345,576,374 shares, including the treasury shares, making up the share capital of the Company at June 30, 2016) was as follows:

The shareholder's shareholding		
	Undiluted basis	Diluted basis ^(a)
Prior to the issue of the new shares resulting from this issue	1%	0.99%
After the issue of 43,202,209 new shares resulting from this issue	0.89%	0.88%

(a) The calculations were made on the basis of an assumption of exercise of all the Company's dilutive instruments existing at June 30, 2016. Performance shares were not taken into account in the calculation of dilution as they are, where applicable, effectively allocated and transferred by taking them from the stock of treasury shares.

4. THEORETICAL IMPACT OF THE ISSUE OF THE NEW SHARES ON THE STOCK MARKET VALUE OF THE AIR LIQUIDE SHARE

The impact of the issue of the New Shares on the stock market value of the Air Liquide share depends on the change in the share price linked to the increase in capital only and the anticipations of future profitability of the capital raised in this manner. However, a theoretical impact can be measured by comparing:

- the stock market value of the share prior to completion of the capital increase, measured, in accordance with the provisions of article R. 225-115 of the French Commercial Code, by the average of the twenty adjusted opening prices for the share prior to September 12, 2016, namely 95.55 euros per share;
- the theoretical value of the share after completion of the transaction, equal to the sum of the stock market capitalisation prior to the

increase in capital, namely 33,023,769,037 euros, and the estimated net proceeds of the increase in capital, namely 3,223.5 million euros, the whole of such amount being divided by the total number of outstanding shares after completion of the capital increase, namely 388,819,886 shares. The theoretical share price amounts to 93.22 euros.

In light of the stock market value of the share prior to completion of the capital increase and the theoretical price mentioned above, the theoretical impact of the capital increase leads to a reduction of the theoretical share price to 97.56% of its value prior to the transaction, representing a theoretical decrease in the price of 2.44%.

This additional report prepared in accordance with the provisions of article R. 225-116 of the French Commercial Code will be made available to the shareholders at the Company's head office and will be communicated to the shareholders at the next Annual Shareholders' Meeting.

Signed in Paris, on November 29, 2016

The Board of Directors

➤ INFORMATION CONCERNING MEMBERS OF THE BOARD OF DIRECTORS AND EXECUTIVE MANAGEMENT

(Information as of December 31, 2016)

Listed companies are indicated by an asterisk (*).



Benoît POTIER

Chairman and Chief Executive Officer

Nationality: French

Born in 1957

Date of first appointment: 2000

Start of current term: 2014

End of current term: 2018

Number of shares owned as of December 31, 2016: 214,916

Business address: Air Liquide, 75, quai d'Orsay – 75321 Paris Cedex 07

CAREER

A graduate of École Centrale de Paris, Benoît Potier joined Air Liquide in 1981 as a Research and Development engineer. After serving as a Project Manager in the Engineering & Construction Division, he was made Vice President of Energy Development in the Large Industries business line. In 1993, he became Director of Strategy & Organization and, in 1994, was put in charge of the Chemicals, Metal & Steel, Oil and Energy Markets. He was made an Executive Vice President of Air Liquide in 1995 with additional responsibilities over the Engineering & Construction Division and the Large Industries operations in Europe.

Benoît Potier was appointed Chief Executive in 1997. He was appointed to the Board of Directors in 2000 and became Chairman of the Management Board in November 2001.

In 2006, he was appointed Chairman and Chief Executive Officer of L'Air Liquide S.A.

POSITIONS AND ACTIVITIES HELD DURING 2016

Functions within the Air Liquide Group

- **Chairman and Chief Executive Officer:** L'Air Liquide S.A.* (Chairman of the Working Group "Shareholder Relations"), Air Liquide International, Air Liquide International Corporation (ALIC)
- **Director:** American Air Liquide Holdings, Inc.
- **Chairman** of the Air Liquide Foundation

Positions or activities outside the Air Liquide Group

- **Director:** Danone* (member of the Appointment and Remuneration Committee, member of the Strategy Committee)
- **Chairman:** European Round Table (ERT)
- **Director:** CentraleSupélec, Association nationale des sociétés par actions (ANSA)
- **Member of the Board:** Association française des entreprises privées (AFEP)
- **Member of the French Board:** INSEAD

POSITIONS AND ACTIVITIES HELD DURING THE LAST FIVE YEARS AND THAT HAVE EXPIRED

2014

- **Vice-Chairman:** European Round Table (ERT) (until June 2014)
- **Director:** Cercle de l'Industrie (until May 2014), La Fabrique de l'Industrie (until June 2014)

2013

- **Member of the Supervisory Board:** Michelin* (member of the Audit Committee) (until May 2013)

**Thierry DESMAREST***Independent Director – Lead Director***Nationality:** French

Born in 1945

Date of first appointment: 1999**Start of current term:** 2013**End of current term:** 2017^(a)**Number of shares owned as of December 31, 2016:** 8,019**Business address:** 6 rue de Lincoln – 75008 Paris**CAREER**

A graduate of École polytechnique and École des Mines, Thierry Desmarest spent four years with the New Caledonia Department of Mines, before serving as a Technical Advisor at the Ministry of Industry in 1975, and then at the Ministry of Economic Affairs in 1978.

He joined Total in 1981 as Managing Director of Total Algeria. He held various executive positions within Total Exploration Production, ultimately becoming its Chief Executive Officer in 1989 and a member of the Group's Executive Committee that same year. He became Chairman and Chief Executive Officer of Total in 1995, of Totalfina in 1999, and then of Elf Aquitaine and TotalFinaElf in 2000.

Thierry Desmarest was Chairman and Chief Executive Officer of Total S.A. from 2003 to February 2007, when he became Chairman of the Total S.A. Board of Directors. He was appointed Honorary Chairman of Total S.A. in May 2010. He was appointed Chairman of the Board of Directors of Total S.A. again from October 2014 to October 2015 and chaired the Governance and Ethics Committee and the Strategy Committee of Total S.A. He was Director of Total S.A. and member of these two Committees until May 2016.

POSITIONS AND ACTIVITIES HELD DURING 2016***Functions within the Air Liquide Group***

- **Director:** L'Air Liquide S.A.* (Lead Director – Chairman of the Appointments and Governance Committee, member of the Remuneration Committee and member of the Working Group "Shareholder Relations")

Positions or activities outside the Air Liquide Group

- **Director:** Total S.A.* (member of the Governance and Ethics Committee and of the Strategy Committee) (until May 2016)
- **Director:** Renault S.A.* (member of the Remuneration Committee, Chairman of the International Strategy Committee, member of the Industrial Strategy Committee), Renault S.A.S
- **Honorary Chairman:** Total S.A.* (until May 2016)

POSITIONS AND ACTIVITIES HELD DURING THE LAST FIVE YEARS AND THAT HAVE EXPIRED**2015**

- **Chairman of the Board of Directors:** Total S.A.* (Chairman of the Board of Directors until December 2015), (Chairman of the Governance and Ethics Committee and Chairman of the Strategy Committee until December 2015)

- **Chairman:** Total Foundation (until January 2015)

2014

- **Director:** Sanofi-Aventis* (member of the Remuneration Committee, member of the Appointments and Governance Committee, member of the Strategic Committee) and Bombardier Inc.* (until October 2014)
- **Director:** École polytechnique (until June 2014), Musée du Louvre (until March 2014)
- **Chairman:** École polytechnique Foundation (until June 2014)

(a) Expiration of term in compliance with the internal regulations of the Board of Directors.

N.B.: Independent Director within the meaning of the Board of Directors' internal regulations. For information regarding independence criteria, please refer to this Reference Document – page 130.

**Thierry PEUGEOT***Independent Director***Nationality:** French

Born in 1957

Date of first appointment: 2005**Start of current term:** 2013**End of current term:** 2017^(a)**Number of shares owned as of December 31, 2016:** 1,814**Business address:** Peugeot S.A., 75, avenue de la Grande-Armée – 75116 Paris Cedex 16**CAREER**

A graduate of ESSEC, Thierry Peugeot began his career with the Marrel Group in 1982 as Export Manager for the Middle East and English-speaking Africa for Air Marrel, and then Director of Air Marrel America. He joined Automobiles Peugeot in 1988 as Regional Manager of the South-East Asia zone, then Chief Executive Officer of Peugeot do Brasil in 1991 and Chief Executive Officer of Slica in 1997. In 2000, he became International Key Accounts Director of Automobiles Citroën and then, in 2002, Vice President of Services and Spare Parts before being appointed to the PSA Peugeot Citroën Vice Presidents Committee. Thierry Peugeot has been Chairman of the Supervisory Board of Peugeot S.A. between 2002 and 2014.

POSITIONS AND ACTIVITIES HELD DURING 2016***Functions within the Air Liquide Group***

- **Director:** L'Air Liquide S.A.* (member of the Audit and Accounts Committee)

Positions or activities outside the Air Liquide Group

- **Vice-Chairman:** Établissements Peugeot Frères (member of the Accounts Committee)
- **Director:** La Société anonyme de participations, Faurecia* (member of the Strategy Committee) (until May 2016), Compagnie Industrielle de Delle
- Permanent representative of the Compagnie Industrielle de Delle on the LISI* Board of Directors (member of the Remuneration Committee and President of the Appointments Committee)
- **Honorary Chairman:** Association nationale des sociétés par actions (ANSA)

POSITIONS AND ACTIVITIES HELD DURING THE LAST FIVE YEARS AND THAT HAVE EXPIRED**2015**

- **Director:** Société FFP* (until May 2015)

2014

- **Chairman of the Supervisory Board:** Peugeot S.A.* (until April 2014)
- **Member of the Supervisory Board:** Peugeot S.A.* (until July 2014)
- **Vice-Chairman of the Supervisory Board:** Gefco (until December 2014)
- **Chairman:** Association nationale des sociétés par actions (ANSA) (until June 2014)

(a) Renewal of term proposed to the Shareholders' Meeting of May 3, 2017.

N.B.: Independent Director within the meaning of the Board of Directors' internal regulations. For information regarding independence criteria, please refer to this Reference Document – page 130.

**Karen KATEN***Independent Director***Nationality:** American

Born in 1949

Date of first appointment: 2008**Start of current term:** 2016**End of current term:** 2020**Number of shares owned as of December 31, 2016:** 1,970**Business address:** Essex Woodlands Health Ventures – 280 Park Avenue, 27th Floor East – New York, NY 10017-USA**CAREER**

Karen Katen, a US citizen, is a graduate of the University of Chicago (BA in Political Science and MBA).

In 1974, she joined Pfizer and carried out various management and executive positions during more than 30 years. In her last position with Pfizer, she was Vice-Chairman of Pfizer Inc. and President of Pfizer Human Health, the Group's main operating department. Karen Katen played a major role in the introduction of new medicines for the treatment of cardiovascular and mental diseases, as well as diabetes and cancer. She also successfully oversaw the integration of Warner Lambert (acquired in 2000) and Pharmacia (acquired in 2003) in the Pfizer Group. Having retired from Pfizer in March 2007, she was Chairman of the Pfizer Foundation. Currently she is a Senior Advisor at Essex Woodlands Health Ventures, a healthcare venture and growth equity firm.

POSITIONS AND ACTIVITIES HELD DURING 2016***Functions within the Air Liquide Group***

- **Director:** L'Air Liquide S.A.* (member of the Appointments and Governance Committee)

Positions or activities outside the Air Liquide Group

- **Director:** Home Depot*, Armgo Pharmaceuticals, IMS Health
- **Chairman and Director:** Rand Corporation's Health Board of Advisors
- **Director:** The Economic Club of New York Board of Trustees, Peterson Institute for International Studies, Takeda Global Advisory Board
- **Senior Advisor:** Essex Woodlands Health Ventures
- **Trustee:** University of Chicago
- **Trustee:** University of Chicago Graduate School of Business

POSITIONS AND ACTIVITIES HELD DURING THE LAST FIVE YEARS AND THAT HAVE EXPIRED**2015**

- **Director:** Catamaran Inc.* (until July 2015), Harris Corporation*

2013

- **Director:** Catalyst

N.B.: Independent Director within the meaning of the Board of Directors' internal regulations. For information regarding independence criteria, please refer to this Reference Document – page 130.

**Jean-Paul AGON***Independent Director***Nationality:** French

Born in 1956

Date of first appointment: 2010**Start of current term:** 2014**End of current term:** 2018**Number of shares owned as of December 31, 2016:** 1,453**Business address:** L'Oréal – 41, rue Martre – 92110 Clichy**CAREER**

A graduate of HEC Business School, Jean-Paul Agon began his career with the L'Oréal Group in 1978. From 1981 to 1997, he held various Senior Management positions first as General Manager of L'Oréal Greece and General Manager of L'Oréal Paris, then International Managing Director for Biotherm International, Managing Director for L'Oréal Germany and finally Managing Director for L'Oréal Asia Zone. From 2001 to 2005, he was Chairman and Chief Executive Officer of L'Oréal USA as well as several subsidiaries of the L'Oréal Group in the USA. In 2005, he was appointed Deputy Chief Executive Officer of the L'Oréal Group, and became Chairman and Chief Executive Officer of the Group in 2006. He is Chairman and Chief Executive Officer of L'Oréal since March 2011.

POSITIONS AND ACTIVITIES HELD DURING 2016***Functions within the Air Liquide Group***

- **Director:** L'Air Liquide S.A.* (Chairman of the Remuneration Committee, member of the Appointments and Governance Committee)

Positions or activities outside the Air Liquide Group

- **Chairman and Chief Executive Officer:** L'Oréal*
- **Director:** L'Oréal USA Inc. (United States)
- **Chairman:** Fondation d'entreprise L'Oréal (L'Oréal Foundation)

POSITIONS AND ACTIVITIES HELD DURING THE LAST FIVE YEARS AND THAT HAVE EXPIRED**2014**

- **Director:** Galderma Pharma S.A. (Switzerland) (until July 2014)

2012

- **Chairman of the Board of Directors:** Galderma Pharma S.A. (Switzerland) (until April 2012)
- **Vice-Chairman and Director:** The Body Shop International plc (United Kingdom) – L'Oréal Group (until March 2012)

N.B.: Independent Director within the meaning of the Board of Directors' internal regulations. For information regarding independence criteria, please refer to this Reference Document – page 130.

**Siân HERBERT-JONES***Independent Director***Nationality:** British

Born in 1960

Date of first appointment: 2011**Start of current term:** 2015**End of current term:** 2019**Number of shares owned as of December 31, 2016:** 824**CAREER**

Holder of a Master of Art degree in History from Oxford University and a graduate from the Institute of Chartered Accountants in England and Wales, Siân Herbert-Jones first practiced for 13 years with the firm of PriceWaterhouseCoopers, in the London office from 1983-1993 in particular in the capacity of Corporate Finance Manager, then in the Paris office from 1993 to 1995 in the capacity of Mergers & Acquisitions Manager. She then joined the Sodexo Group in 1995 in which she was successively in charge of international development from 1995 to 1998 and the Group's Treasury Department from 1998 to 2000 then Deputy Chief Financial Officer in 2000. From 2001 to December 21, 2015, she was Chief Financial Officer; and member of the Executive Committee of the Sodexo Group. Since 2016, she holds several positions within Board of Directors of large companies and also pursues other consulting activities in societal and environmental fields.

POSITIONS AND ACTIVITIES HELD DURING 2016***Functions within the Air Liquide Group***

- **Director:** L'Air Liquide S.A.* (Chairman of the Audit and Accounts Committee)

Positions or activities outside the Air Liquide Group

- **Director:** Cap Gemini* (since May 2016); Bureau Veritas* (member of the Appointments and Remuneration Committee since May 2016); Compagnie Financière Aurore Internationale (Sodexo Group – Belgium) (since February 2016)

POSITIONS AND ACTIVITIES HELD DURING THE LAST FIVE YEARS AND THAT HAVE EXPIRED**2015**

- **Chief Financial Officer and member of the Executive Committee:** Sodexo Group* (until December 2015)
- **Chairman:** Etin SAS (France); Sodexo Etinbis SAS (France); Sofinsod SAS (France)
- **Director:** Sodexho Awards Co, Sodexo Japan Kabushiki Kaisha Ltd., Sodexho Mexico SA de CV, Sodexho Mexico Servicios de Personal SA de CV, Sodexo Remote Sites the Netherlands BV, Sodexo Remote Sites Europe Ltd, Universal Sodexho Eurasia Ltd, Sodexo, Inc., Sodexo Management, Inc., Sodexo Remote Sites USA, Inc., Sodexo Services Enterprises LLC, Universal Sodexho Services de Venezuela SA, Universal Sodexho Empresa de Servicios y Campamentos SA, Sodexo Global Services UK Ltd
- **Member of the Management Board:** Sodexo en France SAS (France), Sodexo Entreprises SAS (France), Sodexo Pass International SAS (France), One SAS (France)
- Permanent representative of Sofinsod SAS on the Supervisory Board of One SCA (France)

2011

- **Director:** Sodexo Remote Sites Support Services Ltd., Universal Sodexho Kazakhstan LTD, Universal Sodexo Euroasia Ltd., Sodexo Motivation Solutions Mexico SA de CV, Sodexo Motivation Solutions UK Ltd

N.B.: Independent Director within the meaning of the Board of Directors' internal regulations. For information regarding independence criteria, please refer to this Reference Document – page 130.

**Pierre DUFOUR***Senior Executive Vice President^(a) and Director***Nationality:** Canadian

Born in 1955

Date of first appointment: 2012**Start of current term:** 2016**End of current term:** 2020**Number of shares owned as of December 31, 2016:** 112,806**Business address:** Air Liquide, 75, quai d'Orsay – 75321 Paris Cedex 07**CAREER**

A graduate of École polytechnique, Montréal University, Stanford University (California) and Harvard University (Massachusetts), Pierre Dufour began his career in 1976 at Lavalin Inc. (now SNC-Lavalin Inc.), a leading engineering contractor in Montreal, Canada. From 1991 to 1997, he was Chief Executive Officer of SNC-Lavalin Inc.

Pierre Dufour joined Air Liquide in 1997 as Vice President of Worldwide Engineering before his promotion to Group Industrial Director in 1998, overseeing the technical aspects of Group operations worldwide. In 2000, he was appointed Chairman and Chief Executive Officer of American Air Liquide Holdings Inc., in Houston, Texas and joined Air Liquide Group's Executive Committee. He was appointed Senior Executive Vice President in 2007 and appointed to the Board of Directors in 2012. In charge of the Frankfurt hub since inception in 2014, he is also responsible for the World Business Line Large Industries as well as Engineering & Construction, plus the Asia Pacific region. Since 2016, he is also Chairman of Airgas, Inc.

POSITIONS AND ACTIVITIES HELD DURING 2016***Functions within the Air Liquide Group***

- **Senior Executive Vice President and Director:** L'Air Liquide S.A.*
- **Chairman of the Board of Directors:** Airgas, Inc. (since May 2016)
- **Senior Executive Vice-President and Director:** Air Liquide International
- **Director:** American Air Liquide Holdings, Inc., Société d'Oxygène et d'Acétylène d'Extrême-Orient (SOAEO)
- **Chairman and Director:** American Air Liquide Inc.
- **Managing Director:** Air Liquide Global Management Services GmbH

Positions or activities outside the Air Liquide Group

- **Director:** Archer Daniels Midland Company* (member of the Audit Committee)

POSITIONS AND ACTIVITIES HELD DURING THE LAST FIVE YEARS AND THAT HAVE EXPIRED**2015**

- **Chairman of the Board of Directors and Director:** Air Liquide Middle East (until December 2015)

2013

- **Director:** Air Liquide Japan (until December 2013)

2012

- **Director:** Air Liquide Arabia (until May 2012)

(a) Mr Pierre Dufour has decided to claim his pension entitlement in 2017 and not to request the renewal of his office as Senior Executive Vice President of L'Air Liquide S.A. at the end of the Shareholders' Meeting of May 3, 2017. He will continue to be a Director of L'Air Liquide S.A.

**Sin LENG LOW***Independent Director***Nationality:** Singaporean

Born in 1952

Date of first appointment: 2014**Start of current term:** 2014**End of current term:** 2018**Number of shares owned as of December 31, 2016:** 1,100**Business address:** Sembcorp Development Ltd., 30 Hill Street #03-01, Singapore 179360**CAREER**

Sin Leng Low is a graduate of the University of Alberta (Canada) in Electrical engineering, has a Master of Business Administration from the Catholic University of Leuven (Belgium) and completed the Advanced Management Program at Harvard Business School (USA). After spending part of her career in the Singapore government administrative service, Sin Leng Low held the duties of Executive Vice President at electricity provider Singapore Power and Managing Director of its telecommunications subsidiary from 1995 to 2000. In 2000, she joined energy, water, marine and urban development group Sembcorp Industries, where she successively held the positions of Group Chief Operating Officer and Executive Chairman of the subsidiary spearheading the industrialization and urbanization development business in China, Vietnam and Indonesia until end 2012.

POSITIONS AND ACTIVITIES HELD DURING 2016***Functions within the Air Liquide Group***

- **Director:** L'Air Liquide S.A.* (member of the Audit and Accounts Committee)

Positions or activities outside the Air Liquide Group

- **Senior Advisor:** Sembcorp Development Ltd. (until December 31, 2016)
- **Chairman:** Sino-Singapore (Chengdu) Innovation Park Development Co, Ltd. (in which Sembcorp Development holds a 25% stake indirectly through a joint venture: Singapore-Sichuan Investment Holding Pte Ltd.) (until December 31, 2016)
- **Director:** Singapore-Sichuan Investment Holding Pte Ltd. (a 50/50 partnership between Sembcorp Development and Singbridge Pte Ltd. which is wholly owned by Singapore Temasek group) (until December 31, 2016)
- **Board of Trustees:** Singapore University of Technology & Design (SUTD)
- **Chairman and Director:** Nanyang Academy of Fine Arts (NAFA)
- **Chairman:** Nanyang Fine Arts Foundation Limited, NAFA International Pte Ltd
- **Executive Board member:** China Cultural Center

POSITIONS AND ACTIVITIES HELD DURING THE LAST FIVE YEARS AND THAT HAVE EXPIRED

N.B.: Independent Director within the meaning of the Board of Directors' internal regulations. For information regarding independence criteria, please refer to this Reference Document – page 130.

**Annette WINKLER***Independent Director***Nationality:** German

Born in 1959

Date of first appointment: 2014**Start of current term:** 2014**End of current term:** 2018**Number of shares owned as of December 31, 2016:** 619**Business address:** Daimler AG, Head of smart, Werk 059, HPC: H324, Leibnizstr. 2, D – 71032 Böblingen – Germany**CAREER**

Doctor in Economics from the University of Frankfurt (Germany), Annette Winkler became the Managing Shareholder of a medium-sized construction company. In 1995, she joined the Mercedes-Benz group, where she held a variety of positions and in particular that of Senior Director / Head Public Relations and Communications. After spending two years as Head of the Mercedes-Benz sales and service outlet in Braunschweig, she became Chief Executive Officer of DaimlerChrysler Belgium and Luxembourg (1999-2005), then Vice President of Global Business Management & Wholesale Europe (2006-2010). Vice President of Daimler AG, since 2010 she is Chief Executive Officer of smart (with overall responsibility for the brand, also in charge of the smart factory in Lorraine).

POSITIONS AND ACTIVITIES HELD DURING 2016***Functions within the Air Liquide Group***

- **Director:** L'Air Liquide S.A.* (member of the Remuneration Committee)

Positions or activities outside the Air Liquide Group

- **Vice President:** Daimler AG, head of Smart
- Member of the Counsel for Foreign Economic Affairs of the German Ministry for Economics

POSITIONS AND ACTIVITIES HELD DURING THE LAST FIVE YEARS AND THAT HAVE EXPIRED

N.B.: Independent Director within the meaning of the Board of Directors' internal regulations. For information regarding independence criteria, please refer to this Reference Document – page 130.



Philippe DUBRULLE

Director representing the employees

Nationality: French

Born in 1972

Date of first appointment by the Group Committee in France: 2014

Start of current term: 2014

End of current term: 2018

Business address: Air Liquide Advanced Technologies, 2 rue de Clémencière, 38360 Sassenage

CAREER

Philippe Dubrulle joined the Air Liquide Group in 2008 as an Aeronautics Manager after having worked in several aeronautic groups in France and abroad.

Based in Sassenage, Philippe Dubrulle is employed by the subsidiary Air Liquide Advanced Technologies. He is business line manager – Aeronautical Systems.

Philippe Dubrulle was appointed Director representing the employees by the Group Committee in France on June 18, 2014.

POSITIONS AND ACTIVITIES HELD DURING 2016

Functions within the Air Liquide Group

- **Director:** L'Air Liquide S.A.*
- **Business line manager – Aeronautical Systems:** Air Liquide Advanced Technologies

POSITIONS AND ACTIVITIES HELD DURING THE LAST FIVE YEARS AND THAT HAVE EXPIRED

**Geneviève BERGER***Independent Director***Nationality:** French

Born in 1955

Date of first appointment: 2015**Start of current term:** 2015**End of current term:** 2019**Number of shares owned as of December 31, 2016:** 500**Business address:** Firmenich SA, Route des Jeunes, 1 P.O. Box 239, CH – 1211 Geneva 8 – Switzerland**CAREER**

With a Ph.D. in physics, Doctor of Medecine and with a Ph.D. human biology, Geneviève Berger was Director of the mixed laboratory for parametric imaging CNRS-Broussais Hôtel-Dieu from 1991 to 2000. She was General Manager of the CNRS between 2000 and 2003. She served as University Professor and Hospital Managing Director at La Pitié-Salpêtrière between 2003 and 2008 before joining Unilever as Chief Research and Development Officer and then Chief Science Officer from 2008 to 2014. She has been the Head of the research department at the Swiss company Firmenich since July 1, 2015.

POSITIONS AND ACTIVITIES HELD DURING 2016**Functions within the Air Liquide Group**

- **Director:** L'Air Liquide S.A.*

Positions or activities outside the Air Liquide Group

- **Head of the Research Department:** Firmenich
- **Non-executive Director and member of the Scientific Committee:** AstraZeneca*

POSITIONS AND ACTIVITIES HELD DURING THE LAST FIVE YEARS AND THAT HAVE EXPIRED**2015**

- **Non-executive Director:** Merz (until March 2015)

2014

- **Scientific Director:** Unilever

2012

- **Non-executive Director:** Smith & Nephew plc

N.B.: Independent Director within the meaning of the Board of Directors' internal regulations. For information regarding independence criteria, please refer to this Reference Document – page 130.

**Brian GILVARY***Independent Director***Nationality:** British

Born in 1962

Date of first appointment: 2016**Start of current term:** 2016**End of current term:** 2020**Number of shares owned as of December 31, 2016:** 563**Business address:** 1St James's Square – London SW1Y 4PD – United-Kingdom**CAREER**

A British citizen, holder of a PhD in mathematics from the University of Manchester (UK), Brian Gilvary joined BP group in 1986 where he has spent his entire career. Following a variety of roles in the upstream, downstream and trading of the oil and gas business in Europe and the United States, he became the Downstream's Chief Financial Officer and Commercial Director from 2002 to 2005. From 2005 until 2009 he was Chief Executive of the integrated supply and trading function. In 2010 he was appointed Deputy Group Chief Financial Officer with responsibility for the finance function.

Brian Gilvary was appointed Chief Financial Officer of BP on January 1, 2012. Having worked in both upstream and downstream, he has a strong experience of BP oil and gas business and a significant expertise of finance and trading.

POSITIONS AND ACTIVITIES***Functions within the Air Liquide Group***

- **Director:** L'Air Liquide S.A.*

Positions or activities outside the Air Liquide Group

- **Chief Financial Officer and Director:** BP*
- **Director:** BP Capital Markets p.l.c., BP Car Fleet Limited, BP Corporate Holdings Limited, BP Finance p.l.c., BP Global Investments Limited, BP Holdings North America Limited, BP International Limited, BP PLC. (Member of the "Results Committee"), The BP Share Plans Trustees Limited
- **External advisor:** HM Treasury Financial Management Review Board (UK)

POSITIONS AND ACTIVITIES HELD DURING THE LAST FIVE YEARS AND THAT HAVE EXPIRED

N.B.: Independent Director within the meaning of the Board of Directors' internal regulations. For information regarding independence criteria, please refer to this Reference Document – page 130.

New candidate proposed to the Shareholders' Meeting of May 3, 2017

**Xavier HUILLARD**

Nationality: French
Born in 1954

CAREER

Xavier Huillard is a graduate of the École polytechnique and the École nationale des ponts et chaussées. He has spent most of his working life in the construction industry in France and abroad. He joined Sogea in December 1996 as Deputy Chief Executive Officer in charge of international activities and specific projects, and then became its Chairman and Chief Executive Officer in 1998. He was appointed Deputy General Manager of VINCI in March 1998 and was Chairman of VINCI Construction from 2000 to 2002. He was appointed Senior Executive Vice President of VINCI and was Chairman and Chief Executive Officer of VINCI Energies from 2002 to 2004, then Chairman of VINCI Energies from 2004 to 2005. Xavier Huillard became Director and Chief Executive Officer of VINCI in 2006 and was appointed Chairman of the Board of Directors and Chief Executive Officer of VINCI on May 6, 2010. He was Chairman of the Institut de l'Entreprise from January 2011 to January 2017. Xavier Huillard is Chairman of Vinci Concessions since June 20, 2016.

POSITIONS AND ACTIVITIES

Positions or activities outside the Air Liquide Group

- **Chairman and Chief Executive Officer:** VINCI*
- Permanent representative of VINCI on the Board of Directors of Aéroports de Paris*
- **Chairman:** Institut de l'Entreprise (since January 25, 2017)
- **Chairman:** VINCI Concessions SAS, Supervisory Board of VINCI Deutschland GmbH
- Permanent representative of VINCI on the Board of Directors of VINCI Energies, of Fabrique de la Cité
- Permanent representative of Snel on the Board of Directors of ASF and VINCI Autoroutes on the Board of Directors of Cofiroute
- **Chairman:** Fondation d'entreprise VINCI de la Cité
- **Director:** Kansai Airports
- **Vice-Chairman:** Aurore Association

► STATUTORY AUDITORS' OFFICES AND FEES

Statutory Auditors' offices

ERNST & YOUNG et Autres

Principal Statutory Auditor

ERNST & YOUNG et Autres is represented by
Jeanne Boillet and Emmanuelle Mossé
Tour First – TS 14444 – 1, place des Saisons
92037 Paris-La Défense Cedex (Courbevoie)

Deputy Statutory Auditor

Auditex
Tour First – TS 14444 – 1, place des Saisons
92037 Paris-La Défense Cedex (Courbevoie)

All the Statutory Auditors, principal and deputy, were appointed or renewed on May 12, 2016. Their terms of office will expire at the end of the Shareholders' Meeting held to approve the financial statements for the fiscal year ending December 31, 2021.

The 2015 financial statements were certified by ERNST & YOUNG et Autres and Mazars S.A.

PricewaterhouseCoopers Audit

Principal Statutory Auditor

PricewaterhouseCoopers Audit is represented by
Olivier Lotz and Séverine Scheer
63, rue de Villiers
92200 Neuilly-sur-Seine

Deputy Statutory Auditor

Jean-Christophe Georghiou
with PricewaterhouseCoopers Audit
63, rue de Villiers
92200 Neuilly-sur-Seine

Statutory Auditors' fees

The disclosure of the Statutory Auditors' fees, for the year ending December 31, 2016, has been changed as the French regulation No. 2016-315 dated March 17, 2016 relating to the audit came into force upon its publication in the Official Journal on March 18, 2016.

(in thousands of euros)	2016							
	ERNST & YOUNG et Autres		PricewaterhouseCoopers Audit			Others		Total
Audit, certification, review of individual and consolidated financial statements	8,651	84.1%	4,558	84.2%	585	56.2%	13,794	82.4%
■ Issuer	620		617		-		1,237	
■ Fully consolidated subsidiaries	8,031		3,941		585		12,557	
■ of which Airgas	3,073		125		-		3,198	
Services required by law	510	5.0%	204	3.8%	68	6.5%	782	4.7%
■ of which services relating to the financing of Airgas acquisition	159		162		-		321	
Total of certification missions and services required by law	9,161	89.1%	4,762	88.0%	653	62.7%	14,576	87.1%
Services relating to Corporate Social Responsibility (CSR)	189	1.8%	6	0.1%	6	0.6%	201	1.2%
Due-diligence services (sell-side and buy-side)	16	0.2%	73	1.3%	27	2.6%	116	0.7%
Other services	919	8.9%	571	10.6%	355	34.1%	1,845	11.0%
Total of non-audit services	1,124	10.9%	650	12.0%	388	37.3%	2,162	12.9%
TOTAL	10,285	100%	5,412	100%	1,041	100%	16,738	100%

(in thousands of euros)	2015							
	ERNST & YOUNG et Autres		Mazars		Others		Total	
Statutory audit, certification, review of individual and consolidated financial statements	6,556	68.6%	4,077	91.4%	700	74.3%	11,333	75.7%
■ Issuer	725		500		-		1,225	
■ Fully consolidated subsidiaries	5,831		3,577		700		10,108	
Other statutory audit engagements	758	7.9%	187	4.2%	19	2.0%	964	6.5%
■ Issuer	242		56		-		298	
■ Fully consolidated subsidiaries	516		131		19		666	
Total of audit services	7,314	76.5%	4,264	95.6%	719	76.3%	12,297	82.2%
Legal, employee and tax services	1,674	17.5%	182	4.1%	222	23.6%	2,078	13.9%
Other services	572	6.0%	15	0.3%	1	0.1%	588	3.9%
Total of other services rendered by the network to the fully consolidated subsidiaries	2,246	23.5%	197	4.4%	223	23.7%	2,666	17.8%
TOTAL	9,560	100.0%	4,461	100.0%	942	100.0%	14,963	100.0%



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FINANCIAL STATEMENTS

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CONSOLIDATED FINANCIAL STATEMENTS

Consolidated income statement

For the year ended December 31

(in millions of euros)	Notes	2015 as published	2015 restated	2016
Revenue	(4)	16,379.8	15,818.5	18,134.8
Other income	(5)	193.5	187.7	173.9
Purchases	(5)	(6,164.0)	(5,890.0)	(6,692.8)
Personnel expenses	(5)	(3,069.4)	(2,928.5)	(3,659.4)
Other expenses	(5)	(3,077.7)	(2,972.2)	(3,345.3)
Operating income recurring before depreciation and amortization		4,262.2	4,215.5	4,611.2
Depreciation and amortization expense	(5)	(1,371.6)	(1,359.3)	(1,587.3)
Operating income recurring		2,890.6	2,856.2	3,023.9
Other non-recurring operating income	(6)	38.4	38.9	451.0
Other non-recurring operating expenses	(6)	(170.6)	(162.2)	(415.4)
Operating income		2,758.4	2,732.9	3,059.5
Net finance costs	(7)	(227.1)	(223.0)	(389.1)
Other financial income	(7)	14.7	14.1	17.6
Other financial expenses	(7)	(55.6)	(52.7)	(31.6)
Income taxes	(8)	(666.4)	(661.5)	(747.4)
Share of profit of associates	(15)	14.7	14.3	6.6
NET PROFIT FROM CONTINUING OPERATIONS		1,838.7	1,824.1	1,915.6
NET PROFIT FROM DISCONTINUED OPERATIONS	(2)	-	14.6	11.1
PROFIT FOR THE PERIOD		1,838.7	1,838.7	1,926.7
■ Minority interests		82.3	82.3	82.7
■ Net profit (Group share)		1,756.4	1,756.4	1,844.0
Basic earnings per share (in euros)	(9)	4.99	4.99	5.11
Diluted earnings per share (in euros)	(9)	4.97	4.97	5.10
Basic earnings per share from continuing operations (in euros)		4.99	4.95	5.08
Diluted earnings per share from continuing operations (in euros)		4.97	4.93	5.07
Basic earnings per share from discontinued operations (in euros)	(2)	0.00	0.04	0.03
Diluted earnings per share from discontinued operations (in euros)	(2)	0.00	0.04	0.03

Accounting principles and notes to the financial statements begin on page 244.

Statement of net income and gains and losses recognized directly in equity

For the year ended December 31

(in millions of euros)	December 2015	December 2016
Profit for the period	1,838.7	1,926.7
Items recognized in equity		
Change in fair value of financial instruments	29.9	(186.8)
Change in foreign currency translation reserve	177.2	391.7
Items that may be subsequently reclassified to profit	207.1	204.9
Actuarial gains / (losses)	(12.4)	(129.9)
Items that may not be subsequently reclassified to profit	(12.4)	(129.9)
Items recognized in equity, net of taxes	194.7	75.0
Net income and gains and losses recognized directly in equity	2,033.4	2,001.7
■ Attributable to minority interests	95.9	89.3
■ Attributable to equity holders of the parent	1,937.5	1,912.4

Consolidated balance sheet

For the year ended December 31

ASSETS <i>(in millions of euros)</i>	Notes	December 31, 2015	December 31, 2016
Goodwill	(11)	5,730.2	13,889.5
Other intangible assets	(12)	849.1	1,887.4
Property, plant and equipment	(13)	15,706.3	20,115.7
Non-current assets		22,285.6	35,892.6
Non-current financial assets	(14)	485.1	584.0
Investments in associates	(15)	115.9	134.2
Deferred tax assets	(16)	235.2	181.9
Fair value of non-current derivatives (assets)	(26)	100.1	60.1
Other non-current assets		936.3	960.2
TOTAL NON-CURRENT ASSETS		23,221.9	36,852.8
Inventories and work-in-progress	(17)	980.6	1,323.1
Trade receivables	(18)	2,981.1	3,115.0
Other current assets	(20)	596.6	697.5
Current tax assets		132.9	277.4
Fair value of current derivatives (assets)	(26)	62.8	53.2
Cash and cash equivalents	(21)	965.5	1,523.0
TOTAL CURRENT ASSETS		5,719.5	6,989.2
ASSETS HELD FOR SALE	(2)	-	275.8
TOTAL ASSETS		28,941.4	44,117.8

EQUITY AND LIABILITIES <i>(in millions of euros)</i>	Notes	December 31, 2015	December 31, 2016
Share capital		1,892.9	2,138.8
Additional paid-in capital		15.6	3,103.3
Retained earnings		8,861.8	9,767.4
Treasury shares		(121.0)	(111.7)
Net profit (Group share)		1,756.4	1,844.0
Shareholders' equity		12,405.7	16,741.8
Minority interests		365.1	383.2
TOTAL EQUITY ^(a)	(22)	12,770.8	17,125.0
Provisions, pensions and other employee benefits	(23, 24)	2,113.2	2,592.4
Deferred tax liabilities	(16)	1,321.8	2,378.2
Non-current borrowings	(25)	6,290.7	14,890.1
Other non-current liabilities	(27)	243.8	270.6
Fair value of non-current derivatives (liabilities)	(26)	231.3	233.7
TOTAL NON-CURRENT LIABILITIES		10,200.8	20,365.0
Provisions, pensions and other employee benefits	(23, 24)	271.2	279.5
Trade payables	(28)	2,269.3	2,485.9
Other current liabilities	(27)	1,302.4	1,473.3
Current tax payables		156.8	144.3
Current borrowings	(25)	1,912.7	2,001.0
Fair value of current derivatives (liabilities)	(26)	57.4	63.0
TOTAL CURRENT LIABILITIES		5,969.8	6,447.0
LIABILITIES HELD FOR SALE	(2)	-	180.8
TOTAL EQUITY AND LIABILITIES		28,941.4	44,117.8

(a) A breakdown of changes in shareholders' equity and minority interests is presented on pages 242 and 243.

Consolidated cash flow statement

For the year ended December 31

(in millions of euros)	Notes	2015	2016
Operating activities			
Net profit (Group share)		1,756.4	1,844.0
Minority interests		82.3	82.7
Adjustments:			
■ Depreciation and amortization		1,371.6	1,599.5
■ Changes in deferred taxes ^(a)		107.3	105.2
■ Changes in provisions		(64.2)	90.3
■ Share of profit of associates	(15)	(3.3)	0.8
■ Profit / loss on disposal of assets		(100.6)	(290.4)
■ Net finance costs related to the acquisition of Airgas			91.1
Cash flows from operating activities before changes in working capital		3,149.5	3,523.2
Changes in working capital	(19)	(258.4)	331.0
Others		(58.7)	(157.7)
Net cash flows from operating activities		2,832.4	3,696.5
Investing activities			
Purchase of property, plant and equipment and intangible assets	(12,13)	(2,027.7)	(2,258.6)
Acquisition of consolidated companies and financial assets ^(c)		(384.4)	(12,165.3)
Proceeds from sale of property, plant and equipment and intangible assets		129.6	828.3
Proceeds from sale of financial assets		1.4	1.3
Net cash flows used in investing activities		(2,281.1)	(13,594.3)
Financing activities			
Dividends paid ^(b)			
■ L'Air Liquide S.A.		(924.3)	(947.4)
■ Minority interests		(50.8)	(71.6)
Proceeds from issues of share capital ^{(b) (c)}		85.8	3,361.1
Purchase of treasury shares ^(b)		(178.3)	3.8
Increase (decrease) in borrowings ^(c)		651.4	8,152.0
Transactions with minority shareholders		(11.1)	(14.4)
Net cash flows from (used in) financing activities		(427.3)	10,483.5
Effect of exchange rate changes and change in scope of consolidation		(103.5)	(30.6)
Net increase (decrease) in net cash and cash equivalents		20.5	555.1
NET CASH AND CASH EQUIVALENTS AT THE BEGINNING OF THE PERIOD		854.9	875.4
NET CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD		875.4	1,430.5

(a) Changes in deferred taxes shown in the consolidated cash flow statement do not include changes in deferred taxes relating to disposals of assets.

(b) A breakdown of dividends paid, share capital increases and treasury share purchases is provided on pages 242 and 243.

(c) Including in 2016 the transaction flows related to Airgas.

The analysis of net cash and cash equivalents at the end of the period is as follows:

(in millions of euros)	Notes	December 31, 2015	December 31, 2016
Cash and cash equivalents	(21)	965.5	1,523.0
Bank overdrafts (included in current borrowings)		(90.1)	(92.5)
NET CASH AND CASH EQUIVALENTS		875.4	1,430.5

NET INDEBTEDNESS CALCULATION

(in millions of euros)	Notes	December 31, 2015	December 31, 2016
Non-current borrowings	(25)	(6,290.7)	(14,890.1)
Current borrowings	(25)	(1,912.7)	(2,001.0)
TOTAL GROSS INDEBTEDNESS		(8,203.4)	(16,891.1)
Cash and cash equivalents	(25)	965.5	1,523.0
Derivative instruments (assets) – fair value hedge of borrowings	(25)	(0.8)	
TOTAL NET INDEBTEDNESS AT THE END OF THE PERIOD		(7,238.7)	(15,368.1)

STATEMENT OF CHANGES IN NET INDEBTEDNESS

(in millions of euros)	Notes	2015	2016
Net indebtedness at the beginning of the period		(6,306.3)	(7,238.7)
Net cash flows from operating activities		2,832.4	3,696.5
Net cash flows used in investing activities		(2,281.1)	(13,594.3)
Net cash flows used in financing activities excluding changes in borrowings		(1,078.7)	2,331.5
Total net cash flows		(527.4)	(7,566.3)
Effect of exchange rate changes, opening net indebtedness of newly acquired companies and others		(405.0)	(563.1)
Change in net indebtedness		(932.4)	(8,129.4)
NET INDEBTEDNESS AT THE END OF THE PERIOD	(25)	(7,238.7)	(15,368.1)

Consolidated statement of changes in equity

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY FROM JANUARY 1, 2016 TO DECEMBER 31, 2016

(in millions of euros)	Notes	Share capital	Additional paid-in capital	Retained earnings (including net profit)	Fair value of financial instruments	Translation reserves	Treasury shares	Shareholders' equity	Minority interests	Total equity
Equity and minority interests as of January 1, 2016		1,892.9	15.6	10,720.1	60.4	(162.3)	(121.0)	12,405.7	365.1	12,770.8
Profit for the period				1,844.0				1,844.0	82.7	1,926.7
Items recognized directly in equity				(129.4)	(186.8)	384.6		68.4	6.6	75.0
Net income and gains and losses recognized directly in equity ^(a)				1,714.6	(186.8)	384.6		1,912.4	89.3	2,001.7
Increase (decrease) in share capital		245.9	3,087.2					3,333.1	7.0	3,340.1
Distribution	(10)			(947.9)				(947.9)	(71.6)	(1,019.5)
Cancelation of treasury shares ^(d)			0.5	(0.5)						
Purchase / Disposal of treasury shares ^(d)						3.5	3.5			3.5
Share-based payments				26.5			5.8	32.3		32.3
Transactions with minority shareholders recognized directly in equity				(19.6)				(19.6)	(7.3)	(26.9)
Others				22.3 ^(e)				22.3	0.7	23.0
EQUITY AND MINORITY INTERESTS AS OF DECEMBER 31, 2016		2,138.8 ^(b)	3,103.3 ^(c)	11,515.5	(126.4)	222.3	(111.7) ^(d)	16,741.8	383.2	17,125.0

(a) The statement of net income and gains and losses recognized directly in equity is presented on page 238.

(b) Share capital as of December 31, 2016 was made up of 388,875,761 shares at a par value of 5.50 euros. During the fiscal year, movements affecting share capital were as follows:

- creation of 43,202,209 shares in cash with a par value of 5.50 euros resulting from a capital increase in the market (see note 22);
- creation of 511,408 shares in cash with a par value of 5.50 euros resulting from the exercise of options;
- creation of 999,143 shares in cash with a par value of 5.50 euros resulting from a capital increase reserved for employees.

(c) "Additional paid-in capital" was increased by the amount of share premiums related to capital increases for 3,087.7 million euros, including 2,987.5 million linked to a capital increase in the market.

(d) The number of treasury shares as of December 31, 2016 amounts to 1,126,565 (including 1,029,934 held by L'Air Liquide S.A.). During the fiscal year, movements affecting treasury shares are as follows:

- disposals of 2,625 shares at an average price of 89.01 euros;
- allocation of 87,973 shares as part of performance shares.

(e) Changes in "Retained earnings" primarily result from the tax impacts related to the capital increase.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY FROM JANUARY 1, 2015 TO DECEMBER 31, 2015

(in millions of euros)	Share capital	Additional paid-in capital	Retained earnings (including net profit)	Fair value of financial instruments	Translation reserves	Treasury shares	Shareholders' equity	Minority interests	Total equity
Equity and minority interests as of January 1, 2015	1,896.8	25.7	10,009.6	30.5	(325.4)	(100.7)	11,536.5	290.4	11,826.9
Profit for the period			1,756.4				1,756.4	82.3	1,838.7
Items recognized directly in equity			(11.9)	29.9	163.1		181.1	13.6	194.7
Net income and gains and losses recognized directly in equity^(a)			1,744.5	29.9	163.1		1,937.5	95.9	2,033.4
Increase (decrease) in share capital	4.4	45.9					50.3	35.7	86.0
Distribution			(924.7)				(924.7)	(50.8)	(975.5)
Cancellation of treasury shares	(8.3)	(56.0)	(88.7)			153.0			
Purchase/Disposal of treasury shares						(178.0)	(178.0)		(178.0)
Share-based payments			18.5			4.7	23.2		23.2
Transactions with minority shareholders recognized directly in equity			(39.7)				(39.7)	(8.9)	(48.6)
Others			0.6				0.6	2.8	3.4
EQUITY AND MINORITY INTERESTS AS OF DECEMBER 31, 2015	1,892.9	15.6	10,720.1	60.4	(162.3)	(121.0)	12,405.7	365.1	12,770.8

(a) The statement of net income and gains and losses recognized directly in equity is presented on page 238.

Accounting principles

BASIS FOR PREPARATION OF THE CONSOLIDATED FINANCIAL STATEMENTS

Due to its listing on the Paris Stock Exchange and pursuant to EC Regulation No.1606/2002 of July 19, 2002, the consolidated financial statements of the Air Liquide Group for the year ended December 31, 2016 have been prepared in accordance with IFRS (International Financial Reporting Standards), as endorsed by the European Union as of December 31, 2016, and with IFRSs without use of the carve-out option, as published by the IASB (International Accounting Standards Board). The IFRS standards and interpretations as adopted by the European Union are available at the following website:

http://ec.europa.eu/finance/company-reporting/ifrs-financial-statements/index_en.htm

The Group has not anticipated any new standards, amendments to existing standards or new interpretations published by the IASB but not yet approved or not yet mandatory in the European Union, as of December 31, 2016.

The financial statements are presented in millions of euros. They were approved by the Board of Directors on February 14, 2017. They will be submitted for approval to the Shareholders' Meeting on May 3, 2017.

NEW IFRS AND INTERPRETATIONS

1. Standards, interpretations and amendments whose application is mandatory as of January 1, 2016

The following texts will not have any impact on the Group financial statements:

- amendments to IAS19 "Defined Benefit Plans: Employee Contributions", issued on November 21, 2013;
- annual improvements to IFRSs 2010-2012 Cycle, issued on December 12, 2013;
- amendments to IFRS11 "Accounting for Acquisitions of Interests in Joint Operations", issued on May 6, 2014;
- amendments to IAS16 and IAS38 "Clarification of Acceptable Methods of Depreciation and Amortization", issued on May 12, 2014;
- annual improvements to IFRSs 2012-2014 Cycle, issued on September 25, 2014;
- amendments to IAS1 "Disclosure Initiative", issued on December 18, 2014.

Additionally, the following texts are not applicable to the Group:

- amendments to IAS16 and IAS41 "Bearer Plants", issued on June 30, 2014;

- amendments to IAS27 "Equity Method in Separate Financial Statements", issued on August 12, 2014;

- amendments to IFRS10, IFRS12 and IAS28 "Investment Entities: Applying the Consolidation Exception", issued on December 18, 2014.

2. Standards, interpretations and amendments endorsed by the European Union whose application is optional in 2016

The Group financial statements for the year ended December 31, 2016 do not include any potential impacts from the standards, interpretations and amendments endorsed by the European Union as of December 31, 2016 for which adoption is only mandatory as of fiscal years beginning after January 1, 2016. These texts are as follows:

- IFRS15 "Revenue from contracts with customers", issued on May 28, 2014, including the amendment to IFRS15 "Effective Date of IFRS15", issued on September 11, 2015.

The impacts of this text on the financial statements are currently being analyzed. Analysis at the Large Industries business line level has been finalized and the Group has not identified a significant impact to be noted in relation to the business line during the transition to IFRS15;

- IFRS9 "Financial Instruments", issued on July 24, 2014.

3. Standards, interpretations and amendments not yet endorsed by the European Union

The impacts on the financial statements of texts published by the IASB as of December 31, 2016 and not yet endorsed by the European Union are currently being analyzed. These texts are as follows:

- amendments to IFRS10 and IAS28 "Sale or Contribution of Assets between an Investor and its Associate or Joint Venture", issued on September 11, 2014;
- IFRS16 "Leases", issued on January 13, 2016;
- amendments to IAS12 "Recognition of Deferred Tax Assets for Unrealized Losses", issued on January 19, 2016;
- amendments to IAS7 "Disclosure Initiative", issued on January 29, 2016;
- clarifications to IFRS15 issued on April 12, 2016;
- amendments to IFRS2 "Classification and measurement of share-based payment transactions", issued on June 20, 2016;
- annual improvements to IFRSs 2014-2016 Cycle, issued on December 8, 2016;

- IFRIC22 "Foreign Currency Transactions and Advance Consideration", issued on December 8, 2016.

Additionally, the following texts are not applicable to the Group:

- IFRS14 "Regulatory Deferral Accounts", issued on January 30, 2014;
- amendments to IFRS4 "Applying IFRS9 Financial Instruments with IFRS4 Insurance Contracts", issued on September 12, 2016;
- amendments to IAS40 "Transfers of Investment Property", issued on December 8, 2016.

USE OF ESTIMATES AND ASSUMPTIONS

The preparation of the financial statements requires Group or subsidiary Management to make estimates and use certain assumptions which have a significant impact on the carrying amounts of assets and liabilities recorded in the consolidated balance sheet, the notes related to these assets and liabilities, the profit and expense items in the income statement and the commitments relating to the period-end. Balance sheet, income statement and cash flow statement line items could differ should the subsequent actual results differ from the estimates. The most significant estimates and assumptions concern namely:

- the estimated useful life of property, plant and equipment used for calculation of depreciation and amortization: these estimates are described in section 5.e of the accounting policies;
- the assumptions used to determine provisions for employee retirement benefit obligations: the actuarial assumptions used (employee turnover, mortality, retirement age, salary increase, etc.), and the discount rates used to determine the present value of obligations, as described in section 11.b of the accounting policies and in note 24.3;
- the estimates and assumptions concerning assets impairment tests, as described in section 5.f. of the accounting policies and in note 11.2;
- the methods used to recover deferred tax assets on the balance sheet;
- the risk assessment to determine the amount of provisions for contingencies and losses;
- the accounting methods for the margin of the Engineering & Construction contracts that are set out in section 3.b of the accounting policies.

ACCOUNTING POLICIES

The consolidated financial statements were prepared under the historical cost convention, except for available-for-sale financial assets and financial assets and liabilities measured at fair value through profit or loss in accordance with IAS32/39. The carrying amount of other assets and liabilities hedged against fair value risk is adjusted to take into account the changes in fair value attributable to the hedged risks. In addition, the principles of fairness, going concern, and consistency were applied.

1. CONSOLIDATION METHODS

The consolidation methods used are:

- full consolidation method for subsidiaries;
- equity method for joint ventures and associates.

Assets, liabilities, expenses and revenue of joint operations are recognized in relation to the Group's interest in these entities.

a. Subsidiaries

All the subsidiaries or companies in which the Air Liquide Group exercises exclusive control are fully consolidated. Control exists when all the following conditions are met:

- the Group has existing rights that give it the current ability to direct the relevant activities;
- the Group is exposed, or has rights, to variable returns from its involvement with the entity;
- the Group has the ability to use its power over the entity so that it affects the amount of the returns.

Companies are fully consolidated from the date the Group obtains control and until the date on which control is transferred outside the Group.

b. Joint operations

Joint operations are joint arrangements whereby the Air Liquide Group has joint control with one or several parties through a contractual agreement, which gives it rights to the assets and obligations for the liabilities of the entity.

Assets, liabilities, expenses and revenue of joint operations are recognized in relation to the Group's interest in these entities. These amounts are recorded on each relevant line of the financial statements as for the consolidated entities.

c. Joint ventures

Joint ventures are joint arrangements whereby the Air Liquide Group has joint control with one or several parties through a contractual agreement, which gives it rights to the net assets of the entity.

Joint ventures are consolidated using the equity method. Under this one, the net assets and net profit of a company are recognized pro rata to the interest held by the Group in the share capital.

On acquisition of an investment in a joint venture, goodwill relating to the joint venture is included in the carrying amount of the investment.

d. Associates

Associates are investments over which the Air Liquide Group has significant influence (generally when the Group has more than a 20% interest), but no control.

Associates are consolidated using the equity method. Under this one, the net assets and net profit of a company are recognized pro rata to the interest held by the Group in the share capital.

On acquisition of an investment in an associate, the goodwill relating to the associate is included in the carrying amount of the investment.

The financial statements of subsidiaries, joint arrangements and associates are prepared as of December 31.

e. Inter-company transactions

All inter-company receivables and payables, income and expenses and profits or losses are eliminated.

2. TRANSLATION OF THE FINANCIAL STATEMENTS OF COMPANIES WHOSE FUNCTIONAL CURRENCY IS NOT THE EURO

The functional currency of an entity is the currency of the primary economic environment in which it carries out its operations. In the majority of cases, the functional currency corresponds to the local currency. However, a functional currency other than the local currency can be retained for certain entities, provided that it represents the currency of the main transactions carried out by the entity and that it ensures faithful representation of its economic environment.

At the balance sheet date, the financial statements of companies whose functional currency is not the euro are translated into euros as follows:

- balance sheet items, at the official year-end exchange rates;
- income statement and cash flow statement items, using the average exchange rate over the period for each currency.

Exchange differences are recognized under a separate item "Translation reserves" in gains and losses recognized directly in equity.

Cumulative foreign exchange gains and losses as of January 1, 2004 arising from the translation into euros of the financial statements of subsidiaries whose functional currency is not the euro have been maintained as a separate component of equity.

On removal from the scope of consolidation, the cumulative exchange differences of a company whose functional currency is not the euro are recognized in the income statement.

3. REVENUErecognition

a. Revenue from the sales of goods and services

Revenue from the sales of goods is recognized when the significant risks and rewards of ownership have been transferred to the buyer, net of sales taxes, rebates and discounts and after eliminating sales within the Group.

Revenue associated with service delivery is recognized in reference to the stage of completion of the transaction when it can be reliably measured.

b. Engineering & construction contracts

Contract revenue and costs associated with construction contracts are recognized as revenue and expenses respectively, based on the stage of completion of the contracts at the balance sheet date.

The margin realized at the stage of completion is recognized only when it can be reliably measured. When it is probable that total contract costs will exceed total contract revenue, the expected loss is immediately recognized as an expense.

The stage of completion is assessed by using the ratio of contract costs incurred at the balance sheet date versus total estimated contract costs.

4. TAXES

a. Income tax expense

The tax rate was calculated on the basis of the fiscal regulations enacted or substantively enacted at the fiscal year closing date in each of the countries where the Group's companies carry out their business.

The Group's applicable tax rate corresponds to the average of the theoretical tax rates in force in each of the countries, weighted according to profit obtained in each of these countries.

The average effective tax rate is calculated as follows: (current and deferred income tax expense) / (net profit before tax less share of profit of associates, dividends received and net profit from discontinued operations).

b. Deferred taxes

Deferred taxes are recognized for all temporary differences between the carrying amount of assets and liabilities and their tax base (excluding non-deductible goodwill and the other exceptions provided in IAS12), the tax loss carryforwards and the unused tax credits. Deferred tax assets are recognized on all deductible temporary differences provided that it is highly probable that the tax benefits will be realized in future years.

Deferred taxes are calculated at the tax rate applicable when the temporary difference is reversed and allowed under local regulations at the period-end date. The liability method is applied and any changes to the tax rates are recognized in the income statement, except those related to items directly recognized in equity.

Deferred tax assets and liabilities are offset if the entities have a legally enforceable right to offset and if they relate to income tax levied by the same taxation authority. Deferred taxes are not discounted.

Deferred taxes are mainly due to temporary differences between the tax and economic depreciation of assets, the carryforward of tax losses and provisions not immediately deductible for tax purposes, such as employee benefit provisions.

When the Group decides not to distribute profits retained by the subsidiary within the foreseeable future, no deferred tax liability is recognized.

5. NON-CURRENT ASSETS

a. Goodwill and business combinations

Business combinations as of January 1, 2010

The Group has prospectively applied IFRS3 revised and IAS27 revised since January 1, 2010.

When the Group obtains control of an acquiree, the business combination is accounted for by applying the acquisition method on the acquisition date, in accordance with IFRS3 revised:

- the identifiable assets acquired and the liabilities and contingent liabilities assumed are measured at fair value;
- any minority interests in an acquiree are measured as the minority interest's proportionate share of the acquiree's net identifiable assets or at fair value. This option is applied on a case-by-case basis;
- the consideration transferred and any contingent consideration are measured at fair value;
- acquisition-related costs are recorded as expenses in the periods in which they are incurred.

For a business combination achieved in stages, any previously held equity interests in the acquiree are measured at the acquisition-date fair value. Any resulting gains or losses are recognized in profit or loss.

The measurement period of a business combination shall not exceed 12 months as of the acquisition date. Any adjustments, after the measurement period, of the consideration transferred and the fair values of acquired assets and assumed liabilities are recorded in the income statement.

On the acquisition date, goodwill is recognized in the consolidated balance sheet as the difference between:

- the consideration transferred plus the amount of minority interests in the acquiree and the fair value of the previously held equity interest; and,
- the fair value of the identifiable assets acquired and the liabilities and contingent liabilities assumed.

Negative goodwill is recognized immediately through profit or loss.

Business combinations prior to January 1, 2010

Business combinations achieved prior to January 1, 2010 have been accounted for in accordance with the former versions of IFRS3 and IAS27. These standards had already adopted the acquisition method in the version published by the IASB in March 2004. The main provisions which differ from the revised standards are as follows:

- minority interests were measured based on their share of the net identifiable assets of the acquiree and the fair value measurement option did not exist;
- earn-outs were included in the acquisition cost, without time limits, when the payment was deemed probable and the amount could be reliably measured;
- acquisition-related costs were recorded in the cost of the business combination.

For an acquisition achieved in stages, the fair value remeasurement of any previously held net asset was recognized in equity.

For an acquisition of minority interests in a previously held company, the difference between the acquisition cost and the net carrying amount of the minority interests was recorded in goodwill.

At the time of the transition to IFRS and in accordance with the exemption offered by IFRS1, the Group decided not to apply IFRS3 "Business combinations" retrospectively for acquisitions that took place prior to January 1, 2004.

Goodwill is allocated to cash-generating units (CGU) or groups of cash-generating units that benefit from business combination synergies. Subsequently, goodwill is not amortized but is tested for impairment annually or more frequently if there are any indications of impairment, in accordance with the method described in section 5.f.

b. Research and Development expenditures

Research and Development expenditures include all costs related to the scientific and technical activities, patent work, education and training necessary to ensure the development, manufacturing, start-up, and commercialization of new or improved products or processes.

According to IAS38, development costs shall be capitalized if, and only if, the Group can meet all of the following criteria:

- the project is clearly identified and the related costs are itemized and reliably monitored;
- the technical and industrial feasibility of completing the project is demonstrated;
- there is a clear intention to complete the project and to use or sell the intangible asset arising from it;
- the Group has the ability to use or sell the intangible asset arising from the project;
- the Group can demonstrate how the intangible asset will generate probable future economic benefits;
- the Group has adequate technical, financial and other resources to complete the project and to use or sell the intangible asset.

When these conditions are not satisfied, development costs generated by the Group are recognized as an expense when incurred.

Research expenditure is recognized as an expense when incurred.

c. Internally generated intangible assets

Internally generated intangible assets primarily include the development costs of information management systems. These costs are capitalized only if they satisfy the criteria as defined by IAS38 and described above.

Internal and external development costs on management information systems arising from the development phase are capitalized. Significant maintenance and improvement costs are added to the initial cost of assets if they specifically meet the capitalization criteria.

Internally generated intangible assets are amortized over their useful lives.

d. Other intangible assets

Other intangible assets include separately acquired intangible assets such as software, licenses, and intellectual property rights. They also include the technology, brands and customer contracts valued upon the acquisition of companies in accordance with IFRS3 "Business Combinations".

With the exception of brands, intangible assets are amortized using the straight-line method over their useful lives. Information management systems are generally amortized over a period comprised between five and eight years and customer contracts over a maximum period of 25 years, considering the probabilities of renewal.

e. Property, plant and equipment

Land, buildings and equipment are carried at their acquisition cost less any accumulated depreciation and impairment losses.

In the event of mandatory dismantling or asset removals, related costs are added to the initial cost of the relevant assets and provisions are recognized to cover these costs.

Interest costs on borrowings to finance the construction of property, plant, and equipment are capitalized during the period of construction when they relate to the financing of industrial projects over a twelve-month construction period, or longer.

When parts of an item of property, plant and equipment have different useful lives, they are accounted for separately and depreciated over their own useful lives.

Repair and maintenance costs are recognized as expenses when incurred. The costs of major inspections and overhauls are recognized as a separate component of the asset and are depreciated over the period between two major overhauls.

Depreciation is calculated according to the straight-line method over the estimated useful lives as follows:

- buildings: 20 to 30 years;
- cylinders: 10 to 40 years;
- production units: 15 to 20 years;
- pipelines: 15 to 35 years;
- other equipment: 5 to 30 years.

The estimated useful lives are reviewed regularly and changes in the estimates are recorded prospectively from the date of change.

Land is not depreciated.

f. Impairment of assets

The Group regularly assesses whether there are any indications of asset impairment. If such indications exist, an impairment test is performed to assess whether the carrying amount of the asset is greater than its recoverable amount, defined as the higher of the fair value less costs to sell (net fair value) and the value in use.

Impairment tests are performed systematically once a year for goodwill and intangible assets with indefinite useful lives.

Assets that do not generate largely independent cash flows are grouped according to the cash-generating units (CGU) to which they belong. A cash-generating unit is an identifiable group of assets that generates cash inflows that are largely independent of the cash inflows of other assets or groups of assets. They are mainly determined on a geographical basis and by reference to the markets in which the Group operates.

In practice, the Group performs impairment tests at various levels pursuant to these principles:

- dedicated and on-site plants are tested individually;
- pipelines and plants that provide these pipelines are tested at the network level;
- liquid gas and hydrogen/CO plants are grouped together according to the plants' customer market;
- other assets are allocated to cash-generating units or groups of cash-generating units.

The cash-generating units of the Gas & Services activity are determined on a geographical basis. The Other activities are managed at a worldwide level (Engineering & Construction and Global Markets & Technologies).

Goodwill is allocated to cash-generating units or groups of cash-generating units that benefit from business combination synergies and which represent the levels at which goodwill is monitored by the Group.

When performing impairment tests on cash-generating units or groups of cash-generating units comprising goodwill, the Group uses the market multiples approach to determine if the goodwill is subject to impairment. Insofar as the fair value is not significantly greater than the net carrying amount of the cash-generating unit or group of cash-generating units, the Group confirms the recoverable amount of the cash-generating unit or group of cash-generating units using the estimated cash flow approach (value in use).

For other cash-generating units or groups of cash-generating units, and assets whose value is tested on an individual basis, the Group determines the recoverable amount using the estimated cash flow approach (value in use).

The market multiples used are determined based on the market value of the Air Liquide Group. The differences between the resulting multiples and those of comparable companies are not material.

The growth rates, taken into account with respect to the cash flow estimates for cash-generating units or groups of cash-generating units, are determined based on the activity and geographical location of the CGU considered.

In assessing value in use for property, plant and equipment, the estimated future cash flows are discounted to their present value. Cash flows are measured over the asset's estimated period of use, taking into account customer contract terms and technical obsolescence.

The discount rate depends on the nature, the location of the asset and the customer market. It is determined according to the minimum level of profitability expected from the investment considering industrial and commercial risks and credit terms.

When the recoverable amount of an asset, a cash-generating unit or a group of cash-generating units is lower than its carrying amount, an impairment loss is recognized immediately through profit and loss. An impairment loss of a cash-generating unit is first allocated to goodwill.

When the recoverable amount exceeds the carrying amount again, the previously recognized impairment loss is reversed to the income statement, with the exception of impairment losses on goodwill, which cannot be reversed.

g. Leases

Finance leases

Leases of property, plant and equipment that transfer virtually all the risks and rewards of ownership to the Group are classified as finance leases. Items of property, plant and equipment acquired under finance leases are depreciated over the shorter of the asset's useful life or the lease term.

The sum of the present value of minimum lease payments for leased assets is recorded in the balance sheet under "Property, plant and equipment". The debt corresponding to the lessor appears on the balance sheet as a financial liability.

Operating leases

Leases where the lessor retains substantially all the risks and rewards incidental to ownership are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessor) are charged to the income statement on a straight-line basis over the lease term.

IFRIC4 "Determining Whether an Arrangement Contains a Lease" has no impact on the Group consolidated financial statements. In fact, the risks and rewards arising from the use of assets potentially affected by this interpretation are not transferred to the Group's customers. Consequently, the gas supply contracts related to these assets are not classified as finance leases.

6. FINANCIAL INSTRUMENTS

a. Non-current financial instruments

Non-consolidated investments

Investments in non-consolidated companies that are not accounted for using the equity method are classified as available for sale assets.

They are initially recorded at their fair value plus directly attributable transaction costs. Generally, the securities are recognized at cost, net of any depreciation. For this purpose, the recoverable amount is based on the Group's share of net assets, expected future profitability and the business plan of the entity representing the investment.

Changes in fair value are recognized in “gains and losses recognized directly in equity” until the investment is effectively sold. However, unrealized capital losses are immediately recognized in the income statement when the impairment loss is considered permanent or significant.

Unrealized gains or losses previously recognized in “gains and losses recognized directly in equity” are recorded in profit or loss on sale of the investments.

Loans and other financial assets

Loans and other financial assets are initially recognized at their fair value and subsequently carried at amortized cost. Impairment tests are performed at each closing date. Any impairment losses are recognized immediately in the income statement.

b. Trade and other receivables

Trade and other receivables are carried at fair value upon initial recognition and then at amortized cost less any impairment losses.

Impairment losses are recognized when it becomes probable that the amount due will not be collected and the loss can be reasonably estimated. Impairment losses are estimated by taking into account historical losses, age and a detailed risk estimate.

For all construction contracts in progress at the year-end, the gross amounts payable by and to customers represent the sum of costs incurred plus profits recognized using the percentage of completion method, equivalent to total revenue recorded using the percentage of completion method, less the amount of advances received.

Amounts payable by customers are presented in trade receivables. Amounts due to customers are presented in other current liabilities.

Assignments of trade receivables

Assignments of trade receivables are derecognized in the balance sheet when the Group transfers the contractual rights and almost all the risks and benefits relating to the receivable to the assignee.

c. Cash and cash equivalents

Cash and cash equivalents include cash balances, current bank accounts, and short-term highly liquid investments that are readily convertible into cash and do not present a material risk of a change in value.

Short-term investments include temporary cash investments maturing in less than three months (commercial paper, certificates of deposit and money market funds) whose minimum long-term rating is A (S&P) or A2 (Moody's).

As cash investments maturing in less than three months are exposed to a negligible risk of a change in value, they are recognized at historical cost (including accrued interest) which is considered to approximate fair value.

d. Current and non-current borrowings

Borrowings include bonds and other bank borrowings (including borrowings arising from finance leases and the put options granted to minority shareholders).

At inception, borrowings are recognized at fair value corresponding to the net proceeds collected. At each balance sheet date, except for put options granted to minority shareholders (see section 10 “Minority Interests”), they are measured at amortized cost using the effective interest rate (EIR) method. Under this method, the borrowing cost includes the redemption premiums and issuance costs initially deducted from the nominal amount of the borrowing in liabilities.

Borrowings maturing in less than one year are classified as current borrowings.

Borrowings hedged by interest rate swaps are recognized on a hedge accounting basis.

e. Derivative assets and liabilities

Derivative financial instruments are mainly used to manage exposures to foreign exchange, interest rate and commodity risks relating to the Group's financial and operating activities. For all these transactions, the Group applies hedge accounting and documents, at the inception of the transaction, the type of hedging relationship, the hedging instruments, and the nature and term of the hedged item.

Applying hedge accounting has the following consequences:

- fair value hedges for existing assets and liabilities: the hedged portion of the item is carried at fair value in the balance sheet. Any changes in fair value are recognized in the income statement, where they are offset by the corresponding changes in fair value of the hedging instruments (except for the impact of premiums/discounts);
- future cash flow hedges: the effective portion of the change in fair value of the hedging instrument is recorded directly in equity (other comprehensive income), while the change in the fair value of the hedged item is not recognized in the balance sheet. The change in fair value of the ineffective portion is recognized in other financial income or expenses. When the hedged transactions occur and are recorded, amounts recorded in other comprehensive income are reclassified in the income statement;
- hedges of net investments in a foreign entity: the effective portion of the changes in fair value of the derivative instrument is recognized in gains and losses recognized directly in equity under “Translation reserves”. The ineffective portion of changes in fair value is recognized in “Other financial income and expenses”. Once the foreign entity subject to the net investment hedge is sold, the loss or profit initially recognized in translation reserves is recognized in profit or loss, within the gain or loss generated.

However, in limited circumstances, certain types of derivatives do not qualify for hedge accounting; they are carried at fair value through "Other financial income and expenses" with an offsetting entry in financial assets and financial liabilities.

The fair value of assets, liabilities and derivatives is based on the market price at the balance sheet date.

7. ASSETS HELD FOR SALE AND DISCONTINUED OPERATIONS

a. Assets classified as held for sale

Non-current assets or disposal groups are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. This classification occurs when the Group takes the decision to sell them and that the sale is considered highly probable. The assets and liabilities held for sale are presented on different lines of the balance sheet. They are measured at the lower of their carrying amount or fair value less costs to sell.

Assets classified as held for sale are no longer depreciated (amortized) as of the date they are classified as assets or disposal groups held for sale.

When the Group is engaged in a sale process involving the loss of control of the subsidiary, all the assets and liabilities of this subsidiary are classified as being held for sale, independently of whether or not the Group retains a residual interest in the entity after its sale.

b. Discontinued operations

A discontinued operation is a clearly identifiable component that the Group either has abandoned or that is classified as held for sale:

- representing a separate major line of business or geographical area of operations;
- being part of a single coordinated plan to dispose of a separate major line of business or geographical area of operations; or,
- being a subsidiary acquired exclusively with a view to resale.

Once the criteria are met, the profit and loss and the cash flow from discontinued operations are presented separately in the income statement and the consolidated cash flow statement for each period.

8. INVENTORIES AND WORK IN-PROGRESS

Inventories are measured at the lower of cost or net realizable value. Cost includes direct raw materials, direct and indirect labor costs and other costs incurred in bringing the inventories to their present location and condition.

Net realizable value is the estimated selling price in the normal course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

9. SHARE CAPITAL, RESERVES AND TREASURY SHARES

Air Liquide's share capital is composed of ordinary shares.

Retained earnings include the following items:

- translation reserves: exchange differences arising from the translation into euros of financial statements prepared by foreign subsidiaries whose functional currency is not the euro are recorded in translation reserves. Fair value changes in net investment hedges of these foreign subsidiaries are also recorded in this reserve;
- fair value of financial instruments: this item records accumulated fair value changes in the effective portion of cash flow hedge derivatives (transactions not yet recognized in the accounts);
- actuarial gains and losses: all actuarial gains and losses and adjustments arising from the asset ceiling, net of deferred taxes, are recognized in consolidated reserves in the period in which they occur.

When the Group buys back its own shares, they are classified as treasury shares at the purchase price and presented as a deduction from equity for the consideration paid. The profit or loss from the sale of treasury shares is recognized directly in equity, net of tax.

Furthermore, acquisitions or disposals of minority interests, without change in control, are considered as transactions with Group' shareholders. Thus, the difference between the price paid to increase the percentage of interest in entities that are already controlled and the additional share of equity thus acquired is recognized in Shareholders' equity. Similarly, a decrease in the Group's percentage interest in a controlled entity is accounted for as an equity transaction with no impact on profit or loss.

Disposals of shares with loss of control give rise to the recognition in disposal gains or losses of the change in fair value calculated for the total investment at the date of disposal. Any investments retained, where applicable, will be measured at fair value at the date when control is lost.

10. MINORITY INTERESTS

Transactions with minority interests, without impact on the control, are considered as transactions with Group' shareholders and are registered in shareholders' equity.

In accordance with IAS32, put options granted to minority shareholders are recorded as borrowings at the option's estimated strike price.

The share in the net assets of subsidiaries is reclassified from "minority interests" to "borrowings".

Due to the absence of any specific IFRS guidance, the Group has elected to recognize the consideration for the difference between the strike price of the option granted and the value of the minority interests reclassified as borrowings as follows:

- for options granted prior to January 1, 2010, in goodwill;
- for options granted after January 1, 2010, in shareholders' equity – Group share.

Minority interests in profit and loss do not change and still reflect present ownership interests.

11. PROVISIONS

a. Provisions

Provisions are recognized when:

- the Group has a present obligation as a result of a past event;
- it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation;
- a reliable estimate can be made of the amount of the obligation.

Restructuring provisions include only the direct costs arising from the restructuring and are recognized in the period in which the Group has approved a detailed and formal restructuring plan and the restructuring has either begun or been announced. When these plans involve termination benefits, the resulting provisions are recognized at the earlier of the following dates:

- when the Group can no longer withdraw the offer of those benefits;
- when the provision of the related restructuring is recognized.

A provision for losses on contracts is recognized when the expected benefits from the contract are lower than the cost of satisfying the obligations under the contract.

b. Pensions and employee benefits

The Group provides its employees with various pension plans, termination benefits, jubilees and other post-employment benefits for both active and retired employees. The characteristics of each plan vary according to the laws and regulations applicable in each country as well as each subsidiary policy.

These benefits are covered by two types of plan:

- defined contribution plans;
- defined benefit plans.

The Group grants both defined benefit and defined contribution plans.

Defined contribution plans are plans under which the employer's sole obligation is to pay regular contributions. The employer's obligation is limited to payment of the planned contributions. The employer does not grant any guarantees on the future level of benefits paid to the employee or retiree (means-based obligation). The annual pension expense is equal to the contribution paid during the fiscal year which relieves the employer from any further obligations. It is recognized in "Personnel expenses".

Defined benefit plans are those by which the employer guarantees the future level of benefits defined in the agreement, most often depending on the employee's salary and seniority (result-based obligation). Defined benefit plans can be:

- either financed by contributions to specialized funds that manage the amounts received;
- or managed internally.

In the case of defined benefit plans, retirement and similar obligations are measured by independent actuaries, according to the projected unit credit method. The actuarial calculations mainly take into account the following assumptions: salary increases, employee turnover, retirement date, life expectancy, inflation and appropriate discount rates for each country.

Defined benefit plans are covered by external pension funds in certain cases. The assets of these plans are mostly invested in bonds or equities carried at their fair value.

All actuarial gains and losses as well as any adjustment arising from the asset ceiling are recognized in the period in which they occur.

Actuarial assumptions used vary according to the demographic and economic conditions prevailing in each country where the Group has pension plans.

Discount rates used to measure the present value of the Company's obligations and the net interest cost are determined by reference to market yields on High-Quality corporate bonds. Where there is no deep market in such bonds, the market yields on government bonds with the same maturity at the valuation date shall be used. In the Euro zone, the United States, the United Kingdom and Canada, discount rates were determined using tools designed by independent actuaries. Their database uses several hundred different corporate bonds with a minimum AA-rating and maturities ranging from one to 30 years. Cash-flows of expected benefits are subsequently discounted using rates associated to each maturity.

Valuations are carried out annually by independent actuaries for significant plans and every three years for other plans unless there are material changes in assumptions or major events that necessitate a new calculation.

Impacts related to defined benefit plans are registered as follows:

- the service cost, the gain relating to curtailments and settlements, and the actuarial gains and losses from other long term benefits and recognized in "Personnel expenses":

- net interest cost for defined benefits is registered in "Other financial income and expenses";
- past service cost is recorded in profit or loss according to the nature of the change to the plan that generated it (i.e. either in "Personnel expenses" or in "Other financial income and expenses");
- actuarial gains and losses from defined benefit plans, retirement termination payments, and medical plans are recorded in "Profit and loss recognized directly in equity".

12. FOREIGN CURRENCY TRANSACTIONS AND BALANCES

Foreign currency transactions are recognized according to the following principles:

- foreign currency transactions are translated by each company into its functional currency at the exchange rate prevailing on the date of the transaction;
- at year-end, monetary assets and liabilities denominated in foreign currencies are translated into the functional currency at the closing exchange rate.

Exchange differences relating to commercial transactions are recognized in operating profit. For financial transactions, exchange differences are recognized in financial income and expenses except for differences resulting from the hedge of a net investment in a foreign entity that are directly recognized in equity until the net investment is removed from the consolidation scope.

13. CONTINGENT ASSETS AND LIABILITIES

Contingent assets and liabilities arise from past events, the outcome of which depends on future uncertain events.

Contingent liabilities represent:

- possible obligations arising from past events whose existence will be confirmed only by the occurrence of uncertain future events not wholly within the control of the entity; or,
- present obligations that arise from past events but that are not recognized because it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation or because the amount of the obligation cannot be measured with sufficient reliability.

Contingent assets and liabilities that are material are disclosed in the notes to the consolidated financial statements, except for contingent liabilities assumed in a business combination, which are recognized in accordance with IFRS3 revised.

14. GOVERNMENT GRANTS

Government grants received are initially recognized in "other non-current liabilities". They are then recognized as income in the income statement for the period:

- on the same basis as the subsidized assets are depreciated in the case of government grants related to assets;

- deducted from the costs intended to be compensated in the case of government grants other than those related to assets.

The Group analyzes the substance of government incentives delivered through the tax system and selects an accounting treatment coherent with such substance.

15. SHARE-BASED PAYMENTS

The Group grants stock options and performance shares to Executive Officers and some employees.

Stock options and performance shares are measured at fair value on the grant date. Their fair value is recognized as a "Personnel expense" in the income statement with a corresponding increase in equity, and amortized on a straight-line basis over the vesting period.

The valuation is performed by an independent expert, using mathematical models appropriate to the characteristics of each plan. It takes into account the market vesting conditions associated to each one. The fair value measured at the grant date is not subject to re-evaluation due to changes in market conditions.

Vesting conditions, other than market ones, have no impact on the fair value measurement of services received but adjust the expense that is recognized according to the number of equity instruments actually granted.

The dilution effect of non-vested stock option plans and performance share allocations is reflected in the calculation of diluted earnings per share.

For employee savings plans, the capital increases reserved for employees and performed under conditions that differ from market conditions result in the recognition of an expense. This expense corresponds to the contribution paid by the entity and the discount on the share price less the cost of non-transferability for the employees.

Share subscription option plans

Options are valued using the following main underlying assumptions:

- volatility: implicit;
- risk-free interest rate: zero-coupon benchmark rate at the plan issue date and matching the various maturities retained;
- dividend growth rate: based on the historical average annual growth rate;
- employee resignation rate: that of individuals belonging to the same age group as the plan beneficiaries. The resignation rate is used to extrapolate the number of options which will not be exercised due to the resignation of beneficiaries;
- the probability of achieving the market vesting conditions.

Performance shares allocation plans

Performance shares are measured at fair value, taking into account a discount on non-transferable shares. The cost of non-transferability is measured as the cost of a two-step strategy consisting in the forward sale of shares being non-transferable for four years (or five years

depending on the plan) and the purchase on the spot market of the same number of shares funded by an amortizable loan with an in fine capital repayment.

Valuation is based upon the following main underlying assumptions:

- risk-free interest rate: four-year zero-coupon benchmark rate (or five-year depending on the plan) at the plan issue date plus a credit margin that would be proposed to employees;
- dividend growth rate: based on the historical average annual growth rate;
- employee resignation rate: that of individuals belonging to the same age group as the plan beneficiaries. This resignation rate is used to extrapolate the shares which will not be allocated due to the resignation of beneficiaries;
- the probability of achieving the market vesting conditions.

16. GREENHOUSE GAS EMISSION QUOTAS

In certain countries, the Group is subject to greenhouse gas emission quota systems.

In the absence of any specific IFRS guidance, the Group has elected to apply the ANC Regulation No. 2012-03. The Group does not buy CO₂ quotas for the purpose of generating profits from fluctuations in price; therefore, at each closing date:

- a liability is recognized if the greenhouse gas emissions are higher than the CO₂ quotas held by the Group. It corresponds to the cost of CO₂ quotas in shortfall to cover the greenhouse gas already emitted; or,
- an asset is recognized if the greenhouse gas emissions are lower than the CO₂ quotas held by the entity. It corresponds to the CO₂ quotas available to cover the future greenhouse gas emissions, valued at historical cost.

Basis for presentation of financial information

1. SEGMENT INFORMATION

The Group is structured according to the following activities: Gas & Services, Engineering & Construction and Global Markets & Technologies.

In 2016, the Group decided to divest the "Other activities" segment. As a result, the segment income statement for these activities was restated and is presented in note 3.

The Group's main operational decision-making body is the Executive Management assisted by the Executive Committee.

The Gas & Services activity is organized by geographical area, which is the responsible level for operations management and performance monitoring. These geographical areas are as follows:

- Europe;
- Americas;
- Asia Pacific;
- Middle East and Africa.

Within the Gas & Services segment, the geographical areas determine sales policies and development projects in liaison with the four business lines (Large Industries, Industrial Merchant, Healthcare and Electronics).

The Engineering & Construction segment is managed separately on a worldwide scale. The segment designs, develops and builds industrial gas production plants for the Group and third parties. It also designs and manufactures plants in the traditional, renewable and alternative energy sectors.

The Global Markets & Technologies segment is also managed separately on a worldwide scale. It focuses on new markets which require a global approach, drawing on science, technologies, development models, and usages related to digital transformation.

Research and Development and corporate activities do not meet the operating segments definition and are thus presented within reconciliation.

The information communicated in the tables covering segment information is presented according to the same accounting principles as those used for the Group consolidated financial statements.

Revenue is analyzed by geographical area of production (country of origin).

Inter-segment revenue between Gas & Services, Engineering & Construction and Global Markets & Technologies activities is not material and therefore not specifically presented. It corresponds to the sales between these operating segments.

The Group operating performance is assessed on the basis of each segment's recurring operating income.

Segment assets include non-current assets, with the exception of "Deferred tax assets", "Investments in associates", "Fair value of non-current derivatives (assets)", as well as "Inventories and work-in-progress", "Trade receivables" and "Other current assets".

Segment liabilities correspond to "Provisions, pensions and other employee benefits", "Trade payables", "Other current liabilities" and "Other non-current liabilities".

Segment profits, assets and liabilities consist of amounts directly attributable to each segment, provided they can be allocated to the segment on a reasonable basis.

2. NET INDEBTEDNESS

Net indebtedness includes:

- current and non-current borrowings minus the fair value of hedging derivative assets to cover borrowings;

reduced by:

- cash and cash equivalents, as defined in section 6.c., minus the fair value of hedging derivative instruments recorded in liabilities to cover loans.

3. INFORMATION ON INTERESTS IN JOINT ARRANGEMENTS OR ASSOCIATES

The materiality of the interests in joint arrangements or associates is assessed according to the following criteria:

- contribution of the entity to the Group's operating income recurring;
- share of these interests in the Group's net assets;
- dividends paid to these interests.

4. INFORMATION ON MINORITY INTERESTS

The materiality of the minority interests is assessed according to an analysis of:

- the minority interests' share in the Group's net assets;

- the contribution to the Group's operating income recurring of the subsidiary having minority interests;
- dividends paid to minority interests.

5. OPERATING INCOME RECURRING

The Group's operating performance is measured based on operating income or loss recurring determined in accordance with ANC recommendation No.2013-03.

6. OTHER NON-RECURRING OPERATING INCOME AND EXPENSES

Material non-recurring operations that could affect operating performance readability are classified under "Other non-recurring operating income" and "Other non-recurring operating expenses". They mainly include:

- gains or losses on the disposal of activities;
- acquisition-related costs accounted for as expenses;
- restructuring costs resulting from plans whose unusual and material nature distort the readability of the operating income recurring;
- very significant charges to provisions and impairment losses for property, plant and equipment and intangible assets.

7. NET EARNINGS PER SHARE

a. Basic earnings per share

Basic earnings per share is calculated by dividing net profit (Group share) attributable to ordinary shareholders of Air Liquide by the weighted average number of shares outstanding during the year, excluding ordinary shares purchased by Air Liquide and recognized in equity.

b. Diluted earnings per share

Diluted earnings per share take into account share subscription options and performance shares allocated to employees and Executive Officers if:

- the issue price, adjusted for unrecognized expenses at the year-end pursuant to IFRS2, is lower than the Air Liquide annual average share price;
- the performance requirements meet the criteria set out in IAS33 § 52.

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Note 1 Acquisition of Airgas

On November 17, 2015, the Group announced the agreement to acquire Airgas, Inc., a US company.

Airgas is one of the leading suppliers in the United States of industrial, medical and specialty gases, and hardgoods, such as welding equipment and related products. With gases activities, Airgas offers a full range of gases and various delivery modes, both in packaged gas and bulk. Airgas offers a resilient profile with a diverse customer base of one million clients, principally in manufacturing and metal fabrication, non-residential construction as well as healthcare and food. Airgas is present across the entire U.S. with 1,100 locations and over 900 branches and retail stores.

Airgas shareholders, during a Special Shareholder Meeting held on February 23, 2016, approved the acquisition of Airgas by Air Liquide.

On May 13, 2016, the U.S. Federal Trade Commission (the "FTC") cleared the acquisition of Airgas by Air Liquide, the final regulatory condition to the closing of the pending acquisition. The acquisition, subject to the satisfaction of the remaining customary closing conditions, has been finalized on May 23, 2016. The Airgas shareholders received a cash offering of 143 US dollars per share for all Airgas shares issued or to be issued, representing a total enterprise value of 13.2 billion US dollars. The Group acquired 100% shares of Airgas.

Combining Air Liquide and Airgas brings together two highly complementary businesses to deliver greater value, service and innovation to customers in North America and around the world.

The Group financed this acquisition through a bridge loan of 11.6 billion US dollars that was contracted from its main banks. In June 2016, Air Liquide placed a 3 billion euros bond issue constituting the first step in refinancing the acquisition of Airgas. On September 13, 2016, Air Liquide announced the launch and the terms of a share capital increase with preferential subscription rights, for approximately 3.3 billion euros, constituting the second step in refinancing of the acquisition of Airgas. The subscription period for the new shares ran from September 14, 2016 to September 28, 2016 inclusive. Settlement and delivery took place on October 11, 2016. Finally, on September 22, 2016, Air Liquide placed five bonds for an aggregate amount of 4.5 billion US dollars, that constituted the third and last step in refinancing the acquisition of Airgas.

The information related to the financing of the acquisition and to the share capital increase is presented respectively in notes 25 and 22.

Acquisition costs related to the transaction are presented in note 6.

1.1 GOODWILL AS OF THE ACQUISITION DATE

The acquisition of Airgas was recognized as a business combination in accordance with IFRS3. Air Liquide appointed an independent business valuation expert to perform the valuation of the main assets and liabilities.

(in millions of euros)	As of May 23, 2016
Intangible assets	1,043.4
Property, plant and equipment	3,596.3
Other non-current assets	27.4
Inventories and work-in-progress	387.3
Trade receivables	603.8
Prepaid expenses and other current assets	220.9
Assets held for sale	100.6
Assets measured at fair value on the acquisition date	5,979.7
Provisions and contingencies	397.3
Deferred tax liabilities	988.7
Non-current borrowings	1,757.7
Other non-current liabilities	14.6
Trade payables	218.2
Other current liabilities	177.8
Current borrowings	517.1
Liabilities held for sale	35.6
Liabilities assumed at fair value on the acquisition date	4,107.0
Net assets of Airgas measured at fair value on the acquisition date	1,872.7
Equity in net assets of Airgas acquired	100%
Cash consideration for the 100% acquired	9,526.1
Preliminary goodwill ^(a)	7,653.4

(a) In accordance with IFRS3 Revised, the final measurement of preliminary goodwill shall be finalized in the twelve months following the acquisition date.

The preliminary residual goodwill is mainly attributable to the valuation of the assembled workforce, the synergies, and the distribution network. The goodwill is not deductible for tax purposes.

1.2 MAIN IMPACTS ON THE 2016 INCOME STATEMENT

If the acquisition of Airgas and the divestitures in the United States had occurred on January 1, 2016, the revenue and the operating income recurring would have been:

(in millions of euros)	2016
Revenue	19,811.9
Operating income recurring	3,189.3

The figures presented are not comparable to the 2015 pro forma figures published in the Update of the 2015 Reference Document, published in August 2016. Because:

- 2015 pro forma does not take into account the restatement of Diving and Welding activities as discontinued operations;

■ exchange rates and energy prices have changed significantly between the two fiscal years.

The Industrial Merchant and Healthcare business activities of Air Liquide in the United States and of Airgas were merged on October 1, 2016. The impact of the acquisition of Airgas on revenue between May 23, 2016 and December 31, 2016, net of divestitures, is 2,734.7 million euros.

1.3 DIVESTITURE OF ASSETS

On September 8, 2016, Air Liquide completed the divestiture of certain U.S. assets to Matheson Tri-Gas, Inc. ("Matheson"), announced on June 24, 2016 and cleared by the U.S. Federal Trade Commission ("FTC") in a decision published on September 1, 2016. This divestiture represents the majority of the assets sales required by the FTC in connection with Air Liquide's acquisition of Airgas.

Under the terms of the purchase agreement, this transaction includes the sale of:

- eighteen air separation units in sixteen locations;
- two nitrous oxide production facilities;

- four liquid carbon dioxide production facilities in four states, including two dry ice production facilities;

- three Airgas retail packaged welding gas stores in Alaska.

Furthermore, Air Liquide has also signed a sale agreement of two of its facilities in Iowa that produce both liquid carbon dioxide and dry ice which are the remaining assets ordered by the FTC to be divested in connection with Air Liquide's acquisition of Airgas. The assets were sold on December 30, 2016.

These operations were recorded in "Other non-recurring operating income" and are presented in note 6. Proceeds from the sale of the assets of 423.8 million euros net of tax were recorded under "Proceeds from sale of property, plant and equipment and intangible assets" in the consolidated cash flow statement.

Note 2 Discontinued operations

Air Liquide is focused on its Gas & Services activities following the Group's acquisition of Airgas, as well as on the implementation of its company program NEOS for the 2016-2020 period. In this context, the Group decided the divestment of the "Other activities", including the Diving and Welding World Business Lines.

Diving

On October 4, 2016, Air Liquide announced that it had entered into exclusive negotiations with Montagu Private Equity, for the potential sale

of Aqualung, a key player in personal aquatic equipment for recreational and professional use. The Group sold its full stake to Montagu Private Equity on December 30, 2016.

Welding

Air Liquide is considering various options for the divestment of its subsidiary Air Liquide Welding, specialized in the manufacturing of welding and cutting technologies, with the intention to provide it with the best opportunities for its long-term development.

Aggregated consolidated income statement

(in millions of euros)	2015 restated	2016
Revenue	561.3	525.1
Profit before tax	19.5	11.9
Income taxes	(4.9)	(2.3)
Gain on disposal / impairment related to fair value measurement of discontinued activities, after tax	-	1.5
NET PROFIT FROM DISCONTINUED ACTIVITIES	14.6	11.1
■ Minority interests	0.8	0.7
■ Net profit (Group share)	13.8	10.4

Statement of net income and gains and losses recognized directly in equity

The statement of net income and gains and losses recognized directly in equity has not been restated following the application of IFRS5 since the impact of discontinued operations in that statement is immaterial.

Cash flow

The proceeds net of tax from the sale of Aqua Lung of 228.7 million euros were recorded under "Proceeds from sale of property, plant and equipment and intangible assets". The other cash flows from discontinued operations are immaterial.

Simplified balance sheet

Welding assets and liabilities were reclassified under "Assets held for sale" and "Liabilities held for sale" as of December 31, 2016. This reclassification impacts the "Other movements" column in the tables showing the change in balance sheet items.

At the closing date, assets and liabilities held for sale break down as follows:

(in millions of euros)	December 31, 2016
Non-current assets	83.6
Current assets	187.3
Cash and cash equivalents	4.9
ASSETS HELD FOR SALE	275.8
(in millions of euros)	December 31, 2016
Non-current liabilities (excluding borrowings)	68.0
Current liabilities (excluding borrowings)	112.0
Current borrowings	0.8
LIABILITIES HELD FOR SALE	180.8

Note 3 Segment information

3.1 INCOME STATEMENT FOR THE YEAR ENDED DECEMBER 31, 2016

(in millions of euros)	Gas & Services					Engineering & Construction	Global Markets & Technologies	Other activities	Reconciliation	Total
	Europe	Americas	Asia Pacific	Middle East and Africa	Sub-total					
Revenue	6,593.1	6,229.7	3,936.2	572.0	17,331.0	473.8	330.0			18,134.8
Inter-segment revenue						438.8	331.9	(770.7)		
Operating income recurring	1,318.7	1,076.4	729.6	114.1	3,238.8	5.1	33.9	(253.9)	3,023.9	
incl. depreciation and amortization	(588.1)	(519.2)	(355.7)	(53.2)	(1,516.2)	(18.7)	(27.6)	(24.8)		(1,587.3)
Other non-recurring operating income										451.0
Other non-recurring operating expenses										(415.4)
Net finance costs										(389.1)
Other financial income										17.6
Other financial expenses										(31.6)
Income taxes										(747.4)
Share of profit of associates										6.6
Net profit from continued operations										1,915.6
Net profit from discontinued operations										11.1
Profit for the period										1,926.7
Purchase of intangible assets and property, plant and equipment	(566.4)	(737.2)	(598.6)	(154.6)	(2,056.8)	(15.4)	(104.6)	(13.7)	(68.1)	(2,258.6)

3.2 RESTATED INCOME STATEMENT FOR THE YEAR ENDED DECEMBER 31, 2015

The restated information takes into account the discontinued operations pursuant to IFRS5 described in note 2.

(in millions of euros)	Gas & Services					Engineering & Construction	Global Markets & Technologies	Other activities	Reconciliation	Total
	Europe	Americas	Asia Pacific	Middle East and Africa	Sub-total					
Revenue	6,749.4	3,595.3	3,849.6	558.0	14,752.3	774.7	291.5			15,818.5
<i>Inter-segment revenue</i>						461.5	311.4	(772.9)		
Operating income recurring	1,325.9	843.1	701.6	88.9	2,959.5	67.5	36.4	(207.2)		2,856.2
<i>incl. depreciation and amortization</i>	(575.9)	(313.0)	(352.7)	(51.1)	(1,292.7)	(24.3)	(24.9)	(17.4)		(1,359.3)
Other non-recurring operating income										38.9
Other non-recurring operating expenses										(162.2)
Net finance costs										(223.0)
Other financial income										14.1
Other financial expenses										(52.7)
Income taxes										(661.5)
Share of profit of associates										14.3
Net profit from continuing operations										1,824.1
Net profit from discontinued operations										14.6
Profit for the period										1,838.7
Purchase of intangible assets and property, plant and equipment	(548.7)	(730.6)	(474.3)	(129.7)	(1,883.3)	(13.1)	(63.7)	(10.3)	(57.3)	(2,027.7)

3.3 PUBLISHED INCOME STATEMENT FOR THE YEAR ENDED DECEMBER 31, 2015

(in millions of euros)	Gas & Services					Engineering & Construction	Global Markets & Technologies	Other activities	Reconciliation	Total
	Europe	Americas	Asia Pacific	Middle East and Africa	Sub-total					
Revenue	6,749.4	3,595.3	3,849.6	558.0	14,752.3	774.7	291.5	561.3		16,379.8
<i>Inter-segment revenue</i>						461.5	311.4	(772.9)		
Operating income recurring	1,325.9	843.1	701.6	88.9	2,959.5	67.5	36.4	34.4	(207.2)	2,890.6
<i>incl. depreciation and amortization</i>	(575.9)	(313.0)	(352.7)	(51.1)	(1,292.7)	(24.3)	(24.9)	(12.3)	(17.4)	(1,371.6)
Other non-recurring operating income										38.4
Other non-recurring operating expenses										(170.6)
Net finance costs										(227.1)
Other financial income										14.7
Other financial expenses										(55.6)
Income taxes										(664.4)
Share of profit of associates										14.7
Profit for the period										1,838.7
Purchase of intangible assets and property, plant and equipment	(548.7)	(730.6)	(474.3)	(129.7)	(1,883.3)	(13.1)	(63.7)	(10.3)	(57.3)	(2,027.7)

3.4 BALANCE SHEET AS OF DECEMBER 31, 2016

(in millions of euros)	Gas & Services					Global Markets & Technologies			Reconciliation	Total
	Europe	Americas	Asia Pacific	Middle East and Africa	Sub-total					
Segment assets	10,006.0	20,970.7	6,969.8	1,563.9	39,510.4	897.8	881.2	322.8	41,612.2	
Goodwill	3,037.7	9,075.9	1,312.4	90.4	13,516.4	252.2	120.9			13,889.5
Intangible assets and property, plant and equipment, net	5,412.7	9,949.9	4,631.2	1,149.7	21,143.5	232.0	418.3	209.3		22,003.1
Other segment assets	1,555.6	1,944.9	1,026.2	323.8	4,850.5	413.6	342.0	113.5		5,719.6
Non-segment assets										2,229.8
Assets held for sale										275.8
Total assets										44,117.8
Segment liabilities	2,377.6	1,542.5	858.1	165.4	4,943.6	807.9	267.6	1,082.6	7,101.7	
Non-segment liabilities										19,710.3
Equity including minority interests										17,125.0
Liabilities held for sale										180.8
Total equity and liabilities										44,117.8

3.5 BALANCE SHEET AS OF DECEMBER 31, 2015

(in millions of euros)	Gas & Services					Global Markets & Technologies			Other activities	Reconciliation	Total
	Europe	Americas	Asia Pacific	Middle East and Africa	Sub-total						
Segment assets	10,160.3	6,532.7	6,723.8	1,474.8	24,891.6	927.0	764.0	470.5	275.9	27,329.0	
Goodwill	2,983.0	900.2	1,256.5	85.7	5,225.4	244.2	140.9	119.7			5,730.2
Intangible assets and property, plant and equipment, net	5,450.7	4,728.5	4,479.2	1,065.7	15,724.1	237.5	352.1	94.5	147.2		16,555.4
Other segment assets	1,726.6	904.0	988.1	323.4	3,942.1	445.3	271.0	256.3	128.7		5,043.4
Non-segment assets											1,612.4
Total assets											28,941.4
Segment liabilities	2,218.3	630.9	837.5	208.6	3,895.3	965.0	250.6	184.3	904.7	6,199.9	
Non-segment liabilities											9,970.7
Equity including minority interests											12,770.8
Total equity and liabilities											28,941.4

The Research and Development and Holdings activities (corporate) are presented in the "Reconciliation" column. Operating income recurring of the Engineering & Construction activity includes financial income generated from advances received from customers. It is included in net finance costs in the consolidated income statement. The adjustment arising from the presentation difference is included in the "Reconciliation" column.

3.6 OTHER INFORMATION ON GEOGRAPHICAL AREAS

2016 (in millions of euros)	Europe excl. France		Americas	Asia Pacific	Middle East and Africa	Total
	France	Europe excl. France				
Revenue	2,506.7	4,523.9	6,487.4	4,044.1	572.7	18,134.8
Non-current assets ^(a)	1,870.2	7,404.5	19,345.0	6,074.5	1,332.6	36,026.8
incl. Investments in associates	7.5	10.5	7.7	16.0	92.5	134.2

(a) Excluding non-current financial assets, deferred taxes and non-current derivative assets.

2015 restated (in millions of euros)	Europe excl. France		Americas	Asia Pacific	Middle East and Africa	Total
	France	Europe excl. France				
Revenue	2,464.3	4,759.5	4,038.2	3,998.4	558.1	15,818.5
Non-current assets ^(a)	1,917.0	7,468.5	5,908.4	5,871.6	1,236.0	22,401.5
incl. Investments in associates	4.6	11.4	(0.6)	15.4	85.1	115.9

(a) Excluding non-current financial assets, deferred taxes and non-current derivative assets.

Due to the substantial number of customers served by the Group (almost two million worldwide), their significant diversity in multiple sectors and their wide geographical dispersion, the Group's first external customer represents only 1.4% of Air Liquide's revenue.

Note 4 Revenue

In 2016, consolidated revenue amounted to 18,134.8 million euros, up +14.6% compared to 2015 restated. Revenue was up +16.0% after adjusting for the cumulative impact of foreign exchange fluctuations. The latter essentially stemmed from the depreciation of the Argentinian peso and the Chinese renminbi against the euro.

Note 5 Operating income recurring and expenses

Operating income recurring and expenses include purchases, personnel expenses, depreciation and amortization, other recurring income and other recurring expenses.

The Group purchases mainly consist of electricity, natural gas as well as industrial and medical products.

5.1 OTHER INCOME

Other income is primarily made up of net proceeds from sale of tangible and intangible assets and various indemnities.

5.2 PERSONNEL EXPENSES

(in millions of euros)	2015 published	2015 restated	2016
Wages and social security charges	(2,958.7)	(2,821.8)	(3,559.5)
Defined contribution pension plans	(58.2)	(55.2)	(71.1)
Defined benefit pension plans ^(a)	(29.3)	(28.3)	(2.1)
Share-based payments	(23.2)	(23.2)	(26.7)
TOTAL	(3,069.4)	(2,928.5)	(3,659.4)

(a) In 2016, the expense relating to defined benefit plans included the effect of settlements, plan amendments and past service cost amounting to 35 million euros compared to 14.3 million euros in 2015 (see note 24.2 on employee benefit obligations on page 283).

Fully consolidated companies employed 66,700 individuals as of December 31, 2016 (51,500 individuals as of December 31, 2015), including an increase of 17,200 individuals relating to changes in the scope of consolidation. The headcount includes individuals from discontinued and not disposed operations as of December 31, 2016.

5.3 OTHER OPERATING EXPENSES

Other operating expenses primarily include transport and distribution costs, sub-contracting costs, operating leases and insurance premiums.

5.4 RESEARCH AND DEVELOPMENT EXPENDITURE

In 2016, innovation costs amounted to 288.0 million euros (281.9 million euros in 2015) including Research and Development costs of 202.0 million (191.1 million euros in 2015).

5.5 DEPRECIATION AND AMORTIZATION EXPENSE

(in millions of euros)	2015 published	2015 restated	2016
Intangible assets	(103.8)	(101.9)	(149.2)
Property, plant and equipment (PP&E) ^(a)	(1,267.8)	(1,257.4)	(1,438.1)
TOTAL	(1,371.6)	(1,359.3)	(1,587.3)

(a) Including the depreciation expense after deduction of investment grants released to profit.

Note 6 Other non-recurring operating income and expenses

(in millions of euros)	2015 published	2015 restated	2016
Expenses			
Reorganization, restructuring and realignment programs costs	(29.5)	(21.9)	(60.7)
Acquisition and integration costs related to the acquisition of Airgas	(12.5)	(12.5)	(218.5)
Other acquisition costs	(11.5)	(11.1)	(6.0)
Others	(117.1)	(116.7)	(130.2)
TOTAL OTHER NON-RECURRING OPERATING EXPENSES	(170.6)	(162.2)	(415.4)
Income			
Gain on the disposals of activities (or group of assets)	17.6	17.6	489.0
Others	20.8	21.3	(38.0)
TOTAL OTHER NON-RECURRING OPERATING INCOME	38.4	38.9	451.0
TOTAL	(132.2)	(123.3)	35.6

In 2016, the Group recognized:

- capital gains on disposals calculated in accordance with IFRS10 paragraph 25 amounting to 489 million euros, including the proceed of the divested assets detailed in note 1.3.

In 2015, the Group had recognized:

- losses on an Engineering & Construction project in Canada under the "Others" item of Other non-recurring operating expenses amounting to -124.0 million euros;
- capital gains on disposals calculated in accordance with IFRS10 paragraph 25 amounting to +17.6 million euros;
- realignment programs in advanced economies totaling -29.5 million euros.

Note 7 Net finance costs and other financial income and expenses**7.1 NET FINANCE COSTS**

(in millions of euros)	2015 published	2015 restated	2016
Finance costs	(234.7)	(230.6)	(396.5)
Financial income from short-term investments and loans	7.6	7.6	7.4
TOTAL	(227.1)	(223.0)	(389.1)

The average net finance costs stood at 2.9% in 2016 (3.7% in 2015) and is broken down in note 25.5.

Capitalized finance costs amounted to 52.3 million euros in 2016 (62.9 million euros in 2015).

7.2 OTHER FINANCIAL INCOME AND EXPENSES

(in millions of euros)	2015 published	2015 restated	2016
Other financial income	14.7	14.1	17.6
TOTAL OTHER FINANCIAL INCOME	14.7	14.1	17.6
Other financial expenses	(29.7)	(27.9)	(6.1)
Interest expense on the net defined benefit liability	(25.9)	(24.8)	(25.5)
TOTAL OTHER FINANCIAL EXPENSES	(55.6)	(52.7)	(31.6)

Note 8 Income taxes**8.1 INCOME TAX EXPENSE**

(in millions of euros)	2015 published	2015 restated	2016
Current tax			
Income tax expense payable	(553.8)	(551.2)	(697.5)
TOTAL CURRENT TAX	(553.8)	(551.2)	(697.5)
Deferred tax			
Temporary differences	(117.0)	(114.7)	(56.1)
Impact of tax rate changes	4.4	4.4	6.2
TOTAL DEFERRED TAX	(112.6)	(110.3)	(49.9)
TOTAL	(666.4)	(661.5)	(747.4)

8.2 RECONCILIATION BETWEEN THE STANDARD TAX RATE AND THE GROUP EFFECTIVE TAX RATE

(in %)	2015 published	2015 restated	2016
Standard tax rate	31.5	31.5	30.6
Impact of transactions taxed at reduced rates	(3.1)	(3.1)	(2.9)
Impact of tax rate changes	(0.2)	(0.2)	(0.2)
Impact of tax exemptions and others	(1.4)	(1.4)	0.7
Group effective tax rate	26.8	26.8	28.2

In France, L'Air Liquide S.A. has elected to determine French income taxes on a consolidated basis. This scheme applies to all French subsidiaries complying with the legal requirements.

Foreign subsidiaries have elected to apply for similar rules wherever this is allowed under local regulations.

The average effective tax rate is higher than 2015, mainly due to the decrease related to the reversal of deferred tax liabilities following the favorable outcome of tax audits in 2015.

Note 9 Net earnings per share

9.1 BASIC EARNINGS PER SHARE

	2015	2016
Net profit (Group share) attributable to ordinary shareholders of the parent (<i>in millions of euros</i>)	1,756.4	1,844.0
Weighted average number of ordinary shares outstanding	351,963,761	360,751,910
Basic earnings per share (<i>in euros</i>)	4.99	5.11

The average number of outstanding ordinary shares and net earnings per share for 2015 include the impact of preferential subscription rights resulting from the capital increase raised in the market by L'Air Liquide S.A.

9.2 DILUTED EARNINGS PER SHARE

	2015	2016
Net profit used to calculate diluted earnings per share (<i>in millions of euros</i>)	1,756.4	1,844.0
Weighted average number of ordinary shares outstanding	351,963,761	360,751,910
Adjustment for dilutive impact of share subscription options	1,272,554	588,942
Adjustment for dilutive impact of performance shares	383,365	401,307
Adjusted weighted average number of shares outstanding used to calculate diluted earnings per share	353,619,680	361,742,159
Diluted earnings per share (<i>in euros</i>)	4.97	5.10

Diluted earnings per share for the 2015 fiscal year and the average number of outstanding shares include the impact of preferential subscription rights resulting from the capital increase raised in the market by L'Air Liquide S.A.

Instruments that could dilute net profit – Group share, and were not included in the calculation of diluted earnings per share because they are antidilutive over the year, are as follows:

- in 2016, the 2016, 2015 and 2014 share subscription option plans;
- in 2015, the 2015 share subscription option plan.

The Group has not issued any other financial instruments that may result in further dilution of net earnings per share.

Note 10 Dividend per share

The 2015 dividend on ordinary shares declared and paid on May 25, 2016 was 947.9 million euros (including additional premium and tax on dividends) and amounted to 2.60 euros per share net of tax.

The Amended Finance Act enacted in August 2012 introduced an additional 3% contribution on cash dividends. L'Air Liquide S.A. is subject to this tax for the dividends paid in May 2016, which amounted to 27.6 million euros as of December 31, 2016 (26.9 million euros as of

December 31, 2015). The Group considers it as a cost associated with the dividend distribution and has therefore decided to recognize this contribution cost as a deduction of shareholders' equity.

A dividend payment of 2.60 euros per ordinary share (estimated amount taking into account share buybacks and cancellations) amounting to 1,032 million euros will be proposed to the Annual General Meeting in respect of the financial year ended December 31, 2016.

Note 11 Goodwill

11.1 MOVEMENTS DURING THE PERIOD

(in millions of euros)	As of January 1	Goodwill recognized during the period	Goodwill removed during the period	Foreign exchange differences	Other movements	As of December 31
2015	5,258.6	287.8	(0.1)	182.9	1.0	5,730.2
2016	5,730.2	7,768.1 ^(a)	(63.6)	546.6	(91.8)	13,889.5

(a) Goodwill recognized in the period mainly includes goodwill recognized following the acquisition of the American company Airgas as described in note 1.

11.2 SIGNIFICANT GOODWILL

(in millions of euros)	Net carrying amount	2015		2016	
		Gross carrying amount	Impairment losses	Net carrying amount	Net carrying amount
Gas & Services	5,225.4	13,516.5	(0.1)	13,516.4	
Europe	2,983.0	3,037.8	(0.1)	3,037.7	
Americas ^(a)	900.2	9,075.9		9,075.9	
Asia Pacific	1,256.5	1,312.4		1,312.4	
Middle East and Africa	85.7	90.4		90.4	
Engineering & Construction	244.2	252.2		252.2	
Global Markets & Technologies	140.9	122.3	(1.4)	120.9	
Other activities	119.7				
TOTAL GOODWILL	5,730.2	13,891.0	(1.5)	13,889.5	

(a) Goodwill recognized within Gas & Services Americas mainly includes goodwill for the United States which was 8,713.2 million euros as of December 31, 2016.

In the last two fiscal years, the Group has not recorded any goodwill impairment losses.

Impairment tests were carried out using the methods detailed in note 5.f. of the Accounting Policies. The key model assumptions used, such as market multiples and the discount rate, took into account the stock market and world economic context.

The growth rates used for estimating the cash flows of cash-generating units or groups of cash-generating units were significantly lower than the Group's historical average growth rates. Growth rates between 2% and 3% were used for cash-generating units or groups of cash-generating units operating in mature markets, and up to 5% for cash-generating units or groups of cash-generating units operating in emerging markets.

The market multiples used were determined using the Air Liquide Group market value as of December 31, 2016. Multiples obtained do not materially differ from those of companies whose activity is similar to that of the Group.

The weighted average cost of capital used was 5.2% as of December 31, 2016 (6.0% as of December 31, 2015).

The weighted average cost of capital and market multiples are adjusted for the activity and the geographical location of the cash-generating units being tested.

As of December 31, 2016 and 2015, the recoverable amounts of each cash-generating unit or groups of cash-generating units significantly exceeded their net carrying amounts.

Considering the activity of the Air Liquide Group, no reasonably possible change in key assumptions would result in an impairment. The Gas & Services activity favors synergies between the different business lines by pooling assets for a given geographical area. The geographical development of the activity is generally based on local industrial investments and external growth operations throughout the Large Industry business line. The supply of gas to clients of the Large Industry business is contracted for a minimum duration of 15 years. These customer contracts provide a good visibility and guarantee of future income.

Note 12 Other intangible assets

12.1 GROSS CARRYING AMOUNTS

2016 (in millions of euros)	As of January 1	Additions	Disposals	Foreign exchange differences	Acquisitions related to business combinations	Other movements ^(a)	As of December 31
Internally generated intangible assets	436.2	67.5	(29.9)	7.2	78.7	6.0	565.7
Other intangible assets	1,394.6	47.2	(18.3)	63.3	970.2	(76.9)	2,380.1
TOTAL GROSS INTANGIBLE ASSETS	1,830.8	114.7	(48.2)	70.5	1,048.9	(70.9)	2,945.8

(a) Other movements primarily include account reclassifications and changes in the scope of consolidation.

2015 (in millions of euros)	As of January 1	Additions	Disposals	Foreign exchange differences	Acquisitions related to business combinations	Other movements ^(a)	As of December 31
Internally generated intangible assets	352.9	71.2	(1.0)	3.2		9.9	436.2
Other intangible assets	1,283.7	57.5	(6.7)	29.4	22.3	8.4	1,394.6
TOTAL GROSS INTANGIBLE ASSETS	1,636.6	128.7	(7.7)	32.6	22.3	18.3	1,830.8

(a) Other movements primarily include account reclassifications and changes in the scope of consolidation.

12.2 AMORTIZATION AND IMPAIRMENT LOSSES

2016 (in millions of euros)	As of January 1	Charge for the period	Impairment losses	Disposals	Foreign exchange differences	Acquisitions related to business combinations	Other movements ^(a)	As of December 31
Internally generated intangible assets	(258.7)	(35.3)		5.7	(0.4)		2.8	(285.9)
Other intangible assets	(723.0)	(113.9)	(0.1)	10.5	(0.5)		54.5	(772.5)
TOTAL INTANGIBLE ASSET AMORTIZATION	(981.7)	(149.2)	(0.1)	16.2	(0.9)		57.3	(1,058.4)
TOTAL NET INTANGIBLE ASSETS	849.1	(34.5)	(0.1)	(32.0)	69.6	1,048.9	(13.6)	1,887.4

(a) Other movements primarily include account reclassifications and in the scope of consolidation.

2015 (in millions of euros)	As of January 1	Charge for the period	Disposals	Foreign exchange differences	Acquisitions related to business combinations	Other movements ^(a)	As of December 31
Internally generated intangible assets	(239.2)	(17.1)	0.5			(2.9)	(258.7)
Other intangible assets	(632.9)	(86.8)	6.9	(12.2)		2.0	(723.0)
TOTAL INTANGIBLE ASSET AMORTIZATION	(872.1)	(103.9)	7.4	(12.2)		(0.9)	(981.7)
TOTAL NET INTANGIBLE ASSETS	764.5	24.8	(0.3)	20.4	22.3	17.4	849.1

(a) Other movements primarily include account reclassifications and changes in the scope of consolidation.

As of December 31, 2016, the Group had no material commitment to acquire intangible assets and was not subject to any restrictions over the use of existing intangible assets.

Note 13 Property, plant and equipment

13.1 GROSS CARRYING AMOUNTS

2016 (in millions of euros)	As of January 1	Additions	Disposals	Foreign exchange differences	Acquisitions related to business combinations	Other movements ^(a)	As of December 31
Land	307.0	2.4	(15.6)	20.4	186.5	(17.8)	482.9
Buildings	1,512.0	32.7	(31.8)	42.4	443.9	(60.4)	1,938.8
Equipment, cylinders, installations	29,476.2	452.2	(488.2)	691.4	2,892.9	832.1	33,856.6
TOTAL PROPERTY, PLANT AND EQUIPMENT IN SERVICE	31,295.2	487.3	(535.6)	754.2	3,523.3	753.9	36,278.3
Construction in progress	2,455.9	1,663.6		25.2	114.6	(1,474.2)	2,785.1
TOTAL PROPERTY, PLANT AND EQUIPMENT	33,751.1	2,150.9	(535.6)	779.4	3,637.9	(720.3)	39,063.4

(a) Other movements primarily include account reclassifications and changes in the scope of consolidation.

2015 (in millions of euros)	As of January 1	Additions	Disposals	Foreign exchange differences	Acquisitions related to business combinations	Other movements ^(a)	As of December 31
Land	285.9	0.1	(13.7)	15.2	2.0	17.5	307.0
Buildings	1,435.0	15.7	(45.9)	45.0	5.3	56.9	1,512.0
Equipment, cylinders, installations	26,659.9	430.2	(266.5)	762.2	81.6	1,808.8	29,476.2
TOTAL PROPERTY, PLANT AND EQUIPMENT IN SERVICE	28,380.8	446.0	(326.1)	822.4	88.9	1,883.2	31,295.2
Construction in progress	2,770.5	1,463.2		96.3	0.7	(1,874.8)	2,455.9
TOTAL PROPERTY, PLANT AND EQUIPMENT	31,151.3	1,909.2	(326.1)	918.7	89.6	8.4	33,751.1

(a) Other movements primarily include account reclassifications and changes in the scope of consolidation.

Purchases of property, plant and equipment and intangible assets presented in the consolidated statement of cash flows relate to the increase in property, plant and equipment and intangible assets adjusted for the change in the fixed asset suppliers' balance in the fiscal year.

13.2 DEPRECIATION AND IMPAIRMENT LOSSES

2016 (in millions of euros)	As of January 1	Charge for the period	Impairment losses	Disposals	Foreign exchange differences	Acquisitions related to business combinations		Other movements ^(a)	As of December 31
Buildings	(888.8)	(69.2)		26.3	(13.4)			67.2	(877.9)
Equipment, cylinders, installations	(17,156.0)	(1,379.5)	(0.9)	395.4	(330.7)	(0.1)	402.0	(18,069.8)	
TOTAL PROPERTY, PLANT AND EQUIPMENT DEPRECIATION	(18,044.8)	(1,448.7)	(0.9)	421.7	(344.1)	(0.1)	469.2	(18,947.7)	
TOTAL PROPERTY, PLANT AND EQUIPMENT, NET	15,706.3	702.2	(0.9)	(113.9)	435.3	3,637.8	(251.1)	20,115.7	

(a) Other movements primarily include changes in the scope of consolidation.

2015 (in millions of euros)	As of January 1	Charge for the period	Impairment losses removed	Disposals	Foreign exchange differences	Acquisitions related to business combinations		Other movements ^(a)	As of December 31
Buildings	(861.1)	(49.9)		38.2	(25.7)			9.7	(888.8)
Equipment, cylinders, installations	(15,736.2)	(1,228.7)	1.5	244.5	(456.9)			19.8	(17,156.0)
TOTAL PROPERTY, PLANT AND EQUIPMENT DEPRECIATION	(16,597.3)	(1,278.6)	1.5	282.7	(482.6)			29.5	(18,044.8)
TOTAL PROPERTY, PLANT AND EQUIPMENT, NET	14,554.0	630.6	1.5	(43.4)	436.1	89.6	37.9	15,706.3	

(a) Other movements primarily include changes in the scope of consolidation.

The charge for the period corresponds to the increase in depreciation, net of investment grants released to the income statement.

13.3 FINANCE LEASES

These agreements mainly relate to office or industrial buildings, vehicle trailers and other industrial equipment as well as information technology hardware.

The present value of minimum lease payments for leased assets is recorded in the balance sheet under "Property, plant and equipment". The breakdown is as follows:

(in millions of euros)	2015		2016	
	Minimum lease payments	Present value of minimum lease payments	Minimum lease payments	Present value of minimum lease payments
Less than 1 year	10	10	8	8
1 to 5 years	18	15	12	10
More than 5 years	2	2	1	1
Total minimum lease payments	30	27	21	19
Less impact of discounting (financial expenses)	(3)		(2)	
Present value of minimum lease payments	27		19	

Note 14 Non-current financial assets

(in millions of euros)	2015	2016
Available-for-sale financial assets	139.0	157.3
Loans	82.6	74.6
Other long-term receivables	257.1	347.8
Employee benefits – prepaid expenses	6.4	4.3
NON-CURRENT FINANCIAL ASSETS	485.1	584.0

As of December 31, 2016, Other long-term receivables comprised the receivable related to the refund claim for the equalization charge paid for the period 2000 to 2004 in the amount of 66.6 million euros (compared to 64.6 million euros as of December 31, 2015). In connection with the litigation concerning the reimbursement of the receivable, the Administrative Court of Montreuil partially sided with Air Liquide

on July 21, 2014. Following the court order, L'Air Liquide S.A. received 30.3 million euros in principal and 15.0 million euros in interest on arrears. The Group appealed the decision of the Administrative Court of Montreuil on September 19, 2014 for the recovery of the balance. The appeal decision had not been rendered as of the period-end date.

Note 15 Investments in associates

15.1 FINANCIAL INFORMATION RELATED TO JOINT VENTURES AND ASSOCIATES

Group share of associates and joint ventures as of December 31, 2016 (in millions of euros)	Share of profit for the period	Share of equity ^(a)	Share of net income and gains and losses recognized directly in equity ^(b)
Joint ventures	9.1	97.9	15.0
Associates	(2.5)	36.3	16.2
TOTAL	6.6	134.2	31.2

(a) Including goodwill relating to associates and joint ventures.

(b) The share of net income and gains and losses recognized directly in equity primarily comprises the translation reserves.

Group share of associates and joint ventures as of December 31, 2015 (in millions of euros)	Share of profit for the period	Share of equity ^(a)	Share of net income and gains and losses recognized directly in equity ^(b)
Joint ventures	13.0	69.5	12.1
Associates	1.7	46.4	15.5
TOTAL	14.7	115.9	27.6

(a) Including goodwill relating to associates and joint ventures.

(b) The share of net income and gains and losses recognized directly in equity primarily comprises the translation reserves.

15.2 MOVEMENTS DURING THE YEAR

(in millions of euros)	As of January 1	Share of profit for the period	Dividend distribution	Foreign exchange differences	Other movements	As of December 31
2015	100.4	14.7	(11.4)	6.5	5.7	115.9
2016	115.9	6.6	(6.6)	3.6	14.7	134.2

None of the consolidated companies using the equity method of accounting is individually material.

Note 16 Deferred taxes

Movements in deferred tax assets and liabilities during the period are as follows:

16.1 DEFERRED TAX ASSETS

(in millions of euros)	2015	2016
AS OF JANUARY 1	245.5	235.2
Income (charge) to the income statement	(23.2)	(26.9)
Income (charge) to equity for the period ^(a)	(12.3)	(15.5)
Changes related to business combinations	11.3	5.9
Foreign exchange differences	0.3	(15.3)
Others ^(b)	13.6	(1.5)
AS OF DECEMBER 31	235.2	181.9

(a) Relates to deferred taxes recognized in other items in the statement of net income and gains and losses recognized directly in equity: -2.1 million euros relating to changes in the fair value of derivatives and -13.4 million euros relating to actuarial gains and losses. In 2015, the respective effects amounted to -13.6 million euros relating to changes in the fair value of derivatives and 1.3 million euros relating to actuarial gains and losses.

(b) Other movements primarily result from changes in scope of consolidation (IFRS5).

16.2 DEFERRED TAX LIABILITIES

(in millions of euros)	2015	2016
AS OF JANUARY 1	1,187.7	1,321.8
Charge (income) to the income statement	89.4	23.0
Charge (income) to equity for the period ^(a)	(3.2)	(44.0)
Changes related to business combinations	(7.4)	986.2
Foreign exchange differences	57.7	97.7
Others ^(b)	(2.4)	(6.5)
AS OF DECEMBER 31	1,321.8	2,378.2

(a) Relates to deferred taxes recognized in other items in the statement of net income and gains and losses recognized directly in equity: -4.7 million euros relating to changes in the fair value of derivatives and -39.3 million euros relating to actuarial gains and losses. In 2015, the respective effects amounted to 1.4 million euros relating to changes in the fair value of derivatives and -4.6 million euros relating to actuarial gains and losses.

(b) Other movements primarily result from changes in scope of consolidation (disposals).

As of December 31, 2016, unrecognized deferred tax assets amounted to 59 million euros (46.3 million euros as of December 31, 2015).

Note 17 Inventories and work-in-progress

(in millions of euros)	2015	2016
Raw materials and supplies	288.1	268.6
Finished and semi-finished goods	616.9	986.0
Work-in-progress	75.6	68.5
NET INVENTORIES	980.6	1,323.1

(in millions of euros)	2015	2016
Write-down of inventories	(17.2)	(23.8)
Reversals of write-down	12.8	9.2
NET WRITE-DOWN RECOGNIZED IN THE INCOME STATEMENT	(4.4)	(14.6)

Note 18 Trade receivables

(in millions of euros)	2015	2016
Trade and other operating receivables	3,138.0	3,280.6
Allowance for doubtful receivables	(156.9)	(165.6)
TRADE RECEIVABLES	2,981.1	3,115.0

Trade and other operating receivables include gross amounts relating to Engineering & Construction contracts for 218.7 million euros (205.7 million euros as of December 31, 2015).

As of December 31, 2016, cumulative revenue recognized using the percentage of completion method and cumulative cash in over the past years from the beginning of the projects in progress amounted to 2,490.8 million euros and 2,373.1 million euros respectively.

As of December 31, 2015, cumulative revenue recognized using the percentage of completion method and cumulative cash in over the past years from the beginning of the projects in progress amounted to 2,536.7 million euros and 2,469.9 million euros respectively.

18.1 BREAKDOWN OF TRADE AND OTHER OPERATING RECEIVABLES

(in millions of euros)	Gross carrying amount	Not yet due	Impaired and overdue	Not impaired and overdue
2015	3,138.0	2,315.8	139.9	682.3
2016	3,280.6	2,336.2	162.3	782.1

Trade receivables overdue and not impaired at the year-end mainly included receivables due within three months (75.9% in 2016, 68.2% in 2015). The decision for not impairing overdue receivable balances arises from a detailed analysis of the associated risks.

Trade receivables overdue by more than three months and not impaired mainly relate to public sector customers in the Healthcare segment whose credit risk is deemed to be low.

Non-recourse factoring of receivables is described in note 25.

18.2 ALLOWANCE FOR DOUBTFUL RECEIVABLES

(in millions of euros)	As of January 1	Charges	Reversals	Foreign exchange differences	Other movements	As of December 31
2015	(151.4)	(52.6)	47.2	0.3	(0.4)	(156.9)
2016	(156.9)	(70.0)	45.7	(0.3)	15.9	(165.6)

Note 19 Working capital requirement

The decrease in the working capital requirement for 331.0 million euros, presented in the consolidated cash flow statement, comes mainly from:

- decrease of 477.8 million euros in the working capital requirement of the Gas & Services and Global Markets & Technologies activities;

- decrease of 113.0 million euros in the working capital of the Engineering & Construction activities;

- movements in current tax payables and receivables contributing to the decrease for 27.1 million euros.

Note 20 Other current assets

(in millions of euros)	2015	2016
Advances and down-payments made	138.7	170.1
Prepaid expenses	128.5	129.7
Other sundry current assets	329.4	397.7
OTHER CURRENT ASSETS	596.6	697.5

Note 21 Cash and cash equivalents

(in millions of euros)	2015	2016
Short-term loans	38.0	59.0
Short-term marketable securities	325.2	397.0
Cash in bank	602.3	1,067.0
CASH AND CASH EQUIVALENTS	965.5	1,523.0

As of December 31, 2016, cash and cash equivalents comprised 100 million euros subject to restrictions (83 million euros as of December 31, 2015), mainly in three countries: in China (contractual restrictions as part of the set-up of a loan to our partner in joint venture), in Luxembourg (regulatory restrictions relating to the Group's captive reinsurance company) and in Egypt (because of effective currency restrictions).

Furthermore, 35 million euros of cash and cash equivalents are held in countries in which a prior authorization is necessary to transfer funds abroad. These liquidities are at the Group's disposal within a reasonable time period, if preliminary formalities are respected. This amount stood at 18 million euros as of December 31, 2015.

Note 22 Shareholders' equity

22.1 SHARES

Number of shares

	2015	2016
NUMBER OF SHARES AS OF JANUARY 1	344,872,883	344,163,001
Capital increase with preferential subscription rights	43,202,209	
Capital increase reserved for employees	999,143	
Options exercised during the period	790,118	511,408
Cancelation of treasury shares	(1,500,000)	
NUMBER OF SHARES AS OF DECEMBER 31	344,163,001	388,875,761

Shares have a par value of 5.50 euros each and are all issued and fully paid-up.

There was no share buyback program in 2016.

22.2 INCREASE IN SHARE CAPITAL IN CASH

As part of the refinancing of the Airgas acquisition, the Company carried out a capital increase in cash resulting in the issuance of 43,202,209 new shares.

The amount of the share capital increase, including the share premium, amounted to 3,283.4 million euros (including nominal value of 237.6 million euros and 3,045.8 million euros excluding issuance fees) corresponding to the product of the number of shares issued times the share subscription price of 76 euros.

The share capital increase with preferential subscription rights for existing shareholders was performed at a rate of one new share for eight existing shares with a nominal value of 5.50 euros. The subscription period ran from September 14, 2016 to September 28, 2016 inclusive.

22.3 SHARE CAPITAL INCREASE RESERVED FOR EMPLOYEES

On July 29, 2015 and on October 23, 2015, confirmed on February 15, 2016, the Board of Directors decided to proceed to a capital increase reserved for employees of Group companies belonging to the France Group savings plan or the Air Liquide International Group savings plan.

Under the authority conferred to him by the Board of Directors at its meetings held on July 29, 2015 and October 23, 2015, the share capital increase was acknowledged by the Chief Executive Officer on May 10, 2016.

The purchase price was 77.18 euros for all employees, with the exception of employees of Group's subsidiaries located in the U.S., for which the purchase price was 82.00 euros.

A total of 999,143 Air Liquide shares were purchased, for an amount raised of 77.4 million euros, including a share premium of 71.9 million euros.

The Group savings plans are recorded in profit or loss and measured in accordance with IFRS2 "Share-based Payment" based on the following assumptions:

- a two-week subscription period;
- a five-year lock-in period from the end of the subscription period in accordance with the French legislation.

The expense recorded takes into account the five-year lock-in period. The discount was measured taking into account the employee's borrowing rate.

The expense recorded in 2016 pursuant to IFRS2 "Share-based Payment" amounted to 5.7 million euros (after discount) with respect to the Group's savings plan, including 1.7 million euros coming from the contribution granted by certain Group subsidiaries.

This expense is recorded in "Other operating expenses".

22.4 TREASURY SHARES

Treasury shares are Air Liquide shares held by the Group, including shares forming part of the liquidity contract in accordance with an Ethics Charter recognized by the French financial markets authority (Autorité des marchés financiers). As of December 31, 2016, the Group held 1,126,565 treasury shares (1,217,163 as of December 31, 2015), including 750 treasury shares under a liquidity contract (3,375 as of December 31, 2015). Changes in the number of treasury shares are explained on pages 242 and 243 (in the consolidated statement of changes in equity).

22.5 SHARE-BASED PAYMENTS

Share subscription option plans

Pursuant to the decisions of the Board of Directors, the Supervisory Board and the Management Board, following the approval by the Annual General Meeting and based on the recommendations of the Remuneration Committee, the Group had adopted share subscription plans for some of the senior executives of the Company and its subsidiaries worldwide, as well as corporate officers.

The purpose of these options is to provide an incentive to key executives, by rewarding the loyalty of high-performing executives and their actions in exceptional situations, as well as associating them with the long-term interests of shareholders.

Stock options are granted for a minimum price which cannot be lower than the average closing market price over the 20 trading days preceding the grant date. Options granted between March 21, 2005 and June 28, 2010 inclusive must be exercised within eight years and options granted since October 14, 2011 must be exercised within 10 years.

A four-year vesting period applies to stock options granted.

On November 29, 2016, the Board of Directors consented to grant 143,240 stock options (243 beneficiaries) exercisable between November 29, 2020 and November 28, 2026, at a purchase price of 93.00 euros.

As of December 31, 2016, the number of outstanding share options granted by the Board of Directors, the Supervisory Board, and the Management Board under the plans approved by Annual General Meetings amounted to 4,313,204 options after adjustment (average price of 83.51 euros), or 1.11% of share capital, of which 1,102,787 options (average price of 80.29 euros) were granted to corporate officers present as of December 31, 2016.

Out of the total number of options issued pursuant to the approval by the Annual General Meeting on May 12, 2016, 7,634,275 options were retained for possible grant by the Board of Directors as of December 31, 2016.

Performance shares plans

An additional compensation system involving performance shares was set up in 2008 as a way to reward our best employees and associate their medium-term performance with the Company's objectives.

The 19th resolution adopted by the Extraordinary Annual General Meeting held on May 12, 2016 authorizes the Board of Directors to grant free shares to Group employees, up to a maximum of 0.5% of the Company's share capital over a 38-month period. As part of this maximum attribution, free shares representing up to 0.15% of the Group's share capital can be granted to corporate officers over the same period.

Under this authority, the Board of Directors adopted:

- two specific regulations on July 29, 2016 ("Airgas France" Plan and "Airgas World" Plan) governing the attribution of performance shares to beneficiaries by the Board. The "Airgas France" and "Airgas World" Plans mainly differ as to the number of years of service required – paragraph a) below and the correlative absence of any holding requirement for the "World" Plan – paragraph c) below;
- two different general regulations on November 29, 2016 ("France" Plan and "World" Plan) governing the attribution of performance shares to beneficiaries determined by the Board of Directors. The differences between the "France" and "World" Plans mainly differ as to the number of years of service required – paragraph a) below, and the correlative absence of any holding requirement for the "World" Plan – paragraph c) below.

Performance shares are subject to:

- a) a continued service requirement during the vesting period:

the shares granted to a beneficiary shall only finally vest if he or she has been an employee or corporate officer of a Group company during a vesting period, calculated as from the grant date, of three years for "France" Plan beneficiaries and four years for "World" Plan beneficiaries. In the event of retirement, the beneficiary retains his rights, being no longer required to satisfy the continued service requirement;

- b) performance requirements for all performance shares allocated to all beneficiaries which are now identical to performance requirements applicable to stock-options. They are described in the attribution of performance shares to employees summary table on page 207;

- c) a holding requirement:

as from the final grant date, the beneficiaries of the "France" Plan are required to hold their shares for two additional years during which such shares may not be transferred (except in the event of disability or death).

The granted shares shall be either shares issued through a capital increase performed by the Company by no later than the definitive vesting date or shares bought back by the Company in the market prior to such date.

To date, performances shares granted are treasury shares bought back as part of the Company's shares buyback program (see pages 338 and 366 for the minutes of the shares buyback program).

The granted shares shall be of the same nature and category as those making up the Company's share capital at the date on which the plans are approved by the Board of Directors.

On July 29, 2016 and November 29, 2016, the Board of Directors decided to grant respectively 75,230 performance shares to employees (89 beneficiaries) and 426,346 performance shares to employees (1,955 beneficiaries).

Options granted to the ten employees of the Company and its subsidiaries (excluding corporate officers) who were attributed the highest number of options

In 2016, 23,160 options were granted to the ten employees of the Company and its subsidiaries (excluding corporate officers), who were attributed the highest number of options.

Options exercised in 2016 by the ten employees of the Company and its subsidiaries (excluding corporate officers) with the highest number of options exercised

Year of grant	Number of options exercised	Average price (in euros) ^(a)
2008	40,666	64.66
2009	41,799	49.88
2010	10,597	68.09
2011	48,733	71.54
TOTAL	141,795	62.92

(a) Historical data.

Options exercised in 2015 by the ten employees of the Company and its subsidiaries (excluding corporate officers) with the highest number of options exercised

Year of grant	Number of options exercised	Average price (in euros) ^(a)
2007	18,125	64.03
2008	29,155	64.66
2009	34,810	50.03
2010	55,385	68.26
2011	23,512	71.54
TOTAL	160,987	63.67

(a) Historical data.

Number of share subscription options and weighted average strike price

	2015		2016	
	Options	Weighted average strike price (in euros)	Options ^(a)	Weighted average strike price (in euros)
Total number of options outstanding as of January 1 (adjusted number and price)	5,052,423	78.13	4,768,462	81.21
Options granted during the period (adjusted number and price)	467,194	105.00	143,240	93.00
Options exercised during the period (adjusted number and price)	790,118	63.49	511,408	63.21
Options canceled during the period (adjusted number and price)	73,608	86.59	87,090	79.06
Total number of options as of December 31 (adjusted number and price)	4,655,891	83.18	4,313,204	83.51
Of which total number of options eligible for exercise	1,805,297	65.02	2,039,029	71.34

(a) The total number of outstanding options at the beginning of the period was adjusted following the capital increase in cash.

Information on the fair value of share subscription options and attribution of performance shares

Share subscription options

	2015	2016	
	Plan 1 ^(c)	Plan 1	
	09/28/2015	11/29/2016	
Duration of the option	10 years		10 years
Fair value of the option at the attribution date (in euros)	13.30 ^(a)	11.74 ^(b)	12.78 ^(a) 5.76 ^(b)

(a) Fair value of options subject to performance requirements related to the Group's results.

(b) Fair value of options subject to performance requirements related to the share price trend.

(c) Fair value at the acquisition date, not restated to the effect of the share capital increase with preferential subscription rights in the market.

Attribution of performance shares

The achievement of the Group's performance requirement is not considered as an underlying assumption and was deemed to have been fully achieved at the valuation date.

	2015		2016		2016	
	Plan 1 ^(c)		Plan 1 ^(c)		Plan 2	
	09/28/2015	07/29/2016	07/29/2016	11/29/2016		
Duration of performance shares	5 years	4 years	5 years	4 years	5 years	4 years
Fair value of performance shares (in euros)	93.53 ^(a)	89.19 ^(b)	74.74 ^(a)	70.84 ^(b)	71.65 ^(a)	67.97 ^(b)

(a) Performance share to employees for beneficiaries located in France for which the fair value depends for 65% on performance conditions linked to the Group's results and for 35% on shareholder's return.

(b) Performance share to employees for beneficiaries located outside France for which the fair value depends for 65% on performance conditions linked to the Group's results and for 35% on shareholder's return.

(c) Fair value at the acquisition date, not restated to the effect of the share capital increase with preferential subscription rights in the market.

An expense of 26.7 million euros (excluding taxes) relating to share subscription options and the attribution of performance shares was recognized in the income statement in 2016 compared to 23.2 million euros in 2015. The corresponding entry is recorded in equity.

Note 23 Provisions, pensions and other employee benefits

2016 (in millions of euros)	As of January 1	Increase	Utilized	Other reversals	Discounting	Foreign exchange differences	Acquisitions related to business combination	Other movements ^(a)	As of December 31
Pensions and other employee benefits	1,749.9	2.7	(119.7)		175.8	9.3	16.9	(63.1)	1,771.8
Restructuring plans	31.1	11.9	(10.9)	(1.0)		0.1		(12.6)	18.6
Guarantees and other provisions related to engineering contracts	94.1	57.8	(75.1)	(19.4)		(0.4)		1.6	58.6
Dismantling	221.9		(1.7)	(5.7)	7.5	4.6	20.3	(11.9)	235.0
Other provisions	287.4	213.8	(64.1)	(34.1)		26.3	362.1	(3.5)	787.9
TOTAL PROVISIONS	2,384.4	286.2	(271.5)	(60.2)	183.3	39.9	399.3	(89.5)	2,871.9

(a) Other movements correspond to account reclassifications, disposals and provisions for dismantling, with no impact on the consolidated cash flow statement.

2015 (in millions of euros)	As of January 1	Increase	Utilized	Other reversals	Discounting	Foreign exchange differences	Acquisitions related to business combination	Other movements ^(a)	As of December 31
Pensions and other employee benefits	1,794.8	28.3	(138.3)		49.0	14.3	1.7	0.1	1,749.9
Restructuring plans	51.2	10.5	(31.5)	(0.5)		0.1	1.4	(0.1)	31.1
Guarantees and other provisions related to engineering contracts	73.6	81.3	(34.4)	(26.7)		1.6		(1.3)	94.1
Dismantling	188.2		(2.3)	(3.4)	6.7	0.7		32.0	221.9
Other provisions	355.1	60.6	(96.9)	(43.6)		0.3	5.2	6.7	287.4
TOTAL PROVISIONS	2,462.9	180.7	(303.4)	(74.2)	55.7	17.0	8.3	37.4	2,384.4

(a) Other movements correspond to account reclassifications, disposals and provisions for dismantling, with no impact on the consolidated cash flow statement.

In the normal course of its operations, the Group is party to arbitration, judicial or administrative proceedings. The potential costs of such proceedings are provided for, when they are probable, only if the amount can be quantified or estimated within a reasonable range. In the latter case, the amount provided for represents the best estimate of the Group's management. Provisions are determined based on a case-by-case risk assessment and events occurring during ongoing proceedings may result in a risk reappraisal at any time. These litigations are by nature diverse and involve various Group subsidiaries. Contingency provisions recorded with respect to all Group litigations amounted to 145 million euros as of December 31, 2016 (114 million euros as of December 31, 2015) and are presented in "Other provisions".

The Group does not provide the detail of these provisions, considering that disclosing the amount provided for each individual litigation could be prejudicial to the Group. Nevertheless, no single litigation is likely to have a material effect on the Group's financial position or its profitability.

On May 26, 2011, Air Liquide Japan Ltd. and three other competitors received a fine payment order from the Japanese Fair Trade Commission ("JFTC") regarding alleged unfair practices in sales of liquid oxygen, liquid nitrogen and liquid argon (excluding medical use) in Japan between April 2008 and January 2010.

The JFTC requested Air Liquide Japan Ltd. to take corrective actions and a fine amounting to 4.8 billion Japanese Yen (equivalent to 36.6 million euros as of December 31, 2015) was paid on August 29, 2011. Air Liquide Japan Ltd. initiated an appeal process through the JFTC administrative proceedings following the JFTC's decision.

In 2015, Air Liquide Japan appealed the decision of the administrative proceeding to the Tokyo High Court. The appeal was rejected in a decision on May 25, 2016. Air Liquide Japan Ltd. has decided not to contest it.

Note 24 Employee benefit obligations

24.1 PENSION PLANS

The most significant pension plans relate to France, Germany and the United States.

In France, Air Liquide provides an additional retirement benefit based on the final salary which is paid in addition to other normal pension plans. On December 31, 1995, this plan was closed to employees under age 45 or with less than 20 years of service as of January 1, 1996; the latter being covered by a defined contribution plan. These plans are unfunded. The annual amounts paid with regards to additional benefits cannot exceed a threshold set at 12% of total payroll or 12% of pre-tax profits of companies involved. From 2011 onwards, this 12% threshold will be proportionately reduced by comparing the number of plan beneficiaries for the year to the number of plan beneficiaries for the previous year.

IAS19 "Employee Benefits" provides a very restrictive definition of defined contribution plans; any plans not complying fully with the conditions required are defined benefit plans by default.

This restrictive definition of defined contribution plans requires Air Liquide to account for these additional benefits as a defined benefit plan in spite of the limited obligations for the Company and the nature of the obligations not being stable or continuous.

The qualification as a defined benefit plan results in the recognition of a provision with regards to the future obligations.

The Company's obligations being limited, the valuation of what will actually be paid to retirees is uncertain. Since the effect of this threshold cannot be measured reliably, the provision recognized represents the actuarial value of the amounts to be paid out to retirees until the plan is closed, excluding any potential threshold effect. In 2014, this plan was amended: from 2015 onwards, the additional retirement benefit paid by Air Liquide is aligned with the indexation of French statutory and supplementary pension plans up to a maximum annuity. Any additional annuity will not be subject to any indexation. A revaluation cap and floor were also introduced and the date when thresholds are reduced was postponed to 2017. These thresholds will be proportionately reduced by comparing the number of plan beneficiaries for the year to the number of plan beneficiaries for the previous year. In accordance with IAS19

revised, this amendment was accounted for as past service costs and was consequently recognized in the consolidated income statement in 2014. The decrease in the commitment resulting from the non-revaluation of the annuity above a certain amount was accounted for in "Personnel expenses". The effects related to the revaluation cap and floor were accounted for in "Other financial expenses".

In Germany, there are two main Air Liquide pension plans.

The first plan provides the retirees of Lurgi (Engineering & Construction activity) with a lifetime annuity, based on the income and length of service vested in the plan at the time of retirement, the normal retirement age being 65. The plan also provides disability and widowhood pensions. This plan is now closed to new entrants, the latter benefiting from a defined contribution plan.

The second plan is an old plan covering employees of the Gas & Services activity. The plan provides a lifetime annuity, based on the average income earned over the employee's career and the length of service vested at the time of retirement, the normal retirement age being 65. The plan also provides disability, pre-retirement and widowhood pensions. It is now closed to new entrants, new employees benefiting from another defined benefit plan. Providing a minimum length of service of ten years, the plan provides a lifetime annuity based on the average income earned over the employee's career and the length of service vested at the time of retirement, the normal retirement age being 65. The plan also provides disability, pre-retirement and widowhood pensions.

In accordance with common market practice in Germany, limited funding contributions are made to pension funds as both plans are mainly managed internally.

In the United States, Air Liquide grants retirees supplemental benefits in addition to the normal pension plans. The US plan provides a traditional final average pay benefit to those who continue to accrue benefits. A retiring employee may elect to receive their pension benefit as a lump sum or a lifetime annuity. This plan was closed to new participants in 2004 and was frozen in 2016. Therefore, employees who joined the Company before 2004 are no longer acquiring new rights on this defined benefit plan, but benefit from the defined contribution plan that has been opened since 2004 to new employees.

24.2 OBLIGATIONS

Group obligations related to pension plans and similar benefits as of December 31, 2016 are shown below:

2016 (in millions of euros)	Defined benefit plans	Retirement termination payments	Other long term benefits	Medical Plans	Total
A. Change in net liabilities					
Net liabilities at the beginning of the period	(1,502.8)	(171.4)	(22.9)	(46.4)	(1,743.5)
(Acquisition) divestiture / transfer	33.5	10.2	0.7	0.1	44.5
(Expense) income recognized	(15.0)	(10.8)	(1.8)		(27.6)
Employer contributions	110.7	6.4	1.6	2.9	121.6
Gains (losses) for the period	(158.2)	4.5		0.9	(152.8)
Exchange rate movements	(9.5)	0.9		(1.1)	(9.7)
Net liabilities at the end of the period	(1,541.3)	(160.2)	(22.4)	(43.6)	(1,767.5)
B. Expense recorded in 2016					
Service cost	26.4	8.4	1.6	0.8	37.2
Interest expense on the net defined benefit liability	21.6	2.4	0.3	1.2	25.5
Past service cost	(4.2)			(2.0)	(6.2) ^(a)
Actuarial (gains) losses			(0.1)		(0.1)
Curtailment / settlement	(28.8)				(28.8) ^(a)
Expense (income) recognized	15.0	10.8	1.8		27.6
C. Change in present value of obligations in 2016					
Obligations at the beginning of the period	2,698.8	173.5	23.0	46.5	2,941.8
Acquisition (divestiture) / transfer	(64.2)	(11.4)	(0.7)	(0.1)	(76.4)
Service cost	26.4	8.4	1.6	0.8	37.2
Interest cost	49.7	2.4	0.3	1.2	53.6
Employee contributions	2.5				2.5
Plan amendments	(4.2)			(2.0)	(6.2) ^(a)
Curtailment / settlement	(28.8)				(28.8) ^(a)
Benefit payments	(167.9)	(6.5)	(1.6)	(2.9)	(178.9)
Actuarial (gains) losses	199.8	(4.8)	(0.1)	(0.9)	194.0
Exchange rate movements	31.9	(1.0)		1.1	32.0
Obligations at the end of the period	2,744.0	160.6	22.5	43.7	2,970.8
D. Change in plan assets in 2016					
Fair value of assets at the beginning of the period	1,196.0	2.1	0.1	0.1	1,198.3
Acquisition (divestiture) / transfer	(30.7)	(1.2)			(31.9)
Actual return on plan assets	69.7	(0.3)			69.4
Employer contributions	93.6	6.3	1.5	2.9	104.3
Employee contributions	2.5				2.5
Benefit payments	(150.8)	(6.4)	(1.5)	(2.9)	(161.6)
Exchange rate movements	22.4	(0.1)			22.3
Fair value of assets at the end of the period	1,202.7	0.4	0.1	0.1	1,203.3
E. Funded status at the end of 2016					
Present value of obligations	(2,744.0)	(160.6)	(22.5)	(43.7)	(2,970.8)
Fair value of plan assets	1,202.7	0.4	0.1	0.1	1,203.3
Net liabilities	(1,541.3)	(160.2)	(22.4)	(43.6)	(1,767.5)
F. Actuarial (gains) and losses recognized directly in equity					
(Gains) and losses at the beginning of the period	1,032.7	39.3		7.2	1,079.2
Acquisition (divestiture) / transfer	33.9				33.9
(Gains) and losses on obligations	203.0	(4.0)		(0.9)	198.1
(Gains) and losses on plan assets	(41.6)	0.3			(41.3)
Exchange rate movements	18.6	(1.0)		0.4	18.0
(Gains) and losses at the end of the period^(b)	1,246.6	34.6		6.7	1,287.9

(a) Past service costs and plan amendments mainly related to pension plans in the U.S.

(b) Losses (gains), net of tax, recognized in equity, amounted to 859 million euros as of December 31, 2016.

Group obligations related to pension plans and similar benefits as of December 31, 2015 are shown below:

2015 (in millions of euros)	Defined benefit plans	Retirement termination payments	Other long term benefits	Medical Plans	Total
A. Change in net liabilities					
Net liabilities at the beginning of the period	(1,538.2)	(175.8)	(24.0)	(55.3)	(1,793.3)
(Acquisition) divestiture / transfer	(1.9)				(1.9)
(Expense) income recognized	(43.8)	(12.2)	(1.0)	1.8	(55.2)
Employer contributions	128.9	4.6	2.3	3.5	139.3
Gains (losses) for the period	(31.9)	11.6		2.3	(18.0)
Exchange rate movements	(15.9)	0.4	(0.2)	1.3	(14.4)
Net liabilities at the end of the period	(1,502.8)	(171.4)	(22.9)	(46.4)	(1,743.5)
B. Expense recorded in 2015					
Service cost	32.2	9.8	1.8	1.0	44.8
Interest expense on the net defined benefit liability	21.5	2.7	0.4	1.3	25.9
Past service cost	(9.9)	(0.3)		(4.1)	(14.3) ^(a)
Actuarial (gains) losses			(1.2)		(1.2)
Expense (income) recognized	43.8	12.2	1.0	(1.8)	55.2^(c)
C. Change in present value of obligations in 2015					
Obligations at the beginning of the period	2,713.0	178.0	24.3	55.4	2,970.7
Acquisition (divestiture) / transfer	2.3				2.3
Service cost	32.2	9.8	1.8	1.0	44.8
Interest cost	52.4	2.8	0.4	1.3	56.9
Employee contributions	2.6				2.6
Plan amendments	(9.9)	(0.3)		(4.1)	(14.3) ^(a)
Benefit payments	(182.3)	(4.9)	(2.5)	(3.5)	(193.2)
Actuarial (gains) losses	(6.1)	(11.7)	(1.2)	(2.3)	(21.3)
Exchange rate movements	94.6	(0.2)	0.2	(1.3)	93.3
Obligations at the end of the period	2,698.8	173.5	23.0	46.5	2,941.8
D. Change in plan assets in 2015					
Fair value of assets at the beginning of the period	1,174.8	2.2	0.3	0.1	1,177.4
Acquisition (divestiture) / transfer	0.4				0.4
Actual return on plan assets	(7.1)				(7.1)
Employer contributions	97.4	4.4	2.2	3.5	107.5
Employee contributions	2.6				2.6
Benefit payments	(150.8)	(4.7)	(2.4)	(3.5)	(161.4)
Exchange rate movements	78.7	0.2			78.9
Fair value of assets at the end of the period	1,196.0	2.1	0.1	0.1	1,198.3
E. Funded status at the end of 2015					
Present value of obligations	(2,698.8)	(173.5)	(23.0)	(46.5)	(2,941.8)
Fair value of plan assets	1,196.0	2.1	0.1	0.1	1,198.3
Net liabilities	(1,502.8)	(171.4)	(22.9)	(46.4)	(1,743.5)
F. Actuarial (gains) and losses recognized directly in equity					
(Gains) and losses at the beginning of the period	1,020.8	51.0		9.5	1,081.3
Acquisition (divestiture) / transfer	(57.1)				(57.1)
(Gains) and losses on obligations	(6.1)	(11.7)		(2.3)	(20.1)
(Gains) and losses on plan assets	38.0	0.1			38.1
Exchange rate movements	37.1	(0.1)			37.0
(Gains) and losses at the end of the period^(b)	1,032.7	39.3		7.2	1,079.2

(a) Past service costs and plan amendments mainly related to pension plans and medical costs in Switzerland and the U.S.

(b) Losses (gains), net of tax, recognized in equity, amounted to 717 million euros as of December 31, 2015.

(c) Included the accounting expense from discontinued operations.

The amounts mentioned above can be broken down as follows by geographical area as of December 31, 2016:

2016 (in millions of euros)	Obligations	Plan assets	Provisions in the balance sheet
Europe / Africa	(1,922)	373	(1,549)
Americas	(958)	767	(191)
Asia Pacific	(91)	63	(28)
TOTAL	(2,971)	1,203	(1,768)

The amounts mentioned above can be broken down as follows by geographical area as of December 31, 2015:

2015 (in millions of euros)	Obligations	Plan assets	Provisions in the balance sheet
Europe / Africa	(1,923)	405	(1,518)
Americas	(931)	734	(197)
Asia Pacific	(88)	59	(29)
TOTAL	(2,942)	1,198	(1,744)

24.3 MAIN ASSUMPTIONS

The main discount rates used are as follows:

	2015	2016
Euro zone	2.0%	1.6%
Canada	4.0%	3.8%
Japan	0.8%	0.4%
Switzerland	0.8%	0.7%
United States	4.3%	4.1%
United Kingdom	3.7%	2.6%

Differences between expected returns on plan assets and the main discount rates are as follows:

2016	Expected return on assets^(a)	Discount rate 2015	Impact (in bp)
Euro zone	3.0%	2.0%	(100)
Canada	4.9%	4.0%	(85)
Japan	3.0%	0.8%	(215)
Switzerland	3.5%	0.8%	(270)
United States	6.2%	4.3%	(195)
United Kingdom	5.4%	3.7%	(170)

(a) The expected return on long-term assets was determined by taking into account, in each country, the asset allocation in the portfolio.

2015	Expected return on assets^(a)	Discount rate 2014	Impact (in bp)
Euro zone	3.0%	1.8%	(120)
Canada	4.9%	4.0%	(90)
Japan	3.0%	0.8%	(220)
Switzerland	3.5%	1.2%	(230)
United States	6.2%	3.9%	(230)
United Kingdom	5.4%	3.6%	(180)

(a) The expected return on long-term assets was determined by taking into account, in each country, the asset allocation in the portfolio.

24.4 BREAKDOWN OF GAINS AND LOSSES FOR THE PERIOD

(in millions of euros)	2015	2016
Experience gains and losses on present value of the obligation	(40)	8
Gains and losses on present value of the defined obligation related to changes in assumptions	60	(206)
Experience gains and losses on fair value of assets	(38)	41

Breakdown of experience gains and losses on financial assets

2016 (in millions of euros)	Interest income on financial assets	Actual return on assets	Gains and losses on assets
Europe / Africa	5.0	21.2	16.2
Americas	22.4	50.3	27.9
Asia Pacific	0.7	(2.1)	(2.8)
TOTAL	28.1	69.4	41.3

2015 (in millions of euros)	Interest income on financial assets	Actual return on assets	Gains and losses on assets
Europe / Africa	7.6	0.8	(6.8)
Americas	22.8	(10.9)	(33.7)
Asia Pacific	0.6	3.0	2.4
TOTAL	31.0	(7.1)	(38.1)

24.5 PENSION PLAN RISK ANALYSIS

Sensitivity to movements in discount rates and other variables

The present value of obligations related to defined benefit plans is measured by discounting future cash flows. Discount rates are determined based on Government bonds rates or, when the financial

markets are sufficiently liquid, "high-quality" corporate bond rates, which can vary from one period to another.

Changes in discount rates can materially change the present value of the Group's obligations and the expense recorded in the year.

The amount of obligations is affected to a lesser extent by revised wages and inflation indexes, as well as legal changes regarding retirement age or official mortality tables.

Impact of a -0.25% decrease in discount rates

	Impact on obligations as of December 31, 2016 (in millions of euros)	% of total obligations as of December 31, 2016
Europe / Africa	65	3.3%
Americas	33	3.5%
Asia Pacific	2	2.2%
TOTAL	100	3.4%

	Impact on obligations as of December 31, 2015 (in millions of euros)	% of total obligations as of December 31, 2015
Europe / Africa	63	3.3%
Americas	32	3.4%
Asia Pacific	2	2.3%
TOTAL	97	3.3%

Impact of a +0.25% increase in discount rates

	Impact on obligations as of December 31, 2016 (in millions of euros)	% of total obligations as of December 31, 2016
Europe / Africa	(63)	-3.2%
Americas	(32)	-3.4%
Asia Pacific	(2)	-2.1%
TOTAL	(97)	-3.3%

	Impact on obligations as of December 31, 2015 (in millions of euros)	% of total obligations as of December 31, 2015
Europe / Africa	(61)	-3.2%
Americas	(31)	-3.3%
Asia Pacific	(2)	-2.2%
TOTAL	(94)	-3.2%

**Sensitivity of the value of plan assets
to market conditions**

For the Group's defined benefit plans subject to funding requirements, the present value of plan assets is primarily dependent on interest rates, the performance of plan assets and amendments to local regulations. Any adverse movement in these variables would require additional Group contributions to the pension funds on a timely basis.

Plan assets consist of shares, bonds and other assets whose value is subject to market fluctuations. A downturn in the financial markets would increase the net liabilities of defined benefit plans. The plans' coverage ratios would decrease accordingly, requiring additional Group contributions on a timely basis.

2016	Shares		Bonds		Real estate		Cash		Others		Total	
	Amounts	%	Amounts	%	Amounts	%	Amounts	%	Amounts	%	Amounts	%
Europe / Africa	137	36.6%	128	34.5%	80	21.4%	10	2.7%	18	4.8%	373	100.0%
Americas	235	30.7%	440	57.3%	27	3.5%	3	0.4%	62	8.1%	767	100.0%
Asia Pacific	22	34.9%	36	57.1%					5	8.0%	63	100.0%
TOTAL	394		604		107		13		85		1,203	

2015	Shares		Bonds		Real estate		Cash		Others		Total	
	Amounts	%	Amounts	%	Amounts	%	Amounts	%	Amounts	%	Amounts	%
Europe / Africa	146	36.0%	143	35.2%	87	21.4%	11	2.7%	18	4.7%	405	100.0%
Americas	272	37.0%	423	57.5%	28	3.8%	10	1.3%	1	0.4%	734	100.0%
Asia Pacific	23	41.1%	30	53.5%	1	1.8%			5	3.6%	59	100.0%
TOTAL	441		596		116		21		24		1,198	

Note 25 Borrowings

This note provides information on the breakdown of the Group's borrowings by instrument. For further information on financial instruments and the exposure to foreign exchange and interest rate risks, please refer to note 26.

The Air Liquide Group net indebtedness breaks down as follows:

(in millions of euros)	2015			2016		
	Carrying amount			Carrying amount		
	Non-current	Current	Total	Non-current	Current	Total
Bonds and private placements	5,534.5	553.0	6,087.5	13,750.2	845.7	14,595.9
Commercial paper programs		877.8	877.8		638.0	638.0
Bank debt and other financial debt	682.1	465.8	1,147.9	1,054.0	507.4	1,561.4
Finance leases ^(a)	16.6	10.6	27.2	10.9	7.8	18.7
Put options granted to minority shareholders	57.5	5.5	63.0	75.0	2.1	77.1
TOTAL BORROWINGS (A)	6,290.7	1,912.7	8,203.4	14,890.1	2,001.0	16,891.1
Short-term loans		38.0	38.0		59.0	59.0
Short-term marketable securities		325.2	325.2		397.0	397.0
Cash in bank		602.3	602.3		1,067.0	1,067.0
TOTAL CASH AND CASH EQUIVALENTS (B)		965.5	965.5		1,523.0	1,523.0
Fair value of derivatives ^(b)		0.8	0.8			
TOTAL FAIR VALUE OF DERIVATIVE INSTRUMENTS RELATING TO BORROWINGS (C)		0.8	0.8			
NET INDEBTEDNESS (A) - (B) +(C)	6,290.7	948.0	7,238.7	14,890.1	478.0	15,368.1

(a) See note 13.3 Finance leases.

(b) Fair market value of derivative instruments hedging fixed-rate debt.

In accordance with the Group's policy to diversify funding sources, different types of instruments are used to meet the Group's funding requirements (capital markets and bank credit facilities). Long-term bonds and private placements are the primary sources of funding and represent 86% of gross debt as of December 31, 2016. At the end of 2016, outstanding notes under this program amounted to 14.6 billion euros, of which 7.6 billion euros (nominal amount) was issued in 2016 to finance the Group's funding requirements, mainly the acquisition of Airgas.

The carrying amount of commercial paper amounted to 0.6 billion euros as of December 31, 2016 versus 0.9 billion euros as of December 31, 2015. In accordance with the Group's policy, the outstanding commercial paper programs are backed by committed long-term credit lines amounting to 3.1 billion euros as of December 31, 2016.

Gross indebtedness increased by +8.7 billion euros, following bond issues that provided the finance for the Airgas acquisition.

Bond issues in 2016 were as follows:

- a public bond issue of 300 million euros maturing on April 18, 2022 at a fixed rate of 0.375%;
- a public bond issue of 3 billion euros, in five series:
 - 500 million euros, maturing on June 13, 2018, at a Euribor 3 months +0.20% floating rate (0% minimum coupon),
 - 500 million euros maturing on June 13, 2020 at a fixed rate of 0.125%,
 - 500 million euros maturing on June 13, 2022 at a fixed rate of 0.50%,
 - 500 million euros maturing on June 13, 2024 at a fixed rate of 0.75%,
 - 1,000 million euros maturing on June 13, 2028 at a fixed rate of 1.25%;
- a US Public Rule 144A bond issue of 4.5 billion US dollars (equivalent to 4.3 billion euros) in five series:
 - 750 million US dollars maturing on September 27, 2019 at a fixed rate of 1.375%,
 - 1,000 million US dollars maturing on September 27, 2021 at a fixed rate of 1.75%,
 - 750 million US dollars maturing on September 27, 2023 at a fixed rate of 2.25%,

- 1,250 million US dollars maturing on September 27, 2026 at a fixed rate of 2.50%,
- 750 million US dollars maturing on September 27, 2046 at a fixed rate of 3.50%.

The interest rate for this issue was hedged to the value of 3.25 billion US dollars. The issues, in euros, were carried out under the EMTN program by Air Liquide Finance S.A., and guaranteed by L'Air Liquide S.A. The issue, in US dollars, was carried out under US Public Rule 144A by Air Liquide Finance S.A., and guaranteed by L'Air Liquide S.A.

As of December 31, 2016, the Airgas debt is integrated, comprising fixed rate bonds with a 4.1 year average maturity and a total amount of 1.55 billion US dollars (equivalent to 1.5 billion euros) and a receivables securitization program for 330 million US dollars (equivalent to 313 million euros) maturing in December 2018.

In consideration thereof:

- the second series of 200 million euros of the 700 million euro bond issue of Air Liquide Finance S.A., on June 17, 2013 at a Euribor 3 months +0.20% floating rate was repaid on June 17, 2016;
- the 13.5 billion Japanese yen private placement (equivalent to 118 million euros), issued on August 1, 2012 by Air Liquide Finance S.A., at a fixed rate of 0.625% was repaid on August 1, 2016;
- the first series of 1,750 million Chinese renminbis (equivalent to 235 million euros) of the bond issue of September 8, 2011, by Air Liquide Finance S.A., was repaid on September 19, 2016.

The carrying amount of borrowings in the balance sheet is as follows:

(in millions of euros)	2015		2016		
	Carrying amount	Amount issued ^(a)	Amortized cost adjustments ^(b)	Fair value adjustments ^(c)	Carrying amount (a) + (b) + (c)
Bonds in the EMTN program	3,747.2	6,875.2	(10.1)		6,865.1
Bonds not in the EMTN program	373.9	5,860.4	(36.9)		5,823.5
Private placements in the EMTN program	1,318.5	1,228.0	9.9		1,237.9
Private placements not in the EMTN program	647.9	664.1	5.3		669.4
TOTAL BONDS AND PRIVATE PLACEMENTS	6,087.5	14,627.7	(31.8)		14,595.9
Commercial paper programs	877.8	639.1	(1.1)		638.0
Bank debt and other financial debt	1,147.9	1,551.7	9.7		1,561.4
Finance leases ^(d)	27.2	18.7			18.7
Put options granted to minority shareholders	63.0	77.1			77.1
LONG-TERM BORROWINGS	8,203.4	16,914.3	(23.2)		16,891.1

(a) Nominal amount.

(b) Amortized cost including accrued interest.

(c) Remeasurement of the debt in connection with fair value hedging. As of December 31, 2016, there were no fair value adjustments on borrowings.

(d) See note 13.3 Finance leases.

25.1 CARRYING AMOUNT AND FAIR VALUE OF FINANCIAL ASSETS AND LIABILITIES

Financial assets or liabilities with a carrying amount differing from their fair value are unhedged fixed-rate borrowings.

(in millions of euros)	2015		2016	
	Carrying amount	Fair value	Carrying amount	Fair value
FINANCIAL LIABILITIES				
Non-current borrowings	6,290.7	6,778.1	14,890.1	14,898.8

The Group's financial instruments are measured at fair value to the extent that available financial market data enables a reliable estimate of their market value, assuming the absence of any intentions or needs to liquidate.

25.2 MATURITY OF BORROWINGS

It is the Group policy to spread over time the maturity of long-term debt (bonds, private placements and bank credit facilities) in order to limit the annual refinancing needs.

2016 (in millions of euros)	Maturity											
	Nominal amount	Carrying amount	On demand	< 1 year	≥ 1 year and ≤ 5 years				> 5 years			
					2018	2019	2020	2021	2022	2023	2024	> 2024
Bonds	12,735.6	12,688.6		577.2	1,414.1	959.2	1,628.9	1,441.5	1,101.0	1,006.0	1,265.3	3,295.4
Private placements	1,892.1	1,907.3		268.5	169.9	315.2			498.7		189.4	465.6
Commercial paper programs	639.1	638.0		638.0								
Bank debt and other financial debt	1,551.7	1,561.4		507.4	465.8	134.6	93.4	95.5	78.3	82.6	82.0	21.8
Finance leases ^(a)	18.7	18.7		7.8	4.9	2.3	1.6	0.8	0.5	0.8		
Put options granted to minority shareholders	77.1	77.1	75.0	2.1								
TOTAL BORROWINGS	16,914.3	16,891.1	75.0	2,001.0	2,054.7	1,411.3	1,723.9	1,537.8	1,678.5	1,089.4	1,536.7	3,782.8

(a) See note 13.3 Finance leases.

2015 (in millions of euros)	Nominal amount	Carrying amount	Maturity									
			On demand	< 1 year	≥ 1 year and ≤ 5 years				> 5 years			
					2017	2018	2019	2020	2021	2022	2023	> 2023
Bonds	4,148.3	4,121.1		449.9	512.7	566.2	253.8	498.3	500.7	72.9	306.3	960.3
Private placements	1,952.4	1,966.4		103.1	249.7	169.8	303.6			490.4		649.8
Commercial paper programs	879.3	877.8		877.8								
Bank debt and other financial debt	1,138.8	1,147.9		465.8	185.2	127.7	107.6	67.4	47.2	45.0	37.6	64.4
Finance leases ^(a)	27.2	27.2		10.6	8.1	3.7	1.6	1.2	0.7	0.9	0.1	0.3
Put options granted to minority shareholders	63.0	63.0		57.5	5.5							
TOTAL BORROWINGS	8,209.0	8,203.4	57.5	1,912.7	955.7	867.4	666.6	566.9	548.6	609.2	344.0	1,674.8

(a) See note 13.3 Finance leases.

25.3 NET INDEBTEDNESS BY CURRENCY

The Group provides a natural hedge and reduces its exposure to currency fluctuations by raising debt mainly in the currency of the cash flows that are generated to repay the debt. In most of the countries, and especially outside the euro, US dollar and Japanese yen zones, financing is raised in either local or foreign currency (EUR or USD) when sales contracts are indexed in foreign currency. Debt in other currencies is mainly denominated in Chinese renminbi, British pound sterling, Swiss franc, Brazilian real, and Taiwanese dollar currencies.

As part of intra-group multi-currency financing, the Central Treasury Department converts the debt raised in financial markets into various

currencies to refinance subsidiaries in their functional currencies or their cash flow currencies. The breakdown of this hedging portfolio is shown in the table below.

Accordingly, a portion of the euro debt raised was converted (3,487.1 million euros) to other currencies to refinance foreign subsidiaries. Out of the Group's US dollar total debt amounting to 9,150.7 million euros, 7,215.2 million was raised directly in US dollars and 1,935.5 million euros was raised in euros and converted to US dollars using currency swap contracts. This preponderance of debt in US dollars is the result of the issue of 4.5 billion US dollars, which enabled a portion of the Airgas acquisition financing, and of the integration of Airgas' debts.

2016 (in millions of euros)	Gross debt – original issue	Cash and cash equivalents	Currency swaps	Ajusted net indebtedness
EUR	8,437.6	(1,075.9)	(3,487.1)	3,874.6
USD	7,215.2	(121.3)	1,935.5	9,029.4
JPY	248.1	(3.6)	342.6	587.1
CNY	429.9	(92.9)	476.4	813.4
Other currencies	560.3	(229.3)	732.6	1,063.6
TOTAL	16,891.1	(1,523.0)		15,368.1

2015 (in millions of euros)	Gross debt – original issue	Cash and cash equivalents	Currency swaps	Adjusted net indebtedness
EUR	5,429.6	(487.0)	(3,198.6)	1,744.0
USD	1,365.7	(142.2)	1,949.0	3,172.5
JPY	377.6	(20.2)	313.4	670.8
CNY	672.0	(106.5)	309.4	874.9
Other currencies	359.3	(209.6)	626.8	776.5
TOTAL	8,204.2	(965.5)		7,238.7

25.4 FIXED-RATE PORTION OF GROSS DEBT

(as % of total debt)	2015	2016
EUR debt	Portion of fixed-rate debt	58%
	Additional optional hedges ^(a)	3%
USD debt	Portion of fixed-rate debt	75%
	Additional optional hedges ^(a)	90%
JPY debt	Portion of fixed-rate debt	100%
	Additional optional hedges ^(a)	97%
Total debt	Portion of fixed-rate debt	72%
	Additional optional hedges ^(a)	84%

(a) Additional optional hedging instruments consist of inactivated caps allowing a maximum interest rate to be set in advance, while benefiting from short-term interest rates movement, in return for the payment of a premium.

As of December 31, 2016, fixed-rate debt represented 84% of the total debt. At this date, there were no option hedges.

The hedging rate for the fixed rate euro-denominated debt increased as a result of the strong increase in euro fixed rate debt: 2.8 billion, for a total amount of 3.1 billion net bonds issued in euros.

The hedging rate of the fixed rate US dollar-denominated debt increased following the 4.5 billion US dollar fixed rate bond issue and the addition of Airgas debt, primarily fixed rate.

The hedging rate of the fixed rate Japanese yen-denominated debt fell slightly due to the maturity of fixed rate financing that was not replaced.

25.5 BREAKDOWN OF AVERAGE NET FINANCE COSTS

(in millions of euros)	2015			2016		
	Average outstanding debt	Net interests	Average net finance costs	Average outstanding debt	Net interests	Average net finance costs
EUR	1,997.2	68.2	3.4%	3,248.0	69.2	2.1%
USD	3,112.4	83.8	2.7%	9,393.4	229.6	2.4%
JPY	716.7	13.9	1.9%	695.0	13.4	1.9%
CNY	966.8	55.4	5.7%	851.9	45.3	5.3%
Other currencies	1,052.7	68.7	6.5%	1,214.1	83.9	6.9%
Capitalized interests ^(a)		(62.9)			(52.3)	
TOTAL	7,845.8	227.1	3.7%	15,402.4	389.1	2.9%

(a) Excluded from the net finance costs per currency.

The average net finance costs decreased to 2.9% in 2016. This fall is the result of lower financial expenses on bond refinancing, particularly euro and US dollar bonds that enabled financing for the Airgas acquisition, issued at significantly lower rates than existing bonds.

25.6 OTHER INFORMATION

Other financing information

Financial covenants are associated to three bank debt facilities exceeding 50 million euros:

- a long-term loan used by Air Liquide Arabia (Saudi Arabia) with an outstanding amount of 81.8 million US dollars (equivalent to 77.6 million euros) as of December 31, 2016. Financial covenants were all met as of December 31, 2016;
- a long-term loan used by Air Liquide Arabia (Saudi Arabia) with an outstanding amount of 600.0 million Saudi riyals (equivalent to 152.0 million euros) as of December 31, 2016. Financial covenants were all met as of December 31, 2016;
- a long-term loan used by Air Liquide Yenakievo (Ukraine) with an outstanding amount of 81 million euros as of December 31, 2016. In order to cope with the consequences of the political environment in the Dombass area (Ukraine) for Air Liquide Yenakievo, and after signing a first amendment in 2014, Air Liquide entered into negotiations with the lending institution and sent a Notification of Political Risk Event. In 2016, the lender recognized the occurrence of a political risk and, therefore, the guarantor was discharged from its obligations.

The amount of bank credit facilities subject to financial covenants are stable in amount and represent a level of 4.3% of the Group's gross debt as of December 31, 2016.

Note 26 Financial risk policy and management

26.1 FINANCIAL RISK MANAGEMENT

Risk management is a priority for the Group. Consequently, the Finance Department defined its governance with regards to the financial decision-making process at two levels:

- **a Strategic Finance Committee**, composed of Executive Management members as well as members of the Finance Department, whose purpose is to oversee the correct application of the Group's financial policy, approve proposals and suggestions submitted to it and review on a regular basis the rules governing the Group's financial policy. This Committee meets at least three times a year and upon request if necessary, under the authority of the Chairman and Chief Executive Officer. It includes the Chief Financial Officer, the Corporate Finance Director, and the Group Financing and Treasury Director;
- **an Operational Finance Committee**, internal to the Finance Department. The purpose of this Committee is to make day-to-day decisions concerning the financial management of the Group, to propose structuring transactions to the Strategic Finance Committee and to ensure their implementation after approval. The Committee meets every four to six weeks. It is composed of the Chief Financial Officer, the Corporate Finance Director and the Group Financing and Treasury Director, assisted by a Committee Secretary.

Bonds issued by both L'Air Liquide S.A. and Air Liquide Finance S.A. and making up the carrying amount of bonds as of December 31, 2016, include a change of control clause, with the exception of the 170 million euro bond issued by Air Liquide Finance S.A., maturing in June 2018.

In addition, as of December 31, 2016, a portion of borrowings was guaranteed by assets valued at 93.9 million euros (140.7 million euros as of December 31, 2015).

Information relating to non-recourse assignments of trade receivables

Non-recourse factoring, carried out in Asia and in Europe, represented 335.6 million euros compared to 146.1 million euros at the end of 2015. These transactions constitute neither a risk nor a financial commitment for the Group.

In December 2015, certain Group subsidiaries, in Europe, concluded an agreement with a factoring company regarding non-recourse assignments of receivables. By now, the program covers an amount of 300 million euros and was renewed for one year until February 2018. The assigned receivables, in the amount of 263.1 million euros, were derecognized as of December 31, 2016 (79.9 million euros as of December 31, 2015), as virtually all the risks and rewards were transferred to the assignee.

The Finance Department centrally manages the main financial risks, in accordance with decisions taken by the Strategic Finance Committee to which it reports on a regular basis. The Finance Department also performs country and customer risks analyses associated with investment decisions and attends Investment Committee meetings.

The financial policy adopted by Air Liquide, the purpose of which is to minimize the risks incurred by the Group and its subsidiaries, enabled the Group to ensure sustainable funding sources in 2016. To minimize the refinancing risk related to debt maturity schedules, the Group diversifies financing sources and spreads maturities over several years. In 2016, the average debt maturity was 6.2 years. As of December 31, 2016, the long-term debt ratio (gross debt maturing in more than one year / total gross debt) represented 88% of the overall Group debt, compared to 77% as of December 31, 2015.

Interest rate and foreign currency hedging strategies validated by the Operational Finance Committee are set up depending on market opportunities with a concern for optimization, while complying with prudence and risk limitation principles.

The Group also pays particular attention to its bank and customer counterparty risks by regularly monitoring ratings and the level of risk associated with these counterparties.

a) Foreign exchange risk

Principles

Financial instruments are only used to hedge transaction-based foreign exchange risk. The risk is attached on the one hand to financial cash flows arising from patent royalties, brands, technical support, dividends, intra-group loans and borrowings denominated in foreign currencies and on the other hand to foreign currency commercial cash flows from operating entities. Commercial cash flows denominated in foreign currencies do not represent significant amounts compared to consolidated revenue.

Foreign exchange risk related to patent royalties, brands, technical support, dividend flows and intra-group loans and borrowings in foreign currencies is hedged by the Central Treasury Department using currency forwards or options with an overall term of less than 18 months. Currency hedging of intra-group loans and borrowings uses currency forwards, except in the rare cases that qualify as net investments in a foreign entity.

Foreign currency commercial flows from operating units are hedged either as part of the annual budgetary process for subsidiaries

with recurring flows in foreign currency or at the signing date of a sale or purchase contract for non-recurring flows, as is the case for the Engineering & Construction business line. Around a hundred subsidiaries are exposed to foreign exchange risk. These subsidiaries mainly use currency forwards set up by Air Liquide Finance S.A. (internal counterparty for hedging transactions) except in countries where it is prohibited by local regulations. The majority of these contracts have short maturities (three to twelve months) and market transactions are regulated by master agreements of the French Banking Federation ("FBF") or by master agreements of the International Swaps and Derivative Association ("ISDA") for local hedging operations.

When preparing their budget at the year-end, subsidiaries report their foreign exchange risk exposure to the Central Treasury Department in order to hedge the commercial cash flows expected in the following year. In each case, the Central Treasury Department monitors the adequacy of the hedges with the identified risks and performs a full revaluation of all hedges, every six months.

The foreign exchange translation risk (consolidation in euros of the assets and liabilities in currencies) was not subject to hedging. In effect, investments are essentially funded in the currency in which the cash flows are generated, thus creating a natural currency hedging.

Sensitivity of income statement and balance sheet items to foreign currency fluctuations

The table below sets out the effect of the translation of balance sheet items and the income statement of subsidiaries with a functional currency of USD, CNY, JPY, or CAD assuming a 1% increase in the euro (foreign exchange translation risk) on the following items:

(in millions of euros)	Revenue	% Total Group	Operating income recurring	% Total Group	Net profit	% Total Group	Equity	% Total Group
USD	56.3	0.31%	8.9	0.30%	3.6	0.20%	56.0	0.33%
CNY	15.2	0.08%	3.1	0.10%	1.4	0.08%	15.3	0.09%
JPY	10.5	0.06%	1.7	0.06%	0.6	0.03%	5.6	0.03%
CAD	5.8	0.03%	1.2	0.04%	0.6	0.03%	3.2	0.02%

The foreign currency risk sensitivity analysis shows that a 1% increase in the four major currencies as of December 31, 2016 would result in changes to revenue, operating income recurring, net profit and equity, as indicated above.

A 1% decrease in the above currencies as of December 31, 2016, would have the equivalent but opposite effects as those presented above, assuming that all other variables remained constant.

Sensitivity of derivatives and their underlying hedged items to foreign currency fluctuations

The table below shows the effect of a 1% fluctuation in hedging currency exchange rates on the recognition of the foreign exchange derivatives portfolio in the Group's net profit and equity as of December 31, 2016. The sensitivity of net profit and equity primarily reflects the effect of foreign exchange swaps relating to the intragroup financing activity of the subsidiary Air Liquide Finance S.A., and currency forward hedging instruments contracted at head office level.

(in millions of euros)	Foreign exchange risk			
	+1%		-1%	
	P&L impact	Equity impact	P&L impact	Equity impact
Foreign exchange derivatives and their hedged underlying items	0.0	0.4	0.0	(0.4)

As part of the financing of the Airgas acquisition, in US dollars, the Group hedged the euro/dollar risk using contingent futures. Contingency rests on approval of the acquisition by the Federal Trade Commission ("FTC"), the US competition authority. These hedges were undertaken with nine banks for a total of 6.6 billion US dollars. This instrument enabled to cover the acquisition price related to the previous period as of May 23, 2016, and then a part of the repayment in US dollars of the bridge loan, partly refinanced, in euros, by a bond issue and a capital increase.

On May 23, 2016, following the Airgas acquisition, the instrument became a future, with the maturity date on July 5, 2016. Following the issue of 3.0 billion euros, on June 13, 2016, a portion of the 6.6 billion hedge was raised early (3.35 billion US dollars). On July 5, 2016, the balance of 3.25 billion US dollars was recorded as of October 12, 2016 due to the delivery of the capital increase of L'Air Liquide S.A. the preceding day.

b) Interest rate risk

Principles

Air Liquide centrally manages interest rate risk on the main currencies: euro, US dollar, Chinese renminbi and Japanese yen which represented 93% of the Group's net indebtedness as of December 31, 2016. Regarding other currencies, the Finance Department provides subsidiaries with advice as to the different types of bank loans and/or hedging transactions to enter into according to the characteristics of local financial markets.

The Group policy is to maintain the major portion of total debt at fixed rates and to protect the residual balance using optional hedging instruments. This approach enables the Group to limit the effect of interest rate fluctuations on financial expenses.

Consequently, at the 2016 year-end, 84% of the total debt was fixed-rate debt. As of December 31, 2016 there were no longer any option hedges. The fixed-rate/floating-rate breakdown is reviewed on a regular basis by the Finance Committees, depending on interest rate fluctuations and the level of Group debt.

Sensitivity to interest rate fluctuations on floating-rate debt

The Group net indebtedness exposed to interest rate fluctuations amounted to around 1.2 billion equivalent euros as of December 31, 2016 (total debt adjusted for interest rate hedging instruments and short-term securities) identical to that of December 31, 2015.

An increase or decrease in interest rates by 100 basis points ($\pm 1\%$) on all yield curves would have an effect of approximately ± 12 million euros on the Group's annual financial expenses before tax, assuming outstanding debt remains constant.

Sensitivity to interest rate fluctuations on derivatives and their underlying hedged items

The table below shows the effect of a 0.5% fluctuation of interest rates in all foreign currencies on the interest rate derivatives portfolio in the Group's net profit and equity, as of December 31, 2016.

(in millions of euros)	Interest rate risk			
	+0.5%		-0.5%	
	P&L impact	Equity impact	P&L impact	Equity impact
Interest rate derivatives and their hedged underlying items	0.8	81.4	(3.1)	(97.9)

All hedging instruments used for interest rate or foreign exchange risk management purposes relate to identified risks and were set up to comply with the Group's financial policy. The effect on equity primarily stems from the fixed-rate hedging instruments contracted by Air Liquide Finance S.A.

The Airgas acquisition was partially financed by a US dollar issue at the end of September 2016. The risk undertaken by the Group was hedged

in June by financial instruments, which are future hedges on the US Treasury rates ("Treasury locks"). The amount of these hedges was 3.25 billion US dollars, with maturity ranging from 5 to 30 years. They were settled on the bond issue launch day.

Moreover, to protect the Group against a potential increase in euro rates until the refinancing of a euro bond issue (500 million euros), maturing in July 2017, a firm hedge for an equivalent amount was set up.

c) Counterparty risk

Counterparty risks for Air Liquide potentially include customers and bank counterparties.

The Group's subsidiaries serve a very significant number of customers (over two million worldwide) located in extremely various markets: chemicals, steel, refining, food, pharmaceuticals, metals, automotive, manufacturing, healthcare, research laboratories, photovoltaic, etc. In 2016, following the Airgas integration, the Group's main customer represents around 1% of revenue, the Group's 10 main customers represent around 10% of sales, and the Group's 50 main customers represent around 25% of sales. The geographical risk is limited by the Group's sustainable coverage in 80 countries on all continents. This diversity reduces customer and market risk.

To better assess its exposure, the Group has implemented procedures to regularly monitor the financial situation of its major customers as well as a monthly reporting for the Group's 150 main transnational customers in order to monitor the related consolidated risk.

Moreover, customer risk assessment and in particular the quality of the customer's site is an important component of the investment decision process.

Bank counterparty risk relates to the outstanding amounts of deposits, market values of derivatives and to the credit lines contracted with each bank. Pursuant to its financial policy, in the vast majority of cases, the Group requires a long-term Standard & Poor's "A" credit rating or a Moody's "A2" rating from its counterparties to accept commitments on financial instruments. The Group's credit lines are also spread among several banks from various geographical areas to avoid the risk of

concentration while complying with the same credit rating requirements. The Operational Finance Committee regularly reviews and approves the list of bank counterparties related to investments and the list of financial instruments. With regards to short-term investments, outstandings are subject to strict limits per counterparty and are monitored daily.

IFRS13 Fair value measurement specifies that the valuation of currency, interest rate and commodity hedging instruments must take into account the counterparty credit risk attached to these transactions. Considering the aforementioned counterparty selection criteria, the effect on the periodic valuations, by applying the historical default probabilities method is immaterial.

d) Liquidity risk

It is Group financial policy to spread over time the maturity of long-term debt in order to avoid concentration of annual refinancing needs. Liquidity risk is also reduced by the stability of cash flows generated from operations as well as by having confirmed credit lines in place. The financial covenants attached to the current financing arrangements described in note 25.6 do not affect the Group's access to liquidity.

The carrying amount of short-term financing in the form of commercial paper amounted to 638 million euros as of December 31, 2016, a decrease of 240 million euros compared to the end of 2015. The average amount of commercial paper amounted to 1,280 million euros in 2016, compared to 1,164 million euros in 2015. The Group policy requires that commercial paper in issue be backed by confirmed long-term credit lines. In 2016, this requirement was met, the amount of confirmed credit lines of 3,105 million euros, largely exceeding outstanding commercial paper.

The table below presents the maturities of the bilateral and syndicated credit lines:

(in millions of euros)	2017	2018	2019	2020	2021	2022	2023	Total
Bilateral lines and syndicated credit lines	0.0	525.0	380.0	1,400.0	700.0		100.0	3,105.0

The 200 million euros bilateral line, maturing in 2016, was renewed on January 8, 2016, for the same amount and a period of five years.

On December 19, 2016, some bilateral credit facilities were modified:

- a credit facility maturing in 2017, for a total of 50 million euros was renewed for 100 million euros, for a period of seven years from that date;
- a credit facility maturing in 2018, for a total of 70 million euros was renewed for 150 million euros, for a period of five years from that date.

On this date, new contracts were signed for a total of 350 million euros, for a five-year period.

On December 22, 2016, a credit facility maturing in 2018, for a total of 70 million euros was increased to 125 million euros. In 2017, it is planned to renew it for a five-year period.

These operations bring the amount of bilateral and syndicated credit facilities from 2.6 to 3.1 billion euros.

When the Group makes short-term financial investments other than bank deposits, it systematically favors monetary instruments with a short-term maturity in order to limit the risk of non-liquidity or high volatility.

The following tables represent the future cash flows related to the main balance sheet items and to the derivative financial instruments recognized at the end of the last two periods. Interest flows are calculated in accordance with IFRS7 and represent the interest payable for each relevant period. Interest flows related to floating interest rate or foreign currency instruments were calculated using the closing interest and exchange rates as of December 31, 2015 and 2016. The flows related to debt repayment obligations differ from the amounts recognized in the Group's balance sheet due to the accounting treatment applied to borrowings and the exclusion of hedging instruments.

2016 (in millions of euros)	Book value as of December 31, 2016	Cash Flow < 1 year		Cash flow ≥ 1 year and ≤ 5 years		Cash Flow > 5 years		
		Interest	Capital refund	Interest	Capital refund	Interest	Capital refund	
Derivative instruments								
Assets								
Fair value of derivatives (assets)	113.3	44.3	476.7	97.5	1,047.8	51.1	1,556.5	
Liabilities								
Fair value of derivatives (liabilities)	(296.7)	(108.4)	(477.4)	(297.3)	(1,050.0)	(190.8)	(1,556.5)	
SUB-TOTAL DERIVATIVE INSTRUMENTS		(64.1)	(0.7)	(199.8)	(2.2)	(139.7)		
Assets								
Loans and other non-current receivables	422.4				422.4			
Trade receivables	3,115.0		3,082.8			32.2		
Cash and cash equivalents	1,523.0	(32.7)	1,555.7					
SUB-TOTAL ASSETS		(32.7)	4,638.5			454.6		
Liabilities								
Non current borrowings	(14,890.1)	(248.8)		(984.9)	(6,969.7)	(1,152.9)	(7,970.7)	
Other non-current liabilities	(270.6)				(270.6)			
Trade and other payables	(2,485.9)		(2,432.6)			(53.3)		
Current borrowings	(2,001.0)	(12.3)	(1,896.7)					
SUB-TOTAL LIABILITIES		(261.1)	(4,329.3)	(984.9)	(7,293.6)	(1,152.9)	(7,970.7)	

2015 (in millions of euros)	Book value as of December 31, 2015	Cash Flow < 1 year		Cash flow ≥ 1 year and ≤ 5 years		Cash Flow > 5 years		
		Interest	Capital refund	Interest	Capital refund	Interest	Capital refund	
Derivative instruments								
Assets								
Fair value of derivatives (assets)	162.9	44.9	395.8	138.0	1,279.6	50.5	1,118.5	
Liabilities								
Fair value of derivatives (liabilities)	(288.7)	(92.9)	(382.6)	(294.4)	(1,286.0)	(125.6)	(1,118.5)	
SUB-TOTAL DERIVATIVE INSTRUMENTS		(48.0)	13.2	(156.4)	(6.4)	(75.1)		
Assets								
Loans and other non-current receivables	339.7				339.7			
Trade receivables	2,981.1		2,933.3			47.8		
Cash and cash equivalents	965.5	1.6	963.9					
SUB-TOTAL ASSETS		1.6	3,897.2			387.5		
Liabilities								
Non current borrowings	(6,290.7)	(156.7)		(559.8)	(3,072.4)	(319.2)	(3,171.1)	
Other non-current liabilities	(243.8)				(243.8)			
Trade and other payables	(2,269.3)		(2,225.1)			(44.2)		
Current borrowings	(1,912.7)	(14.1)	(1,901.8)					
SUB-TOTAL LIABILITIES		(170.8)	(4,126.9)	(559.8)	(3,360.4)	(319.2)	(3,171.1)	

Cash and cash equivalents increased at the end of 2016. The carrying amount of non-current borrowings has increased, following the 300 million euro bond issue maturing in 6 years, the 3.0 billion euro bond issue maturing in 2, 4, 6, 8 and 12 years, and the 4.5 billion US dollar issue maturing in 3, 5, 7, 10 and 30 years, and following the merger of Airgas debt (1.88 billion US dollars, equivalent to 1.8 billion euros), offset, in a small way by the reclassification of non-current debt maturing in the next 12 months to current debt. The carrying amount of current borrowings is practically stable, the reclassification of the debt maturing in the next 12 months being offset by the drop in commercial paper outstanding.

The following tables represent the future cash flows maturing in less than one year relating to the main balance sheet items and derivative financial instruments. Interest and repayment flows relating to current borrowings maturing in less than three months correspond to bank overdrafts and a portion of short-term borrowings recorded at the 2016 year-end. Interest and repayment flows relating to current borrowings maturing in more than three months and less than one year include short-term debt and the portion of the Group's long-term debt maturing in less than one year.

2016 (in millions of euros)	Cash flow < 1 year			
	< 3 months		≥ 3 months and < 1 year	
	Interest	Capital refund	Interest	Capital refund
Derivative instruments				
Assets				
Fair value of derivatives (assets)	0.4	26.4	43.9	450.3
Liabilities				
Fair value of derivatives (liabilities)	(4.1)	(38.7)	(104.3)	(438.7)
SUB-TOTAL DERIVATIVE INSTRUMENTS	(3.7)	(12.3)	(60.4)	11.6
Liabilities				
Non-current borrowings	(31.2)		(217.6)	
Trade payables		(2,216.1)		(216.5)
Current borrowings	(6.2)	(861.8)	(6.1)	(1,034.9)
SUB-TOTAL LIABILITIES	(37.4)	(3,077.9)	(223.7)	(1,251.4)

2015 (in millions of euros)	Cash flow < 1 year			
	< 3 months		≥ 3 months and < 1 year	
	Interest	Capital refund	Interest	Capital refund
Derivative instruments				
Assets				
Fair value of derivatives (assets)	0.3	37.6	44.6	358.2
Liabilities				
Fair value of derivatives (liabilities)	(5.6)	(27.1)	(87.3)	(355.5)
SUB-TOTAL DERIVATIVE INSTRUMENTS	(5.3)	10.5	(42.7)	2.7
Liabilities				
Non-current borrowings	(32.0)		(124.7)	
Trade payables		(1,945.0)		(280.1)
Current borrowings	(4.1)	(1,082.3)	(10.0)	(819.5)
SUB-TOTAL LIABILITIES	(36.1)	(3,027.3)	(134.7)	(1,099.6)

e) Hierarchy of financial instruments fair value

(in millions of euros)	2015	2016
Level 1	10.6	28.1
Available-for-sale financial assets (listed shares)	10.6	28.1
Level 2	(125.8)	(183.4)
Derivatives	(125.8)	(183.4)
Level 3	63.0	77.1
Put options granted to minority shareholders	63.0	77.1

f) Commodity risk (energy contracts)

Most of Air Liquide's energy supplies are obtained through forward purchase contracts at a fixed or indexed price.

IAS39 provides for the inclusion within its scope of forward purchases and sales of non-financial assets as soon as these transactions are deemed similar to derivative instruments.

However, IAS39 considers that forward contracts for non-financial assets should not be considered as derivatives when they have been entered into to meet the Company's "normal" business requirements, resulting in the delivery upon maturity of the underlying item for use in the Company's industrial process. As Air Liquide does not purchase electricity or natural gas for speculation or arbitrage on commodity price trends purposes, no forward contracts relating to energy meet the definition of a derivative instrument. These contracts were entered into as part of the Company's normal business to be used in the industrial process.

Furthermore, in a global context of highly volatile electricity and natural gas market prices, Air Liquide continues to index long-term customer contracts to hedge these risks. For natural gas and electricity prices, the opening of some markets led the Group, under these circumstances, to replace the price indices used during the regulated period by indices relevant to each local market.

Nonetheless, a few isolated contracts remain for which price indexation alone cannot guarantee a total and effective hedge against the risk of energy prices fluctuations. These risks are therefore hedged by Air Liquide, particularly by Air Liquide Finance S.A., using adequate commodity derivatives, mainly swaps with maturities of generally less than two years.

The fair value recognition of these derivative instruments had no material impact on Group equity or profits as of December 31, 2016.

26.2 INFORMATION ON DERIVATIVE INSTRUMENTS

The Group policy consists in using financial derivatives only when hedging actual financial flows. As a result, the majority of derivative financial instruments used by the Group benefit from hedge accounting. Derivative instruments that do not benefit from hedge accounting are not used for speculative purposes.

Impact of the fair value recognition of derivative instruments on the balance sheet:

2016 (in millions of euros)	IFRS classification	ASSETS					EQUITY AND LIABILITIES						
		Fair value of derivatives				Net income recognized in equity	Profit for the period	Fair value of derivatives			Liabilities – non current	Liabilities – current	
		Deferred tax assets	Trade receivables	Assets – non current	Assets – current			Total	Borro- wings	Trade payables			
Foreign exchange risk													
Currency forwards hedging future cash flows	CFH ^(a)	2.5		23.5	26.0	(4.0)	(2.0)				32.0	26.0	
Currency forwards hedging transactions recorded in the accounts and Cross Currency Swaps	FVH ^(b)	0.5	1.6	14.6	24.7	41.4		(0.7)	(235.4)	1.1	255.3	21.1	
Other derivatives ^(c)		0.1		2.1	2.2		(0.2)	2.1 ^(e)			0.3	2.2	
Currency embedded derivatives and Cross Currency Swaps	NIH ^(d)	14.6		0.5	0.7	15.8	(27.3)			43.1		15.8	
Interest rate risk													
Interest rate swaps	FVH ^(b)	(0.3)		(0.3)			0.5			(0.8)		(0.3)	
Swaps, options and Cross Currency Swaps	CFH ^(a) and NIH ^(d)	(35.5)		45.0	2.2	11.7	67.7			(63.9)	7.9	11.7	
Commodity risk (Energy)													
Forwards hedging future cash flows	CFH ^(a)	0.6			0.6		(1.1)				1.7	0.6	
TOTAL		(17.5)	1.6	60.1	53.2	97.4	35.3	(2.4)	(233.3)	1.1	233.7	63.0	97.4

(a) CFH: Cash Flow Hedge.

(b) FVH: Fair Value Hedge.

(c) Derivative instruments not benefiting from hedge accounting.

(d) NIH: Net Investment Hedge.

(e) Financial instrument not recognized as a hedging instrument under IAS39.

2015 (in millions of euros)	IFRS classification	ASSETS					EQUITY AND LIABILITIES					
		Fair value of derivatives					Net income recognized in equity	Profit for the period	Fair value of derivatives			Total
		Deferred tax assets	Trade receivables	Assets – non current	Assets – current	Total			Borro- wings	Trade payables	Liabilities – non current	
Foreign exchange risk												
Currency forwards hedging future cash flows	CFH ^(a)	(0.4)		32.0	31.6		2.9	(2.0)			30.7	31.6
Currency forwards hedging transactions recorded in the accounts and Cross Currency Swaps	FVH ^(b)	0.5	6.1	79.5	20.7	106.8		(0.7)	(164.8)	4.4	241.5	26.4 106.8
Other derivatives ^(c)				1.6	1.6		(0.4)	1.6 ^(e)			0.4	1.6
Currency embedded derivatives and Cross Currency Swaps	NIH ^(d)	10.9		1.5	0.9	13.3	(20.2)				33.5	13.3
Interest rate risk												
Interest rate swaps	FVH ^(b)			(0.8)		(0.8)			(0.8)			(0.8)
Swaps, options and Cross Currency Swaps	CFH ^(a) and NIH ^(d)	(21.9)		19.9		(2.0)		41.8			(43.7)	(0.1) (2.0)
Commodity risk (Energy)												
Forwards hedging future cash flows	CFH ^(a)	(2.6)		7.6	5.0		5.0					5.0
TOTAL		(13.5)	6.1	100.1	62.8	155.5	29.5	(3.1)	(164.0)	4.4	231.3	57.4 155.5

(a) CFH: Cash Flow Hedge.

(b) FVH: Fair Value Hedge.

(c) Derivative instruments not benefiting from hedge accounting.

(d) NIH: Net Investment Hedge.

(e) Financial instrument not recognized as a hedging instrument under IAS39.

Maturity schedule for fixed-rate debt, taking into account interest-rate hedging

2016 (in millions of euros)	Currency of issue	Carrying amount	Nominal amount outstanding	Interest rates repricing dates		
				< 1 year	≥1 and ≤ 5 years	> 5 years
Original issue – left at fixed rate	EUR	3,678.2	3,678.2	260.5	950.2	2,467.5
Original issue – left at fixed rate	USD	8,189.4	8,189.4		3,613.3	4,576.1
Interest rate swaps hedges	USD		74.1		12.4	61.7
Original issue – left at fixed rate	JPY	570.5	570.5	162.1	166.1	242.3

2015 (in millions of euros)	Currency of issue	Carrying amount	Nominal amount outstanding	Interest rates repricing dates		
				< 1 year	≥1 and ≤ 5 years	> 5 years
Original issue – left at fixed rate	EUR	1,210.2	1,210.2	11.4	521.4	677.4
Interest rate swaps hedges	EUR		51.2	51.2		
Caps hedges	EUR		75.0	75.0		
Original issue – left at fixed rate	USD	2,394.8	2,394.8	0.3	747.3	1,647.2
Interest rate swaps hedges	USD		88.6	5.8	18.0	64.8
Original issue – left at fixed rate	JPY	699.9	699.9	200.9	270.9	228.1

Note 27 Other liabilities (non-current/current)

27.1 OTHER NON-CURRENT LIABILITIES

(in millions of euros)	2015	2016
Investment grants	68.8	73.4
Advances and deposits received from customers	59.9	55.9
Other non-current liabilities	115.1	141.3
TOTAL OTHER NON-CURRENT LIABILITIES	243.8	270.6

27.2 OTHER CURRENT LIABILITIES

(in millions of euros)	2015	2016
Advances received	315.1	241.8
Advances and deposits received from customers	92.6	106.1
Other payables	672.8	867.7
Accruals and deferred income	221.9	257.7
TOTAL OTHER CURRENT LIABILITIES	1,302.4	1,473.3

Amounts payable to customers under Engineering & Construction contracts and amounting to 101.0 million euros are included in other current liabilities as of December 31, 2016 (138.9 million euros in 2015).

Note 28 Trade payables

(in millions of euros)	2015	2016
Operating suppliers	2,012.8	2,241.4
Property, plant and equipment and intangible assets suppliers	256.5	244.5
TOTAL TRADE PAYABLES	2,269.3	2,485.9

Note 29 Related party disclosures

29.1 TRANSACTIONS WITH COMPANIES INCLUDED IN THE SCOPE OF CONSOLIDATION

The consolidated financial statements include the financial statements of L'Air Liquide S.A. and all the subsidiaries listed on pages 307 to 309. L'Air Liquide S.A. is the ultimate parent company.

Due to the activities and legal organization of the Group, only executives, associates and joint ventures are considered to be related parties to the Group. Transactions performed between these individuals or these companies and Group subsidiaries are not material.

Information related to associates and joint ventures is disclosed in note 15.

29.2 REMUNERATION ALLOCATED TO MEMBERS OF THE BOARD OF DIRECTORS AND MANAGEMENT BODIES

The remuneration of Group executives includes the remuneration allocated to the Board of Directors and the Company's management bodies as compensation for their duties within the entire Group as employees and corporate officers for the respective fiscal years. The Company's management bodies include all the members of Executive Management and the Executive Committee. The amounts expensed in this respect are as follows:

(in thousands of euros)	2015	2016
Short-term benefits	15,156	15,889
Post-employment benefits: pension and health coverage	2,273	2,589
Termination benefits		962
Share-based payments	6,361	6,052
TOTAL	23,790	25,492

Short-term benefits

Short-term benefits include fixed remuneration, variable remuneration, benefits in kind and Directors' fees. The entire variable remuneration portion due for any given year is paid the following year after the financial statements have been approved.

The remuneration policy for members of the executive team takes into account market practices. It includes a substantial variable portion depending on the achievement of earnings and individual performance objectives.

Post-employment benefits

Post-employment benefits include the contributions paid to external pension funds for members of Executive Management and of the Executive Committee. Retirement commitments for executives amounted to 27,417 thousand euros in 2016 and 27,574 thousand euros in 2015.

Share-based payments

Stock options and performance shares granted to Executive Management and to the Executive Committee have the following expiry dates and strike prices:

Year	Expiry date	Strike price ^(a) (in euros)	Number 2015 ^(a)	Number 2016 ^(a)
2008 (July 9)	07/08/2016	64.66	113,736	
2009 (June 15)	06/14/2017	48.72	261,704	166,564
2010	06/27/2018	66.47	306,843	300,123
2011 (October 14)	10/13/2021	69.66	363,901	321,117
2012 (May 11)	05/10/2022	77.67	7,297	
2012 (September 27)	09/26/2022	85.30	330,771	284,562
2013 (September 26)	09/25/2023	90.06	424,594	347,077
2014 (September 22)	09/21/2024	94.45	395,000	341,000
2015 (September 28)	-	-	52,461	52,461
2015 (September 28)	09/27/2025	102.24	193,400	193,400
2016 (July 29)	-	-	-	47,200
2016 (November 29)	11/28/2026	93.00		70,260
2016 (November 29)	-	-	-	80,846

(a) Historical data.

The fair value of options and performance shares granted in 2016 is disclosed in note 22 (page 280).

These amounts are expensed over the option vesting period. The amounts that will be recognized in future periods in respect of the granted options totaled 6,177 thousand euros as of December 31, 2016 (10,896 thousand euros as of December 31, 2015).

The 2016 plan options granted to corporate officers and Executive Committee members cannot be exercised unless certain performance conditions are achieved.

No options were granted to other non-executive Directors under these plans.

Note 30 Commitments

Commitments are given in the normal course of the Group's business.

(in millions of euros)	2015	2016
Firm purchase orders for fixed assets	1,368.2	947.2
Lease commitments which cannot be terminated	993.0	1,348.0
Other commitments related to operating activities	205.3	228.1
Commitments relating to operating activities	2,566.5	2,523.3
Commitments relating to financing operations and consolidation scope	89.7	145.9
TOTAL	2,656.2	2,669.2

Air Liquide owns a 13.7% stake in Exeltium S.A.S. amounting to 23.8 million euros.

On March 24, 2010, Exeltium and EDF entered into an industrial partnership agreement under which Exeltium can acquire rights to a portion of EDF's electronuclear production. In consideration, Exeltium and its shareholder clients signed long-term electricity supply contracts. The contract signed by Air Liquide has a 20-year term and

can be suspended by Air Liquide after 10 years. This contract provides long-term visibility over the price of the electricity to be supplied. This project was approved by the European Commission.

The Group's energy purchase commitments amounted to 2,085.6 million euros as of December 31, 2016 (1,699.1 million euros as of December 31, 2015). This amount includes the energy purchase commitments relating to the Exeltium contract.

Almost all of these commitments are covered by mutual commitments received from clients in connection with long-term gas supply contracts.

Confirmed credit lines and the amount of loans guaranteed by assets are shown in note 25.6.

Commitments related to associates amounted to 100.1 million euros as of December 31, 2016.

Operating leases

Assets used for industrial activities are leased under an operating lease when the acquisition of such assets does not present any economic benefits. The primary assets included are utility vehicles, transport equipment and property.

The Group has neither contingent rental commitments nor sublease contracts.

Future minimum lease payments under non-cancelable operating leases payable as of December 31, 2016 are as follows:

(in millions of euros)	2015	2016
Due within 1 year	189	292
Due in 1 to 5 years	422	626
Due after 5 years	382	430
TOTAL	993	1,348

Note 31 Contingent liabilities

To the best of the Group's knowledge, there is no exceptional event or litigation which has affected in the recent past or which is likely to materially affect its financial situation or profitability.

In September 2010, the Brazilian competition authority ("CADE") fined the major industrial gas companies operating in Brazil, including Air Liquide Brazil, for unfair trade practices prior to 2004. Air Liquide Brazil was fined 197.6 million Brazilian reals before interest on arrears amounting to 129.8 million Brazilian reals as of December 31, 2016 (equivalent to 57.6 million euros for the fine and 37.8 million euros for interest on arrears).

Air Liquide Brazil strongly has contested this decision and has consequently filed an application to annul the fine before the Brasilia Federal Court. In May 2014, the CADE ruling was annulled in first instance by this Court. In September 2014, the CADE filed an appeal against this decision, which was rejected by the Court in November 2015. Recently, the CADE and the Procurator's Office had both filed a new appeal against this decision in the second instance before the Superior Court and the Supreme Court of Justice. At this stage, the Group considers it probable that Air Liquide Brazil will prevail and consequently no provision has been recorded.

Note 32 Greenhouse gas emission quotas

The ETS (Emission Trading Scheme) European Directive which established a quota system for greenhouse gas emissions in the European Union has entered its third phase (2013-2020), which will feature an expanded scope for industrial plants subject to the ETS and a gradual reduction in the free allocation of quotas.

With phase III, the Group is required to obtain CO₂ quotas for the portion of emissions from hydrogen production sites not covered by free allocations, as well as for all emissions from cogeneration sites. As the Group manages CO₂ quotas solely to cover its industrial needs, they

are classified as a commodity and managed as such. The quotas are therefore valued at acquisition cost and presented in inventories.

The Group recognizes a provision when the year-end quotas covering greenhouse gas emissions are insufficient, based on the best estimate of the outflow of resources required to settle the obligation.

As of December 31, 2016, the amounts recognized in assets and liabilities are immaterial.

Note 33 Post-balance sheet events

There are no significant post-balance sheet events.

Foreign exchange rates and main consolidated companies

FOREIGN EXCHANGE RATES

Main foreign exchange rates used

Average rates

Euros for 1 currency	2015	2016
USD	0.90	0.90
CNY	0.14	0.14
CAD	0.71	0.68
Yen (1,000)	7.45	8.33

Closing rates

Euros for 1 currency	2015	2016
USD	0.92	0.95
CNY	0.14	0.14
CAD	0.66	0.70
Yen (1,000)	7.63	8.10

MAIN CONSOLIDATED COMPANIES

Companies marked with JO are consolidated by joint operation and those marked with E by the equity method. Other companies are fully consolidated.

The total Group interest is given after the name of each company.

Main consolidated companies	Country	Integration	% interest
GAS & SERVICES			
EUROPE			
Air Liquide Austria GmbH	AUT	100.00%	
L'Air Liquide Belge S.A.	BEL	100.00%	
Air Liquide Industries Belgium S.A.	BEL	100.00%	
Air Liquide Large Industry S.A.	BEL	100.00%	
Air Liquide Medical S.A.	BEL	100.00%	
Air Liquide Bulgaria EOOD	BGR	100.00%	
Carbagas S.A.	CHE	100.00%	
Air Liquide CZ, s.r.o.	CZE	100.00%	
Air Liquide Deutschland GmbH	DEU	100.00%	
Air Liquide Electronics GmbH	DEU	100.00%	
Air Liquide Industriegase GmbH & Co. KG	DEU	100.00%	
Energieversorgungscenter Dresden-Wilschdorf GmbH & Co. KG ^(a)	DEU	40.00%	
Schülke & Mayr GmbH	DEU	100.00%	
VitalAire GmbH	DEU	100.00%	
Zweite Energieversorgungscenter Dresden-Wilschdorf GmbH & Co. KG	DEU	50.00%	
Air Liquide Danemark A/S	DNK	100.00%	
Air Liquide España S.A.	ESP	99.89%	
Air Liquide Ibérica de Gases S.L.U.	ESP	100.00%	
Air Liquide Medicinal S.L.U.	ESP	99.89%	
Grupo Gasmedi S.L.U.	ESP	100.00%	
AL Finland Oy.	FIN	100.00%	
Air Liquide Eastern Europe S.A.	FRA	100.00%	
Air Liquide Electronics Materials S.A.	FRA	100.00%	
Air Liquide France Industrie S.A	FRA	99.99%	
Air Liquide Medical Systems S.A.	FRA	100.00%	
Air Liquide Réunion S.A.	FRA	95.01%	
Air Liquide Russie S.A.	FRA	100.00%	
Air Liquide Santé (International) S.A.	FRA	100.00%	
Air Liquide Santé France S.A.	FRA	100.00%	
Air Liquide Guyane Spatial S.A.	FRA	98.65%	
Air Liquide Ukraine S.A.	FRA	100.00%	
Cryo-Express S.A.	FRA	99.00%	
Lavéra Energies S.N.C.	FRA	JO	50.00%

Main consolidated companies	Country	Integration	% interest
LVL Médical Groupe S.A.	FRA	100.00%	
Pharma Dom (Orkyn') S.A.	FRA	100.00%	
Société des Gaz Industriels de la Guadeloupe S.A.	FRA	95.88%	
Société d'Exploitation de Produits pour les Industries Chimiques S.A.	FRA	99.98%	
Société Guyanaise de L'Air Liquide S.A.	FRA	97.04%	
Société Martiniquaise de L'Air Liquide S.A.	FRA	95.87%	
VitalAire S.A.	FRA	100.00%	
Air Liquide Ltd	GBR	100.00%	
Air Liquide (Homecare) Ltd	GBR	100.00%	
Air Liquide UK Ltd	GBR	100.00%	
Energas Ltd	GBR	100.00%	
SPL Limited	GBR	99.00%	
Air Liquide Hellas S.A.G.I.	GRC	99.78%	
Air Liquide Ipari Gaztermelo Kft	HUN	100.00%	
Air Liquide Italia S.p.A.	ITA	99.77%	
Air Liquide Italia Service S.r.l	ITA	99.77%	
Air Liquide Sanità Service S.p.A.	ITA	99.77%	
Air Liquide Produzione S.r.l	ITA	99.77%	
Medicasa Italia S.p.A.	ITA	99.77%	
VitalAire Italia S.p.A.	ITA	99.77%	
Air Liquide Healthcare Ireland Limited	IRL	100.00%	
Air Liquide Luxembourg S.A.	LUX	100.00%	
Air Liquide Acetylene B.V.	NLD	100.00%	
Air Liquide B.V.	NLD	100.00%	
Air Liquide Industrie B.V.	NLD	100.00%	
Air Liquide Nederland B.V.	NLD	100.00%	
Scott Specialty Gases Netherlands B.V.	NLD	100.00%	
Air Liquide Norway A.S.	NOR	100.00%	
Air Liquide Katowice Sp.z.o.o.	POL	79.25%	
Air Liquide Polska Sp.z.o.o.	POL	100.00%	
Air Liquide Medicinal S.A.	PRT	99.85%	
Sociedade Portuguesa do Ar Liquido Lda	PRT	99.93%	
Air Liquide Romania S.r.l	ROM	100.00%	
Air Liquide OOO	RUS	100.00%	
Air Liquide Severstal CJSC	RUS	75.00%	

Main consolidated companies	Country	Integration	% interest	Main consolidated companies	Country	Integration	% interest				
Air Liquide Slovakia s.r.o.	SVK		100.00%	Air Liquide Côte d'Ivoire S.A.	CIV		72.08%				
Air Liquide Gas A.B.	SWE		100.00%	Air Liquide Cameroun S.A.	CMR		100.00%				
Nordicinfu Care A.B.	SWE		100.00%	Air Liquide Congo S.A.	COG		100.00%				
Air Liquide Gaz Sanayi Ve Ticaret A.S.	TUR		100.00%	Société d'Installations et de Diffusion de Matériel Technique S.P.A.	DZA	E	100.00%				
AMERICAS											
Air Liquide Argentina S.A.	ARG		100.00%	Air Liquide Alexandria for Medical & Industrial Gases S.A.E.	EGY		100.00%				
Air Liquide Brasil Ltda	BRA		100.00%	Air Liquide El Soukhna for Industrial Gases S.A.E.	EGY		100.00%				
Air Liquide Canada, Inc.	CAN		100.00%	Air Liquide Misr S.A.E.	EGY		100.00%				
Vitalaire Canada, Inc.	CAN		100.00%	Air Liquide Middle East S.A.	FRA		100.00%				
Respiratory Homecare Solutions Canada Inc.	CAN		72.50%	Air Liquide Gabon S.A.	GAB		98.57%				
Air Liquide Chile S.A.	CHL		100.00%	Air Liquide Ghana Ltd	GHA		100.00%				
Air Liquide Colombia S.A.S	COL		100.00%	Air Liquide India Holding Pvt. Ltd	IND		100.00%				
Air Liquide Dominicana S.A.S	DOM		100.00%	Shuaiba Oxygen Company K.S.C.C. ^(a)	KWT		49.81%				
Air Liquide Mexico, S. de RL de CV	MEX		100.00%	Société d'Oxygène et d'Acétylène du Liban S.A.L.	LBN	E	49.93%				
Cryogas de Centroamérica, S.A.	PAN		100.00%	Air Liquide Maroc S.A.	MAR		74.80%				
La Oxigena Paraguaya S.A.	PRY		87.89%	Air Liquide Madagascar S.A.	MDG		73.73%				
Air Liquide Trinidad and Tobago Ltd	TT0		100.00%	Air Liquide Mali S.A.	MLI		99.97%				
Air Liquide Uruguay S.A.	URY		96.68%	Air Liquide Namibia Proprietary Ltd	NAM		100.00%				
Airgas USA, LLC	USA		100.00%	Air Liquide Nigeria Plc	NGA		61.11%				
Airgas-Refrigerants, inc	USA		100.00%	Air Liquide Sohar Industrial Gases LLC	OMN		50.11%				
Airgas Specialty Products	USA		100.00%	Gasal Q.S.C.	QAT	E	40.00%				
Airgas Priority Nitrogen	USA		97.00%	Air Liquide Al-Khafrah Industrial Gases LLC	SAU		75.00%				
Airgas Carbonic (LE)	USA		100.00%	Air Liquide Arabia LLC	SAU		65.00%				
Airgas Merchant Gases, LLC	USA		100.00%	Air Liquide Sénégal S.A.	SEN	E	83.60%				
Red-D-Arc, inc	USA		100.00%	Air Liquide Togo S.A.	TGO	E	70.58%				
Airgas Safety (LE)	USA		100.00%	Air Liquide Tunisie S.A.	TUN		59.17%				
Air Liquide America Speciality Gases, LLC	USA		100.00%	Air Liquide Proprietary Ltd	ZAF		99.91%				
Air Liquide Electronics U.S. LP	USA		100.00%	ASIA PACIFIC							
Air Liquide Healthcare America Corporation	USA		100.00%	Air Liquide Australia Ltd	AUS		100.00%				
Air Liquide Industrial U.S. LP	USA		100.00%	Air Liquide Healthcare P/L	AUS		100.00%				
Air Liquide Large Industries U.S. LP	USA		100.00%	Air Liquide W.A. Pty Ltd	AUS		100.00%				
Air Liquide Advanced Materials, Inc.	USA		100.00%	Brunei Oxygen Ltd	BRN		50.00%				
MIDDLE EAST AND AFRICA											
Air Liquide Afrique S.A.	FRA		100.00%	Air Liquide Cangzhou Co., Ltd	CHN		100.00%				
Air Liquide Angola LDA	AGO		73.99%	Air Liquide China Holding Co., Ltd	CHN		100.00%				
Air Liquide Middle East & North Africa FZCO	ARE		100.00%	Air Liquide Shanghai Co., Ltd	CHN		100.00%				
Pure Helium Gulf FZE	ARE		100.00%	Air Liquide Shanghai International Trading Co. Ltd	CHN		100.00%				
Air Liquide Bénin S.A.	BEN	E	99.99%	Air Liquide Tianjin Co., Ltd	CHN		100.00%				
Air Liquide Burkina Faso S.A.	BFA		64.88%	Air Liquide Yongli Tianjin Co., Ltd	CHN		55.00%				
Air Liquide Botswana Proprietary Ltd	BWA		99.91%	Air Liquide Zhangjiagang Industry Gas Co., Ltd	CHN		100.00%				

Main consolidated companies	Country	Integration	% interest
Shanghai Chemical Industry Park Industrial Gases Co., Ltd	CHN	JO	50.00%
Société d'Oxygène et d'Acétylène d'Extrême-Orient S.A.	FRA		100.00%
Celki International Ltd	HKG		100.00%
P.T. Air Liquide Indonesia	IDN		100.00%
Air Liquide Asia Pacific Co. Ltd	JPN		100.00%
Air Liquide Japan Ltd	JPN		100.00%
Toshiba Nano Analysis K.K.	JPN		51.00%
Vital Air Japan K.K.	JPN		100.00%
Air Liquide Korea Co., Ltd	KOR		100.00%
VitalAire Korea Inc.	KOR		100.00%
Air Liquide Malaysia Sdn Bhd	MYS		100.00%
Air Liquide New Zealand Ltd	NZL		100.00%
Air Liquide Philippines Inc.	PHL		100.00%
Air Liquide Singapore Pte Ltd	SGP		100.00%
Air Liquide Thailand Ltd	THA		100.00%
Air Liquide Electronics Systems Asia Ltd	TWN		100.00%
Air Liquide Far Eastern Ltd	TWN		65.00%
Air Liquide Vietnam Co., Ltd	VNM		100.00%

ENGINEERING & CONSTRUCTION

Air Liquide Global E&C Solutions Canada LP	CAN		100.00%
Air Liquide Global E&C Solutions Hangzhou Co., Ltd.	CHN		100.00%
Air Liquide Global E&C Solutions Germany GmbH	DEU		100.00%
Air Liquide Global E&C Solutions France S.A.	FRA		100.00%
JJ-Lurgi Engineering Sdn. Bhd.	MYS	E	50.00%
Air Liquide Global E&C Solutions Singapore Pte. Ltd	SGP		100.00%

Main consolidated companies	Country	Integration	% interest
Air Liquide Global E&C Solutions US, Inc.	USA		100.00%
Lurgi, Inc.	USA		100.00%
Air Liquide Engineering Southern Africa Ltd	ZAF	E	100.00%
GLOBAL MARKETS & TECHNOLOGIES			
Air Liquide Advanced Technologies US LLC	USA		100.00%
Air Liquide Services S.A.	FRA		100.00%
Air Liquide Advanced Technologies S.A.	FRA		100.00%
Cryolor S.A.	FRA		100.00%
GIE Cryospace	FRA		55.00%
Air Liquide Electronics Systems S.A.	FRA		100.00%
FordonsGas Sverige AB	FRA		100.00%
Hélium Services S.A.	FRA		100.00%
OHS Group (BVI) Limited	GBR		100.00%
OTHER ACTIVITIES			
Oerlikon Schweisstechnik GmbH	DEU		100.00%
Air Liquide Welding France S.A.	FRA		100.00%
Air Liquide Welding S.A.	FRA		100.00%
Fro Air Liquide Welding Italia S.p.A.	ITA		100.00%
HOLDING COMPANIES AND R&D ACTIVITIES			
Air Liquide Finance S.A.	FRA		100.00%
Air Liquide International S.A.	FRA		100.00%
Air Liquide Participations S.A.	FRA		100.00%
L'Air Liquide S.A.	FRA		100.00%
Orsay-Re S.A.	LUX		100.00%
Air Liquide International Corp.	USA		100.00%
American Air Liquide, Inc.	USA		100.00%
American Air Liquide Holdings, Inc	USA		100.00%

(a) Consolidation method differs from percentage of shares due to a contractual agreement.

Statutory Auditors' fees

The disclosure of the Statutory Auditors' fees, for the year ending December 31, 2016, has been changed as the French regulation No.2016-315 dated March 17, 2016 relating to the audit came into force upon its publication in the Official Journal on March 18, 2016.

(in thousands of euros)	2016							
	ERNST & YOUNG et Autres		PricewaterhouseCoopers Audit			Others		Total
Audit, certification, review of individual and consolidated financial statement	8,651	84.1%	4,558	84.2%	585	56.2%	13,794	82.4%
■ Issuer	620		617		-		1,237	
■ Fully consolidated subsidiaries	8,031		3,941		585		12,557	
■ Of which Airgas	3,073		125		-		3,198	
Services required by law	510	5.0%	204	3.8%	68	6.5%	782	4.7%
■ Of which services relating to the financing of Airgas acquisition	159		162		-		321	
TOTAL OF CERTIFICATION MISSIONS AND SERVICES REQUIRED BY LAW	9,161	89.1%	4,762	88.0%	653	62.7%	14,576	87.1%

(in thousands of euros)	2015							
	ERNST & YOUNG et Autres		Mazars			Others		Total
Statutory audit, certification, review of individual and consolidated financial statement	6,556	68.6%	4,077	91.4%	700	74.3%	11,333	75.7%
■ Issuer	725		500		-		1,225	
■ Fully consolidated subsidiaries	5,831		3,577		700		10,108	
Other statutory audit engagements	758	7.9%	187	4.2%	19	2.0%	964	6.5%
■ Issuer	242		56		-		298	
■ Fully consolidated subsidiaries	516		131		19		666	
TOTAL OF AUDIT SERVICES	7,314	76.5%	4,264	95.6%	719	76.3%	12,297	82.2%

Statutory Auditors' Report on the consolidated financial statements

This is a free translation into English of the Statutory Auditors' report on the consolidated financial statements issued in French and it is provided solely for the convenience of English-speaking readers.

The Statutory Auditors' report includes information specifically required by French law in such reports, whether modified or not. This information is presented below the audit opinion on the consolidated financial statements and includes an explanatory paragraph discussing the auditors' assessment of certain significant accounting and auditing matters. These assessments were considered for the purpose of issuing an audit opinion on the consolidated financial statements taken as a whole and not to provide separate assurance on individual account balances, transactions, or disclosures.

This report also includes information relating to the specific verification of information given in the Group's Management Report.

This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

To the Shareholders,

In compliance with the assignment entrusted to us by your Annual Shareholders' Meeting, we hereby report to you, for the year ended December 31, 2016, on:

- the audit of the accompanying consolidated financial statements of L'Air Liquide;
- the justification of our assessments;
- the specific verification required by French law.

These consolidated financial statements have been approved by the Board of Directors. Our role is to express an opinion on these consolidated financial statements based on our audit.

I. OPINION ON THE CONSOLIDATED FINANCIAL STATEMENTS

We conducted our audit in accordance with professional standards applicable in France; those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit involves performing procedures, using sampling techniques or other methods of selection, to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made, as well as the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

In our opinion, the consolidated financial statements present a true and fair view of the assets and liabilities, of the financial position of the group as of December 31, 2016 and of the results of its operations for the year then ended in accordance with International Financial Reporting Standards, as adopted by the European Union.

Without qualifying our conclusion, we draw your attention to note 1 "Acquisition of Airgas" to the notes to the consolidated financial statements which sets out the impacts of the Airgas acquisition.

II. JUSTIFICATION OF OUR ASSESSMENTS

In accordance with the requirements of article L. 823-9 of the French Commercial Code (Code de commerce) relating to the justification of our assessments, we bring to your attention the following matters:

- At the date of acquisition, and as mentioned in the Note 1 to the consolidated financial statements, your Company has measured the assets and liabilities acquired, and has determined, assisted by an independent expert, their fair values. Our work consisted in verifying the terms and conditions of this acquisition and the methods and hypothesis chosen to estimate these fair values, and the report issued by the independent expert.
- At year-end, your Company has performed an impairment test of goodwill and has assessed the existence of impairment indicators related to other intangible assets and tangible assets, in accordance with the principles set out in paragraph 5.f. of the consolidated financial statements relating to "Accounting principles". We have assessed the methodology and assumptions used for these impairment tests and have ensured that the information given in note 11.2 to the consolidated financial statements is appropriate.

These assessments were made as part of our audit of the consolidated financial statements taken as a whole, and therefore contributed to the opinion we formed which is expressed in the first part of this report.

III. SPECIFIC VERIFICATION

As required by law we have also verified, in accordance with professional standards applicable in France, the information relating to the Group presented in the Directors' Report.

We have no matters to report as to the fair presentation and the consistency of this information with the consolidated financial statements.

Neuilly-sur-Seine and Paris-La Défense, March 3, 2017

The Statutory Auditors

French original signed by

PricewaterhouseCoopers Audit

ERNST & YOUNG et Autres

Olivier Lotz

Séverine Scheer

Jeanne Boillet

Emmanuelle Mossé

► STATUTORY ACCOUNTS OF THE PARENT COMPANY

Income statement

For the year ended December 31

(in millions of euros)	Notes	2015	2016
Revenue	(2)	176.3	154.5
Royalties and other operating income	(3)	518.3	598.4
Total operating income (I)		694.6	752.9
Purchases		(75.8)	(65.0)
Duties and taxes other than corporate income tax		(21.0)	(21.8)
Personnel expenses		(217.0)	(218.9)
Depreciation, amortization and provision expenses	(5)	(43.5)	(21.4)
Other operating expenses	(4)	(247.0)	(338.7)
Total operating expenses (II)		(604.3)	(665.8)
Net operating profit (loss) (I + II)		90.3	87.1
Financial income from equity affiliates	(6)	2,189.9	264.9
Interests, similar income and expenses	(6)	(25.1)	(57.9)
Other financial income and expenses	(6)	(12.5)	(6.5)
Financial income and expenses (III)		2,152.3	200.5
Net profit / (loss) from ordinary activities before tax (I + II + III)		2,242.6	287.6
Exceptional income and expenses	(7)	135.8	251.2
Statutory employee profit-sharing		(2.2)	(2.6)
Corporate income tax	(8)	(59.0)	(53.8)
NET PROFIT FOR THE YEAR		2,317.2	482.4

Balance sheet

For the year ended December 31

(in millions of euros)	Notes	Net	December 31, 2015	December 31, 2016	
			Gross carrying amounts	Amortization, depreciation and provisions	Net
ASSETS					
Intangible assets	(9)	54.4	269.4	216.9	52.5
Tangible assets	(9)	36.4	119.7	69.6	50.1
Financial assets	(10) & (11)	11,506.4	14,716.3	71.9	14,644.4
TOTAL NON-CURRENT ASSETS		11,597.2	15,105.4	358.4	14,747.0
Inventories and work-in-progress	(11)	14.5	12.2	2.6	9.6
Operating receivables	(11) & (14)	373.2	353.4	17.8	335.6
Current account loans with subsidiaries	(11) & (14)	360.4	434.5		434.5
Short-term financial investments	(12)	52.6	46.5		46.5
Cash		11.8	2.0		2.0
Prepaid expenses		21.0	4.1		4.1
TOTAL CURRENT ASSETS		833.5	852.7	20.4	832.3
Loan issue premiums	(15)	14.8	13.0		13.0
Bond redemption premiums	(15)	15.7	10.1		10.1
Unrealized foreign exchange losses		5.1	2.1		2.1
TOTAL ASSETS		12,466.3	15,983.3	378.8	15,604.5
EQUITY AND LIABILITIES					
Share capital		1,892.9			2,138.8
Additional paid-in capital		15.6			3,103.3
Revaluation reserve		25.4			23.9
Legal reserve		189.6			189.6
Other reserves		388.5			388.5
Retained earnings		5,417.0			6,813.6
Net profit for the year		2,317.2			482.4
Tax-driven provisions		5.1			5.1
TOTAL SHAREHOLDERS' EQUITY	(13)	10,251.3			13,145.2
PROVISIONS	(11)	37.6			32.5
Other bonds	(14)	762.0			762.0
Bank borrowings	(14)	0.5			2.6
Other borrowings	(14)	251.9			252.0
Operating payables	(14)	390.7			377.4
Current account borrowings with subsidiaries	(14)	767.4			1,030.1
Deferred income					0.1
		2,172.5			2,424.2
Unrealized foreign exchange gains		4.9			2.6
TOTAL EQUITY AND LIABILITIES		12,466.3			15,604.5

Notes to the statutory accounts

ACCOUNTING POLICIES

1. General principles

The year-end financial statements of L'Air Liquide S.A. have been prepared in accordance with general accounting principles applicable in France and in particular those of the French Chart of Accounts (*Plan Comptable Général*) and the French Commercial Code.

2. Non-current assets

A. Intangible assets

Internally generated intangible assets primarily include the development costs of information management systems. They are capitalized only if they generate probable future economic benefits. Internal and external costs corresponding to detailed application design, programming, the performance of tests and the drafting of technical documentation intended for internal or external use are capitalized.

Significant upgrade and improvement costs are added to the initial cost of assets if they specifically meet the capitalization criteria.

Other intangible assets include separately acquired intangible assets such as software, licenses, certain businesses and intellectual property rights and are measured at acquisition cost.

Intangible assets are amortized according to the straight-line method over their estimated useful lives.

B. Tangible assets

Land, buildings and equipment are recognized at historical cost. Interim interest expense is not included in the cost.

Where components of a tangible asset have different useful lives, they are accounted separately and depreciated over their own useful lives.

Depreciation is computed according to the straight-line method over their estimated useful lives as follows:

- buildings: 20 years;
- other equipment: 5 to 15 years.

Land is not depreciated.

C. Impairment of intangible and tangible assets

The Company assesses at each closing date whether there is any indication of impairment loss of intangible and tangible assets. If such indications exist, an impairment test is performed to assess whether the carrying amount of the asset exceeds its present value, which is defined as the greater of its fair value less costs to sell and its value in use.

In assessing value in use, the estimated future cash flows are discounted to their present value as this would be done for an investment decision.

When the present amount of an asset is lower than its net carrying amount, an impairment loss is recognized in the income statement. When the present value exceeds the carrying amount, the previously recognized impairment is reversed to the income statement.

D. Equity investments

Equity investments are recognized at their initial amount on the entry date, with the exception of those subject to a revaluation as provided by Law 76-1232 of December 29, 1976. Acquisition costs that are not representative of market value are expensed.

When the carrying amount, determined using the criteria normally adopted for the measurement of equity investments (market multiples method based on the Air Liquide group market valuation, estimated cash flow approach, and net asset value remeasured at fair value), is lower than the gross amount, an impairment loss is recognized for the difference.

E. Treasury shares

When the Company purchases its own shares, they are recognized at cost as treasury shares in other long-term investment securities. The gains or losses on disposals of treasury shares contribute to the net profit for the year.

However, shares allocated for the purpose of implementing plans for free grants of shares are reclassified to a "Short-term financial investments – Company treasury shares" caption at the balance sheet value on the date of allotment.

A provision is recorded over the rights vesting period to cover the future charge of employees and members of Executive Management of the Company relating to the remittance of current shares when the performance criteria can be determined with certainty. Conversely, the amount corresponding to the maximum performance level is presented in off-balance sheet commitments.

When the purchase cost of shares is higher than their valuation based on the average share price during the last month of the fiscal year, treasury shares earmarked for cancellation or allocated for the purpose of implementing plans for free grants of shares are not impaired.

3. Inventories and work-in-progress

Raw materials, supplies and goods are primarily measured at weighted average cost.

An impairment loss is recognized for inventories and work-in-progress when the estimated realizable amount is lower than cost.

4. Trade receivables and other operating assets

Trade receivables and other operating assets are measured at historical cost.

An impairment loss for doubtful receivables is recognized when it becomes probable that the amount due will not be collected and the loss can be reasonably estimated.

5. Foreign currency transactions

Foreign currency transactions are translated at the exchange rate prevailing on the transaction date, with the exception of forward hedging transactions that are translated at the hedging rate.

At year-end, the difference arising from the translation of receivables and payables, not subject to a forward hedge and denominated in a foreign currency, are recognized in suspense accounts in assets and liabilities ("Unrealized foreign currency gains or losses").

When the forecasted date for settlement of hedged transactions is brought forward or deferred, changes in fair value of the hedging instruments (difference between the initial forward price and the adjustment forward price) are recognized in suspense accounts in the balance sheet ("differences offset by foreign exchange hedges") until the hedges are fully settled.

Unrealized foreign exchange losses are subject to a contingency provision.

6. Provisions

Provisions are recognized when:

- the Company has a present obligation as a result of a past event;
- it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation;
- a reliable estimate can be made of the amount of the obligation.

7. Financial instruments

Gains or losses relating to financial instruments used in hedging transactions are determined and recognized in line with the recording of income and expenses on the hedged items.

When the financial instruments used do not constitute hedging transactions, the losses resulting from their year-end fair value measurement are recognized in the income statement. Pursuant to the prudence principle, unrealized gains are not recognized in the income statement.

8. Post-employment benefits

The Company applies ANC recommendation 2013-02 related to the recognition and measurement of retirement benefits and similar obligations.

The Company provides its employees with various pension plans, termination benefits, jubilees (awards based on years of service) and other post-employment benefits for both active employees and retirees. These benefits are covered in two ways:

- by so-called defined contribution plans;
- by so-called defined benefit plans.

The Company grants both defined benefit and defined contribution plans.

Defined contribution plans are plans under which the employer's sole obligation is to pay regular contributions. The employer does not grant any guarantee on the future level of benefits paid to the employee or retiree ("means-based obligation"). The annual pension expense is equal to the contribution paid during the fiscal year which relieves the employer from any further obligation.

Defined benefit plans are those by which the employer guarantees the future level of benefits defined in the agreement, most often depending on the employee's salary and seniority ("result-based obligation"). Defined benefit plans can be:

- either financed by contributions to a fund specialized in managing the contributions paid;
- or managed internally.

In the case of defined benefit plans, retirement and similar obligations are measured by independent actuaries, according to the projected unit credit method. The actuarial calculations mainly take into account the following assumptions: salary increases, employee turnover, retirement date, mortality, inflation and appropriate discount rates.

Actuarial gains and losses exceeding the greater of 10% of the obligations or 10% of the fair value of plan assets at the beginning of the reporting period are amortized over the expected average working lives of the plan participants.

In accordance with the option offered by ANC recommendation 2013-02, the Company maintained its previous practices: obligations related to retirement termination payments and jubilees are provided whereas other retirement obligations related to defined benefit plans are not provided but are disclosed in the notes.

9. Revenue recognition

Revenue from the sale of goods is recognized when the risks and rewards of ownership have been transferred to the buyer.

Revenue associated with delivery of services is recognized depending on the stage of completion of the transaction at the balance sheet date, when this can be reliably measured.

10. Tax consolidation

L'Air Liquide S.A. has set up a tax consolidation group with the French subsidiaries in which it holds a direct or indirect interest exceeding 95%, as defined by article 223-A of the French General Tax Code.

Each company calculates its tax provision as if it was taxed separately. L'Air Liquide S.A., as head of the tax consolidation group, recognizes as an expense the tax corresponding to its own profits and recognizes in a balance sheet current tax account the impact of restatements and eliminations when determining taxable profit as a whole and the tax deferrals of subsidiaries with losses. It is booked in exceptional income and expenses.

11. Research and Development expenditures

Development costs shall be recognized as assets if and only if the Company can demonstrate all of the following:

- the project is clearly identified and the related costs are individualized and reliably monitored;
- the technical and industrial feasibility of the project is demonstrated;
- there is a clear intention to complete the project and use or sell the products arising from it;
- it is probable that the project will generate future economic benefits for the Company.

When these conditions are not satisfied, the work carried out does not systematically result in the completion of an intangible asset that will be available for use or sale, development costs generated are recognized as an expense when incurred.

ADDITIONAL NOTES ON THE BALANCE SHEET AND INCOME STATEMENT

1. Significant events

On May 23, 2016, the Group finalized the acquisition of Airgas. The Airgas shareholders received a cash offering of 143 US dollars per share for all Airgas shares issued or to be issued, representing a total enterprise value of 13.2 billion US dollars. The Group acquired 100% shares of Airgas.

Air Liquide Finance, subsidiary of L'Air Liquide S.A. at 100%, financed this acquisition through a bridge loan of 11.6 billion US dollars that was contracted from its main banks. Air Liquide Finance granted a short-term loan amounting 2.0 billion euros to L'Air Liquide S.A. in order to finance the capital increase of its subsidiary Air Liquide International. Air Liquide International indirectly holds 100% of Airgas' share capital.

In June 2016, Air Liquide Finance placed a 3.0 billion euros bond issue guaranteed by L'Air Liquide S.A. which was the first step of the refinancing of the acquisition of Airgas.

On September 13, 2016, Air Liquide announced the launch and the terms of a share capital increase with preferential subscription rights, for approximately 3.3 billion euros, constituting the second step of the refinancing of the acquisition of Airgas. The subscription period for the new shares was opened from September 14, 2016 to September 28, 2016 inclusive. Settlement and delivery took place on October 11, 2016.

Air Liquide S.A. repaid the short-term loan amounting 2.0 billion euros granted by Air Liquide Finance and which granted a loan maturing on October 11, 2026 for an amount of 1.15 billion euros.

Finally, on September 22, 2016, Air Liquide Finance placed five bonds for an aggregate amount of 4.5 billion US dollars, that constituted the third and last step in refinancing the acquisition of Airgas. Bonds issues were also guaranteed by L'Air Liquide S.A..

2. Revenue breakdown by geographical area

(in millions of euros)	2015	2016
France	157.1	93.9
Abroad	19.2	60.6
REVENUE	176.3	154.5

By the nature of its activities, the revenue of L'Air Liquide S.A. mainly corresponds to services and pension expenses recharged to its subsidiaries (see note 17.A).

3. Royalties and other operating income

Other operating income mainly includes change in inventories of goods and services, production of assets capitalized, operating subsidies, operating expense reclassifications, as well as operating provision and impairment reversals.

4. Other operating expenses

Other operating expenses primarily consist of research and development costs and other external expenses such as subcontracting and maintenance costs, fees, travel expenses, telecommunication costs and rental expenses.

5. Depreciation, amortization and provision expenses

Depreciation, amortization and provision expenses break down as follows:

(in millions of euros)	2015	2016
Depreciation and amortization expenses	(16.8)	(16.9)
Provision expenses	(26.7)	(4.5)
DEPRECIATION, AMORTIZATION AND PROVISION EXPENSES	(43.5)	(21.4)

6. Financial income and expenses

In 2016, financial income from equity affiliates amounts to 264.9 million euros (2198.9 million euros in 2015). In 2015, Air Liquide International made a dividend payment amounting 649.1 million euros and paid an interim dividend for 1,000.6 million euros.

Interests, similar income and expenses break down as follows:

(in millions of euros)	2015	2016
Revenues from other marketable securities and long-term loans	4.4	11.8
Other interest and similar income	(29.5)	(69.7)
INTERESTS, SIMILAR INCOME AND EXPENSES	(25.1)	(57.9)

Other financial income and expenses break down as follows:

(in millions of euros)	2015	2016
Other financial expenses, impairment and provisions net of reversals	(16.8)	(5.5)
Foreign exchange gains / losses (net)	4.3	(1.0)
OTHER FINANCIAL INCOME AND EXPENSES	(12.5)	(6.5)

7. Exceptional income and expenses

As part of the tax consolidation of L'Air Liquide S.A. and its consolidated French subsidiaries, exceptional income in the amount of 871 million euros was booked in 2016 (99.4 million euros in 2015). This income had no impact on the Group's consolidated tax position or the profit or loss of the relevant subsidiaries.

Exceptional income and expenses also include the impact of eliminations related to the tax consolidation regime in the amount of 30.6 million euros in 2016 and 54.5 million euros in 2015.

In 2016, L'Air Liquide S.A. recognized a capital gain on the disposal of its investment in Aqua Lung International, amounting to 186.3 million euros.

In 2016, 50.7 million euros related to the acquisition of Airgas have been booked as exceptional expenses.

8. Corporate income tax

The total tax charge amounts to 53.8 million euros, compared to 59.0 million euros in 2015.

After allocation of add-backs, deductions and tax credits relating to profits, it breaks down as follows:

(in millions of euros)	2015	2016
Net profit from ordinary activities before tax	(24.6)	(24.5)
Additional contributions on earnings ^(a)	(7.5)	(1.7)
Additional contribution on cash dividend ^(b)	(26.9)	(27.6)
TOTAL	(59.0)	(53.8)

(a) 3.3% social security contribution on earnings and in 2015 a 10.7% exceptional contribution.

(b) Corresponds to a 3% contribution on the amount of the dividend paid in cash.

9. Intangible and tangible assets

Changes in gross value break down as follows:

(in millions of euros)	Gross value as of January 1, 2016	Additions	Disposals	Gross value as of December 31, 2016
Concessions, patents, licenses	98.1	2.8		100.9
Other intangible assets	161.9	8.6	(2.0)	168.5
INTANGIBLE ASSETS	260.0	11.4	(2.0)	269.4
Land and buildings	43.9	0.4	(0.2)	44.1
Plant, machinery and equipment	35.2	2.3	(1.2)	36.3
Other tangible assets	16.6	0.6	(0.5)	16.7
Tangible assets under construction and payments on account – tangible assets	6.4	16.6	(0.4)	22.6
TANGIBLE ASSETS	102.1	19.9	(2.3)	119.7
TOTAL	362.1	31.3	(4.3)	389.1

Changes in amortization, depreciation and impairment losses break down as follows:

(in millions of euros)	Amortization, depreciation, and impairment losses as of January 1, 2016	Amortization and depreciation	Decreases, disposals, scrappings	Amortization, depreciation and impairment losses as of December 31, 2016
Intangible assets	205.6	11.3		216.9
Tangible assets	65.7	5.6	(1.7)	69.6
TOTAL	271.3	16.9	(1.7)	286.5

10. Financial assets

Changes in gross value break down as follows:

(in millions of euros)	Gross value as of January 1, 2016	Increases	Decreases	Gross value as of December 31, 2016
Equity investments	10,385.2	2,010.2 ^(a)	(5.0) ^(b)	12,390.4
Other long-term investment securities ^(c)	107.6	104.4	(107.0)	105.0 ^(e)
Long-term loans	1,013.3	1,151.5 ^(d)	(11.1)	2,153.7
Other long-term financial assets	66.0	2.0	(0.8)	67.2 ^(f)
FINANCIAL ASSETS	11,572.1	3,268.1	(123.9)	14,716.3

(a) The increase in equity investments mainly corresponds to the capital increase of the subsidiary Air Liquide International for 2,000.0 million euros (see note 1).

(b) The decrease in equity investments results from the disposal of the investment in Aqua Lung International.

(c) The change in other long-term investment securities mainly corresponds to:

- the acquisition and sale of Company treasury shares under the liquidity contract for 104.4 million euros and -104.7 million euros respectively;
- the sale of 831,162 preferential subscription rights on treasury shares related to the share capital increase detailed in note 1, which reduced the other long term investments securities for 2.3 million euros.

(d) The increase in long-term loans mainly corresponds to the issue of a loan (maturing in October 11, 2026) for Air Liquide Finance for 1,150.0 million euros (see note 1).

At the 2016 year-end:

(e) the "Other long-term investment securities" caption includes a total of 831,912 treasury shares valued at an average price of 115.99 euros, i.e. a total amount of 96.5 million euros, of which 831,162 shares allocated for the purpose of share exchanges or as payment in connection with possible external growth transactions and 750 shares held under the liquidity contract;

(f) the "Other long-term investments" caption mainly includes the receivable linked to the refund claim on the equalization charge paid for the years 2000 to 2004 for 41.4 million euros and the interest on arrears for 25.2 million euros. In connection with the litigation concerning the reimbursement of the receivable, the Administrative Court of Montreuil partially sided with L'Air Liquide S.A. on July 21, 2014. Following this decision, L'Air Liquide S.A. received 30.3 million euros in principal and 15.0 million euros in interest on arrears. On September 19, 2014, the Company appealed the decision of the Administrative Court of Montreuil regarding the recovery of the balance. The appeal decision had not been rendered as of the period-end date.

11. Impairment, allowances and provisions

A. Impairment and allowances

Impairment and allowances are recognized when the asset's carrying amount is lower than its entry value.

They break down as follows:

(in millions of euros)	2015	Charges	Reversals	2016
Tangible assets	0.1		(0.1)	
Equity investments	45.4	7.5		52.9
Other long-term investment securities	19.9		(0.9)	19.0
Other long-term investments	0.4		(0.4)	
Inventories and work-in-progress	1.6	1.5	(0.5)	2.6
Operating receivables	61.5		(43.7)	17.8
Current account loans with subsidiaries	4.0		(4.0)	
IMPAIRMENT AND ALLOWANCES	132.9	9.0	(49.6)	92.3
Whose charges and reversals:				
operating items		1.5	(44.3)	
financial items			(4.0)	
exceptional items		7.5	(1.3)	

Reversals mainly relate to utilization and cancellation of impairments on trade receivables from subsidiaries for -21.8 and -21.5 million euros respectively.

B. Provisions

Provisions mainly include:

- foreign exchange provisions;
- third party or employee contingency and litigation provisions;
- jubilee awards and vested rights with regard to retirement termination payments (21.9 million euros in 2016 and 21.1 million euros in 2015).

(in millions of euros)	2015	Charges / increases	Reversals	2016
Provisions for contingencies	15.3	2.7	(9.1)	8.9
Provisions for losses	22.3	3.1	(1.8)	23.6
PROVISIONS	37.6	5.8	(10.9)	32.5
<i>Whose charges and reversals:</i>				
<i>operating items</i>		2.9	(2.2)	
<i>financial items</i>		1.6	(4.6)	
<i>exceptional items</i>		1.3	(4.1)	

Charges mainly relate to provisions for jubilee awards and vested rights with regard to retirement termination payments for 2.6 million euros, and foreign exchange for 1.6 million euros.

Reversals primarily stem from the cancellation of foreign exchange provisions for -4.6 million euros and subsidiary contingencies for -4.0 million euros, and from the utilization of provisions for jubilee awards and vested rights with regard to retirement benefits for -1.6 million euros.

12. Short-term financial investments

The item breaks down as follows:

(in millions of euros)	Gross value as of December 31, 2015	Gross value as of December 31, 2016
Company treasury shares	22.3	15.8
Other short-term financial investments	30.3	30.7
SHORT-TERM FINANCIAL INVESTMENTS	52.6	46.5

At the 2016 year-end, the "Company treasury shares" caption consisted of 198,772 shares (286,745 shares in 2015) allocated for the implementation of any performance shares plans to employees.

13. Shareholders' equity

As of December 31, 2016, the share capital comprised 388,875,761 shares with a par value of 5.50 euros.

The portion of share capital arising from the special revaluation reserve totals 71.4 million euros.

(in millions of euros)	As of December 31, 2015 (before appropriation of earnings)	Appropriation of 2015 net profit ^(a)	Capital increases	Capital decreases	Other changes	As of December 31, 2016 (before appropriation of earnings)
Share capital ^(b)	1,892.9		245.9			2,138.8
Additional paid-in capital ^(b)	15.6		3,087.7			3,103.3
Revaluation reserve	25.4				(1.5)	23.9
Reserves:						
■ Legal reserve	189.6					189.6
■ Tax-driven reserves	307.8					307.8
■ Translation reserve	7.7					7.7
■ Other reserves	73.0					73.0
Retained earnings ^(c)	5,417.0	1,395.6			1.0	6,813.6
Net profit for the year	2,317.2	(2,317.2)			482.4	482.4
Accelerated depreciation	5.1					5.1
SHAREHOLDERS' EQUITY	10,251.3	(921.6) ^(d)	3,333.6		481.9	13,145.2

(a) Following the decision of the Combined Annual Shareholders' Meeting of May 12, 2016.

(b) The change in the "Share capital" and "Additional paid-in capital" captions results from the following transactions:

- capital increases of 2.8 million euros resulting from the exercise of 511,408 subscription options. The "Additional paid-in capital" caption was increased by the premiums related to these share capital increases, i.e. 29.5 million euros;
- capital increase of 5.5 million euros resulting from the subscription of 999,143 shares by employees of the Group, noted on May 10, 2016 by the Chairman and Chief Executive Officer by virtue of the powers granted by the Board of Director's on July 29, 2015 and October 23, 2015 and confirmed on February 15, 2016. The "Additional paid-in capital" caption was increased by the premiums related to these share capital increase, i.e. 71.9 million euros and reduced by the capital increase costs i.e.-1.2 million euros;
- capital increase of 237.6 million euros resulting from the subscription of 43,202,209 shares. The "Additional paid-in capital" caption was increased by the premiums related to this share capital increase, i.e. 3,045.8 million euros and reduced by the capital increase costs, i.e.-58.3 million euros (see note 1).

(c) The change in "Retained earnings" also includes the difference between the estimated loyalty dividend and the loyalty dividend actually paid and the cancellation of the dividend pertaining to treasury shares.

(d) Amount distributed.

14. Debt maturity analysis

(in millions of euros)	December 31, 2016		
	Gross	≤ 1 year	> 1 year
Long-term loans	2,153.7	3.1	2,150.6
Other long-term investments	67.2	0.6	66.6
Operating receivables	353.4	348.3	5.1
Current account loans with subsidiaries ^(a)	434.5	434.5	
ASSETS	3,008.8	786.5	2,222.3

(a) Current amount loans agreements are concluded for an indefinite period.

(in millions of euros)	December 31, 2016			
	Gross	≤ 1 year	> 1 to ≤ 5 years	> 5 years
Other bonds ^(a)	762.0	5.2	456.8	300.0
Bank borrowings	2.6	2.6		
Other borrowings	252.0	1.9	0.1	250.0
Operating payables	377.4	373.4	4.0	
Current account borrowings with subsidiaries ^(b)	1,030.1	1,030.1		
DEBTS	2,424.1	1,413.2	460.9	550.0

(a) All new bond issues carried out by L'Air Liquide S.A., and constituting the outstanding bonds as of December 31, 2016, include a change of control clause.

(b) Current amount borrowings agreements are concluded for an indefinite period.

15. Loan issue and bond redemption premiums

The change in the item breaks down as follows:

(in millions of euros)	Net value as of January 1, 2016	Increases	Charges	Net value as of December 31, 2016
Loan issue premiums	14.8		(1.8)	13.0
Bond redemption premiums	15.7		(5.6)	10.1
TOTAL	30.5		(7.4)	23.1

The charges in bond redemption premiums mainly correspond to the amortization of a 43.8 million euro premium related to the 2010 bond exchange over the term of the new bond, i.e. until October 2018.

16. Financial instruments

Unsettled derivatives as of December 31, 2016 break down as follows:

(in millions of euros)	December 31, 2016	
	Carrying value	Fair value difference
Currency forwards		
■ Buy	35.0	0.7
■ Sell	88.6	0.8
FOREIGN EXCHANGE RISK	1.5	

The fair value difference represents the difference between the derivative's valuation and the value of the contract determined at the closing year-end exchange rate.

Insofar as these instruments are all allocated to hedging transactions, the fair value differences had no impact on the financial statements for the 2016 year-end.

17. Retirement and similar plans

A. Group retirement benefit guarantee agreement

In France, Air Liquide grants additional benefits to retirees (4,117 retirees as of December 31, 2016) and to employees over 45, or with more than 20 years of service as of January 1, 1996 (14 employees as of December 31, 2016). These benefits provide a supplemental retirement income based on final pay, which is paid in addition to other normal retirement benefits. This plan is closed to employees under the age 45, or with less than 20 years of service as of January 1, 1996. These plans are unfunded. The annual amount paid with regards to additional benefits cannot exceed 12% of total payroll or 12% of pre-tax profits of companies involved. From 2011 onwards, this 12% threshold will be proportionately reduced by comparing the number of plan beneficiaries for the year to the number of plan beneficiaries for the previous year. In 2014, this plan was amended: from 2015 onwards, the additional retirement benefit paid by Air Liquide is aligned with the indexation of French statutory and supplementary pension plans up to a maximum annuity. Any additional annuity will not be subject to any indexation. A revaluation cap and floor were also introduced and the date when thresholds are reduced was postponed to 2017. These thresholds will be proportionately reduced by comparing the number of plan beneficiaries for the year to the number of plan beneficiaries for the previous year.

The contributions amounted to 12.3 million euros in 2016 (12.3 million euros in 2015) after reinvoicing subsidiaries. Excluding the impact of timelines, and until the plan ends, the actuarial value of obligations vis-à-vis retirees and those eligible as of December 31, 2016 amounts to 658.9 million euros (624.9 million euros for retirees and 34.0 million euros for active employees).

Based on the assumptions used for the valuation of the retirement obligations, an estimated 461.8 million euros will be recharged to the subsidiaries of L'Air Liquide S.A. as and when benefits are paid to the retirees.

B. Externally funded plan

L'Air Liquide S.A. grants to employees not covered by the preceding plan (1,000 employees as of December 31, 2016) and with at least one half-year of service benefit from an externally funded defined contribution plan. Contributions to this plan are jointly paid by the employer and employee. For 2016, employer contributions (net of reinvoicing to subsidiaries) amounted to 6.1 million euros (6.1 million euros in 2015).

C. Retirement termination payments and jubilees

The corresponding obligations are provided for in the amount of 21.0 million euros (net of tax) and 1.0 million euros, respectively.

D. Calculation of actuarial assumptions and methods

The calculations with respect to the Group's retirement benefit guarantee agreement, retirement termination payments and jubilees are performed by independent actuaries using the projected unit credit method.

Actuarial gains and losses exceeding the greater of 10% of the obligations related to retirement termination payments and unrecognized past service costs are amortized over the expected average working lives of the plan participants. As of December 31, 2016, the amounts stand at 10.9 million euros (16.9 million euros in 2015).

The actuarial assumptions (turnover, mortality, retirement age, salary increase) vary according to demographic and economic conditions.

The discount rates used to determine the present value of obligations are based on Government bonds or High-quality Corporate bonds, with the same duration as the obligations at the valuation date (1.6% as of December 31, 2016).

E. Change in retirement obligations and similar benefits

Company obligations with respect to pension plans and similar benefits break down as follows:

(in millions of euros)	Defined benefit plan	Retirement indemnities	Jubilees	Total
OBLIGATIONS AS OF JANUARY 1, 2016	664.1	47.6	1.0	712.7
Service cost	0.9	2.4	0.1	3.4
Interest cost	8.7	0.6		9.3
Benefit payments	(44.9)	(2.4)		(47.3)
Actuarial (gains) / losses ^(a)	30.1	(5.3)	(0.1)	24.7
OBLIGATIONS AS OF DECEMBER 31, 2016 ^(b)	658.9	42.9	1.0	702.8

(a) The amounts recognized in "Actuarial (gains) / losses" mainly arise from the difference between the December 31, 2016 discount rate (1.60%) and the December 31, 2015 rate (2.00%).

(b) Commitments as of December 31, 2016 are covered by assets amounting to 9.9 million euros.

18. Accrued income and accrued expenses

(in millions of euros)	December 31, 2016
Accrued income	
Other long-term financial assets	
Other long-term financial assets	67.6
Operating receivables	20.9
ACCRUED INCOME	
Accrued expenses	
Other bonds	5.2
Other borrowings	1.9
Operating payables	164.3
ACCRUED EXPENSES	171.4

19. Deferred taxes

Deferred taxes arise from timing differences between the tax regime and the accounting treatment of income and expenses. According to the nature of the differences, these deferred taxes will increase or decrease the future tax expense and are not recorded pursuant to the provisions of the chart of accounts.

Deferred taxes as of December 31, 2016 are estimated as follows:

(in millions of euros)	December 31, 2015	December 31, 2016
Deferred tax assets (decrease in future tax expense)	4.8	4.2
Deferred tax liabilities (increase in future tax expense)	5.7	3.7

The deferred taxes were calculated taking into account the 3.3% social security contribution on earnings i.e. a general rate of 34.43%.

OTHER INFORMATIONS

1. Items concerning related undertakings

The Company conducted related party transactions with its wholly owned subsidiaries or subsidiaries that were directly or indirectly controlled.

(in millions of euros)	December 31, 2016	
	Gross	Including related undertakings
Balance sheet		
Long-term loans	2,153.7	2,152.8
Other long-term financial assets	67.2	
Operating receivables	353.4	314.0
Current account loans with subsidiaries	434.5	434.5
Other borrowings	252.0	251.9
Operating payables	377.4	75.3
Current account borrowings with subsidiaries	1,030.1	1,030.1
Income statement		
Financial income from equity affiliates	264.9	264.9
Interests, similar income and expenses	(57.9)	(2.2)
Other financial income and expenses	(6.5)	4.0

2. Off-balance sheet commitments

Off-balance sheet commitments break down as follows:

(in millions of euros)	December 31, 2015	December 31, 2016
Commitments given		
Endorsements, securities and guarantees given ^(a)	686.8	2,210.6
To Air Liquide Finance and Air Liquide US LLC on transactions performed ^(b)	6,376.7	13,240.6
Firm purchase orders for fixed assets		22.6
COMMITMENTS GIVEN	7,063.5	15,473.8

(a) Increase between 2016 and 2015 is related to guarantees given in favor of holders of the Senior Notes issued by Airgas. This guarantee amounts to 1,550 million US dollars. The caption "Endorsements, securities and guarantees given" also includes the joint and several liability guarantee of the subsidiary Air Liquide France Industrie in connection with energy purchases, and a guarantee covering the obligations of the Air Liquide Arabia and Air Liquide Global E&C Solutions France subsidiaries under Middle Eastern projects.

(b) L'Air Liquide S.A. holds 100% of the French subsidiary Air Liquide Finance, which manages the Group's cash position and interest rate risk, as well as financing. The strong growth between 2016 and 2015 is mainly due to bonds issued in order to finance the acquisition of Airgas.

In addition, Air Liquide Finance holds 100% of Air Liquide US LLC, in order to borrow on the US market.

Insofar as the sole activity of Air Liquide Finance and Air Liquide US LLC is the Group's financing, L'Air Liquide S.A. is required to guarantee any issuances performed by these companies. Period increase is detailed in note 1.

3. Remuneration paid to members of Executive Management and the Board of Directors

The remuneration (short-term benefits: fixed and variable portions, benefits in kind, retirement termination payments, Directors' fees) paid by the Company to members of Executive Management and the Board of Directors respectively, amounts to:

(in millions of euros)	2016
Remuneration of the Board of Directors	0.7
Remuneration of Executive Management	3.3
TOTAL	4.0

During 2016, the Company paid to third parties the total amount of 217,800 euros.

For Benoît Potier: with respect to supplementary defined contribution pension plans: 9,233 euros, with respect to the collective life insurance contract: 205,416 euros and with respect to the collective death and disability benefits plan: 3,151 euros.

The Company paid nothing to third party for Pierre Dufour.

4. Average number of employees

The average number of employees is:

	2015	2016
Engineers and executives	811	829
Supervisory staff	265	252
Employees	7	5
Laborers	25	21
TOTAL	1,108	1,107

5. Subsidiaries and affiliates information

(in thousands of euros)	Share capital as of December 31, 2016	Other equity as of December 31, 2016	% share holding
A. Detailed information on affiliates whose carrying amounts exceed 1% of the capital of the Company required to publish its financial statements			
a) Companies operating in France			
Air Liquide International ^(b) – 75, quai d'Orsay – 75007 Paris	3,151,080	3,621,190	99.99
Air Liquide France Industrie – 6, rue Cognacq-Jay – 75007 Paris	72,268	528,976	99.99
Air Liquide Finance – 6, rue Cognacq-Jay – 75007 Paris	72,000	8,110	99.99
Air Liquide Santé (International) – 75, quai d'Orsay – 75007 Paris	38,477	238,969	99.99
Chemoxal ^(b) – 75, quai d'Orsay – 75007 Paris	30,036	3,389	99.99
Air Liquide Investissements d'Avenir et de Démonstration – 6, rue Cognacq-Jay – 75007 Paris	55,050	5,975	99.99
Air Liquide Advanced Business – 6, rue Cognacq-Jay – 75007 Paris	61,050	(15,439)	99.99
b) Companies operating outside of France			
Air Liquide Industriegase GmbH & Co. KG – Hans-Günther-Sohl-Strasse 5 – 40235 Düsseldorf – Germany	10	2,836,383	100.00
B. General information on other subsidiaries and affiliates			
a) French companies (together)			
b) Foreign companies (together)			
(a) Most recent year-end accounts approved by the competent decision-making bodies.			
(b) Holding company.			

Carrying amount of shares held after the revaluations of 1976, 1978 and 1979			Loans and advances granted by the Company and not repaid	Guarantees and endorsements given by the Company	2015 net revenue ^(a)	Net profit (or loss) for 2015 ^(a)	Dividends collected by the Company during 2016
Gross	Net	Including revaluation difference					
9,333,923	9,333,923	21,186			423	1,082,904	
285,126	285,126				1,013,070	115,589	106,474
72,901	72,901		2,438,308	12,836,494		22,934	22,920
331,728	331,728	6,301	5,943		43	74,621	74,548
30,326	30,326		974			35,353	35,314
55,050	55,050				133	(1,475)	991
61,050	61,050		2,240		5,787	(8,142)	
2,106,474	2,106,474				58,824	35,407	
108,512	56,387	16,068	2,127	2,770			9,434
3,963	3,206						3,889

Statutory Auditors' Report on the annual financial statements

This is a free translation into English of the Statutory Auditors' report on the financial statements issued in French and it is provided solely for the convenience of English speaking readers.

The Statutory Auditors' report includes information specifically required by French law in such reports, whether modified or not. This information is presented below the audit opinion on the financial statements and includes an explanatory paragraph discussing the auditors' assessments of certain significant accounting and auditing matters. These assessments were considered for the purpose of issuing an audit opinion on the financial statements taken as a whole and not to provide separate assurance on individual account balances, transactions, or disclosures.

This report also includes information relating to the specific verification of information given in the Management Report and in the documents addressed to shareholders.

This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

To the Shareholders,

In compliance with the assignment entrusted to us by your Annual Shareholders' Meeting, we hereby report to you, for the year ended December 31, 2016, on:

- the audit of the accompanying annual financial statements of L'Air Liquide S.A.;
- the justification of our assessments;
- the specific verification required by French law.

These annual financial statements have been approved by the Board of Directors. Our role is to express an opinion on these consolidated financial statements based on our audit.

I. OPINION ON THE CONSOLIDATED FINANCIAL STATEMENTS

We conducted our audit in accordance with professional standards applicable in France; those standards require that we plan and perform the audit to obtain reasonable assurance about whether the annual financial statements are free of material misstatement. An audit involves performing procedures, using sampling techniques or other methods of selection, to obtain audit evidence about the amounts and disclosures in the annual financial statements. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made, as well as the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2016 and the results of its operations for the year then ended, in accordance with the accounting rules and principles applicable in France.

II. JUSTIFICATION OF OUR ASSESSMENTS

In accordance with the requirements of article L. 823-9 of the French Commercial Code (Code de commerce) relating to the justification of our assessments, we bring to your attention the following matters:

Investments are recognized in the balance sheet of your company for a net book value of 12,338 million euros. The paragraph 2.D "accounting policies – investments" of the notes to the annual financial statements describes the methodologies used to account for investments and the approach used by the Company to measure the depreciations. We assessed the methodology and assumptions used by the Company to perform the impairment tests are reasonable.

These assessments were made as part of our audit of the financial statements taken as a whole, and therefore contributed to the opinion we formed which is expressed in the first part of this report.

III. SPECIFIC VERIFICATION

We have also performed, in accordance with professional standards applicable in France, the specific verifications required by French law.

We have no matters to report as to the fair presentation and the consistency with the financial statements of the information given in the management report of the Board of Directors and in the documents addressed to shareholders with respect to the financial position and the financial statements.

Concerning the information given in accordance with the requirements of article L. 225-102-1 of French Commercial Code (Code de commerce) relating to remunerations and benefits received by the directors and any other commitments made in their favor, we have verified its consistency with the financial statements, or with the underlying information used to prepare these financial statements and, where applicable, with the information obtained by your company from companies controlling your company or that it controls. Based on this work, we concur with the accuracy and fair presentation of this information.

In accordance with French law, we have ensured that the required information concerning the names of the principal shareholders and holders of the voting rights has been properly disclosed in the Directors' Report.

Neuilly-sur-Seine and Paris-La Défense, March 3, 2017

The Statutory Auditors

French original signed by

PricewaterhouseCoopers Audit

Olivier Lotz

Séverine Scheer

ERNST & YOUNG et Autres

Jeanne Boillet

Emmanuelle Mossé

Five-year summary of Company results

(Articles R. 225-83 and R. 225-102 of the French Commercial Code)

	2012	2013	2014	2015	2016
I - Share capital at the end of the year					
a) Share capital (<i>in euros</i>) ^{(a) (b) (c)}	1,717,546,375	1,720,574,218	1,896,800,857	1,892,896,506	2,138,816,686
b) Number of outstanding ordinary shares	312,281,159	312,831,676	344,872,883	344,163,001	388,875,761
c) Number of shares with loyalty dividend entitlement ^(d)	90,629,532	92,705,933	102,644,011	102,889,311	102,292,196
d) Convertible bonds					
II - Operations and results of the year (<i>in millions of euros</i>)					
a) Revenue	256.2	232.0	166.6	176.3	154.5
b) Net profit before tax, employee profit-sharing, depreciation, amortization and provisions	1,111.0	1,149.2	5,160.5	2,455.5	577.9
c) Corporate income tax	27.5	52.9	53.1	59.0	53.8
d) Employee profit-sharing for the year	3.6	3.3	2.7	2.2	2.6
e) Net profit after tax, employee profit-sharing, depreciation, amortization and provisions	1,039.9	1,017.9	5,060.8	2,317.2	482.4
f) Distributed profit	803.4	820.9	905.1	921.6	1,037.7
III - Per share data (<i>in euros</i>)					
a) Net profit after tax, employee profit-sharing, but before depreciation, amortization and provisions					
■ over the number of ordinary shares outstanding	3.46	3.49	14.80	6.96	1.34
■ over the adjusted number of shares ^(e)	3.06	3.11	14.48	6.80	1.44
b) Net profit after tax, employee profit-sharing, depreciation, amortization and provisions					
■ over the number of ordinary shares outstanding	3.33	3.25	14.67	6.73	1.24
■ over the adjusted number of shares ^(e)	2.95	2.89	14.36	6.58	1.34
c) Dividend allocated to each share					
■ over the number of ordinary shares outstanding	2.50	2.55	2.55	2.60	2.60
■ over the adjusted number of shares ^(e)	2.21	2.25	2.48	2.53	2.60
d) Loyalty dividend					
■ over the number of beneficiary shares	0.25	0.25	0.25	0.26	0.26
■ over the adjusted number of shares ^(e)	0.22	0.23	0.25	0.25	0.26
IV - Employees working in France					
a) Average number of employees during the year	1,290	1,264	1,097	1,108	1,107
b) Total payroll for the year (<i>in millions of euros</i>)	158.9	159.1	145.1	147.0	149.9
c) Amounts paid with respect to employee benefits during the year (social security, staff benefits, etc.) (<i>in millions of euros</i>)	68.7	69.6	67.6	70.0	68.9

(a) Using the authorization granted by the 8th resolution of the Combined Annual Shareholders' Meeting of May 9, 2012, the 10th resolution of the Combined Annual Shareholders' Meeting of May 7, 2013 and the 15th resolution of the Combined Annual Shareholders' Meeting of May 7, 2014, the Board of Directors made the following decisions:

- in its meeting of May 9, 2012, capital decrease by cancellation of 1,200,000 treasury shares;
- in its meeting of May 7, 2013, capital decrease by cancellation of 1,000,000 treasury shares;
- in its meeting of May 7, 2014, capital decrease by cancellation of 1,000,000 treasury shares;
- in its meeting of May 6, 2015, capital decrease by cancellation of 1,500,000 treasury shares.

(b) Using the authorization granted by the 9th resolution of the Combined Annual Shareholders' Meeting of May 9, 2012, the Board of Directors decided in its meeting of May 9, 2012, the granting of one free share for ten existing shares (ranking for dividends as of January 1, 2012), and the granting of a 10% bonus for shares held in registered form from December 31, 2009 to May 30, 2012 (ranking for dividends as of January 1, 2012).

Using the authorization granted by the 16th resolution of the Combined Annual Shareholders' Meeting of May 7, 2014, the Board of Directors decided in its meeting of May 7, 2014, the granting of one free share for ten existing shares (ranking for dividends as of January 1, 2014), and the granting of a 10% bonus for shares held in registered form from December 31, 2011 to June 1, 2014 (ranking for dividends as of January 1, 2014).

(c) Using the authorizations granted by the resolutions of Combined Annual Shareholders' Meetings of May 9, 2007 and May 5, 2010,

- the Board of Directors noted in its meeting of February 15, 2016 the issuance of 59,602 shares (ranking for dividends as of January 1, 2016) arising from:
 - the exercise of 2,601 options subscribed at the price of 50.03 euros;
 - the exercise of 6,838 options subscribed at the price of 64.66 euros;
 - the exercise of 1,754 options subscribed at the price of 68.26 euros;
 - the exercise of 48,409 options subscribed at the price of 71.54 euros.
- the Board of Directors noted in its meeting of July 29, 2016 the issuance of 354,628 shares (ranking for dividends as of January 1, 2016) arising from:
 - the exercise of 90,861 options subscribed at the price of 50.03 euros;
 - the exercise of 222,480 options subscribed at the price of 64.66 euros;
 - the exercise of 17,965 options subscribed at the price of 68.26 euros;
 - the exercise of 23,322 options subscribed at the price of 71.54 euros.
- Pursuant to the delegation granted by the Board of Directors in its meeting of July 29, 2016, the Chairman and CEO noted on September 12, 2016 the issuance of 41,303 shares (ranking for dividends as of January 1, 2016) arising from:
 - the exercise of 11,620 options subscribed at the price of 50.03 euros;
 - the exercise of 10,823 options subscribed at the price of 64.66 euros;
 - the exercise of 12,846 options subscribed at the price of 68.26 euros;
 - the exercise of 6,014 options subscribed at the price of 71.54 euros.
- the Board of Directors noted in its meeting of February 14, 2017 the issuance of 55,875 shares (ranking for dividends as of January 1, 2016) arising from:
 - the exercise of 20,889 options subscribed at the price of 48.72 euros;
 - the exercise of 5,725 options subscribed at the price of 66.47 euros;
 - the exercise of 8,924 options subscribed at the price of 69.66 euros;
 - the exercise of 20,337 options subscribed at the price of 85.30 euros.
- Using the authorization granted by the 16th resolution of the Combined Annual Shareholders' Meeting of May 6, 2015, pursuant to the delegation granted by the Board of Directors in its meetings of July 29, 2015 and October 23, 2015, and confirmed on February 15, 2016, the Chairman and CEO noted on Mai 10, 2016 the employee-reserved issuance of 999,143 new shares:
 - 931,900 new shares subscribed in cash at a price of 77.18 euros per share, (ranking for dividends as of January 1, 2016), of which 2,728 shares were subscribed as part of the contribution paid by the Company (1 bonus share for 4 shares subscribed with a maximum of 3 bonus shares per employee);
 - 67,243 new shares subscribed in cash at a price of 82.00 euros per share, (ranking for dividends as of January 1, 2016).

Using the authorization granted by the 12th resolution of the Combined Annual Shareholders' Meeting of May 6, 2015, the Chairman and CEO, pursuant to the delegation granted by the Board of Directors in its meetings of July 29, 2016, noted on October 11, 2016, the issuance of 43,202,209 new shares, with retention of the preferential subscription rights on the basis of one new share for eight existing shares, subscribed in cash, at a price of 76.00 euros per share.

(d) Beginning December 31, 1995, shareholders holding their shares in registered form for at least two years at the period-end, and who will retain these shares in this form until the dividend payment date, will receive a dividend with a 10% bonus compared to the dividend paid to other shares. The difference between the loyalty dividend calculated on the number of shares outstanding as of the period-end and the loyalty dividend actually paid shall be allocated to retaining earnings.

(e) Adjusted to take into account, in the weighted average, the capital increases performed via cash subscriptions and treasury shares.

(f) Adjusted to account for share capital movements.



5

ANNUAL GENERAL MEETING 2017

BOARD OF DIRECTORS' REPORT ON THE RESOLUTIONS PRESENTED TO THE 2017 COMBINED SHAREHOLDERS' MEETING

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► BOARD OF DIRECTORS' REPORT ON THE RESOLUTIONS PRESENTED TO THE 2017 COMBINED SHAREHOLDERS' MEETING

Results for the fiscal year

The financial statements of L'Air Liquide S.A. that have been prepared by applying the methods provided for by law and the standards of the French General Chart of Accounts are attached to this report – pages 313 and 314.

Revenue for the fiscal year ended December 31, 2016 amounted to 154.5 million euros, compared to 176.3 million euros in 2015, down by 12.4%.

The income from French and foreign equity securities amounted to 264.9 million euros, compared to 2,189.9 million euros in 2015.

Net profit for the fiscal year ended December 31, 2016 amounted to 482.4 million euros, compared to 2,317.2 million euros in 2015.

In 2015 and 2016, L'Air Liquide S.A. net profit is impacted by exceptional items.

Consolidated revenue in 2016 amounted to 18,134.8 million euros, compared to 15,818.5 euros in 2015 (excluding Diving and Welding activities restated as discontinued operations), up +14.6%. Revenue was up +16.0% after adjusting for the cumulative impact of foreign exchange fluctuations. The latter essentially stemmed from the depreciation of the Argentinian peso and the Chinese renminbi against the euro.

Consolidated net profit, after deduction of minority interests, amounted to 1,844.0 million euros, compared to 1,756.4 million euros in 2016, up +5.0% (up +6.6 % excluding foreign exchange impact).

These results are detailed in the Management Report and the financial statements.

These results are described in detail in the Management Report and the financial statements.

Information on share capital

AMOUNT OF SHARE CAPITAL HELD BY EMPLOYEES

Please refer to the chapter "Additional Information" of this Reference Document – page 366.

CROSSING OF SHARE CAPITAL AND VOTING RIGHTS THRESHOLDS IN 2016

Please refer to the chapter "Additional Information" of this Reference Document – page 365.

Investments and acquisition of controlling interests

In accordance with the provisions of article L. 233-6 of the French Commercial Code, there is no new transaction performed by L'Air Liquide S.A. in 2016.

Resolutions within the authority of the Ordinary Shareholders' Meeting

We ask you, after having reviewed:

- the Report of the Board of Directors on the operation and management of the Company and its Group during the 2016 fiscal year;
- the Company's financial statements, income statement, balance sheet and notes thereto;
- the Group's consolidated financial statements;
- the Reports of the Statutory Auditors,

to approve the Company's financial statements and the consolidated financial statements for the year ended December 31, 2016 as presented, as well as the transactions set out in these financial statements or mentioned in these reports.

Your Company's net profit allows the Board to propose the payment of a dividend of 2.60 euros for each share entitled to a dividend, it being specified that in the event of a change in the number of shares entitled to a dividend compared to the 388,875,761 shares making up the share capital as of December 31, 2016, the overall dividend amount would be adjusted accordingly and the amount appropriated to the retained earnings account would be determined on the basis of the dividend effectively paid.

The proposed dividend amounts to 2.60 euros, per share. Taking into account the restatement related to the right issue, the dividend increases by 2.7%, corresponds to an increase in the total amount distributed of 12%.

This level of dividend also takes into account this year the attribution in the second half of 2017 of one free share for 10 existing shares, pursuant to the authorization granted by the Extraordinary Shareholders' Meeting on May 12, 2016 in its 17th resolution.

The ex-dividend date has been set for May 15, 2017. The dividend payment date will be set for May 17, 2017.

In accordance with the provisions of article 243 bis of the French Tax Code, it is specified that this dividend is eligible in its entirety for the 40% allowance referred to in section 2° of paragraph 3 of article 158 of the French Tax Code.

In addition, shareholders who have held their shares in registered form for at least two years as of December 31, 2016 and who retain such shares in registered form up to the dividend payment date, shall be entitled, for such shares (i.e. a total number of 102,292,196 shares at December 31, 2016), to a loyalty dividend of 10% compared with the dividend paid to the other shares, i.e. an additional dividend of 0.26 euro per share. In accordance with the provisions of article 243 bis of the French Tax Code, it is specified that this dividend is also eligible in its entirety for the 40% allowance referred to in section 2° of paragraph 3 of article 158 of the French Tax Code.

The difference between the loyalty dividend calculated on the number of shares known to exist at December 31, 2016 and the loyalty dividend actually paid will be allocated to the retained earnings account.

We also ask you to take due note of distributable earnings for the year. Such amount includes profits for 2016 of 482,384,945 euros plus available retained earnings at December 31, 2016 of 6,813,611,106 euros, i.e. a total of 7,295,996,051 euros.

We propose to appropriate the distributable earnings for fiscal year 2016, i.e. 7,295,996,051 euros, as follows:

Legal reserve	24,119,247 euros
Retained earnings	6,234,203,854 euros
Dividend (including the loyalty dividend)	1,037,672,950 euros

DISTRIBUTION

In accordance with French law, we wish to remind you that the distributions made in respect of the last three fiscal years were as follows:

	Total amount distributed ^(a) (in euros)	Number of shares concerned ^(b)	Dividend distributed eligible in its entirety for the 40% allowance referred to in article 158-3-2° of the French Tax Code (in euros)
Fiscal year 2013			
Ordinary dividend	797,720,774	312,831,676	2.55
Loyalty dividend	23,176,483	92,705,933	0.25
Fiscal year 2014			
Ordinary dividend	879,425,851	344,872,883	2.55
Loyalty dividend	25,661,003	102,644,011	0.25
Fiscal year 2015			
Ordinary dividend	894,823,802	344,163,001	2.60
Loyalty dividend	26,751,221	102,889,311	0.26

(a) Theoretical values calculated based on the number of shares as of December 31 for each fiscal year.

(b) Number of shares expressed historically as of December 31 for each fiscal year.

The amounts effectively paid after adjustment were as follows:

- fiscal year 2013 – ordinary dividend: 793,400,084 euros for 311,137,288 shares; loyalty dividend: 21,538,427 euros for 86,153,707 shares;
- fiscal year 2014 – ordinary dividend: 874,131,348 euros for 342,796,607 shares; loyalty dividend: 23,909,031 euros for 95,636,122 shares;
- fiscal year 2015 – ordinary dividend: 895,276,249 euros for 344,337,019 shares; loyalty dividend: 25,311,759 euros for 97,352,920 shares.

The adjustment arises from the change in the number of treasury shares, from the final determination of the loyalty dividend taking into account shares sold between January 1 and the ex-dividend date, from the exercise of options over this same period and the capital increase reserved for employees.

BUYBACK BY THE COMPANY OF ITS OWN SHARES

A. Information on the completion of the Company's share buy-back program (pursuant to article L. 225-211 of the French Commercial Code)

The Combined Shareholders' Meeting of May 12, 2016 authorized the Board, for a period of 18 months, in accordance with articles L. 225-209 et seq. of the French Commercial Code and the directly applicable provisions of EC Regulation No. 2273/2003 of December 22, 2003, to allow the Company to repurchase its own shares in order to:

- cancel them;
- retain them for the purpose of tendering them within the scope of an exchange offer or for payment in external growth transactions, in accordance with recognized market practice and applicable regulations;
- tender them following the exercise of rights attached to marketable securities conferring entitlement to Company shares by redemption, conversion, exchange, presentation of a warrant or any other means;
- implement (i) any share purchase option plans or (ii) plans for free share attribution, or (iii) any employee share ownership transactions reserved for members of a Company savings plan, performed through the transfer of shares acquired previously by the Company, or providing for a free grant of shares in respect of a contribution in shares by the Company and/or to replace the discount, or

(iv) allocation of shares to employees and/or Executive Officers of the Company and affiliated companies, in accordance with the laws and regulations in force;

- maintain an active market in the Company's shares pursuant to a market liquidity contract in accordance with an Ethics Charter recognized by the French financial markets authority.

The maximum purchase price was set at 165 euros per share, and the maximum number of shares that can be bought back was set at 10% of the total number of shares making up the share capital as of December 31, 2015, namely 34,416,300 shares for a maximum total amount of 5,678,689,500 euros, subject to the legal limits.

These shares could be purchased at any time, excluding the periods for takeover bids on the Company's share capital, on one or more occasions and by all available means, either on or off a stock exchange, in private transactions, including the purchase of blocks of shares, or through the use of derivative financial instruments, and, if applicable, by all third parties acting on behalf of the Company, under the conditions stipulated in the provisions of the last paragraph of article L. 225-206 of the French Commercial Code.

Pursuant to this authorization and the previous delegation authorized by the Combined Shareholders' Meeting of May 6, 2015:

- a liquidity contract was set up, which led to the following movements during the 2016 fiscal year:
 - 1,092,763 shares were purchased for a total price of 104,403,645 euros, or an average purchase price of 95.94 euros,

- 1,095,388 shares were sold for a total price of 104,832,183.91 euros, or an average purchase price of 95.70 euros;

No other shares were bought before the end of fiscal year 2016.

The total cost of the buy-backs was thus limited to 104,403,645 euros.

The total amount of the transaction fees (exclusive of taxes) was 0.2 million euros.

In addition, during the fiscal year, the Company proceeded to the delivery of treasury shares to certain beneficiaries of performance share plans as follows:

- 47,667 shares granted under the 2012 Performance Shares Plan ("World Plan");
- 39,936 shares granted under the 2013 Performance Shares Plan ("France Plan");
- 198 shares granted under the 2011 Performance Shares Plan under regularisations; and
- 89 shares and 83 shares granted following deaths under the 2013 and 2014 Performance Shares Plans ("World Plan").

As of December 31, 2016, the Company directly owned 1,029,934 shares at an average purchase price of 98.53 euros, i.e. a balance sheet value of 101,479,843 euros. These shares, each with a par value of 5.50 euros, represented 0.26% of the Company's share capital. They are allocated for the purpose of share exchanges or as payment in connection with possible external growth transactions (831,162 shares) and for the purpose of the implementation of any performance share plans (198,772 shares).

Under the liquidity contract, as of December 31, 2016 a total of 750 shares were on the balance sheet for a net value of 77,330 euros.

B. Draft resolution

As the authorization granted by the Ordinary Shareholders' Meeting of May 12, 2016 was partially used, the Board proposes to replace it with a new authorization to allow the Company to repurchase its own shares in order to:

- cancel them, subject to the adoption of the 12th resolution;
- tender them following the exercise of rights attached to marketable securities conferring entitlement to Company shares by redemption, conversion, exchange, presentation of a warrant or any other means;
- implement (i) any share purchase option plans or (ii) plans for free share attribution, or (iii) any employee share ownership transactions reserved for members of a Company savings plan, performed under the terms and conditions set forth in articles L. 3331-1 et seq. of the French Labor Code through the transfer of shares bought back previously by the Company under this resolution, or providing for a free grants of these shares in respect of a contribution in shares by the Company and/or to replace the discount; or (iv) allocation of share to employees and/or Executive Officers of the Company or

affiliated companies, in accordance with the laws and regulations in force;

- maintain an active market in the Company's shares pursuant to a market liquidity contract in accordance with an Ethics Charter recognized by the French financial market authority.

The maximum purchase price will be set at 165 euros (excluding acquisition costs) per share with a par value of 5.50 euros per share, and the maximum number of shares that can be bought back will be set at 10% of the total number of shares making up the share capital as of December 31, 2016, or 38,887,576 shares with a par value of 5.50 euros, for a maximum total amount of 6,416,450,040 euros, subject to the legal limits.

As the objective of retaining shares and subsequently tendering them within the scope of external growth transactions is no longer considered as an accepted market practice under the new European regulations, it has not been maintained in the draft resolution.

As in previous years, the resolution stipulates that the authorization does not apply during takeover bid periods. These shares may thus be purchased at any time, excluding the periods for takeover bids on the Company's share capital, on one or more occasions and by all available means, either on or off a stock exchange, in private transactions, including the purchase of blocks of shares, or through the use of derivative financial instruments, and, if applicable, by all third parties acting on behalf of the Company, under the conditions stipulated in the provisions of the last paragraph of article L. 225-206 of the French Commercial Code.

Shares bought back may be assigned or transferred in any manner on or off a stock exchange or through private transactions, including the sale of blocks of shares, in accordance with the applicable regulations.

Dividends on treasury shares held by the Company shall be allocated to retained earnings.

This authorization shall be granted for a period of 18 months starting from the date of this Shareholders' Meeting. It supersedes the authorization granted by the Ordinary Shareholders' Meeting of May 12, 2016 in its 4th resolution with respect to its non-utilized portion.

RENEWAL OF THE TERM OF OFFICE OF A DIRECTOR

The Board of Directors is currently composed of 12 members, including one Director representing the employees. The terms of office of Mr Thierry Demarest and Mr Thierry Peugeot will expire at the end of this Shareholders' Meeting.

The Board took due note that Mr Thierry Desmarest's term of office will expire at the end of this Shareholders' Meeting, in compliance with the internal regulations of the Board of Directors.

Mr Thierry Desmarest has been a member of the Board since 1999 and has provided extensive experience and expertise in many areas for the Board, where he had served as lead Director since 2014. The Board thanked him warmly for his outstanding contribution to the development of Air Liquide throughout the years.

On the recommendation of the Appointments and Governance Committee, the 5th resolution concerns the renewal, for a period of four years, of the term of office of Mr Thierry Peugeot.

Mr Thierry Peugeot, who has been a Director since 2005, will continue to provide the Company with his excellent knowledge of the automotive sector and his experience as an executive of a major company.

APPOINTMENT OF A NEW MEMBER TO THE BOARD OF DIRECTORS

On the recommendation of the Appointments and Governance Committee following a selection process led by the Committee and assisted by an external consultant, the 6th resolution propose that you appoint as Director, for a period of four years, Mr Xavier Huillard Chairman and CEO of Vinci since 2010, Mr Huillard will bring to the Board his experience as the CEO of a large multinational company.

REGULATED AGREEMENTS

During the 2016 fiscal year, no new regulated agreement was submitted for the approval of the Board of Directors.

As provided by law, the Board of Directors carried out an annual review of agreements entered into and approved during previous fiscal years which continued to be applied during the year ended December 31, 2016. Regulated agreements and commitments provided for under the TEPA law are re-examined and subject to the approval of the Shareholders' Meeting each time an executive term of office is renewed, the last time being in 2014. The four-year term of office of Mr Benoît Potier as Chairman and Chief Executive Officer will expire in May 2018. The three-year term of office of Mr Pierre Dufour as Senior Executive Vice President will expire at the end of this Shareholders' Meeting. As Mr Pierre Dufour has decided to claim his pension entitlements his term of office will not be renewed.

The Board of Directors warmly thanked him for his commitment and outstanding contribution to the Group's development during the 10 years at the General Management and in particular in the context of the acquisition of Airgas. He will remain a Director of the Company within the framework of the term of office renewed at the Annual General Meeting of Shareholders on May 12, 2016.

In the 7th resolution you are asked to recognize that the Statutory Auditors' Special Report on regulated agreements does not mention any new agreement.

The Statutory Auditors' Special Report on regulated agreements and commitments is included in the 2016 Reference Document and is available on the Company's website.

OPINION ON THE REMUNERATION OF THE COMPANY'S EXECUTIVE OFFICERS FOR THE 2016 FISCAL YEAR

In compliance with the AFEP/MEDEF Governance Code, to which the Company refers, the Board of Directors asks you to express an opinion on the remuneration of the Company's Executive Officers for the year ended. This vote remains an advisory vote. The Remuneration Committee will analyze the results of the vote in order to issue to the Board of Directors its recommendations for the future.

In the 8th and 9th resolutions, you are asked to express a favorable opinion on the elements of remuneration due or allocated to Mr Benoît Potier, Chairman and CEO, and Mr Pierre Dufour, Senior Executive Vice President, in respect of 2016, as described in the 2016 Reference Document – pages 181 to 190 and in the 2017 Invitation to Shareholders' Meeting.

APPROVAL OF THE REMUNERATION POLICY APPLICABLE TO EXECUTIVE OFFICERS FOR 2017

Pursuant to article L. 225-37-2 of the French Commercial Code introduced by the law relating to transparency, the fight against corruption and the modernization of economic activity (called the Sapin 2 law), shareholders are asked in the 10th and 11th resolutions to approve, as of the beginning of the 2017 fiscal year, the principles and criteria for determining, distributing and allocating the fixed, variable and exceptional components of the total remuneration and other benefits allocated to the Chairman and CEO and to the Senior Executive Vice President, and applicable to Mr Benoît Potier and to Mr Pierre Dufour, as described in the corresponding Report contained in the 2016 Reference Document – pages 191 to 199, and in the 2017 Invitation to Shareholders' Meeting.

Resolutions within the authority of the Extraordinary Shareholders' Meeting

AUTHORIZATION TO REDUCE THE SHARE CAPITAL BY CANCELLATION OF TREASURY SHARES

The Company did not cancel any treasury shares in 2016.

You are asked, the 12th resolution, to authorize the Board of Directors to cancel, at its sole discretion, on one or more occasions, and within the limit of 10% of the Company's share capital per 24 month period, any or all of the shares bought back by the Company within the scope of the authorization adopted by this Ordinary Shareholders' Meeting in its 4th resolution and those shares bought back within the scope of the authorizations adopted by the Ordinary Shareholders' Meetings of May 12, 2016 and May 7, 2014, and to reduce the share capital by this amount.

The difference between the carrying amount of the canceled shares and their par value will be allocated to reserve or additional paid-in capital accounts.

This authorization shall be granted for a period of 24 months starting from the date hereof and supersedes the authorization granted by the Extraordinary Shareholders' Meeting of May 12, 2016 in its 16th resolution with respect to the non-utilized portion of such authorization.

INCREASE IN SHARE CAPITAL VIA THE ISSUANCE OF ORDINARY SHARES OR MARKETABLE SECURITIES CONFERRING ENTITLEMENT TO THE COMPANY'S SHARE CAPITAL, WITH RETENTION OF SHAREHOLDERS' PREFERENTIAL SUBSCRIPTION RIGHTS

The Extraordinary Shareholders' Meeting of May 6, 2015 had delegated to the Board of Directors the authority to decide to increase share capital for a maximum nominal amount of 470 million euros corresponding to around 25% of share capital as of December 31, 2014, by issuing, on one or more occasions, shares or marketable securities conferring entitlement, immediately or in the future, to the Company's shares, with retention of shareholders' preferential subscription rights. This authorization, granted for 26 months, is due to expire.

The Group made use of the previous delegation, by carrying out a capital increase with retention of shareholders' preferential subscription rights as part of financing for the Airgas acquisition. The gross amount of this capital increase was 3,283 million euros. The transaction resulted in the issue of 43,202,209 new shares on October 11, 2016.

To finance the Group's growth investments, shareholders are asked in the 13th resolution to renew the delegation granted to the Board of Directors to increase the share capital for a maximum nominal amount of 530 million euros corresponding to around 25% of the share capital as of December 31, 2016 by issuing, on one or more occasions, ordinary shares or compound dilutive marketable securities. The shareholders shall have, in proportion to the amount of shares they own, a preferential subscription right to the shares or to the marketable securities issued.

This delegation of authority is valid for a period of 26 months.

The total amount of capital increases carried out pursuant to the 14th resolution submitted to this Shareholders' Meeting and any resolutions allowing employees and Executive Officers to benefit from shares (18th and 19th resolutions of the May 12, 2016 Extraordinary Shareholders' Meeting), resolutions authorizing the issue of compound marketable securities without preferential subscription rights (23rd, 24th, 25th resolutions of the May 12, 2016 Extraordinary Shareholders' Meeting) and resolutions which allow the implementation of employee share ownership transactions (15th and 16th resolutions submitted to this Shareholders' Meeting) is deducted from this ceiling of 530 million euros.

As in 2015, in order to provide shareholders with the right to express an opinion on the issues subject to this delegation of authority during periods of takeover bids, it is proposed that this delegation of authority be suspended during periods of takeover bids.

In the event of oversubscription, the 14th resolution authorizes the amount of the issue to be increased, within the legal limits of 15% of the ceiling of 530 million euros.

SHARE CAPITAL INCREASE RESERVED FOR EMPLOYEES WITH CANCELLATION OF SHAREHOLDER PREFERENTIAL SUBSCRIPTION RIGHTS

In accordance with legal provisions, draft resolutions are submitted again to the vote at the Shareholders' Meeting. The two resolutions proposed to the Shareholders' Meeting are identical to those approved on May 12, 2016.

The previous employee share ownership transaction was carried out in March 2016 in accordance with the authorization granted by the May 6, 2015 Shareholders' Meeting. The share subscription price was set at 77.18 euros (82 euros for the United States) per share. 16,984 employees (and retired employees) across 74 countries, representing 32.2% of eligible employees, subscribed to this transaction.

Shareholders, having read the Board of Directors' Report and the Statutory Auditors' Special Report, are therefore asked to authorize the Board of Directors to decide one or more share capital increases, at the time or times and in the proportions that it deems appropriate, via the issuance of ordinary shares of the Company, as well as other marketable securities granting access to the Company's share capital, reserved for:

- under the 15th resolution, the members, from the Company and the French or foreign companies which are affiliated to it within the meaning of article L. 225-180 of the French Commercial Code and article L. 3344-1 of the French Labor Code, of a Company or Group savings plan (directly or through a Company mutual fund or all other structures or entities permitted by applicable legal or regulatory provisions). The delegation shall be valid for a period of 26 months starting from the date of this Shareholders' Meeting;

- under the 16th resolution, a category of beneficiaries, defined as any bank or subsidiary of such an institution mandated by the Company, which would subscribe to shares, or other share capital issued by the Company pursuant to the 15th resolution, with the sole intent of enabling employees and Executive Officers of foreign companies, affiliated to the Company within the meaning of article L. 225-180 of the French Commercial Code and article L. 3344-1 of the French Labor Code, to benefit from a plan with an economic profile comparable to an employee share ownership scheme that would be set up in connection with a share capital increase undertaken in accordance with the 15th resolution of this Shareholders' Meeting, taking into account the regulatory and fiscal and/or social framework applicable in the country of residence of the employees and Executive Officers of the aforementioned foreign companies. The delegation shall be valid for a period of 18 months starting from the date of this Shareholders' Meeting.

The Board of Directors shall be competent to determine, within those categories, the identity of the beneficiaries of these share capital increases.

The total amount of share capital increases likely to be performed in accordance with these two resolutions may not exceed a maximum nominal amount of 30.25 million euros, corresponding to the issue of a maximum of 5.5 million shares (amounts identical to those approved in 2016). Furthermore, the total maximum nominal amount of share capital increases likely to be performed on the basis of these two resolutions shall be deducted from the overall limit stipulated in paragraph 2 of the 13th resolution subject to the approval of this Shareholders' Meeting. In the event that they are used, the proposed resolutions will automatically result in the cancellation of the shareholders' preferential subscription rights in favor of the above-mentioned beneficiaries.

The subscription price of the shares that would be issued pursuant to these two resolutions may not exceed the average, determined in accordance with article L. 3332-19 of the French Labor Code, of the opening trading prices for the Company's share during the 20 stock market trading days preceding the date of the decision setting the opening date for the subscription to a share capital increase made on the basis of the 15th resolution, or be more than 20% lower than such average, bearing in mind that the shareholders will officially authorize the Board of Directors, if deemed appropriate, to reduce or cancel the aforementioned discount, within the legal, regulatory and tax limits under the applicable foreign law. In accordance with article L. 3332-21 of the French Labor Code, the Board of Directors may provide for the grant, on a bonus basis, to the beneficiaries referred to in the 15th resolution, of shares to be issued or already issued or other marketable securities granting access to the Company's share capital to be issued or already issued, in respect of (i) the contribution that could be paid in accordance with the regulations governing Company or Group saving plans, and/or (ii) where appropriate, the discount.

Should the beneficiaries referred to in the 15th resolution not subscribe to the entire share capital increase within the allotted deadlines, the share capital increase would only be performed for the amount of the shares subscribed, and the non-subscribed shares may be offered again to the beneficiaries concerned within the scope of a subsequent share capital increase.

Finally, the shareholders shall grant full powers to the Board of Directors, with the option of sub-delegation under the conditions determined by law, to set, within the limits described above, the various terms and conditions governing the implementation of the two proposed resolutions.

► RESOLUTIONS PRESENTED FOR THE APPROVAL OF THE COMBINED SHAREHOLDERS' MEETING – MAY 3, 2017

Ordinary Shareholders' Meeting

RESOLUTIONS 1 AND 2 APPROVAL OF THE FINANCIAL STATEMENTS FOR THE YEAR

► Purpose

Shareholders **are asked in the 1st and 2nd resolutions** to approve both Company and consolidated financial statements of Air Liquide for the year ended December 31, 2016. It is specified that the financial statements for Airgas have been consolidated in the scope of the Group since May 23, 2016.

FIRST RESOLUTION

(Approval of the Company financial statements for the year ended December 31, 2016)

The shareholders, deliberating according to the quorum and majority required for Ordinary Shareholders' Meetings, having reviewed:

- the Reports of the Board of Directors and the Statutory Auditors;
- the Company's financial statements, income statement, balance sheet and notes thereto,

approve the Company's financial statements for the year ended December 31, 2016 as presented, and approve the transactions reflected in these financial statements or mentioned in these reports.

The shareholders determined the amount of net earnings for the fiscal year at 482,384,945 euros.

RESOLUTION 3 APPROPRIATION OF EARNINGS AND SETTING OF THE DIVIDEND

► Purpose

In the 3rd resolution, shareholders are asked to **approve the distribution of a dividend of 2.60 euros per share**. Taking into account the restatement related to the rights issue, the dividend increases by +2.7%, corresponds to an increase in the total amount distributed of 12%.

This level of dividend also takes into account this year the attribution in the second half of 2017 of one free share for 10 existing shares, pursuant to the authorization granted by the Extraordinary Shareholders' Meeting on May 12, 2016 in its 17th resolution.

A **loyalty dividend of 10%, i.e. 0.26 euro per share**, shall be granted to shares which have been held in registered form since December 31, 2014 and which remain held in this form continuously until May 17, 2017, the dividend payment date. As of December 31, 2016, **26.30% of the shares making up** the share capital are likely to benefit from this loyalty dividend.

With an **estimated pay-out ratio of 56.0% of the Group's net profit**, the proposed dividend is an integral part of Air Liquide's policy to reward and grow shareholder portfolios over the long term.

The ex-dividend date has been set for May 15, 2017. The dividend payment date will be set for May 17, 2017.

SECOND RESOLUTION

(Approval of the consolidated financial statements for the year ended December 31, 2016)

The shareholders, deliberating according to the quorum and majority required for Ordinary Shareholders' Meetings, having reviewed:

- the Reports of the Board of Directors and the Statutory Auditors;
- the Group's consolidated financial statements,

approve the consolidated financial statements for the year ended December 31, 2016 as presented.

THIRD RESOLUTION**(Appropriation of 2016 earnings and setting of the dividend)**

The shareholders, deliberating according to the quorum and majority required for Ordinary Shareholders' Meetings, having noted that, considering the fiscal year 2016 earnings of 482,384,945 euros and the retained earnings of 6,813,611,016 euros as of December 31, 2016, distributable earnings for the year amount to a total of 7,295,996,051 euros, approve the proposals of the Board of Directors regarding the appropriation of earnings. The shareholders hereby decide to appropriate distributable earnings as follows:

Legal reserve	24,119,247 euros
Retained earnings	6,234,203,854 euros
Dividend (including the loyalty dividend)	1,037,672,950 euros

The dividend distributions made with respect to the last three fiscal years are as follows:

	Total amount distributed ^(a) (in euros)	Number of shares concerned ^(b)	Dividend distributed eligible in its entirety for the 40% allowance referred to in article 158-3-2° of the French Tax Code (in euros)
Fiscal year 2013			
Ordinary dividend	797,720,774	312,831,676	2.55
Loyalty dividend	23,176,483	92,705,933	0.25
Fiscal year 2014			
Ordinary dividend	879,425,851	344,872,883	2.55
Loyalty dividend	25,661,003	102,644,011	0.25
Fiscal year 2015			
Ordinary dividend	894,823,802	344,163,001	2.60
Loyalty dividend	26,751,221	102,889,311	0.26

(a) Theoretical values calculated based on the number of shares as of December 31 for each fiscal year.

(b) Number of shares expressed historically as of December 31 for each fiscal year.

The amounts effectively paid after adjustment were as follows:

- fiscal year 2013 – ordinary dividend: 793,400,084 euros for 311,137,288 shares; loyalty dividend: 21,538,427 euros for 86,153,707 shares;
- fiscal year 2014 – ordinary dividend: 874,131,348 euros for 342,796,607 shares; loyalty dividend: 23,909,031 euros for 95,636,122 shares;
- fiscal year 2015 – ordinary dividend: 895,276,249 euros for 344,337,019 shares; loyalty dividend: 25,311,759 euros for 97,352,920 shares.

The adjustment arises from the change in the number of treasury shares, from the final determination of the loyalty dividend taking into account shares sold between January 1 and the ex-dividend date, from the exercise of options over this same period and the capital increase reserved for employees.

Pursuant to the provisions of the articles of association, a loyalty dividend of 10%, i.e. 0.26 euro per share with a par value of 5.50 euros, shall be granted to shares which have been held in registered form since December 31, 2014, and which remain held in this form continuously until May 17, 2017, the dividend payment date.

In accordance with the provisions of article 243 bis of the French Tax Code, it is specified that the ordinary and loyalty dividends are also in their entirety eligible for the 40% allowance referred to in section 2° of paragraph 3 of article 158 of the aforementioned code.

Hence, a dividend of 2.60 euros shall be paid to each of the shares conferring entitlement to a dividend, it being specified that in the event of a change in the number of shares conferring entitlement to a dividend compared to the 388,875,761 shares making up the share capital as of December 31, 2016, the overall dividend amount would be adjusted accordingly and the amount appropriated to the retained earnings account would be determined on the basis of the dividend effectively paid.

The dividend payment date will be set for May 17, 2017:

- for direct registered shares: directly by the Company, based on the means of payment indicated by the holders;
- for intermediary registered shares, as well as for bearer shares which are registered in shareholder accounts: by the authorized intermediaries to whom the management of these shares has been entrusted.

**Dividend distributed eligible in its entirety
for the 40% allowance referred to in article
158-3-2° of the French Tax Code
(in euros)**

The total amount of the loyalty dividend for the 102,292,196 shares which have been held in registered form since December 31, 2014, and which remained held in this form continuously until December 31, 2016, amounts to 26,595,971 euros.

The total loyalty dividend corresponding to these 102,292,196 shares that cease to be held in registered form between January 1, 2017 and May 17, 2017, the dividend payment date, shall be deducted from the aforementioned amount.

RESOLUTION 4 BUYBACK BY THE COMPANY OF ITS OWN SHARES

Purpose

The **4th resolution** renews the authorization granted to the Board, for a term of 18 months, to allow the Company to buy back its own shares (including under a liquidity contract).

In 2016, The Company did not buy back any shares with the exception of the operations carried out under the liquidity contract: 1.09 million shares were purchased and 1.09 million were sold. As of December 31, 2016, 750 shares were held under the liquidity contract.

As of December 31, 2016, the Company held approximately **1.03 million** shares for the purpose of exchange or payment in the context of external growth transactions and the implementation of the performance shares plan. **These shares represent 0.26% of the Company's share capital.** They do not have any voting rights and their related dividends are allocated to retained earnings.

The authorization referred to the **4th resolution** provides that the maximum purchase price is set at 165 euros (unchanged amount) per share and the maximum number of shares that can be bought back is limited to 10% of the total number of shares comprising the share capital as of December 31, 2016, i.e. 38,887,576 shares for a maximum total amount of 6,416,450,040 euros.

The shares purchased may be cancelled in order to offset, in the long term, the dilutive impact resulting from capital increases relating to the mechanisms for remunerating employees and to employee share ownership transactions.

As the objective of retaining shares and subsequently tendering them within the scope of external growth transactions is no longer considered as an accepted market practice under the new European regulations, it has not been maintained in the in the resolution set out below.

The objectives of the share buyback program are detailed in the 4th resolution and the program description is available on the Company's website, www.airliquide.com, prior to the Shareholders' Meeting.

As in previous years, the resolution stipulates that the authorization does not apply during takeover bid periods.

FOURTH RESOLUTION

(Authorization granted to the Board of Directors for a period of 18 months to allow the Company to trade in its own shares)

The shareholders, deliberating according to the quorum and majority required for Ordinary Shareholders' Meetings, after having reviewed the Report of the Board of Directors, in accordance with articles L. 225-209 et seq. of the French Commercial Code and the directly applicable provisions of European Commission Regulation No. 596/2014 of April 16, 2014, authorize the Board of Directors to allow the Company to repurchase its own shares in order to:

- cancel them, subject to the adoption of the twelfth resolution;
- tender them following the exercise of rights attached to marketable securities conferring entitlement to Company shares by redemption, conversion, exchange, presentation of a warrant or any other means;
- implement (i) any share purchase option plans or (ii) plans for free share attribution, or (iii) any employee share ownership transactions reserved for members of a Company savings plan, performed under the terms and conditions set forth in articles L. 3331-1 et seq. of the French Labor Code through the transfer of shares bought back previously by the Company under this resolution, or providing for a free grant of these shares in respect of a contribution in shares by the Company and/or to replace the discount; or (iv) allocation of share to employees and/or Executive Officers of the Company or affiliated companies, in accordance with the laws and regulations in force;
- maintain an active market in the Company's shares pursuant to a market liquidity contract in accordance with an Ethics Charter recognized by the French financial markets authority (Autorité des marchés financiers).

The shareholders set the maximum purchase price at 165 euros (excluding acquisition costs) per share with a par value of 5.50 euros and the maximum number of shares that can be bought back at 10% of the total number of shares comprising the share capital at December 31, 2016, i.e. 38,887,576 shares with a par value of 5.50 euros, for a maximum total amount of 6,416,450,040 euros, subject to the legal limits.

These shares can be purchased at any time, excluding the periods for takeover bids on the Company's share capital, on one or more occasions and by all available means, either on or off a stock exchange, in private transactions, including the purchase of blocks of shares, or through the use of derivative financial instruments, and, if applicable, by all third parties acting on behalf of the Company, under the conditions stipulated in the provisions of the last paragraph of article L. 225-206 of the French Commercial Code.

Shares bought back may be commuted, assigned or transferred in any manner on or off a stock exchange or through private transactions, including the sale of blocks of shares, in accordance with the applicable regulations.

Dividends on treasury shares held by the Company shall be allocated to retained earnings.

This authorization is granted for a period of 18 months from the date of this Shareholders' Meeting. It supersedes the authorization granted by the fourth resolution of the Ordinary Shareholders' Meeting of May 12, 2016 with respect to the non-utilized portion of such authorization.

The shareholders give full powers to the Board of Directors, with the possibility of delegating such powers, to implement this authorization, place orders for trades, enter into all agreements, perform all formalities and make all declarations with regard to all authorities and, generally, do all that is necessary for the execution of any of the Board's decisions made in connection with this authorization.

The Board of Directors shall inform the shareholders of any transactions performed in light of this authorization in accordance with applicable regulations.

RESOLUTIONS 5 AND 6 APPOINTMENT OR RENEWAL OF TERMS OF OFFICE OF DIRECTORS

Purpose

The Board of Directors is currently composed of 12 members, including one Director representing the employees. The terms of office of Mr Thierry Desmarest and Mr Thierry Peugeot will expire at the end of this Shareholders' Meeting.

The Board took due note that Mr Thierry Desmarest's term of office will expire at the end of this Shareholders' Meeting, in compliance with the internal regulations of the Board of Directors.

Mr. Thierry Desmarest has been a member of the Board since 1999 and has provided extensive experience and expertise in many areas for the Board, where he had served as Lead Director since 2014. The Board warmly thanked him for his outstanding contribution to the development of Air Liquide throughout the years.

On the recommendation of the Appointments and Governance Committee, the **5th resolution** concerns the **renewal**, for a period of four years, of the term of office of Mr Thierry Peugeot.

Mr Thierry Peugeot, who has been a Director since 2005, will continue to provide the Company with his excellent knowledge of the automotive sector and his experience as an executive of a major company.

On the recommendation of the Appointments and Governance Committee following a selection process led by the Committee and assisted by an external consultant, the **6th resolution** propose that you **appoint** as Director, for a period of four years, Mr Xavier Huillard Chairman and Chief Executive Officer of Vinci since 2010. Mr Xavier Huillard will bring to the Board his experience as the CEO of a large multinational company.

FIFTH RESOLUTION

(Renewal of the term of office of Mr Thierry Peugeot as Director)

The shareholders, deliberating according to the quorum and majority required for Ordinary Shareholders' Meetings, after having reviewed the Report of the Board of Directors, decide to renew the term of office of Mr Thierry Peugeot as a Director for a term of four years, which will expire at the end of the 2021 Shareholders' Meeting, held to approve the financial statements for the fiscal year ending December 31, 2020.

SIXTH RESOLUTION

(Appointment of Mr Xavier Huillard as Director)

The shareholders, deliberating according to the quorum and majority required for Ordinary Shareholders' Meetings, after having reviewed the Report of the Board of Directors, decide to appoint Mr Xavier Huillard as a Director for a term of four years, which will expire at the end of the 2021 Shareholders' Meeting, held to approve the financial statements for the fiscal year ending December 31, 2020.

RESOLUTION 7 REGULATED AGREEMENTS

Purpose

During the 2016 fiscal year, no new regulated agreement was submitted for the approval of the Board of Directors.

As provided by law, the Board of Directors carried out an annual review of agreements entered into and approved during previous fiscal years which continued to be applied during the year ended December 31, 2016.

Regulated agreements and commitments provided for under the TEPA law are re-examined and subject to the approval of the Shareholders' Meeting each time an executive term of office is renewed, the last time being in 2014. The four-year term of office of Mr Benoît Potier as Chairman and Chief Executive Officer will expire in May 2018.

The three-year term of office of Mr Pierre Dufour as Senior Executive Vice President will expire at the end of this Shareholders' Meeting. As Mr Pierre Dufour has decided to claim his pension entitlements, his term of office will not be renewed.

The Board of Directors warmly thanked Mr Pierre Dufour for his commitment and outstanding contribution to the Group's development during the 10 years at the General Management and in particular in the context of the acquisition of Airgas. He will remain a Director of the Company within the framework of the term of office renewed at the Annual General Meeting of Shareholders on May 12, 2016.

In the **7th resolution** you are asked to recognize that the Statutory Auditors' Special Report on regulated agreements does not mention any new agreement.

The Statutory Auditors' Special Report on regulated agreements and commitments is included in the 2016 Reference Document and is available on the Company's website.

SEVENTH RESOLUTION

(Statutory Auditors' Special Report on agreements covered by articles L. 225-38 et seq. of the French Commercial Code)

The shareholders, deliberating according to the quorum and majority required for Ordinary Shareholders' Meetings, duly note that the Statutory Auditors' Special Report on the agreements and transactions covered by articles L. 225-38 et seq. of the French Commercial Code required by the legal and regulatory provisions in force, and which makes no mention of any new agreement, has been submitted to them.

RESOLUTIONS 8 AND 9 OPINION ON REMUNERATION OF EXECUTIVE OFFICERS FOR 2016

Purpose

The AFEP/MEDEF Governance Code, to which the Company refers, recommends that companies submit to shareholders for their opinion the elements of remuneration of Executive Officers for the previous fiscal year.

In the **8th and 9th resolutions**, you are asked to express a favorable opinion on the elements of remuneration due or allocated to Mr Benoît Potier, Chairman and CEO, and Mr Pierre Dufour, Senior Executive Vice President, in respect of 2016, as described in the 2016 Reference Document and in the 2017 Invitation to Shareholders' Meeting.

EIGHTH RESOLUTION

(Opinion on elements of remuneration due or allocated to Mr Benoît Potier for the year ended December 31, 2016)

The shareholders, consulted in accordance with the AFEP/MEDEF Corporate Governance Code for listed companies, and deliberating according to the quorum and majority required for Ordinary Shareholders' Meetings, issue a favorable opinion on the elements of remuneration for 2016 due or allocated to Mr Benoit Potier, as presented in the Company's 2016 Reference Document, in chapter 3 "Corporate governance", sub-section "Elements of remuneration for 2016 due or allocated to Mr Benoit Potier, submitted for the shareholders' opinion".

NINTH RESOLUTION

(Opinion on elements of remuneration due or allocated to Mr Pierre Dufour for the year ended December 31, 2016)

The shareholders, consulted in accordance with the AFEP/MEDEF Corporate Governance Code for listed companies, and deliberating according to the quorum and majority required for Ordinary Shareholders' Meetings, issues a favorable opinion on the elements of remuneration for 2016 due or allocated to Mr Pierre Dufour, as presented in the Company's 2016 Reference Document, in chapter 3 "Corporate governance", sub-section "Elements of remuneration for 2016 due or allocated to Mr Pierre Dufour, submitted for the shareholders' opinion".

RESOLUTIONS 10 AND 11 APPROVAL OF THE REMUNERATION POLICY FOR EXECUTIVE OFFICERS**Purpose**

Pursuant to article L. 225-37-2 of the French Commercial Code introduced by the law relating to transparency, the fight against corruption and the modernization of economic activity (called the Sapin 2 law), shareholders are asked in the **10th and 11th resolutions** to approve, as of the beginning of the 2017 fiscal year, the principles and criteria for determining, distributing and allocating the fixed, variable and exceptional components of the total remuneration and other benefits allocated to the Chairman and CEO and to the Senior Executive Vice President, and applicable to Mr Benoît Potier and to Mr Pierre Dufour, as described in the corresponding Report contained in the 2016 Reference Document and in the 2017 Invitation to Shareholders' Meeting.

TENTH RESOLUTION

(Approval of the remuneration policy for the Chairman and Chief Executive Officer)

The shareholders, deliberating according to the quorum and majority required for Ordinary Shareholders' Meetings, after having reviewed the Report of the Board of Directors, in accordance with article L. 225-37-2 of the French Commercial Code approve the principles and criteria for determining, distributing and allocating the fixed, variable and exceptional components of the total remuneration and other benefits allocated to the Chairman and CEO in respect of his term of office as presented in chapter 3 "Corporate governance" of the 2016 Reference Document, in the "Report on the principles and criteria for determining, distributing and allocating the fixed, variable and exceptional components of the total remuneration and other benefits allocated to Executive Officers" in the paragraph I.

ELEVENTH RESOLUTION

(Approval of the remuneration policy for the Senior Executive Vice-President)

The shareholders, deliberating according to the quorum and majority required for Ordinary Shareholders' Meetings, after having reviewed the Report of the Board of Directors, in accordance with article L. 225-37-2 of the French Commercial Code approve the principles and criteria for determining, distributing and allocating the fixed, variable and exceptional components of the total remuneration and other benefits allocated to the Senior Executive Vice President in respect of his term of office as presented in chapter 3 "Corporate governance" of the 2016 Reference Document, in the "Report on the principles and criteria for determining, distributing and allocating the fixed, variable and exceptional components of the total remuneration and other benefits allocated to Executive Officers" in the paragraph II.

Extraordinary Shareholders' Meeting

RESOLUTION 12 AUTHORIZATION TO REDUCE THE SHARE CAPITAL BY CANCELLATION OF TREASURY SHARES**Purpose**

As is the case each year, we ask you, in the **12th resolution**, to authorize the Board of Directors to cancel any or all of the shares purchased in the share buyback program and reduce share capital under certain conditions, particularly in order to fully offset, where necessary, any potential dilution resulting from capital increases relating to the mechanisms for remunerating employees and to employee share ownership transactions.

The difference between the carrying amount of the canceled shares and their nominal amount will be allocated to reserve or additional paid-in capital accounts. This authorization granted to the Board of Directors will be for a period of 24 months.

TWELFTH RESOLUTION

(Authorization granted to the Board of Directors for a period of 24 months to reduce the share capital by cancellation of treasury shares)

The shareholders, deliberating according to the quorum and majority required for Extraordinary Shareholders' Meetings, after having reviewed the Report of the Board of Directors and the Statutory Auditors' Special Report, authorize the Board of Directors to cancel, via its decisions alone, on one or more occasions, and within the limit of 10% of the Company's share capital per 24-month period, any or all of the shares bought back by the Company within the scope of the authorization adopted by this Ordinary Shareholders' Meeting in its fourth resolution and of those shares bought back within the scope of the authorizations adopted by the Ordinary Shareholders' Meetings of May 12, 2016 and May 7, 2014 and to reduce the share capital by this amount.

The difference between the carrying amount of the canceled shares and their nominal amount will be allocated to any reserve or additional paid-in capital accounts.

This authorization is granted for a period of 24 months starting from the date of this Shareholders' Meeting. It supersedes the authorization granted by the Extraordinary Shareholders' Meeting of May 12, 2016 in its sixteenth resolution with respect to the non-utilized portion of such authorization.

Full powers are granted to the Board of Directors, with the possibility of sub-delegation under the conditions set by law, to implement this authorization, deduct the difference between the carrying amount of the shares canceled and their nominal amount from all reserve and additional paid-in capital accounts and to carry out the necessary formalities to implement the reduction in capital which shall be decided in accordance with this resolution and amend the articles of association accordingly.

RESOLUTIONS 13 AND 14 INCREASE IN SHARE CAPITAL VIA THE ISSUANCE OF ORDINARY SHARES OR MARKETABLE SECURITIES CONFERRING ENTITLEMENT TO THE SHARE CAPITAL WITH RETENTION OF PREFERENTIAL SUBSCRIPTION RIGHTS

Purpose

To finance the Group's growth investments, shareholders are asked in the **13th resolution** to renew the delegation granted to the Board of Directors to increase the share capital for a maximum nominal amount of 530 million euros corresponding to around 25% of the share capital as of December 31, 2016 by issuing, on one or more occasions, ordinary shares or compound dilutive marketable securities. The shareholders shall have, in proportion to the amount of shares they own, a preferential subscription right to the shares or to the marketable securities issued.

The Group made use of the previous delegation granted by the Extraordinary Shareholders' Meeting of May 6, 2015, by carrying out a capital increase with retention of shareholders' preferential subscription rights as part of financing for the Airgas acquisition. The gross amount of this capital increase was 3,283 million euros. The transaction resulted in the issue of 43,202,209 new shares on October 11, 2016.

This delegation of authority is valid for a period of 26 months.

The total amount of capital increases carried out pursuant to the **14th resolution** below and any resolutions allowing employees and Executive Officers to benefit from shares (18th and 19th resolutions of the May 12, 2016 Extraordinary Shareholders' Meeting), resolutions authorizing the issue of compound marketable securities without preferential subscription rights (23rd, 24th, 25th resolutions of the May 12, 2016 Extraordinary Shareholders' Meeting) and resolutions which allow the implementation of employee share ownership transactions (15th and 16th resolutions submitted to this Shareholders' Meeting) is deducted from this ceiling of 530 million euros.

As in 2015, in order to provide shareholders with the right to express an opinion on the issues subject to this delegation of authority during periods of takeover bids, it is proposed that this delegation of authority be suspended during periods of takeover bids.

In the event of oversubscription, the **14th resolution** authorizes the amount of the issue to be increased, within the legal limits of 15% of the ceiling of 530 million euros.

THIRTEENTH RESOLUTION

(Delegation of authority granted to the Board of Directors for a period of 26 months in order to increase the share capital via the issuance of ordinary shares or marketable securities conferring entitlement, immediately and/or in the future, to the Company's share capital, with retention of preferential subscription rights for a maximum nominal amount of 530 million euros)

The shareholders, deliberating according to the quorum and majority required for Extraordinary Shareholders' Meetings, after having reviewed the Board of Directors' Report and the Statutory Auditors' Special Report

and in accordance with articles L. 225-129 to L. 225-129-6 and L. 228-91 to L. 228-93 of the French Commercial Code:

1. delegate to the Board of Directors, with the option of subdelegation, in accordance with the legal provisions, the authority to decide, on one or more occasions, in the amount and on the dates it will determine, with retention of preferential share subscription rights, one or more capital increases via the issue, in France and other countries, in euros, foreign currencies or units of account determined according to several currencies, (i) of ordinary Company shares, (ii) of marketable securities governed by articles L. 228-91 et seq. of the French Commercial Code which are the Company's capital

securities, granting access to other Company share capital and/or entitlement to Company debt securities and/or (iii) of marketable securities representing a debt claim governed or not by articles L. 228-91 et seq. of the French Commercial Code, conferring entitlement to or likely to confer entitlement to share capital to be issued by the Company, these marketable securities could also potentially grant access to the Company's existing share capital and/or debt securities, the subscription of which may be completed in cash or by offsetting against liquid and payable debts.

The delegation thereby granted to the Board of Directors is valid for a period of 26 months starting from the date of this Shareholders' Meeting, it being specified however that the Board of Directors will not be authorized to make use of it during periods of takeover bids on the Company's share capital;

2. decide that the total amount of share capital increases likely to be performed thereby immediately and/or in the future may not exceed the nominal amount of 530 million euros, from which shall be deducted (i) the issuance amount of shares or marketable securities in the event of oversubscription, pursuant to the fourteenth resolution (or any resolution which would replace it at a later date), and (ii) the issuance amount of shares arising from the options or performance shares granted under the eighteenth and nineteenth resolutions of the Extraordinary Shareholders' Meeting of May 12, 2016 (or any resolutions which would replace them at a later date), (iii) the total amount of share capital increases performed in accordance with the twenty-third, twenty-fourth and twenty-fifth resolutions of the Extraordinary Shareholders' Meeting of May 12, 2016 (or any resolutions which would replace them at a later date), and (iv) the total amount of share capital increases performed in accordance with the fifteenth and sixteenth resolutions of this Shareholders' Meeting (or any resolution which would replace it at a later date) this limit being increased by the number of shares necessary for adjustments likely to be made in accordance with applicable legislative and regulatory provisions and, as the case may be, in accordance with the contractual provisions providing for other cases of adjustment, to preserve the rights of holders of marketable securities conferring entitlement to the Company's shares; the maximum nominal amount (or its counter-value in euros on the issue decision date in the event of an issue in foreign currencies or units of account determined by reference to several currencies) of the marketable debt securities conferring entitlement to the Company's share capital issued by virtue of this delegation may not exceed a limit of 3 billion euros from which shall be deducted, as the case may be, the issuance amount, in the event of oversubscription, pursuant to the fourteenth resolution below (or any resolution which would replace it at a later date) and the issues made under the twenty-third, twenty-fourth and twenty-fifth resolutions of the May 12, 2016 Extraordinary Shareholders' Meeting;
3. decide that the shareholders have, proportional to the amount of their shares, a preferential subscription right to the shares or marketable securities conferring entitlement, immediately and/or in the future, to the Company's shares issued pursuant to this resolution;
4. decide that if the subscriptions made by the shareholders prorata to their existing shareholding and, as the case may be, over and above their existing shareholding if allowed by the Board of Directors, have not resulted in the purchase of all of the shares or marketable

securities defined above, the Board of Directors may use, in the order it shall deem appropriate, each or some of the options set forth in article L. 225-134 of the French Commercial Code;

5. acknowledge and decide, as necessary, that all issuance decisions under this delegation of authority shall entail, to the benefit of the holders of issued marketable securities giving access, or likely to give access to capital securities to be issued by the Company, the waiver by Company shareholders of their preferential subscription rights to shares to be issued to which these marketable securities will give entitlement immediately and/or in the future;
6. grant full powers to the Board of Directors, with the option of sub-delegation under the conditions set by law, to implement this delegation and specifically:
 - determine the price, the terms and conditions and dates of issues, and the form and characteristics of the marketable securities to be created,
 - set the amounts to be issued, suspend, where necessary, the exercise of Company share allotment rights attached to marketable securities to be issued within a period not exceeding three months, determine the terms and conditions ensuring, as the case may be, the preservation of rights of holders of marketable securities conferring future entitlement to Company shares, in accordance with the legal, regulatory and, as the case may be, contractual provisions, proceed, where necessary, with any deductions from any issue premiums and specifically deductions of costs arising from issues,
 - list, where necessary, the marketable securities to be issued for trading in a regulated market, make all necessary arrangements and enter into any agreements in order to successfully conclude the issues contemplated, duly record the share capital increases arising from any issue carried out via this delegation and amend the articles of association accordingly;
7. take due note that this delegation supersedes the delegation granted by the Extraordinary Shareholders' Meeting of May 6, 2015 in its twelfth resolution.

FOURTEENTH RESOLUTION

(Authorization granted to the Board of Directors for a period of 26 months to increase the issuance amount of shares or marketable securities in the event of oversubscription)

The shareholders, deliberating according to the quorum and majority required for Extraordinary Shareholders' Meetings, after having reviewed the Board of Directors' Report and the Statutory Auditors' Special Report, and pursuant to the provisions of article L. 225-135-1 of the French Commercial Code, in the event of an issue of shares or marketable securities with retention of preferential subscription rights as provided by the thirteenth resolution:

- authorize the Board of Directors, with the option of subdelegation, to increase, under the conditions set by the law, the number of shares or marketable securities to be issued with shareholders' preferential subscription rights, at the same price as set for the initial issue, within the deadlines and limits set by the applicable regulations;

- decide that the nominal amount of the increase in the issue determined in accordance with this resolution shall be deducted from the initial limit and, in the event of an issue of debt securities, from the limit stipulated in the second limit stated in the thirteenth resolution;
- decide that the authorization thereby granted to the Board of Directors is valid for a period of 26 months starting from the date of this Shareholders' Meeting.

RESOLUTIONS 15 AND 16 SHARE CAPITAL INCREASES RESERVED FOR EMPLOYEES

Purpose

As provided by law, the resolution authorizing increases in share capital in favor of members of a Company savings plan approved during the Extraordinary Shareholders' Meeting of May 12, 2016, is resubmitted to you. The total nominal amount of share capital increases likely to be performed under this resolution remains unchanged at 30.25 million euros, corresponding to the issue of a maximum of 5.5 million shares, or 1.41% of share capital as of December 31, 2016. This amount shall be deducted from the maximum nominal amount of 530 million euros, i.e. 25% of the share capital, as stipulated in the 13th resolution of this Shareholders' Meeting relating to the overall limit for share capital increases likely to be performed with delegation to the Board of Directors.

The 15th resolution outlines the conditions of share capital increases reserved for members of a Company or Group savings plan; it is accompanied in the 16th resolution by a similar provision for Group employees and Executive Officers based abroad who cannot benefit from the shareholding mechanism which will be established pursuant to the 15th resolution.

These two delegations will be valid for a period of 26 months for the 15th resolution and for a period of 18 months for the 16th resolution. These resolutions shall result in cancellation of the preferential subscription rights of shareholders in favor of the beneficiaries.

The previous employee share ownership transaction was carried out in March 2016 in accordance with the authorization granted by the May 6, 2015 Shareholders' Meeting. The share subscription price was set at 77.18 euros (82 euros for the United States) per share. 16,984 employees (and retired employees) across 74 countries representing 32.2% of eligible employees subscribed to this transaction.

The Group wishes to continue increasing the involvement of employees in its development. These employee share ownership transactions contribute significantly to increasing employee motivation and sense of belonging to the Group.

At the end of 2016, the share capital held by employees and former employees of the Group is estimated at 2.4%, of which 1.5% corresponds to shares subscribed by employees during capital increases reserved for employees or held through dedicated mutual funds.

FIFTEENTH RESOLUTION

(Delegation of authority granted to the Board of Directors for a period of 26 months to perform share capital increases, with cancellation of preferential subscription rights, reserved for members of a Company or Group savings plan)

The shareholders, deliberating according to the quorum and majority required for Extraordinary Shareholders' Meetings, after having reviewed the Report of the Board of Directors and the Statutory Auditors' Special Report, deliberating pursuant to articles L. 225-129-6 and L. 225-138-1 of the French Commercial Code and articles L. 3331-1 et seq. of the French Labor Code:

1. delegate to the Board of Directors the authority to decide to increase share capital, on one or more occasions, at the time or times and in the proportions that it deems appropriate, via the issuance of ordinary shares of the Company as well as equity securities granting access to the Company's share capital, reserved for employees who contribute to a Company or Group savings plan;
2. decide that the total amount of share capital increases likely to be performed under this resolution may not exceed a maximum nominal amount of 30.25 million euros, corresponding to the issue of a maximum of 5.5 million shares, it being specified that this amount

does not include additional shares to be issued, in accordance with applicable legal and regulatory provisions, and when relevant, contractual stipulations providing for other adjustments, to preserve the rights of holders of capital securities conferring access to share capital and that the total amount of share capital increases likely to be performed under this resolution and the sixteenth resolution may not exceed the aforementioned nominal amount of 30.25 million euros;

3. decide that the maximum nominal amount of share capital increases likely to be performed on the basis of this delegation shall be deducted from the overall limit stipulated in paragraph 2 of the thirteenth resolution of this Extraordinary Shareholders' Meeting (or any resolution which would replace it at a later date);
4. decide that the beneficiaries of these capital increases will be, directly or through an intermediary of a Company mutual fund or all other structures or entities permitted by applicable legal or regulatory provisions, the members, within the Company and the French or foreign companies, which are affiliated to it within the meaning of article L. 225-180 of the French Commercial Code and article L. 3344-1 of the French Labor Code, of a Company or Group savings plan;

5. decide to cancel the preferential subscription rights of shareholders to the new shares or other equity securities, and equity securities to which the latter would confer entitlement, which shall be issued in favor of the aforementioned members of a Company or Group savings plan in accordance with this resolution;
6. decide that the subscription price may not exceed the average, determined in accordance with article L. 3332-19 of the French Labor Code, of the opening trading prices for the Company's share during the 20 trading days preceding the date of the decision setting the opening date for the subscription period, or be more than 20% lower than such average, bearing in mind that the shareholders officially authorize the Board of Directors, if deemed appropriate, to reduce or cancel the aforementioned discount, in view of the legal, regulatory and tax constraints under the applicable foreign law, where applicable;
7. decide, in accordance with article L. 3332-21 of the French Labor Code, that the Board of Directors may provide for the free share attribution, to the aforementioned beneficiaries, of shares to be issued or already issued or other equity securities or securities granting access to the Company's capital to be issued or already issued, in respect of (i) the contribution that could be paid in accordance with the regulations governing Company or Group saving plans, and/or (ii) where appropriate, the discount;
8. also decide that, should the beneficiaries not subscribe to the entire capital increase within the allotted deadlines, the capital increase would only be performed for the amount of the shares subscribed, and that the non-subscribed shares may be offered again to the beneficiaries concerned within the scope of a subsequent capital increase;
9. grant full powers to the Board of Directors with the option of sub-delegation under the conditions set by law, to determine, within the limits described above, the various terms and conditions of the transaction and particularly:
 - define the criteria which the companies must meet in order for their employees to be entitled to benefit from the capital increases,
 - determine a list of these companies,
 - set the terms and conditions of the share issue, the characteristics of the shares, and, where appropriate, the other equity securities, determine the subscription price calculated based on the method defined above, set the terms and conditions and deadline for fully paying up the subscribed shares, deduct from the "Additional paid-in capital" account all costs relating to these capital increases and, if deemed appropriate, all sums necessary to bring the legal reserve up to one-tenth of the new share capital after each share issue, and generally complete, directly or through an authorized representative, all the transactions and formalities relating to the share capital increases performed under this resolution and, specifically, perform all the necessary formalities, and where appropriate, take any measures with a view to listing the shares issued pursuant to this resolution for trading on the Euronext Paris regulated exchange,
 - set the opening and closing dates for the subscription period, record the completion of the corresponding capital increase and amend the articles of association accordingly;
10. decide that this delegation granted to the Board of Directors is valid for a period of 26 months starting from the date of this Shareholders' Meeting and strips of all legal effect the delegation granted to the Board of Directors pursuant to the twenty-first resolution of the Extraordinary Shareholders' Meeting of May 12, 2016, for the amount of the non-utilized portion of such delegation.

SIXTEENTH RESOLUTION

(Delegation of authority granted to the Board of Directors for a period of 18 months to perform share capital increases, with cancellation of preferential subscription rights, reserved for a category of beneficiaries)

The shareholders, deliberating according to the quorum and majority required for Extraordinary Shareholders' Meetings, after having reviewed the Report of the Board of Directors and the Statutory Auditors' Special Report, pursuant to articles L. 225-129 to L. 225-129-2 and article L. 225-138 of the French Commercial Code:

1. delegate to the Board of Directors the authority to decide to increase share capital, on one or more occasions, at the time or times and in the proportions it shall deem fit, via the issuance of ordinary shares of the Company as well as any other equity securities conferring entitlement to the Company's share capital, reserved for the category of beneficiaries defined hereafter;
2. decide that the total amount of share capital increases likely to be performed under this resolution may not exceed a maximum nominal amount of 30.25 million euros corresponding to the issue of a maximum of 5.5 million shares it being specified that this amount does not include additional shares to be issued, in accordance with applicable legal and regulatory provisions, and when relevant, contractual stipulations providing for other adjustments, to preserve the rights of holders of capital securities conferring access to share capital and that the total amount of share capital increases likely to be performed under this resolution and the fifteenth resolution may not exceed the aforementioned nominal amount of 30.25 million euros;
3. decide that the maximum nominal amount of share capital increases likely to be performed on the basis of this delegation shall be deducted from the overall limit stipulated in paragraph 2 of the thirteenth resolution of this Extraordinary Shareholders' Meeting (or any resolution which would replace it at a later date);
4. decide to cancel the preferential subscription rights of shareholders to the shares or other equity securities and to the equity securities to which the latter would confer entitlement, which shall be issued pursuant to this resolution and to reserve the right to subscribe them to the category of beneficiaries meeting the following characteristics: any bank or subsidiary of such an institution mandated by the Company and which would subscribe to shares, or other equity securities issued by the Company pursuant to this resolution, with the sole intent to enable employees and Executive Officers of foreign companies, affiliated to the Company within the meaning of article L. 225-180 of the French Commercial Code and article L. 3344-1 of the French Labor Code, to benefit from a shareholding or investment plan with an economic profile comparable to an employee share ownership scheme that would be set up in connection with a share capital increase performed in accordance with the fifteenth resolution submitted to the vote of this Shareholders' Meeting, taking into account the regulatory and fiscal

and/or social framework applicable in the country of residence of the employees and Executive Officers of the aforementioned foreign companies;

5. decide that the unit price for the issue of the shares to be issued pursuant to this resolution shall be determined by the Board of Directors based on the Company's share price; this issue price shall be equal to the average of the opening trading prices for the share during the 20 trading days preceding the date of the Board of Directors' decision setting the opening date for the period of subscription to a share capital increase performed on the basis of the fifteenth resolution, with the possibility of reducing this average by a maximum discount of 20%; the amount of this discount shall be determined by the Board of Directors within the aforementioned limit;
6. decide that the Board of Directors shall have full powers, under the terms and conditions set forth by law and within the limits defined above, with the option of sub-delegation, so as to implement this delegation and particularly in order to:
 - set the date and price for the issue of shares or other equity securities to be issued in accordance with this resolution as well as the other terms and conditions governing the issue,

- determine the beneficiary (or list of beneficiaries) for the cancellation of the preferential subscription right within the above-defined category, as well as the number of shares to be subscribed by such beneficiary (or each beneficiary),
 - where appropriate, determine the characteristics of the other equity securities granting access to the Company's share capital under the applicable legal and regulatory conditions,
 - record the completion of the share capital increase, complete, directly or through an authorized representative, all the transactions and formalities involving the share capital increases and on its sole decision and if it deems appropriate, deduct the share capital increase costs from the amount of additional paid-in capital relating to such increases, amend the articles of association accordingly and perform all the necessary formalities, and where appropriate, take any measures with a view to listing the shares issued pursuant to this resolution for trading on the Euronext Paris regulated exchange;
7. decide that this delegation granted to the Board of Directors is valid for a period of 18 months starting from the date of this Shareholders' Meeting and strips of all legal effect the delegation granted to the Board of Directors pursuant to the twenty-second resolution of the Extraordinary Shareholders' Meeting of May 12, 2016, for the amount of the non-utilized portion of such delegation.

Ordinary Shareholders' Meeting

RESOLUTION 17 POWERS

Purpose

The 17th resolution is a standard resolution required for the completion of official publications and legal formalities.

SEVENTEENTH RESOLUTION

(Powers for formalities)

Full powers are granted to a holder of a copy or extract of the minutes of this Shareholders' Meeting to perform all official publications and other formalities required by law and the regulations.

► STATUTORY AUDITORS' REPORTS

Statutory Auditors' Special Report on related party agreements and commitments

This is an unofficial translation into English of the Statutory Auditors' Special Report on related-party agreements and commitments that is issued in French and provided solely for the convenience of English speaking readers.

This report should be read in conjunction with, and construed in accordance with, French law and professional standards applicable in France.

It should be understood that the agreements and commitments reported on are only those provided for by the French Commercial Code and that the report does not apply to those related-party transactions described in IAS24 or other equivalent accounting standards.

To the Shareholders,

In our capacity as Statutory Auditors of your Company, we hereby report on the agreements and commitments with related parties.

We are required to inform you, based on the information provided to us, of the characteristics and principal terms and conditions as well as the reasons justifying the interest for your Company of those agreements and commitments of which we have been informed or which we discovered at the time of our engagement, without expressing an opinion on their usefulness and appropriateness or seeking to identify other agreements or commitments. It is your responsibility, pursuant to article R. 225-31 of the French Commercial Code (Code de commerce), to assess the benefits resulting from the conclusion of these agreements and commitments prior to their approval.

Furthermore, we are required, where applicable, to inform you in accordance with article R. 225-31 of the French Commercial Code (Code de commerce) relating to the performance, during the past fiscal year, of the agreements and commitments already approved by the Annual Shareholders' Meeting.

We performed those procedures which we considered necessary to comply with professional guidance issued by the national auditing body (Compagnie Nationale des Commissaires aux Comptes) relating to this type of engagement. These procedures consisted in verifying that information provided to us is consistent with the documentation from which it has been extracted.

AGREEMENTS AND COMMITMENTS SUBMITTED FOR APPROVAL OF THE ANNUAL SHAREHOLDERS' MEETING

We hereby inform you that we have not been advised of any agreements or commitments authorized in the course of the year to be submitted to the General Meeting of Shareholders for approval in accordance with Article L. 225-38 of the French Commercial Code (Code de commerce).

Agreements and commitments already approved by the Annual Shareholders' Meeting

Agreements and commitments approved in prior years

a) The performance of which continued during the past year

Pursuant to article R. 225-30 of the French Commercial Code (Code de commerce), we have been informed that the performance of the following agreements and commitments already approved by the Annual Shareholders' Meeting during prior fiscal years, continued during the last fiscal year.

1. With Mr Benoît Potier, Chairman and Chief Executive Officer

Defined contribution pension scheme

Mr Benoît Potier benefits from the pension scheme applicable to all the employees for the portion of remuneration amounting to less than eight times the annual social security ceiling.

The amount of contributions paid by your Company in respect of the defined contribution scheme in 2016 totals € 9,233.

Defined benefit pension scheme

Mr Benoit Potier benefits from the defined benefit pension scheme for the portion of his remuneration exceeding twenty-four times the annual social security ceiling. Pursuant to this scheme, total pension benefits, under all pension plans, may not exceed 45% of the average of the best three years out of the last five years of annual fixed and variable remuneration, whether paid by the Company or any French or foreign subsidiary of the Group, exceeding twenty-four times the annual social security ceiling. For the purpose of this calculation, the average of the variable portions of remuneration taken into account may not exceed 100% of the average of the fixed portions. Should this ceiling be reached, the amount paid under the defined benefit plan would be reduced accordingly. In addition, it is specified that the above-mentioned limit of 45% includes all pension schemes, of public or private origin, in France or a foreign country.

This agreement, as last modified in 2014, was approved by the Annual Shareholders' Meeting on May 7, 2014 upon the Statutory Auditors' Special Report of March 4, 2014.

Life insurance contract

Executives directors benefiting no longer from the defined contribution pension plan for senior managers and executives, Mr Benoit Potier benefits from a life insurance contract for the portion of his reference remuneration amounting to between zero and twenty-four times the annual social security ceiling. The reference remuneration includes the fixed remuneration and the variable remuneration within the limit of 100% of the fixed remuneration.

The rights resulting from the contributions paid have been definitely acquired by Mr Benoit Potier and savings that have been created are available at any time.

This agreement was authorized by the Board of Directors on November 20, 2014 and approved by the Annual Shareholders' Meeting on May 6, 2015.

The amount of the contributions paid in respect of this contract in 2016 totals € 205,416 for Mr Benoit Potier.

Unemployment insurance

As an Executive Officer, Mr Benoit Potier benefits from the unemployment insurance for Company managers and corporate officers taken out by your Company.

The amount of the contributions paid in this respect by your Company in 2016 totals € 7,514.

Death and disability benefits plan

Mr Benoit Potier benefits, from January 1, 2015, from unified supplementary death and disability benefits plan, covering all the personnel and the executive officers duly authorized to benefit from the plan, in which the remuneration taken into account for the calculation of the contributions is capped at (i) sixteen times the annual social security ceiling for the incapacity and disability cover; (ii) twenty-four times the annual social security ceiling for the death cover.

This scheme guarantees the payment of a pension in the event of incapacity, the payment of a capital sum in the event of death.

Pursuant to a decision of November 20, 2014, the Board of Directors authorized Mr Benoit Potier to benefit, as from January 1, 2015, from this unified death, disability and related benefits plan. This agreement was approved by the Annual Shareholders' Meeting on May 6, 2015.

The amount of the contributions paid in respect of this contract in 2016 totals € 3,151 for Mr Benoit Potier.

2. With Mr Pierre Dufour, Senior Executive Vice-President

Defined benefit pension scheme

Mr Pierre Dufour benefits from the defined benefit pension scheme for the portion of his remuneration exceeding twenty-four times the annual social security ceiling. Pursuant to this scheme, total pension benefits, under all pension plans, may not exceed 45% of the average of the best three years out of the last five years of fixed and variable annual remuneration, whether paid by the Company or any French or foreign subsidiary of the Group, exceeding twenty-four times the annual social security ceiling. For the purpose of this calculation, the average of the variable portions of remuneration taken into account may not exceed 100% of the average of the fixed portions. Should this ceiling be reached, the amount paid under the defined benefit plan would be reduced accordingly. In addition, it is specified that the above-mentioned limit of 45% includes all pension schemes, of public or private origin, in France or a foreign country.

This agreement, modified in 2014, was approved by the Annual Shareholders' Meeting on May 7, 2014 upon the Statutory Auditors' Special Report of March 4, 2014.

b) Which were not implemented during the past year

Furthermore, we have been informed of the continuance in effect of the following agreements and commitments, already approved by the Annual Shareholders' Meeting during prior fiscal years, which were not implemented during the last fiscal year.

1. With Mr Benoît Potier, Chairman and Chief Executive Officer

Termination indemnity

In the context of the proposal for the renewal of Mr Benoît Potier's term of office, the Board of Directors re-examined the conditions relating to his termination indemnity. These conditions were approved by the Annual Shareholders' Meeting on May 7, 2014 upon the Statutory Auditors' Special Report of March 4, 2014.

In the event of a forced departure of Mr Benoît Potier, irrespective of its form (removal from office, non-renewal of his duties, request for resignation), from his corporate offices as Chairman and Chief Executive Officer:

- (a) related to a change of strategy; or
- (b) that takes place within twenty-four months following the acquisition of control of your Company by a person acting alone or several persons acting in concert;

your Company undertakes to pay Mr Benoît Potier a fixed aggregate indemnity in full discharge equal to twenty-four month of gross fixed and variable remuneration, the calculation being based on the average monthly amount of gross fixed and variable remuneration received during the twenty-four months prior to departure. It is specified that the indemnities referred to in points (a) and (b) cannot be received in conjunction with one another.

Payment of the indemnity due in respect of forced departure as provided for above is subject to compliance with the conditions related to Mr Benoît Potier's performance assessed in light of the Company's own performance, defined as of the date hereof as follows:

Entitlement to the indemnity and the amount of the indemnity paid will be adjusted on the basis of the average of the annual gap between Return on Capital Employed after tax (ROCE) and Weighted Average Cost of Capital (WACC) (assessed using the net equity method) calculated over the last three fiscal years prior to the year of departure. These performance conditions will be re-examined, in particular at the time of each renewal of Mr Benoît Potier's term of office and, where applicable, during the course of his term of office.

The Board of Directors decided on February 17, 2014 to increase the performance criteria on which payment of the indemnity is contingent, with an average ROCE-WACC gap over three years of 300 basis points (instead of 200 basis points) now being required to benefit from the total indemnity. The declining formula has also been made stricter: the condition decreases down to a minimum variance of 100 basis points (instead of 0 previously), below which no indemnity is paid.

Average R.O.C.E.-W.A.C.C. gap	Proportion of the indemnity due
≥ 300 bp*	100%
≥ 200 bp and < 300 bp	66%
≥ 150 bp and < 200 bp	50%
≥ 100 bp and < 150 bp	33%
< 100 bp	0%

* bp : basis point.

In the event that the forced departure takes place during the twenty-four months prior to the date on which the term of office of Mr Benoît Potier as Chairman and Chief Executive Officer terminates as a result of the age limit defined in the articles of association, the amount of the indemnity will be capped at the number of months of gross remuneration for the period between the date of forced departure and the date on which the age limit defined in the articles of association will be reached. No indemnity will be paid if, at the date of forced departure, the beneficiary claims his pension entitlements.

2. With Mr Pierre Dufour, Senior Executive Vice-President

Termination indemnity

In the context of the renewal of Mr Pierre Dufour's term of office, the Board of Directors had re-examined the conditions relating to his termination indemnity. These conditions were approved by the Annual Shareholders' Meeting on May 7, 2014 upon the Statutory Auditors' Special Report of March 4, 2014.

In the event of forced departure, irrespective of its form (removal from office, non-renewal of his duties, request for resignation), of Mr Pierre Dufour from his corporate office as Senior Executive Vice-President:

- (a) related to a change of strategy; or
- (b) that takes place within twenty-four months following the acquisition of control of your Company by a person acting alone or several persons acting in concert;

your Company had undertaken to pay Mr Pierre Dufour a fixed aggregate indemnity in full discharge equal to twenty-four months of gross fixed and variable remuneration, the calculation being based on the average monthly amount of gross fixed and variable remuneration received on any basis whatsoever from any company of L'Air Liquide group during the twenty-four months prior to departure. It was specified that the indemnities referred to in points (a) and (b) cannot be received in conjunction with one another.

Payment of the indemnity due in respect of forced departure as provided for above was subject to compliance with the conditions related to Mr Pierre Dufour's performance assessed in light of the Company's own performance, defined as of the date hereof as follows:

Entitlement to the indemnity depended on, and the amount of the indemnity paid was adjusted on the basis of, the average of the annual gap between Return on Capital Employed after tax (ROCE) and Weighted Average Cost of Capital (WACC) (assessed using the net equity method) calculated over the last three fiscal years prior to the date of departure. These performance conditions could be re-examined, in particular, at the time of each renewal of Mr Pierre Dufour's term of office and, where applicable, during the course of his term of office.

The Board of Directors had decided on February 17, 2014 to increase the performance criteria on which payment of the indemnity is contingent, with an average ROCE-WACC gap over three years of 300 basis points (instead of 200 basis points) now being required to benefit from the total indemnity. The declining formula has also been made stricter: the condition decreases down to a minimum variance of 100 basis points (instead of 0 previously), below which no indemnity is paid.

Average R.O.C.E.-W.A.C.C. gap	Proportion of the indemnity due
≥ 300 bp*	100%
≥ 200 bp and < 300 bp	66%
≥ 150 bp and < 200 bp	50%
≥ 100 bp and < 150 bp	33%
< 100 bp	0%

* bp : basis point.

Any statutory or contractual indemnity or indemnity under the collective bargaining agreement that may be paid, where applicable, to Mr Pierre Dufour in respect of the termination of any other functions or duties performed within L'Air Liquide group, as well as any non-competition indemnity due in respect of this termination, were not subject to the above-mentioned conditions.

The sum of all indemnities paid in respect of termination of any other functions or duties held in L'Air Liquide group and the indemnity due in the event of forced departure may not exceed twenty-four months of remuneration.

Following the decision of Mr Pierre Dufour to claim his retirement rights, the Board of Directors held on February 14, 2017 took note, in agreement with Mr Pierre Dufour, that in accordance with the terms of the commitment, no indemnity could be paid in case of forced departure. Accordingly this commitment became non applicable.

Neuilly-sur-Seine and Paris-La Défense, March 3, 2017

The Statutory Auditors
French original signed by

PricewaterhouseCoopers Audit

Olivier Lotz

Séverine Scheer

ERNST & YOUNG et Autres

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Emmanuelle Mossé

Statutory Auditors' report on the share capital reduction

This is a free translation into English of the Statutory Auditors' report issued in French and is provided solely for the convenience of English speaking readers. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

To the Shareholders,

In our capacity as Statutory Auditors of L'Air Liquide S.A. and pursuant to the provisions of article L. 225-209 of the French Commercial Code (Code de commerce) relating to share capital reductions, in particular as regards the cancellation of shares bought back by the Company, we hereby report to you on our assessment of the reasons for and the terms and conditions of the proposed share capital reductions.

The shareholders are asked to delegate to the Board of Directors full powers to cancel, any or all of the shares bought back by the Company under the share buyback program, within the limit of 10% of the capital as of the date of the cancellation, per twenty-four month period. These powers would be exercisable for a period of twenty-four months from the Shareholders' Meeting, in accordance with article L. 225-209 of the French Commercial Code.

We performed the procedures we deemed necessary in accordance with professional standards applicable in France to such engagements. These procedures consisted in ensuring that the reasons for and the terms and conditions of the proposed capital reductions, which are not considered to affect shareholder equality, comply with the applicable legal provisions.

We have no matters to report as regards the reasons for or terms and conditions of the proposed capital decrease.

Neuilly-sur-Seine and Paris-La Défense, March 3, 2017

The Statutory Auditors
French original signed by

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Statutory Auditors' report on the issuance of shares and securities with preferential subscription rights

This is a free translation into English of the Statutory Auditors' report issued in French and is provided solely for the convenience of English speaking readers. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

To the Shareholders,

In our capacity as Statutory Auditors of L'Air Liquide S.A., and in compliance with article L.228-92 of the French Commercial Code (Code de commerce), we hereby report to you on the proposed delegation of authority to the Board of Directors to issue shares or securities, which is submitted to you for approval.

Based on its report, the Board of Directors proposes that the shareholders delegate to the Board, for a period of twenty-six months, the authority to decide on and set the final conditions of an issue, with preferential subscription rights (13th resolution), of ordinary shares of the Company, of securities governed by articles L. 228-91 et seq. of the French Commercial Code, consisting of equity securities of the Company giving access to other equity securities of the Company and/or giving the right to the allocation of debt securities of the Company and/or of securities representing debt securities, whether governed or not by articles L. 228-91 et seq. of the French Commercial Code, giving access or likely to give access to equity securities to be issued by the Company, such securities also potentially giving access to existing equity securities and/or debt securities of the Company.

The total nominal amount of the share capital increases that may be carried out, immediately or in the future may not, pursuant to the 13th resolution, exceed €530 million, from which shall be deducted (i) the issuance amount of shares arising from the stock options or performance shares granted under the 18th and 19th resolutions of the Extraordinary Shareholders' Meeting of May 12, 2016, (ii) the amount of the share capital increases carried out in accordance with the 23rd, 24th and 25th resolutions of the Extraordinary Shareholders' Meeting of May 12, 2016, and (iii) the amount of share capital increases carried out pursuant to the 15th and 16th resolutions of this Shareholders' Meeting.

The total nominal amount of securities representing debt securities giving access to the Company's share capital that are likely to be issued may not, pursuant to the 13th resolution, exceed €3 billion, from which shall be deducted the amount of the issues carried out under the 23rd, 24th and 25th resolutions of the Extraordinary Shareholders' Meeting of May 12, 2016.

If you adopt the 14th resolution, these maximum amounts will take into account the additional number of securities to be issued under the delegation of authority presented in the 13th resolution, in accordance with article L. 225-135-1 of the French Commercial Code.

It is the Board of Directors' responsibility to prepare a report in accordance with articles R. 225-113 et seq. of the French Commercial Code. It is our responsibility to express an opinion on the fairness of the financial information taken from the financial statements and on other information relating to the issue provided in this report.

We performed the procedures that we deemed necessary in accordance with professional standards applicable in France to such engagements. These procedures consisted in verifying the information provided in the Board of Directors' report relating to these issues and the methods used to set the issue price of the equity securities to be issued.

As this report does not specify the methods used to determine the issue price for the equity securities to be issued pursuant to the 13th resolution, we do not express an opinion on the basis used to calculate this issue price.

In addition, we do not express an opinion on the final terms and conditions of the issuance, as they have not yet been set.

In accordance with article R. 225-116 of the French Commercial Code, we will prepare an additional report if and when the Board of Directors uses this delegation of authority to issue securities consisting of equity securities granting access to other equity securities or entitlement to the allocation of debt securities, in the event of an issue of securities giving access to equity securities to be issued.

Neuilly-sur-Seine and Paris-La Défense, March 3, 2017

The Statutory Auditors
French original signed by

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Statutory Auditor's Report on the issue of ordinary shares and other equity securities conferring entitlement to the share capital reserved for employees members of the Company's or Group's savings plan

This is a free translation into English of a report issued in French and is provided solely for the convenience of English-speaking readers. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

To the Shareholders,

In our capacity as Statutory Auditors of your Company and in compliance with articles L. 228-92 and L. 225-135 and following of the French Commercial Code (Code de commerce), we hereby report on the proposal to grant your Board of Directors the ability to decide on the issue of ordinary shares and other equity securities, conferring entitlement to the Company's share capital, with cancellation of preferential subscription rights. These increases are reserved to the employees who contribute to a savings plan set up by the Company or affiliated French and foreign companies as defined by articles L. 225-180 of the French Commercial Code (Code de commerce) and L. 3344-1 of the French Labor Code (Code du Travail), an operation upon which you are called to vote.

The maximum par value of the capital increase that may result from this issue amounts to 30.25 million euros, (corresponding to the issue of a maximum of 5.5 million shares), provided that:

- the total amount of share capital increases likely to be performed immediately or at a future date on the basis of the fifteenth and the sixteenth resolutions may not exceed the aforementioned par value amount of 30.25 million euros;
- the par value amount of share capital increases likely to be performed immediately or at a future date on the basis of the fifteenth and the sixteenth resolutions shall be deducted from the overall limit of €530 million stipulated in the thirteenth resolution to this the Shareholders' Meeting.

This operation is submitted for your approval in accordance with articles L. 225-129-6 of the French Commercial Code (Code de commerce) and L. 3332-18 and following of the French Labor Code (Code du travail).

Your Board of Directors proposes that, on the basis of its report, it be authorized for a period of twenty-six months starting from the date of this Shareholders' Meeting to decide on whether to proceed with one or several increases in capital and proposes to cancel your preferential subscription rights to the ordinary shares and other equity securities conferring entitlement to the Company's share capital. If necessary, it will determine the final conditions for these operations.

It is the responsibility of the Board of Directors to prepare a report in accordance with articles R. 225-113 and following of the French Commercial Code (Code de commerce). It is our responsibility to report on the fairness of the financial information taken from the financial statements, on the proposed cancellation of preferential subscription rights and on other information relating to the share issue, provided in this report.

We have performed the procedures which we considered necessary in accordance with the professional guidance issued by the French auditing body (Compagnie Nationale des Commissaires aux Comptes) relating to this operation. These procedures require that we perform the necessary procedures to verify the contents of the Board of Directors' Report relating to this operation and on the methods for determining the issue price of the ordinary shares and of the other equity securities conferring entitlement to the Company's share capital to be issued.

Subject to a subsequent examination of the conditions for the issue that may be decided, we have nothing to report on the methods for determining the issue price of the ordinary shares and of the other equity securities conferring entitlement to the Company's share capital to be issued, provided in the Board of Directors' Report.

As the final conditions for the increase in capital have not yet been determined, we cannot report on these conditions and, consequently, on the proposed cancellation of preferential subscription rights.

In accordance with article R. 225-116 of the French Company Code (Code de commerce), we will prepare an additional report, if necessary, when your Board of Directors will exercise this delegation in case of issuance of shares or marketable securities which are capital shares granting access to others capital shares and in case of marketable securities issuance granting access to capital shares to be issued.

Neuilly-sur-Seine and Paris-La Défense, March 3, 2017

The Statutory Auditors
French original signed by

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Statutory Auditor's Report on the issue of ordinary shares and other equity securities reserved for a category of beneficiaries, with cancelation of preferential subscription rights

This is a free translation into English of a report issued in French and is provided solely for the convenience of English-speaking readers. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

To the Shareholders,

In our capacity as Statutory Auditors of your Company and in compliance with articles L.228-92 and L.225-135 and following of the French Commercial Code (Code de commerce), we hereby report on the proposal to grant your Board of Directors the ability to decide on the issue of ordinary shares and other equity securities, conferring entitlement to the Company's share capital, with cancellation of preferential subscription rights.

This operation is reserved to any financial institution or subsidiary of such an institution mandated by your Company for the exclusive purpose of allowing employees and executives of foreign companies, related to the Company as defined in articles L. 225-180 of the French Company Code (Code de commerce) and L. 3344-1 of the French Labor Code (Code du travail), to benefit from an economical device comparable to a share ownership scheme that would be implemented under the fifteenth resolution of this Shareholders' Meeting, when implementing such a scheme would run into local legal, regulatory or tax constraints.

The maximum par value of the capital increase that may result from this issue amounts to 30.25 million euros, (corresponding to the issue of a maximum of 5.5 million shares), provided that:

- the total amount of share capital increases likely to be performed immediately or at a future date on the basis of the fifteenth and the sixteenth resolutions may not exceed the aforementioned par value amount of 30.25 million euros;
- the par value amount of share capital increases likely to be performed immediately or at a future date on the basis of the fifteenth and the sixteenth resolutions shall be deducted from the overall limit of €530 million stipulated in the thirteenth resolution to this the Shareholders' Meeting.

Your Board of Directors proposes that, on the basis of its report, that it be granted the ability for a period of eighteen months starting from the date of the Shareholders' Meeting, to decide on one increase in capital and to cancel your preferential subscription rights to the ordinary shares and other equity securities. If necessary, it will determine the final conditions for this operation.

It is the responsibility of the Board of Directors to prepare a report in accordance with articles R. 225-113 and following of the French Commercial Code (Code de commerce). It is our responsibility to report on the fairness of the financial information taken from the financial statements, on the proposed cancellation of preferential subscription rights and on other information relating to the share issue, provided in this report.

We have performed the procedures which we considered necessary in accordance with the professional guidance issued by the French auditing body (Compagnie Nationale des Commissaires aux Comptes) relating to this operation. These procedures require that we perform the necessary procedures to verify the contents of the Board of Directors' Report relating to this operation and on the methods for determining the issue price of the ordinary shares and of the other equity securities conferring entitlement to the Company's share capital to be issued.

Subject to a subsequent examination of the conditions for the issue that may be decided, we have nothing to report on the methods for determining the issue price of the ordinary shares and of the other equity securities conferring entitlement to the Company's share capital to be issued, provided in the Board of Directors' Report.

As the final conditions for the increase in capital have not yet been determined, we cannot report on these conditions and, consequently, on the proposed cancellation of preferential subscription rights.

In accordance with article R. 225-116 of the French Company Code (Code de commerce), we will prepare an additional report, if necessary, when your Board of Directors will exercise this delegation in case of issuance of shares or marketable securities which are capital shares granting access to others capital shares and in case of marketable securities issuance granting access to capital shares to be issued.

Neuilly-sur-Seine and Paris-La Défense, March 3, 2017

The Statutory Auditors
French original signed by

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ANNUAL GENERAL MEETING 2017

Statutory Auditors' Reports



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SHARE CAPITAL

Trends in share capital over the past three years

Issue date	Type of transaction	Number of shares issued	Aggregate number of shares	Share capital increase	Issue premiums and reserves	Share capital
<i>(in euros, except for shares)</i>						
February 17, 2014	Exercise of share subscription options	193,376	312,887,235	1,063,568.00	11,160,475.74	1,720,879,792.50
May 7, 2014	Cancelation of shares	(1,000,000)	311,887,235	(5,500,000.00)	(90,205,230.33)	1,715,379,792.50
May 27, 2014	Exercise of share subscription options	456,035	312,343,270	2,508,192.50	26,674,193.39	1,717,887,985.00
May 27, 2014	Free share attribution (1 for 10)	31,234,327	343,577,597	171,788,798.50	(171,788,798.50)	1,889,676,783.50
May 27, 2014	Free share attribution loyalty bonus (1 for 100)	861,485	344,439,082	4,738,167.50	(4,738,167.50)	1,894,414,951.00
February 16, 2015	Exercise of share subscription options	540,370	344,979,452	2,972,035.00	31,369,884.50	1,897,386,986.00
May 6, 2015	Exercise of share subscription options	415,163	345,394,615	2,283,396.50	24,286,495.14	1,899,670,382.50
May 6, 2015	Cancelation of shares	(1,500,000)	343,894,615	(8,250,000.00)	(144,733,042.60)	1,891,420,382.50
February 15, 2016	Exercise of share subscription options	327,988	344,222,603	1,803,934.00	19,187,472.00	1,893,224,316.50
May 10, 2016	Share capital increase reserved for employees	999,143	345,221,746	5,495,286.50	71,942,681.50	1,898,719,603.00
July 29, 2016	Exercise of share subscription options	354,628	345,576,374	1,950,454.00	19,875,625.41	1,900,670,057.00
September 12, 2016	Exercise of share subscription options	41,303	345,617,677	227,166.50	2,361,106.80	1,900,897,223.50
October 11, 2016	Increase in share capital	43,202,209	388,819,886	237,612,149.50	3,045,755,734.50	2,138,509,373.00

Note: Between September 12 and December 31, 2016, 55,875 options were exercised, giving rise to an outstanding capital as at December 31, 2016 of 2,138,816,685.50 euros, divided up into 388,875,761 shares.

Changes in share capital ownership over the last three years

	2014	2015	2016
Individual shareholders	37%	36%	33%
French institutional investors	17%	18%	20%
Foreign institutional investors	46%	46%	47%
Own shares held by the Company (directly and indirectly)	>0%	>0%	>0%

THRESHOLD NOTIFICATIONS

During the fiscal year ended December 31, 2016 the following legal threshold notifications were declared:

Date	Company	% Share capital	% voting rights
01/05/2016	BlackRock	4.97% ↘	4.97%
01/06/2016	BlackRock	5.10% ↗	5.10%
02/11/2016	BlackRock	4.90% ↘	4.90%
02/12/2016	BlackRock	5.02% ↗	5.02%
02/22/2016	BlackRock	4.89% ↘	4.89%
03/18/2016	BlackRock	5.06% ↗	5.06%
03/22/2016	BlackRock	4.93% ↘	4.93%
04/06/2016	BlackRock	5.00% ↗	5.00%
04/07/2016	BlackRock	4.65% ↘	4.65%
09/08/2016	BlackRock	5.07% ↗	5.07%
09/13/2016	BlackRock	4.58% ↘	4.58%

To the Company's knowledge, there is no other shareholder that holds either directly or indirectly, alone or jointly, more than 5% of the capital or voting rights.

Share capital and voting rights for the last three years

	Number of shares comprising share capital	Theoretical number of voting rights (including treasury shares)	Actual number of voting rights (excluding treasury shares)
2014	344,872,883	344,872,883	343,579,719
2015	344,163,001	344,163,001	342,945,838
2016	388,875,761	388,875,761	387,749,196

There are no double voting rights.

To the best of the Company's knowledge, there are no shareholders' agreements or joint or concerted action agreements.

The portion of the L'Air Liquide S.A. share capital comprising the direct registered shares owned by the main shareholders and pledged is not material.

Amount of share capital held by employees

Since 1986, L'Air Liquide S.A. has given the employees of certain Group companies the possibility to subscribe to capital increases reserved for them. At the end of 2016, the share of capital held by employees and former employees of the Group is estimated at 2.4%, of which 1.5%,

that is 5,956,147 shares, (within the meaning of article L. 225-102 of the French Commercial Code) corresponds to shares subscribed by employees during employee reserved capital increase operations or held through mutual funds.

Delegations of authority granted at the Shareholders' Meeting

Nature of the delegation	Validity of the delegation	Authorized amount	Utilization in 2016
Share buyback	Granted by: SM of May 12, 2016 (4 th)* For a period of: 18 months Maximum price: 165 euros	10% of share capital, representing 34,416,300 shares, for a maximum amount of 5,678,689,500 euros	Treasury shares As of December 31, 2016, the Company owned 1,029,934 shares at an average purchase price of 98.53 euros, i.e. a balance sheet value of 101,479,843 euros. Liquidity contract changes: Under the liquidity contract, as of December 31, 2016 a total of 750 shares were on the balance sheet for a net value of 77,330 euros. For more details, see pages 338-339 in the present Reference Document.
Cancellation of shares	Granted by: SM of May 12, 2016 (16 th)* For a period of: 24 months	10% of share capital	None
Increase in share capital via the issuance of shares or marketable securities, with retention of shareholders' preferential subscription rights	Granted by: SM of May 6, 2015 (12 th)* For a period of: 26 months	470 million euros nominal amount (overall limit) Maximum nominal amount of marketable securities: 3 billion euros Amounts may be increased by a maximum of 15%, in the event of oversubscription (13 th resolution SM of May 6, 2015*)	On October 11, 2016, 43,202,209 shares were issued at a par value of 5.50 euros, bringing the share capital to 2,138,509,373 euros. None
Capital increase via capitalization of reserves	Granted by: SM of May 12, 2016 (17 th)* For a period of: 26 months	For a maximum nominal amount of 250 million euros	None
Share capital increase reserved for employees: ■ as part of a Group savings plan ■ as part of a comparable scheme abroad	Granted by: SM of May 12, 2016 (21 st)* For a period of: 26 months Granted by: SM of May 12, 2016 (22 nd)* For a period of: 18 months	30.25 million euros nominal value and 5.5 million shares. To be deducted from the aforementioned overall limit of 470 million euros	999,143 shares issued at a par value of 5.50 euros as part of the employee share ownership transaction, in May 2016.
Bond issuance	Granted by: SM of May 12, 2016 (13 th)* For a period of: 5 years	20 billion euros	As of December 31, 2016, outstanding bond issues of 762 million euros for L'Air Liquide S.A., 14.6 billion euros for the Air Liquide Group.

* Renewal to be proposed to the Combined Shareholders' Meeting on May 3, 2017.

Nature of the delegation	Validity of the delegation	Authorized amount	Utilization in 2016
Stock options	Granted by: SM of May 12, 2016 (18 th) For a period of: 38 months	2% of the capital on the day the options were granted 0.3% of the capital on the date the options were granted to the Executive Officers	143,240 stock options granted by the Board on November 29, 2016.
Performance shares	Granted by: SM of May 12, 2016 (19 th) For a period of: 38 months	0.5% of the capital on the day the shares were granted 0.15% of the capital on the date the shares were granted to the Executive Officers	75,230 performance shares were granted by the Board on July 29, 2016. 426,346 performance shares were granted by the Board on November 29, 2016.
Issuance of marketable securities without preferential subscription rights : ■ by public offering ■ by private placements	Granted by: SM of May 12, 2016 (23 rd) For a period of: 26 months Granted by: SM of May 12, 2016 (24 th) For a period of: 26 months	Deducted from the 470 million euro overall limit (SM of May 6, 2015*) Amounts may be increased by a maximum of 15%, in the event of oversubscription (25 th SM of May 12, 2016)	None

* Renewal to be proposed to the Combined Shareholders' Meeting on May 3, 2017.

GENERAL INFORMATION

General information

Law applicable to L'Air Liquide S.A.

French law.

Incorporation and expiration dates

The Company was incorporated on November 8, 1902, for a set term expiring on February 17, 2028.

Business and Company register

552 096 281 RCS Paris
APE code: 7112B

Consulting legal documents

The articles of association, Minutes of Shareholders' Meetings and other Company documents may be consulted at Company headquarters.

Fiscal year

The Company's fiscal year starts on January 1, and ends on December 31, of the same year.

Address and phone number of the head office

75, quai d'Orsay, 75007 Paris –
+33 (0)1 40 62 55 55

Articles of association

SECTION I

NAME – PURPOSE – HEAD OFFICE – TERM

Article 1: Form and name

The Company is a joint stock company, with a Board of Directors. This Company will be governed by the laws and regulations in force and these articles of association.

The Company's name is "L'Air Liquide, société anonyme pour l'Étude et l'Exploitation des procédés Georges Claude".

Article 2: Purpose

The Company's corporate purpose includes:

- the study, exploitation, sale of the patents or inventions of Messrs. Georges and Eugène Claude pertaining to the liquefaction of gases, the industrial production of refrigeration, liquid air and oxygen, and the applications or utilizations thereof;
- the industrial production of refrigeration, of liquid air, the applications or uses thereof, the production and liquefaction of gases, and in particular oxygen, nitrogen, helium and hydrogen, the applications and uses thereof in all forms, pure, in blends and combinations, without any distinction as to state or origin, in all areas of application of their physical, thermodynamic, chemical, thermochemical and biological properties, and, in particular, in the domains of propulsion, the sea, health, agri-business and pollution;

- the purchase, manufacturing, sale, use of all products pertaining directly or indirectly to the aforementioned corporate purpose, as well as all sub-products resulting from their manufacturing or their use, of all machines or devices used for the utilization or application thereof and, more specifically, the purchase, manufacturing, sale, use of all products, metals or alloys, derived or resulting from a use of oxygen, nitrogen and hydrogen, pure, blended or combined, in particular of all oxygenated or nitrogenous products;

- the study, acquisition, direct or indirect exploitation or sale of all patents, inventions or methods pertaining to the same corporate purposes;

- the exploitation, directly or through the incorporation of companies, of all elements connected, directly or indirectly, with the Company's purpose or likely to contribute to the development of its industry;

- the supply of all services, or the supply of all products likely to develop its clientele in the industry or health sectors.

The Company may request or acquire all franchises, perform all constructions, acquire or lease all quarries, mines and all real property, and take over all operations connected with its corporate purpose, sell or lease these franchises, merge or create partnerships with other companies by acquiring Company shares or rights, through advances or in any appropriate manner. It may undertake these operations either alone or jointly.

Lastly, and more generally, it may carry out all industrial, commercial, real estate, personal or financial operations pertaining directly or indirectly to the corporate purposes specified above.

Article 3: Head office

The Company's head office is located at 75, quai d'Orsay, Paris.

It may be transferred upon a Board of Directors' decision to any other location in Paris or a neighboring department, subject to the

ratification of such decision by the next Ordinary General Shareholders' Meeting, and anywhere else by virtue of a decision by an Extraordinary Shareholders' Meeting.

Article 4: Term

The Company's term has been fixed at 99 years beginning on February 18, 1929, except in the event of early dissolution or extension.

SECTION II

SHARE CAPITAL – SHARES – IDENTIFICATION OF SHAREHOLDERS

Article 5: Share capital

The share capital has been set at 2,138,941,915 Euros divided into 388,898,530 fully paid-up shares of a par value of 5.50 euros each.

Share capital is increased under the conditions stipulated by law either by issuing ordinary or preferred shares, or by raising the par value of existing shares. It may also be increased by exercising the rights attached to marketable securities granting access to share capital, under the conditions stipulated by law.

In accordance with prevailing legal provisions, unless otherwise decided by the Shareholders' Meeting, the shareholders have, in proportion to the amount of shares they own, a preferential subscription right to the shares issued in cash in order to increase share capital.

The share capital may also be reduced under the conditions stipulated by law, in particular, by reducing the par value of the shares, or by reimbursing or redeeming shares on the stock exchange and by canceling shares, or by exchanging existing shares for new shares, in an equivalent or lesser number, with or without the same par value, and with or without a cash balance to be paid or received. The Shareholders' Meeting may always compel the shareholders to sell or purchase existing shares to permit the exchange of existing shares for new shares, with or without a cash balance to be paid or received, even if such reduction is not a result of losses.

Article 6: Shares

If the new shares are not fully paid up upon issuance, calls for payment shall be performed, on dates set by the Board of Directors, by means of announcements posted one month in advance in one of the Paris official legal publications chosen for the legal publication of the Company's deeds.

Shares not fully paid up shall be held as registered shares until they are fully paid up.

Each payment on any subscribed shares will be registered in an account opened in the name of the subscriber.

All late payments shall automatically bear interest, for the benefit of the Company, as of the due date, without any formal notice or legal action, at the legal interest rate, subject to any personal action that the Company may take against any defaulting shareholder and the compulsory execution measures provided by law.

Article 7: Type of shares

Paid-up shares are registered as registered shares or bearer shares depending on the choice of the shareholder.

The provisions of the aforementioned paragraph also apply to other securities of any nature issued by the Company.

Article 8: Rights and obligations governing shares

Shareholders shall not be liable above the amount of their subscription.

Share ownership automatically binds shareholders to the articles of association and the decisions of the Shareholders' Meetings.

Subject to legal and regulatory restrictions, voting rights attached to the shares are proportionate to the capital quota they represent and each share confers the right to one vote. In accordance with the option provided for in paragraph 3 of article L. 225-123 of the French Commercial Code, double voting rights will not be conferred to paid-up shares and for which a nominative registration for at least two years in the name of the same shareholder can be proved.

Any share grants entitlement, during the Company's term, as in the event of liquidation, to the payment of an identical net amount for any distribution or redemption.

Shares are freely transferable under the conditions provided by law.

Article 9: Identification of shareholders

The Company may avail itself at any time of the legal and statutory provisions in force permitting the identification of the owners of shares conferring immediately or in the future the right to vote in Shareholders' Meetings, as well as the number of shares they own.

In addition to the legal obligations to notify the Company, any person, acting alone or jointly, coming in direct or indirect possession of a fraction of the Company's capital or voting rights equal to or greater than 2%, or a multiple of 2% of capital or voting rights (including above the 5% threshold), is required to inform the Company within fifteen days as of the date on which the threshold is exceeded and, as the case may be, independently of the effective transfer date of share ownership. The person shall state the number of shares and marketable securities granting entitlement to capital that he or she owns on the date of notification. Any decrease below the 2% threshold or a multiple of 2% of capital or voting rights shall be notified in the same manner.

In the event of a failure to meet this additional notification obligation, one or several shareholders, owning a fraction of the Company's capital or voting rights amounting to at least 2%, may, at a Shareholders' Meeting, request that the shares exceeding the fraction which should have been reported, be stripped of their voting rights for any Shareholders' Meeting held until the end of a two-year period following the date on which the notice is rectified. The request is recorded in the Minutes of the Shareholders' Meeting.

SECTION III

MANAGEMENT OF THE COMPANY

Article 11: Composition of the Board of Directors

The Company is managed by a Board of Directors, comprising a minimum of three members and a maximum of fourteen members (unless temporarily waived in the event of a merger), physical persons or legal entities.

The members of the Board of Directors are appointed by the Ordinary Shareholders' Meeting for a term of four years expiring at the close of the Shareholders' Meeting held to approve the financial statements for the previous year and which is held in the year during which the mandate expires. As an exception to this rule, the members of the first Board of Directors who exercised functions as members of the Supervisory Board in the Company under its former mode of administration shall be appointed for a period equal to the remaining term of their mandate as members of the Supervisory Board.

The members of the Board of Directors may be re-elected.

Each Director must own at least 500 registered shares in the Company during the term of his functions. If, on the date of his appointment, a Director does not own the required number of shares or if, during his term, he ceases to own them, he is deemed to have resigned with immediate effect if he has not rectified the situation within a period of three months.

In the event of a vacancy of one or more seats due to death or resignation, the Board of Directors may, between two Shareholders' Meetings, make temporary appointments. Provisional appointments made by the Board of Directors are subject to the approval of the next Ordinary Shareholders' Meeting. If the number of Directors falls below the legal minimum, the remaining Directors must immediately convene an Ordinary Shareholders' Meeting in order to make up the numbers of the Board.

Article 10: Co-ownership and usufruct

As all shares are indivisible from the point of view of the Company, all joint owners of shares are required to be represented vis-à-vis the Company by a single owner selected from among them or proxy under the conditions provided by law.

The voting right attached to the share is exercised by the beneficial owner at both Ordinary and Extraordinary Shareholders' Meetings. However, the bare-owner shall be entitled to attend all Shareholders' Meetings. He or she may also represent the beneficial owner at Shareholders' Meetings.

The heirs, creditors, trustees or successors of a shareholder may not, on any grounds whatsoever, call for the affixing of seals on the Company's assets and securities, request the distribution thereof, or interfere in any manner whatsoever in its administration.

In order to exercise their rights, they must consult the Company's records and decisions of the Shareholders' Meetings.

No individual over the age of 70 shall be appointed as a member of the Board of Directors if his appointment increases the number of the members of the Board of Directors who have passed this age to over one third. If during their term, the number of the members of the Board of Directors who have passed 70 years of age exceeds one third of the Board's members, the oldest member of the Board of Directors who has not carried out management functions in the Company is deemed to have resigned at the end of the Annual Shareholders' Meeting held following the occurrence of this event.

During the Company's term, Directors are appointed and their mandates renewed under the conditions provided by law.

They may be dismissed by the Ordinary Shareholders' Meeting at any time.

Director(s) representing employees

In accordance with statutory requirements, if the number of members of the Board of Directors, calculated in accordance with article L. 225-27-1-II of the French Commercial Code, is less than or equal to 12, the Group Committee in France shall proceed to appoint a Director representing employees.

If the number of members of the Board of Directors, calculated in accordance with article L. 225-27-1-II of the French Commercial Code, is more than 12, and provided this criterion is still fulfilled on the date of the appointment, a second Director representing employees shall be appointed by the European Works Council.

If the number of members of the Board of Directors, calculated in accordance with article L. 225-27-1-II of the French Commercial Code, was originally more than 12 members but becomes less than or equal to 12 members, the Director appointed by the European Works Council shall remain in office until his term of office expires.

As an exception to the foregoing, the Director representing employees appointed by virtue of this clause is not required to hold at least 500 registered shares during his term of office.

The Director representing employees shall be appointed for a four-year term expiring at the close of the Shareholders' Meeting called to approve the financial statements for the previous year and which is held in the year in which his term of office expires. The tenure of the Director representing employees may be renewed.

The tenure of the Director representing employees shall be terminated in accordance with statutory requirements and the provisions contained in this clause, particularly in the event of termination of said Director's employment contract; if the criteria for the application of article L. 225-27-1 of the Commercial Code are no longer met, the tenure of the Director(s) representing employees shall expire at the end of the meeting during which the Board of Directors observes that the Company has been released from this obligation.

In the event that the seat of a Director representing employees is vacant for any reason whatsoever, the vacant seat shall be filled under the conditions set forth in article L. 225-34 of the French Commercial Code.

In addition to the provisions of the second paragraph of article L. 225-29 of the French Commercial Code, it is stipulated, if need be, that any failure to appoint a Director representing employees by the body designated herein, in accordance with the law and with this clause, shall not invalidate the resolutions of the Board of Directors.

Article 12: Organization and management of the Board of Directors

The Board of Directors elects from among its members who are individuals, a Chairman. It determines his remuneration and sets his term of office which may not exceed his term of office as Director. The Chairman may be re-elected.

The Chairman of the Board of Directors performs the duties entrusted to him by law. He chairs the Board of Directors, organizes and manages its work and reports on such work to the Shareholders' Meeting. He ensures that the Company's bodies operate properly and, in particular, that the Directors are able to fulfill their assignments.

The Board may also appoint from among its members one or more Vice-Chairmen, whose term of office shall be determined within the limit of their term as Director and whose role it is, subject to the legal provisions applicable in the event of the temporary impediment or death of the Chairman, to convene and chair Board meetings or chair Shareholders' Meetings in accordance with these articles of association when the Chairman is impeded.

No Director who does not also assume the role of Chief Executive Officer may be appointed as Chairman of the Board of Directors after the age of 70 (or 72 if the Board decides at its discretion to derogate from this limit in exceptional circumstances). If, during the term of office, this age limit is reached, the Chairman's mandate shall terminate at the close of the Shareholders' Meeting held to approve the financial statements for the year during which he has reached the age limit.

If the Chairman of the Board of Directors also assumes the role of Chief Executive Officer, the applicable age limit is that applicable to the Chief Executive Officer.

The Chairman and each Vice-Chairman may be dismissed by the Board of Directors at any time. They may also be re-elected.

The Board may appoint a secretary who need not be a shareholder or one of its members.

Article 13: General Management

Management organization

In accordance with the law, the Company's General Management is assumed either by the Chairman of the Board of Directors or by any other physical person, Director or not, appointed by the Board of Directors and who assumes the role of Chief Executive Officer.

The choice between either of the two General Management organizations described above is made by the Board of Directors. The Board of Directors makes its decision relating to the choice of General Management organization under the quorum and majority conditions stipulated in article 14 of these articles of association. The shareholders and third parties are informed of the Board of Directors' decision under the conditions stipulated by the regulations in force.

When the Company's General Management is assumed by the Chairman of the Board of Directors, the Board of Directors must appoint, among its members considered as independent by the Board of Directors, a Lead Director. The conditions of appointment, the tasks and powers of the Lead Director (in particular, if applicable, the power to ask to convene a meeting of the Board of Directors), are set out in the Board of Directors' internal regulations.

The choice made by the Board of Directors remains valid until it decides otherwise.

The Board of Directors will review, as necessary, the choice made each time the mandate of the Chairman of the Board of Directors or the Chief Executive Officer comes up for renewal.

Chief Executive Officer

If the Company's Chief Executive Officer is assumed by the Chairman of the Board of Directors, the following provisions relating to the Chief Executive Officer are applicable.

The Board of Directors sets the term of office and determines the remuneration of the Chief Executive Officer.

No individual over the age limit set by law may be appointed as Chief Executive Officer. If, during the term of office, this age limit is reached, the Chief Executive Officer's mandate shall terminate at the close of the Shareholders' Meeting held to approve the financial statements for the year during which he has reached the age limit set by law.

The Chief Executive Officer may be dismissed at any time by the Board of Directors. The discharge of a Chief Executive Officer who does not assume the role of Chairman may give rise to damages if decided without reasonable cause.

The Chief Executive Officer may always be re-elected.

Powers of the Chief Executive Officer

The Chief Executive Officer is vested with the broadest powers to act in all circumstances on behalf of the Company within the limit of the Company's corporate purpose, the articles of association, and subject to the powers expressly granted by law to Shareholders' Meetings and the Board of Directors.

The Board of Directors is responsible for defining the decisions of the Chief Executive Officer that require its prior approval. The Board of Directors' prior approval should be sought particularly for external acquisitions or sales of interests or assets, and for investment commitments, in each case under the conditions and exceeding the amounts corresponding to an efficient operation of the Company as set by the Board of Directors. It should also be sought for financing operations of any amount likely to substantially alter the Company's financial structure and for any decision likely to substantially alter the Company's strategic orientations determined by the Board of Directors.

Senior Executive Vice-Presidents

On the Chief Executive Officer's proposal, whether he be Chairman of the Board of Directors or any other person, the Board of Directors may appoint one or more physical persons as Senior Executive Vice-Presidents to assist the Chief Executive Officer.

The maximum number of Senior Executive Vice-Presidents is set at three.

In accordance with the Chief Executive Officer, the Board of Directors determines the scope and term of the powers granted to the Senior Executive Vice-Presidents and sets their remuneration.

The Senior Executive Vice-Presidents have the same powers as the Chief Executive Officer vis-à-vis third parties.

In the event of impediment of the Chief Executive Officer or the cessation of his functions, the Senior Executive Vice-Presidents shall maintain, unless decided otherwise by the Board of Directors, their functions and powers until a new Chief Executive Officer is appointed.

The Senior Executive Vice-Presidents may be dismissed at any time by the Board of Directors, at the Chief Executive Officer's proposal. They are subject to the age limit provided by law.

Senior Executive Vice-Presidents may be re-elected.

Article 14: Board of Directors' Meetings and deliberations

The Board of Directors meets as often as the interest of the Company so requires, by notice from its Chairman or in the case of impediment, from the oldest Vice-Chairman, if one or more Vice-Chairmen have been appointed, at the head office or in any other location indicated in the Notice of Meeting.

The agenda is set by the Chairman and may only be finalized at the time of the Meeting.

Directors representing at least one third of members of the Board of Directors may, while specifying the meeting's agenda, ask the Chairman to summon the Board if it has not met for more than two months.

Likewise, the Chief Executive Officer, if he does not chair the Board of Directors, may ask the Chairman to summon the Board of Directors on any specified agenda.

The Chairman is bound to the requests made to him.

In the event that the Chairman is impeded or fails in performing the aforementioned tasks, the oldest Vice-Chairman, if one or more Vice-Chairmen have been appointed, shall have the authority to call the Board and set the meeting's agenda at the request of at least one third of members of the Board of Directors or the Chief Executive Officer, as the case may be. In the absence of a Vice-Chairman, the minimum of one third of members of the Board of Directors or the Chief Executive Officer, depending on the case, shall have the authority to call the Board and set the meeting's agenda.

Notices may be made by all means, including verbally.

The presence of one half of the members of the Board of Directors is required for the validity of the Board's decisions.

Decisions are made by a simple majority of the votes of the members present or represented. In the event of a tie, the Chairman shall have the casting vote.

The Board of Directors will set its internal rules that it may amend by simple resolution.

The Board of Directors may stipulate in its internal rules that the members of the Board of Directors who take part in the Board's meeting by videoconference or telecommunications in accordance with the conditions provided by the regulations in force shall be considered as present for calculating the quorum and voting majority of the members, for all decisions in which the law does not exclude such possibility.

Article 15: Powers of the Board of Directors

The Board of Directors determines the orientations of the Company's activities and ensures their implementation.

Subject to the powers expressly attributed to Shareholders' Meetings by law and these articles of association and in accordance with the corporate purpose, the Board deals with any issues concerning the smooth running of the Company and manages corporate business pursuant to its decisions.

The Board of Directors may conduct controls and verifications as it deems appropriate.

The Board is authorized to issue bonds pursuant to a delegation granted by the Ordinary Shareholders' Meeting.

It may also decide to create Committees of its members responsible for analyzing issues which it itself or its Chairman submits thereto for review. The Board determines the composition and powers of the Committees which conduct their activities under its responsibility.

Issues related to the performance, remuneration and, where appropriate, the renewal of the term of office of the Chairman and Chief Executive Officer, or the Chief Executive Officer, shall be decided by the Board of Directors as and when required, and at least once a year, after analysis by the Committee(s) of the Board of Directors that deal with appointment and remuneration issues.

Article 16: Remuneration

The Ordinary Shareholders' Meeting may allocate to the members of the Board of Directors, as remuneration for their activity, a fixed annual amount in Directors' fees. The Board of Directors is free to distribute the overall sum thus allocated among its members. It may also allocate a greater amount to the Directors who are members of Committees set up within the Board than that allocated to the other Directors.

The Board may allocate exceptional sums to remunerate assignments or mandates entrusted to the members of the Board.

SECTION IV

STATUTORY AUDITORS

Article 17: Audit of the Company

At the Ordinary Shareholders' Meeting, the shareholders appoint, under the conditions and with the assignments set by law, the principal and deputy Statutory Auditors.

SECTION V

SHAREHOLDERS' MEETINGS

Article 18: Shareholders' Meetings

The Shareholders' Meeting is comprised of all the shareholders, regardless of the number of shares they own, provided that all shares are fully paid up and that they are not stripped of voting rights.

The right to attend Shareholders' Meetings of the Company shall be justified by the recording of the shares, in the book-entry form, in the name of the shareholder or of the intermediary registered on behalf of the shareholder within the time frames and under the conditions provided for by French law.

The owners of registered shares or bearer shares must furthermore have filed a proxy or absentee ballot form, or a single document presented in lieu thereof, or if the Board of Directors has so decided, a request for an admission card, at least three days prior to the meeting. The Board of Directors may however reduce this time period if it deems appropriate. It may also authorize the submission to the Company of the proxy or absentee ballot forms by teletransmission (including electronically) in accordance with prevailing regulatory and legal provisions.

The electronic signature can, when used, take the form of a process that satisfies the conditions defined in the first sentence of section 2 of article 1316-4 of the French Civil Code.

The Shareholders' Meeting, duly constituted, represents all of the shareholders.

Ordinary and Extraordinary Shareholders' Meetings, and where necessary, Special Shareholders' Meetings are convened, meet and deliberate under the conditions provided by law and these articles of association.

Meetings take place at the head office or at any other place designated by the author of the notice, even outside of the head office or the head office's department.

Shareholders' Meetings are chaired by the Chairman of the Board of Directors or, in his absence, by the Vice-Chairman or the oldest Vice-Chairman of the Board, if one or more Vice-Chairmen have been appointed, or otherwise by a Director specifically appointed for this purpose by the Board. In the event of impediment of the Vice-Chairman or Vice-Chairmen when Vice-Chairmen have been appointed or if the Board has not appointed a Director, the shareholders shall themselves appoint the Chairman.

The two members of the Shareholders' Meeting with the highest number of votes and having accepted the position act as ballot inspectors for the Shareholders' Meeting. The officers of the meeting appoint a secretary who need not be a shareholder.

In the event that the meeting is convened by a Statutory Auditor or by a judicial representative, the Shareholders' Meeting is chaired by the author of the notice.

Upon the decision of the Board of Directors published in the Notice of Meeting or notice of convocation to rely on means of telecommunication, the shareholders who take part in the Shareholders' Meeting by videoconference or using telecommunications means permitting their identification in accordance with the conditions provided by prevailing law, shall be considered as present for calculating the quorum and voting majority.

Article 19: Powers of Shareholders' Meetings

Ordinary and Extraordinary Shareholders' Meetings, and where necessary, Special Shareholders' Meetings allow shareholders to exercise the powers defined by law and these articles of association.

SECTION VI

INVENTORY – RESERVES – DISTRIBUTION OF PROFITS

Article 20: Fiscal year

The fiscal year begins on January 1 and ends on December 31.

Article 21: Inventory, distribution of profits

The Company's net proceeds, established in the annual inventory, after deducting overheads and other costs, including all amortization, depreciation and provisions, constitute the net profits.

From these profits, less, as the case may be, previous losses, a deduction of at least 5% is first of all made to create the reserve required by law. This deduction ceases to be mandatory when the reserve amounts to 10% of the share capital. It is resumed if this reserve is ever used.

The distributable profits are made up of the annual net profits, less previous losses, as well as the sums to be placed on reserve pursuant to law, plus the profit carried forward.

From these profits, a deduction is made of the amount necessary to pay the shareholders, as a first dividend, 5% of the sums paid-up on their shares, and not amortized, and 5% of the sums from premiums on shares issued in cash, and appearing in a "share premium" account, without it being possible, if the profits of a given year do not permit this payment, for the shareholders to claim such amounts from the profits of subsequent years.

The Shareholders' Meeting may decide to earmark any portion of the available surplus of said profits it wishes for the creation of general or special providence or reserve funds, under any name whatsoever or even simply as an amount carried forward.

The balance constitutes a surplus fund which is intended for the distribution of the second dividend as well as the amount provisionally assessed as necessary to pay a 10% increase to the registered shares satisfying the following conditions.

During the Ordinary Shareholders' Meeting, shareholders decide or authorize the issue of bonds secured, where necessary, by specific collateral in accordance with prevailing laws and regulations and authorize the Chairman to grant such collateral. They may delegate to the Board of Directors the competence and powers necessary to issue such bonds, in one or more installments, within a period set by them, and to determine the terms and conditions of the issuance of such bonds. The guarantees set up subsequent to the issue of the bonds are granted by the Chairman of the Board of Directors upon the Board's authorization.

Starting on January 1, 1996, the shares registered at December 31 of each year in registered form for at least two years, and which remain registered until the date of the payment of the dividend, will entitle their owners to collect a dividend per share which is 10% higher, rounded down if necessary to the lower centime, than the dividend per share distributed in respect of other shares, provided that the amount of the dividend per share prior to any increase is at least equal to the amount of the dividend per share prior to any increase distributed in the preceding year, adjusted to take into account the change in the number of shares from one year to the next resulting in a capital increase by capitalizing premiums, reserves or profits or a share split.

In the event that, starting on January 1, 1996, the Board of Directors, with the approval of the shareholders decides to increase the capital by capitalizing reserves, profits or premiums, the registered shares held on December 31 prior to the attribution for at least two years and that remain held until the day before the share attribution date will entitle their owners to an attribution of shares which is 10% higher than the attribution made in favor of other shares, and according to the same procedure.

The new shares created in this manner will be comparable in all respects to the existing shares from which they are issued, for calculating the entitlement to the higher dividends and the higher attributions.

The increases defined in each of the two preceding paragraphs may be modified or eliminated by simple decision during the Extraordinary Shareholders' Meeting, according to the procedures it determines.

Pursuant to law, the number of shares eligible for these increases shall not for any given shareholder exceed 0.5% of the Company's share capital.

The Shareholders' Meeting held to approve the financial statements for the year shall have the possibility of granting to each shareholder, for all or part of the dividend or interim dividends, an option for payment of the dividend or interim dividends in either cash or shares.

SECTION VII

LIQUIDATION

Article 22: Liquidation

At the expiration of the Company's term, or in the event of early dissolution, the shareholders determine the method of liquidation, in accordance with the conditions stipulated by law. They appoint and determine the powers of one or more liquidators.

The liquidators may, pursuant to a decision of the shareholders, transfer to another company or sell to a company or to any other entity or person, all or part of the assets, rights and obligations of the dissolved Company.

The duly constituted Shareholders' Meeting retains the same prerogatives during the liquidation as during the Company's term. In particular, it has the power to approve the accounts of the liquidation and to grant a discharge thereof.

After the Company's commitments have been settled, the net proceeds from the liquidation are used first to fully redeem the shares, and the surplus is then distributed equally among them.

SECTION VIII

DISPUTES

Article 23: Disputes

All disputes which may arise during the Company's term or liquidation, either between the shareholders and the Company or among the shareholders themselves, regarding Company affairs, are settled in accordance with law and submitted to the jurisdiction of the competent Paris courts.

For this purpose, in the event of disputes, all shareholders shall elect domicile in Paris, and all summonses and notices are duly served at this domicile.

Failing election of domicile, summonses and notices are validly served at the Office of Public Prosecution of the French Republic at the High Court of Paris.

Dividends

Year	Paid	Ordinary dividend ^(a) Loyalty dividend ^(b)	Number of shares	Distribution (in euros)
2014 ^(e)	May 20, 2015	2.55 ^(a) 0.25 ^(b)	342,796,607 95,636,122	874,131,348 23,909,031 898,040,379
2015 ^(e)	May 25, 2016	2.60 ^(a) 0.26 ^(b)	344,337,019 97,352,920	895,276,249 25,311,759 920,588,008
2016 ^{(c) (d)}	May 17, 2017	2.60 ^(a) 0.26 ^(b)	388,875,761 102,292,196	1,011,076,979 26,595,971 1,037,672,950

(a) Ordinary dividend paid on all shares.

(b) Loyalty dividend paid only on registered shares held continuously for two full calendar years.

(c) Subject to the approval of the General Shareholders' Meeting on May 3, 2017.

(d) For 2016, amounts distributed are theoretical values calculated based on the number of shares as of December 31, 2016.

(e) For 2014 and 2015, amounts actually paid.

Management of the Company

Pursuant to the statements made to the Company by each corporate officer, the Company confirms that corporate officers do not have any family ties with another corporate officer and have not been convicted of fraud at least during the last five years.

No incrimination and/or official public sanction has been pronounced against them by statutory or regulatory authorities (including professional organizations) and they have not been prevented by a court from acting in their capacity as a member of an administration, management or supervisory body or interfering in the management or carrying out of business of an issuer during at least the last five years. They have no potential conflicts of interest with L'Air Liquide S.A. No arrangements or agreements have been made with the significant shareholders, customers, suppliers or others, pursuant to which the corporate officers of L'Air Liquide S.A. have been chosen as such. There exist no restrictions accepted by these persons as to the transfer, within a certain time period, of their interest in the capital of L'Air Liquide S.A.

except for the rules on prevention of market abuse and the obligation set forth in the articles of association requiring the members of the Board of Directors appointed by the Annual Shareholders' Meeting to own at least 500 registered shares of the Company during the term of their office and the obligation to hold shares imposed on executive corporate officers. Corporate officers have not been associated with any bankruptcy, any receivership or liquidation during the last five years.

COMPLIANCE WITH CORPORATE GOVERNANCE

The Company complies with all aspects of the recommendations set forth in the AFEP/MEDEF Code of corporate governance (see Report from the Chairman of the Board of Directors pages 129 et seq.), except for the points described in the Chairman's Report and summarized in the table on page 145.

Property, plant and equipment

The Group's facilities and establishments are located in 80 countries around the world, with extremely diversified production capacities and characteristics.

No material tangible fixed asset exists at Group level.

The number of main plants by unit types is detailed in the Sustainable Development Report – pages 82 to 83.

Documents accessible to the public

Documents, or copies of the documents listed below may be consulted during the period of the Reference Document's validity at Shareholder Services located at the head office of Air Liquide (75, quai d'Orsay, 75007 Paris) and, if applicable, on the Company's Internet website (www.airliquide.com), subject to the documents made available at the Company's head office or Internet site under the applicable laws and regulations:

- the Company's articles of association;

- all reports, letters and other documents, historical financial information, evaluations and official assertions and declarations prepared by an expert at the Company's request, some of which are included or referred to in this Reference Document;
- historical financial information of the Group, for each of the two fiscal years preceding publication of this Reference Document.

Incorporation by reference

Pursuant to article 28 of EC Regulation No. 809/2004, the following information is included in this Reference Document:

- the consolidated and parent company financial statements for the year ended December 31, 2014, accompanied by the Statutory Auditors' Reports which appear on page 270, and on pages 288 and 289, respectively, of the 2014 Reference Document filed on March 16, 2015 with the French financial markets authority (AMF) under number D.15-0139;
- the financial information shown on pages 10 to 61 of the 2014 Reference Document filed on March 16, 2015 with the French financial markets authority (AMF) under number D.15-0139;

- the consolidated and parent company financial statements for the year ended December 31, 2015, accompanied by the Statutory Auditors' Reports which appear on pages 272 and 273, and on pages 292 and 293, respectively, of the 2015 Reference Document filed on March 1st, 2016 with the French financial markets authority (AMF) under number D.16-0091;
- the financial information shown on pages 10 to 64 of the 2015 Reference Document filed on March 1st, 2016 with the French financial markets authority (AMF) under number D.16-0091.

The sections not included in these documents serve no useful purpose to investors or are already covered in this Reference Document.

TRADE PAYABLES

Pursuant to article D. 441-4 of the French Commercial Code, a breakdown by maturity date of the trade payables balance of L'Air Liquide S.A. as of December 31, 2015 and December 31, 2016, is provided below.

(in millions of euros)	Balance	Past due	Maturity			
			of which ≤ 30 days	of which > 30 days and ≤ 45 days	of which > 45 days and ≤ 60 days	of which > 60 days
2015						
Trade payables and related accounts	44.0	12.3	18.7	8.8	2.9	1.3
Amounts payable in respect of fixed assets and related accounts	21.4	1.5	0.6	0.3	-	19.0
TOTAL	65.4	13.8	19.3	9.1	2.9	20.3
2016						
Trade payables and related accounts	22.0	10.6	9.1	1.9	0.4	-
Amounts payable in respect of fixed assets and related accounts	0.9	0.6	0.2	0.1	-	-
TOTAL	22.9	11.2	9.3	2.0	0.4	-

► FACTORS THAT MAY HAVE AN IMPACT IN THE EVENT OF A TAKEOVER BID

Pursuant to article L. 225-100-3 of the French Commercial Code, the factors that may have an impact in the event of a takeover bid are set forth below.

Board of Directors' powers

The share buyback authorization currently granted to the Company excludes any buybacks during a period of bidding on the Company's shares.

Furthermore, the following delegations of authority granted to the Board of Directors are suspended during periods of takeover bids:

- the delegation of authority granted to the Board of Directors by the Shareholders' Meeting of May 12, 2016 to increase the share capital through capitalization of additional paid-in capital, reserves, profits or any other amounts;
- the delegation of authority granted to the Board of Directors by the Shareholders' Meeting of May 12, 2016 to issue compound marketable securities, without preferential subscription rights, by way of a public offering;

■ the delegation of authority granted to the Board of Directors by the Shareholders' Meeting of May 12, 2016 to issue compound marketable securities, without preferential subscription rights, by way of private placement;

■ the delegation of authority granted to the Board of Directors (subject to the approval of the Shareholders' Meeting of May 3, 2017) to increase the share capital via the issuance of ordinary shares or marketable securities.

Some provisions relating to the regulations of the stock options plans are also applicable in the event of a takeover bid launched on the Company's shares – page 203 of this Reference Document.

Agreements that may be modified or terminated in the event of a change of control of the Company

Several bond issues under the Group's EMTN program include a clause providing that, under certain circumstances, the early repayment of such bonds may be requested in the event of a change of control of the Company:

- bond issued in July 2007 maturing in July 2017 (500 million euros);
- private placement issued in January 2008 maturing in January 2038 (15 billion yen, or 121.6 million euros equivalent^(a));
- bond issued in June 2010 maturing in June 2020 (500 million euros);
- bond issued in October 2010 maturing in October 2018 (456.75 million euros);
- private placement issued in December 2011 maturing in December 2019 (15.5 billion yen, or 125.6 million euros equivalent^(a));
- private placement issued in January 2012 maturing in March 2019 (200 million US Dollars, or 189.7 million euros equivalent^(a));
- bond issued in October 2012 maturing in October 2021 (500 million euros);

- bond issued in March 2013 maturing in September 2023 (300 million euros);
- bond issued in June 2013 maturing in June 2019 (250 million euros);
- private placement issued in January 2014 maturing in January 2026 (150 million euros);
- private placement issued in March 2014 maturing in March 2029 (100 million euros);
- bond issued in June 2014 maturing in June 2024 (500 million euros);
- private placement issued in September 2014 maturing in September 2022 (130 million swiss francs, or 121.1 million euros equivalent^(a));
- bond issued in January 2015 maturing in January 2022 (500 million renminbis, or 68.3 million euros equivalent^(a));
- bond issued in June 2015 maturing in June 2025 (500 million euros);
- bond issued in June 2015 maturing in June 2017 (250 million euros);

(a) Converted at closing rate as of December 31, 2016, with 1 EUR = 123.4 JPY, 1 EUR = 1.054 USD, 1 EUR = 732 CNY and 1 EUR = 1.074 CHF.

- bond issued in April 2016 maturing in April 2022 (300 million euros);
- bonds issued in June 2016 maturing in June 2018 (500 million euros), maturing in June 2020 (500 million euros), maturing in June 2022 (500 million euros), maturing in June 2024 (500 million euros), maturing in June 2028 (1,000 million euros).

Four bonds (or private placements) issued outside of the Group's EMTN program include a clause providing that, under certain circumstances, the early repayment of such bonds may be requested in the event of a change of control of the Company:

- bond issued in September 2011 maturing in September 2018 (850 million renminbis, or 116.1 million euros equivalent^(a));
- US Private Placements issued in September 2012, maturing in September 2022 (400 million US dollars, or 379.5 million euros equivalent^(a)), September 2024 (200 million US dollars, or 189.7 million euros equivalent^(a)) and September 2027 (100 million US dollars, or 94.9 million euros equivalent^(a));
- US public bond (144a format) issued in September 2016, maturing in September 2019 (750 million US dollars, or 711.5 million euros equivalent^(a)), maturing in September 2021 (1,000 million US dollars, or 948.7 million euros equivalent^(a)), maturing in September 2023 (750 million US dollars, or 711.5 million euros equivalent^(a)), maturing

in September 2026 (1,250 million US dollars, or 1185.8 million euros equivalent^(a)) and maturing in September 2046 (750 million US dollars, or 711.5 million euros equivalent^(a)).

Five bonds issued by Airgas, Inc include a clause providing that, under certain circumstances, the early repayment of such bonds may be requested in the event of a change of control of Airgas, Inc:

- bond issued in February 2013 maturing in February 2018 (325 million dollars, or 308.3 million euros equivalent^(a));
- bond issued in February 2013 maturing in February 2020 (275 million dollars, or 260.9 million euros equivalent^(a));
- bond issued in August 2015 maturing in August 2020 (400 million dollars, or 379.5 million euros equivalent^(a));
- bond issued in November 2012 maturing in November 2022 (250 million dollars, or 237.2 million euros equivalent^(a));
- bond issued in July 2014 maturing in July 2024 (300 million dollars, or 284.6 million euros equivalent^(a)).

Some credit agreements of the Group include a clause providing that, under certain circumstances, the early repayment of the advances made under those credit agreements may be requested in the event of a change of control of the Company.

Agreements providing indemnities for Board members or employees if they resign or are dismissed without good and sufficient cause or if their employment ends due to a takeover bid

The indemnities granted to the Company's corporate officers in the event of a termination of their office are detailed on pages 175 et seq. of this Reference Document.

(a) Converted at closing rate as of December 31, 2016, with 1 EUR = 123.4 JPY, 1 EUR = 1054 USD, 1 EUR = 7.32 CNY and 1 EUR = 1.074 CHF.

► PERSON RESPONSIBLE FOR THE REFERENCE DOCUMENT

Person responsible for the Reference Document

Benoit Potier, Chairman and CEO of L'Air Liquide S.A.

Certification by the person responsible for the Reference Document

I hereby attest, after having taken all reasonable measures for such purpose, that the information contained in this Reference Document reflects, to the best of my knowledge, the current situation and does not omit any information that could alter its scope.

I certify that, to the best of my knowledge, the financial statements have been prepared in accordance with applicable accounting standards and give a true and fair view of the assets and liabilities, and of the financial position and results of the Company and of its consolidated subsidiaries, and that the Management Report of the Annual Financial Report defined on the Cross-reference table available in chapter 6 of this Reference Document pages 387 and 388 provides a true and fair view of the evolution of the business, results and financial condition of the Company and of its consolidated subsidiaries, and a description of the main risks and uncertainties the Company and its consolidated subsidiaries are subject to.

I have obtained a work completion letter from the Statutory Auditors indicating that they have, in accordance with French professional standards, verified the information on the financial position and the financial statements and have reviewed all of the information presented in the Reference Document.

Paris, March 6, 2017

Benoit Potier

Chairman and CEO

CROSS-REFERENCE TABLE FOR THE REFERENCE DOCUMENT

The cross-reference table identifies the main information required by Regulation No. 809/2004 of the European Commission dated April 29, 2004 (the "Regulation"). The table indicates the pages of this Reference Document where is presented the information related to each item. The table indicates, when required by the Regulation, the pages of the Reference Document related to the year ended December 2015, filed on March 1st, 2016 under the number D.16-0091 (the "DDR 2015"), and the pages of the Reference Document related to the year ended December 2014, filed on March 16, 2015 under the number D.15-0139 (the "DDR 2014"), which are incorporated by reference in this document.

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CROSS-REFERENCE TABLE FOR THE ANNUAL FINANCIAL REPORT

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N°	Required element	Chapter / Pages
1.	Company annual financial statements	Chapter 4 / p. 313 to 329
2.	Consolidated financial statements	Chapter 4 / p. 237 to 310
3.	Management Report (within the meaning of the French Commercial Code)	Refer to the cross-reference table for the Management Report on page 387
4.	Statement of the persons responsible for the Annual Financial Report	Chapter 6 / p. 381
5.	Statutory Auditors' Report on the Company's annual financial statements and the Consolidated financial statements	Chapter 4 / p. 311 to 312, 330 to 331
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CROSS-REFERENCE TABLE FOR THE MANAGEMENT REPORT

In order to facilitate the reading of this document, the cross-reference table, hereafter, enables to identify in this Reference Document the Management Report information required by articles L. 225-100 et seq., L. 232-1 et seq. and R. 225-102 et seq. of the French Commercial Code (Code de commerce).

Required element	Reference text	Chapter / Pages
Group situation and activity		
Objective and comprehensive analysis of changes in business, results and the financial situation of the Company and the Group	L. 225-100, L. 225-100-2, L. 232-1, L. 233-6 and L. 233-26 of the French Commercial Code	Key figures / p. 1, 2 to 8 Chapter 1 / p. 10 to 26, 34 to 61
Key non-financial performance indicators relating to the Company and the Group's specific activity	L. 225-100 and L. 225-100-2 of the French Commercial Code	Key figures / p. 4, 8
Significant events occurring between the fiscal year closing date and the Management Report preparation date	L. 232-1 and L. 233-26 of the French Commercial Code	Chapter 4 / p. 305
Description of the main risks and uncertainties and indication of the use of financial instruments by the Company and the Group	L. 225-100, paragraphs 4 and 6 and L. 225-100-2, paragraphs 2 and 4 of the French Commercial Code	Chapter 1 / p. 28 to 33 Chapter 3 / p. 145 to 152
Significant acquisitions during the fiscal year of equity interests in companies which have their registered office in France	L. 233-6, paragraph 1 of the French Commercial Code	Chapter 5 / p. 336
Company and Group foreseeable trends and outlook	L. 232-1 and L. 233-26 of the French Commercial Code	Chapter 1 / p. 63 to 64
Research and Development activities	L. 232-1 and L. 233-26 of the French Commercial Code	Chapter 1 / p. 54 to 62
Corporate governance / Executive Officers		
List of all positions and functions held in any company by each Executive Officer during the fiscal year	L. 225-102-1 of the French Commercial Code	Chapter 3 / p. 126 to 128, 220 to 232
Remuneration and benefits of all kinds paid during the fiscal year to each Executive Officer by the Company	L. 225-102-1 of the French Commercial Code	Chapter 3 / p. 153 to 190
Report on the principles and criteria for determination, allocation and distribution of the fixed, variable and exceptional elements of the total remuneration and the benefits of all kinds that may be granted to the executive officers	L. 225-37-2 of the French Commercial Code	Chapter 3 / p. 191 to 199
Agreements between an Executive Officer or a major shareholder and a subsidiary	L. 225-102-1 of the French Commercial Code	Chapter 3 / p. 171 to 172
Information on Company's shares trading by Executive Officers and related persons	L. 621-18-2 of the French Monetary and Financial Code	Chapter 3 / p. 201
Attribution and retention of stock options by Executive Officers	L. 225-185 of the French Commercial Code	Chapter 3 / p. 158 to 166, 169 to 171, 182 to 183,
Attribution and retention of free share grants to Executive Officers	L. 225-197-1 of the French Commercial Code	187 to 188

Required element	Reference text	Chapter / Pages
Share ownership and capital		
Structure and change in Company capital	L. 233-13 of the French Commercial Code	Key figures / p. 7 Chapter 2 / p. 108 Chapter 6 / p. 364, 365
Acquisition and disposal by the Company of treasury shares	L. 225-211 of the French Commercial Code	Chapter 5 / p. 338 to 339 Chapter 6 / p. 365
Employee share ownership	L. 225-102, paragraph 1 of the French Commercial Code	Chapter 3 / p. 202 to 213 Chapter 6 / p. 366
Shares acquired by employees as part of a management buyout	L. 225-102, paragraph 2 of the French Commercial Code	N/A
Possible adjustments for securities giving access to share capital in case of buybacks of shares or financial transactions	R. 228-90 and R. 228-91 of the French Commercial Code	Chapter 3 / p. 203, 204, 207
Information that may have an impact in the event of a takeover bid	L. 225-100-3 of the French Commercial Code	Chapter 6 / p. 379 to 380
Amount of dividends paid out in respect of the three previous fiscal years	243 bis of the French Tax Code	Chapter 5 / p. 338 Chapter 6 / p. 375
Environmental, social and societal information		
Environmental information	L. 225-102-1, paragraphs 5 and 6 and R. 225-105 of the French Commercial Code	Key figures / p. 8 Chapter 2 / p. 76 to 91
Specific information for companies operating at least one site classed Seveso "high threshold"	L. 225-102-2 of the French Commercial Code	
Social information	L. 225-102-1, paragraphs 5 and 6 and R. 225-105 of the French Commercial Code	Key figures / p. 4 Chapter 2 / p. 70 to 74, 97 to 107
Societal information	L. 225-102-1, paragraphs 5 and 6 and R. 225-105 of the French Commercial Code	Key figures / p. 4 Chapter 2 / p. 75, 92 to 96, 112 to 117
Additional information		
Additional tax information	223 quater and 223 quinquies of the French Tax Code	N/A
Injunctions or financial penalties in respect of anti-competitive practices	L. 464-2 of the French Commercial Code	N/A
Information on supplier payment terms	D. 441-6-1 of the French Commercial Code	Chapter 6 / p. 378
Summary table of delegations of authority currently in force granted by the Shareholders' Meeting relating to an increase in capital	L. 225-100, paragraph 7 of the French Commercial Code	Chapter 6 / p. 366 to 367
Table of Company results over the past five fiscal years	R. 225-102 of the French Commercial Code	Chapter 4 / p. 332
Report of the Chairman of the Board of Directors on conditions for the preparation and organization of the work of the Board as well as internal control procedures implemented by the Company	L. 225-37 of the French Commercial Code	Chapter 3 / p. 129 to 152

▶ GLOSSARY

Financial glossary

A

Adjusted price

Share price adjusted to take account of changes in capital (issue of new shares, share split, etc.). The adjusted share price is used to produce meaningful comparisons of price changes over time.

AMF (Autorité des marchés financiers, the French financial market authority)

The AMF governs and oversees the conduct and professional ethics of the markets and protects the interests of investors and shareholders.

B

Bearer share

Share held in a security account at the shareholder's financial broker.

Bond

Tradable debt security issued by a public or private company, a group, an association or a government. Bonds carry fixed interest for a specific period and are redeemable on maturity.

C

CAC 40 (cotation assistée en continu – Continuous Automated Trading)

The flagship stock market index of Euronext in Paris, the CAC 40 tracks the evolution of a selection of 40 stocks registered on this stock market. A Committee of Euronext specialists regularly revises its composition to ensure that it remains representative. Air Liquide has been included in the CAC 40 since its inception in 1988.

Capital employed

Balance sheet capital corresponding to financial resources used by a company to develop its business. It is the sum of equity, minority interests and net debt.

Capital gain

Gain realized on the sale of a security, that is, the difference between its sale price and its original purchase price, or book value.

Cash flow

This indicator provides the exact measure of annual cash flow that the Company is able to generate from its operations, independently of the evolution of the working capital requirement, which can be seasonal or erratic. This indicator is before tax, dividends and cost of financing.

Conditional grant of shares to employees (CGSE)

Means of remuneration that grants free shares of the Company to all the employees or a specific employee category. The employee only becomes the owner of the shares after a given acquisition period and according to the plan's conditions. If the acquisition period is shorter than four years, the law provides that the employee must keep his/her shares for a minimum additional two-year period.

Custody fees

Fees charged by a financial intermediary for maintaining a share account. They generally represent a percentage of the portfolio or a set fee per line of shares held. Air Liquide's Shareholder Services provide this service free of charge for shares held in a direct registered account.

D

Deferred settlement service (SRD)

Fee-based service available for the most traded stocks through which settlement for orders or delivery of shares is deferred to the last trading day of the month. Air Liquide shares are eligible for this service.

Diluted earnings per share (Diluted EPS)

Net profit Group share divided by the average weighted number of shares which would be outstanding, assuming conversion of all potential shares (exercise of share subscription options, definitive grant of free shares, etc.). The equivalent accounting term is diluted net profit by share.

Direct registered shares

Direct registered shares are managed by Air Liquide and registered in its accounts. They are held in a securities account opened at Air Liquide.



E

Earnings per share (EPS)

Net profit Group share divided by the average weighted number of shares outstanding. The equivalent accounting term is net profit per share.

ESG (Environmental, Social and Corporate Governance)

Environmental, social and corporate governance are the three main areas appraised by SRI analysts. A positive appraisal of these criteria is a guarantee of quality. It reflects the sustainability of a company's development.

Euronext Paris

Name of the firm which organizes, manages and develops the securities market in Paris, and acts as market regulator (financial transactions, monitoring of companies listed on the stock market) with the delegated authority of the AMF.

Euro Stoxx 50

Stock Exchange index composed of 50 of the highest capitalizations and most actively traded stocks listed in the eurozone.

F

Fractional right

Part of a share that cannot be distributed in the case of a free share attribution or subscription if the number of shares held is not a multiple of the transaction. Example: in a 1 for 10 free share attribution, a shareholder holding 68 shares is allocated 6 new shares and 8 fractional rights.

Free float

The part of a company's capital publicly available and tradable on the stock markets. The higher the free float, the greater the liquidity of the shares. Nearly 100% of Air Liquide's capital is floated.

Free share attribution

Transaction by which the Company issues new shares by capitalizing undistributed earnings at no cost to shareholders, and allocates new shares in proportion to the number of shares already held. Air Liquide allocates regularly such free shares.

G

Goodwill

Difference between the purchase price of a company and its net tangible assets on the day of the acquisition.

I

IFRS (International Financial Reporting Standards)

International accounting standards with effect from January 1, 2005, conceived by the International Accounting Standards Board, or IASB, for quoted companies to harmonize the presentation and increase the transparency of their financial statements.

Indirectly/intermediary registered shares

Indirectly/intermediary registered shares are registered in the Air Liquide accounts and held in a securities account at the shareholder's financial institution.

L

Liquidity

Ratio of the volume of shares traded over the total number of shares outstanding, which make up the capital.

Loyalty bonus

The loyalty bonus increases the dividend distributed and the number of free shares attributed by 10% for registered shares held for more than two full calendar years and subject to the conditions defined by Air Liquide's articles of association.

Loyalty dividend

Pursuant to Air Liquide's articles of association, a dividend premium of 10%, granted to loyal shareholders for registered shares held continuously for more than two full calendar years and until the date of the payment of the dividend.

M

Market capitalization

A company's market value equal, at any given time, to the quoted share price multiplied by the total number of shares outstanding.

Market sheet

The market sheet presents all the buy and sell orders for a share, as well as the latest orders executed. Investors can only have access to the five best offers (sales) and the five best demands (purchases).

N***Net Dividend Per Share***

The part of a company's net profit distributed to shareholders. Shareholders vote the dividend at the Annual General Meeting after approval of the financial statements and the allocation of earnings proposed by the Board of Directors.

Net profit (Group share)

Profit or loss made by the Company. It is calculated by adding operating income recurring, other non recurring operating expenses, net finance costs, other net financial expenses, share of profit of associates, profit (loss) from discontinued operations, then subtracting Company tax and minority interests.

O***OPCVM (Organisme de placement collectif en valeurs mobilières – pooled investment funds)***

A savings product that makes it possible to hold part of a collective marketable security portfolio handled by a professional, like SICAVs (open-ended investment companies) or FCPs (mutual funds).

Operating income recurring

Annual sales minus the cost of producing, distributing and selling products and the depreciation or amortization on capital expenditures. It provides an operating performance indicator before financing and taxes.

P***Par value***

The issue price of a share as defined in a company's articles of association. A company's total capital is the par value of the share multiplied by the total number of shares outstanding.

PER (Price Earnings Ratio)

The ratio of the market price of a share over earnings per share.

Preferential subscription right

Tradable right giving shareholders priority in subscribing to a number of new shares in proportion to the number of shares already held in the event of a share issue. This is a negotiable right in the stock exchange. In exceptional cases, the Company may ask its shareholders to suspend their subscription right at an Extraordinary Shareholders' Meeting.

Q***Quorum***

Minimum percentage of shares with voting rights required to be present or represented for a General Shareholders' Meeting to be validly constituted.

R***Registered share***

Share registered in the Air Liquide accounts.

Retained earnings

Undistributed profit, held by the Company until further decision.

Roadshow

Organized series of meetings during which a listed company, represented by its management or an Investor Relations team, travels to meet with institutional investors in their offices.

ROCE (Return On Capital Employed)

Return On Capital Employed after tax: ((net profit after tax before deduction of minority interests – net cost of debt after taxes) over 2016) / (average (shareholders' equity + minority interests + net indebtedness) at the end of the three last semesters (H2 2015, H1 2016 and H2 2016)).

ROE (Return On Equity)

The ratio of Net Profit over shareholders' equity. It represents the net return on money invested by shareholders.

S***Share***

Tradable security representing a portion of a company's capital. The owner of a share, the shareholder, is a part-owner of the Company and enjoys certain rights. Shares can be held as registered or bearer shares.

Share buyback

Transaction by which a company buys its own stock on the market, up to the limit of 10% of its capital. The transaction requires shareholder approval at the Company's General Shareholders' Meeting. Bought back shares are not taken into account in the net earnings per share calculation and do not receive any dividends.

Shareholders' equity

The part of the Company's capital belonging to its shareholders. It includes the value of issued shares, retained earnings and Net Profit for the financial year.

SRI (Socially Responsible Investment)

Socially responsible investment integrates, over and above the standard financial criteria, environmental, social and corporate governance (ESG) criteria in the analysis process and investment decision.

Stock option

A subscription option that offers the right to subscribe, at a price set in advance, for a fixed period, a company's shares.

Share split

Split of a share's par value to improve its liquidity. A share split leads, in the same proportions, to a split in the share's market value and the multiplication of the number of shares comprising the capital. The value is unchanged.

U
Usufruct

The legal right to use and derive profit or benefit from property that belongs to another person, as long as the property is not damaged. The holder of an usufruct has the right to use and enjoy the property, as well as the right to receive profits from the fruits of the property.

V
Volatility

The degree of variation of a share over a given period. It is a risk indicator: the greater the volatility, the higher the risk.

Y
Yield

Ratio of dividend per share over market share price.

Technical glossary

Advanced materials

Replaces the ALOHA range and the advanced precursors and includes ALOHA and Voltaix.

Alternative energy

Energy that represents an alternative to traditional energies, produced by transformation of natural gas or coal using gasification and/or gas cleaning techniques.

ASU

Air Separation Unit.

Biogas

Renewable energy that is produced during the methanization of biomass (treatment of household waste, industrial or agricultural waste, sewage sludge), then transformed using Air Liquide purification and liquefaction technologies.

Bio-GNV

Clean fuel, produced from biogas.

Carrier gases

Carrier gases (nitrogen, oxygen, hydrogen, etc.) are used to transport and dilute process gases or to protect semiconductors from minute dust particles.

Cogen

Cogeneration is the simultaneous production of electricity and steam. It is an environmentally virtuous process as it avoids energy loss by harnessing the heat emitted during electricity production to produce steam.

Cold technologies

All cryogenic-related technologies used, primarily, in the production of air gases.

Cryogenics

Very low temperatures, necessary to the liquification of air gases, hydrogen and helium. Concerns temperatures below -150 degrees Celsius.

Fab

Production facility in the electronics sector.

Fellow

The second highest international level of expertise (among four) in the Air Liquide Technical Career Ladder. Fellows are recognized as worldwide authorities within their given field of expertise. Fellows are consultants of the top management in long-term company strategy.

Hot technologies

All heat-producing technologies, such as combustion processes. For Air Liquide, hot technologies comprise steam reforming of methane to produce hydrogen and carbon monoxide and cogeneration units.

HyCO unit

Unit that simultaneously produces hydrogen (H₂) and carbon monoxide (CO).

On-site

On-site installations consist of gas production units installed directly on Industrial Merchant or Electronic customer premises, thanks to which truck deliveries can be avoided.

Orders in hand

They represent the contractual value of all Group and third-party engineering and construction contracts managed by the Engineering & Construction entities, excluding projects under warranty, from the signature date.

Orders intake

They represent the sum of all Group and third-party engineering contracts which entered into force during the period.

Renewable energy

Forms of energy whose production does not lead to a decline in resources on a human scale, e.g. solar, wind, geothermal and hydroelectric energies.

Syngas

Syngas, or synthesis gas, is a gas mixture consisting primarily of hydrogen, carbon monoxide, and in some cases carbon dioxide.

Substrate

Material on or in which components of a micro-electronic system or circuit are manufactured.

Take-or-Pay

Contracts used in Large Industries integrating fixed minimum payments below minimum volume thresholds.

Traditional energy

As opposed to renewable energies, energy whose production exhausts resources by consuming them more quickly than they are created. It is directly produced from fossil fuels: coal, oil, natural gas.

TEN-YEAR CONSOLIDATED FINANCIAL SUMMARY

	Notes	2007	2008	2009
Key figures (in millions of euros)				
Consolidated income statement				
Revenue		11,801.2	13,103.1	11,976.1
thereof Gas & Services		9,998.5	11,027.6	10,191.8
Operating Income Recurring		1,794.1	1,949.0	1,949.0
Operating Income Recurring / Revenue		15.2%	14.9%	16.3%
Net profit (Group share)		1,123.1	1,220.0	1,230.0
Consolidated cash flow statement				
Cash flow from operating activities before changes in working capital		2,054.4	2,206.7	2,274.5
Purchase of property, plant and equipment and intangible assets		1,359.3	1,908.3	1,411.0
Purchase of property, plant and equipment and intangible assets / Revenue		11.5%	14.6%	11.8%
Acquisition of subsidiaries and financial assets		1,308.2	242.3	109.2
Total capital expenditures / Revenue	(a)	22.6%	16.4%	12.7%
Dividends related to fiscal year and paid in the following year	(b)	551.0	602.0	609.2
Consolidated balance sheet				
Shareholders' equity at the end of the period		6,369.5 [¶]	6,757.4 [¶]	7,583.7
Net indebtedness at the end of the period		4,660.2	5,484.4	4,890.8
Gearing		71.5%	79.5%	63.1%
Capital employed at the end of the period	(c)	11,179.8 [¶]	12,386.1 [¶]	12,642.7
Share capital				
Number of shares issued and outstanding at the end of the period		238,844,710 [¶]	260,922,348	264,254,354
Adjusted weighted average number of shares outstanding	(d)	351,702,906	346,223,904	348,705,806
Key figures per share (in euros)				
Net profit per share	(e)	3.19	3.52	3.53
Dividend per share		2.25	2.25	2.25
Dividend adjusted per share	(f)	1.53	1.69	1.69
Ratios				
Return on equity (ROE)	(g)	17.7% [¶]	18.6% [¶]	17.2%
Return on capital employed after tax (ROCE)	(h)	12.3% [¶]	12.2% [¶]	11.6%

Loyalty dividend:

Since 1995, a 10% loyalty dividend is attributed to shareholders holding their shares in registered form for at least two years on the December 31 preceding the period of distribution, and owned until the date of the payment of the dividend.

The dividend proposed to the Annual General Meeting for fiscal year 2016 amounts to 2.60 euros per share, and the enhanced dividend to 0.26 euro per share representing an estimated total distribution of 1,032.0 million euros.

(a) Purchase of property, plant and equipment, intangible assets and long-term investments. Industrial and financial capital expenditures and transactions with minority shareholders are included.

(b) Including a loyalty dividend of 26.6 million euros in 2016, 26.8 million euros in 2015, 25.7 million euros in 2014, 23.2 million euros in 2013, 22.7 million euros in 2012, 19.5 million euros in 2011, 16.5 million euros in 2010, 14.7 million euros in 2009, 15.0 million euros in 2008 and 13.5 million euros in 2007.

(c) Capital employed at the end of period: shareholders' equity + minority interests + net indebtedness.

(d) Adjusted to account for, on a basis of a weighted number of shares outstanding, the two-for-one share split (in 2007), free share attribution (declared in 2016, 2014, 2012, 2010, 2008, 2006), stock offering (from 2006 to 2016) and treasury shares.

(e) Calculated on the adjusted weighted number of shares outstanding during the year excluding treasury shares.

TEN-YEAR CONSOLIDATED FINANCIAL SUMMARY

2010	2011	2012	2013	2014	2015 restated ⁽ⁿ⁾	2016
13,488.0	14,456.9	15,326.3	15,225.2	15,358.3	15,818.5	18,134.8
11,885.7	13,046.0 ^(k)	13,912.0	13,837.0	13,800.1 ^(m)	14,752.3	17,331.0
2,252.2	2,408.7	2,553.0 ^(l)	2,580.6	2,633.8	2,856.2	3,023.9
16.7%	16.7%	16.7% ^(l)	16.9%	17.1%	18.1%	16.7%
1,403.6	1,534.9	1,591.1 ^(l)	1,640.3	1,665.0	1,756.4	1,844.0
2,660.9	2,728.1	2,885.9 ^(l)	2,948.5	2,942.7	3,149.5	3,523.2
1,449.8	1,755.0	2,007.9	2,156.1	1,901.7	2,027.7	2,258.6
10.7%	12.1%	13.1%	14.2%	12.4%	12.8%	12.5%
239.9	99.5	879.4	391.9	179.0	384.4	12,165.3
13.2%	12.9%	18.9%	16.7%	13.5%	15.2%	79.5%
684.2	729.1	803.4	820.9	905.1	921.6	1,032.0
8,903.5	9,758.6	10,190.4 ^(l)	10,625.1	11,536.5	12,405.7	16,741.8
5,039.3	5,248.1	6,102.5	6,061.9	6,306.3	7,238.7	15,368.1
55.3%	52.5%	58.5%	55.7%	53.3%	56.7%	89.7%
14,151.8	15,243.8	16,525.5	16,950.0	18,133.2	20,009.5	32,493.1
284,095,093	283,812,941	312,281,159	312,831,676	344,872,883	344,163,001	388,875,761
351,378,503	352,781,532	352,274,984	351,807,642	352,371,482	351,963,761	360,751,910
3.99	4.35	4.52	4.66	4.73	4.99	5.11
2.35	2.50	2.50	2.55	2.55	2.60	2.60
1.88	2.00	2.21	2.25	2.48	2.53	2.60
17.0%	16.8%	16.1% ^(l)	16.0%	15.3%	14.7%	13.5%
12.1%	12.1%	11.6% ^(l)	11.1%	10.8%	10.3%	7.8%

(f) Adjusted to account for share capital movements.

(g) Return on equity: (Net profit Group share)/(weighted average of shareholders' equity over the year).

(h) Return on capital employed after tax: (Net Profit after tax before deduction of minority interests – net finance costs after taxes) for 2016 / (weighted average of (Shareholders' equity + minority interests + net indebtedness) at the end of the three last semesters (H2 2015, H1 2016 and H2 2016)).

(i) The L'Air Liquide S.A. two-for-one share split on June 13, 2007.

(j) Corresponds to the amounts as of December 31 restated for the impacts of the application of the option offered by the revised IAS19 "Employee Benefits", to immediately recognize all actuarial gains and losses and adjustments arising from the asset ceiling, net of deferred tax, in addition to the first-time adoption of IFRIC14.

(k) The specialty ingredients activities of Seppic and its subsidiaries were reclassified from "Other activities" to "Gas & Services".

(l) Corresponds to the amounts as of December 31, 2012 restated for the impacts of IAS19 revised "Employee Benefits".

(m) Restatement related to the new business line, Global Markets & Technologies.

(n) Restatement related to the new classification in accordance with IFRS5 "Non-current Assets Held for Sale and Discontinued Operations".

Cautionary note regarding forward-looking statements

This Reference Document contains information on the Group's prospects, objectives and trends for growth. These forward-looking statements can be identified by the use of the future tense, conditional or of forward-looking terms such as "consider", "intend", "anticipate", "believe", "estimate", "plan", "expect", "think", "aim", or, as the case may be, the negative of these words, or any other terms with a similar meaning. This information is not based on historical data and should not be considered as a guarantee that the prospects and objectives described will be achieved. These statements are based on data, assumptions and estimates considered reasonable by the Group as of the date of this Reference document. They may be affected by known or unknown risks, uncertainties and other factors which might impact future results, performances and achievements of the Group in a way that is substantially different from the objectives described. This information might therefore change due to uncertainties relating notably to the economic, financial, competitive and regulatory environment or due to the occurrence of certain risks described in Chapter 1 of this Reference document. This information is given solely as of the date of this Reference document. All forward-looking statements contained in this Reference document are qualified in their entirety by this cautionary note.



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Air Liquide - Company established for the study and application of processes developed by Georges Claude with issued capital of 2 138 941 915,00 euros