1.1 Profile, organization and strategy of the Group

1.1.1 General presentation

The ENGIE group is a global reference group in low-carbon energy and services. To respond to the climate emergency, its ambition is to become the world leader in the zero carbon transition of its customers, in particular businesses and local authorities. We rely on our key businesses (renewable, gas, services) to offer competitive turnkey solutions "as a service".

Decarbonization and digitization are continuing, while decentralization is accelerating: local authorities and companies must now respond to climate change and the zero-carbon imperative. It is a complex challenge requiring cost-efficient, proactive investment to improve stakeholder quality of life, driving new demands on energy industry players to enable these transitions. The development of client solutions, low carbon generation and infrastructure, together with a bold plan for asset rotation (see Section 1.1.5 "Transformation plan") has transformed the Group and positioned it as a pioneer of zero carbon integrated solutions.

The ENGIE head office is located at 1, place Samuel de Champlain, 92400 Courbevoie, France. The telephone number is +33 (0) 1 44 22 00 00. ENGIE is listed in the Nanterre Trade and Companies Register under reference number 542 107 651. Its NAF (French business sector) code is 3523Z.

ENGIE is a public limited liability company (société anonyme) with a Board of Directors and is subject to the laws and regulations governing public limited companies and any specific laws governing the Company, and to its by-laws.

The Company's 12-month fiscal year runs from January 1 to December 31 of each year.

Listed in Paris and Brussels, ENGIE is represented in the major stock indices (see Section 5.1.1.1 "Share capital and voting rights").

1.1.2 History and evolution of the Company

The Company is the result of the merger-absorption of SUEZ by Gaz de France, following the decisions of the Combined General Shareholders' Meetings of Gaz de France and SUEZ of July 16, 2008. The merger took effect on July 22, 2008.

Initially incorporated in 1946 as an EPIC (French public industrial and commercial enterprise), it became a limited liability company with a 99-year term under Law 2004-803 of August 9, 2004, on the public service of electricity and gas and electricity and gas companies (amending Law 46-628 of April 8, 1946) the provisions of which were aimed at organizing the change in the Company's legal status.

On July 7, 2005, the Company publicly floated its shares on the stock market. The Company's shares, under its former name, Gaz de France, were first listed on July 7, 2005.

Law 2004-803 of August 9, 2004, as amended by Law 2006-1537 of December 7, 2006, governing the energy sector and Decree 2007-1784 of December 19, 2007, authorized the transfer of the Company from the public to the private sector. On July 22, 2008, the Company absorbed SUEZ in a merger which entailed transferring the majority of the Company's share capital to the private sector. The new Company took the name "GDF SUEZ".

SUEZ itself was the result of the merger in 1997 of Compagnie de Suez and Lyonnaise des Eaux. At the time, Compagnie de Suez – which had built and operated the Suez Canal until its nationalization by the Egyptian government in 1956 – was a holding company with diversified investments in Belgium and France, particularly in the finance and energy sectors. Lyonnaise des Eaux was a diversified company specializing in the management and treatment of water, waste, construction, communications and plant and equipment management. SUEZ became an international industrial and services group whose objective was to meet essential requirements in electricity, gas, energy and industry services, water and waste management.

The deregulation of European energy markets in the early 1990s accelerated the international development of both Gaz de France and SUEZ, which progressively expanded their activities beyond their respective traditional markets, both in Europe and internationally.

On February 3, 2011, the Company completed a merger with International Power. In 2012, it reaffirmed its strategy to become a leading player on the global energy market, finalizing the purchase of shares held by the minority shareholders of International Power on June 29, 2012.

The SUEZ Environnement Company shareholders' agreement expired on July 22, 2013, and was not renewed. The cooperation and shared functions agreement and the financing agreement between the Company and SUEZ Environnement Company have also come to an end. The Company now uses the equity method to consolidate SUEZ Environnement Company's activities in its financial statements, rather than full consolidation.

The Company intends to maintain its role as a long-term strategic partner of SUEZ (formerly SUEZ Environnement Company) and as its majority shareholder. The guiding principles of the industrial and commercial agreements between the Company and SUEZ Environnement Company were confirmed in January 2013, and formed the basis of a framework agreement between the two companies, similar to an agreement that would have been concluded with a third party outside the Group. These principles relate to reciprocal preference, under market conditions, in purchasing/sales, continuing cooperation in certain industrial activities, development of potential joint commercial offerings and cooperation in sustainable development, innovation and research and development.

In early March 2016, the two companies signed an agreement providing for the contribution by ENGIE to SUEZ (formerly SUEZ Environnement Company) of all of the share capital of SUEZ IP, which owns all intellectual property rights related to the SUEZ brand. The main terms and conditions of this transaction as set out in the contribution agreement are detailed in Section 4.1.7 "Statutory Auditors' special report on regulated agreements and commitments.

On July 29, 2015, the Extraordinary General Shareholders' Meeting approved a change in the Company name, and adopted "ENGIE" as its new legal name.

The name of the share listed on the stock market was also changed to ENGIE, and its ISIN code changed to "ENGI", with effect from July 31, 2015.

1.1.3 Organization

In response to the challenge of the global energy revolution and in order to get closer to its customers, on January 1, 2016, ENGIE put in place a simplified structure based on a regional and decentralized approach. The Group now comprises 23 operating entities (Business Units, or BUs) [(1)], five Métiers and a range of support functions and operational functions (see the Group organizational chart on the next page).

Most of the BUs are constituted to manage operations for a country or group of countries, depending on the density of the activities carried out in the geographical areas concerned. They bring together the Group's activities to meet the expectations of their customers and stakeholders in a given area.

- The following were therefore created:
  - 11 geographical BUs, in Europe and worldwide (Africa; North America; Latin America; Asia Pacific; Benelux; Brazil; China; North, South and Eastern Europe; Middle East, South and Central Asia, and Turkey; UK and Generation Europe) responsible for the central management of all Group activities within their region;
  - France has a special structure, given its size and the presence of regulated entities. It has eight BUs, four that specialize in gas infrastructure (transmission, distribution, terminals and storage) and four related to the BtoB, BtoC, networks and renewable energy businesses;
  - lastly, in addition to the operational entities, there are four global BUs with worldwide scope: Hydrogen; Global Energy Management; Gaztransport & Technigaz (GTT); and Tractebel.

Each of these BUs is represented on the Group Executive Committee by an Executive Vice President, who oversees it.

Five Métiers have been created in addition to this geographical structure: gas value chain; centralized generation; decentralized solutions for cities and territories; solutions for businesses; and solutions for residentials and professionals.

The support functions and the operational functions complete the organization. They aim to reinforce the action of the Métiers to develop synergies within the Group and support the BUs.

- The support functions are as follows: General Secretariat; Finance Department; Group Human Resources Department; Group Strategy Department; Group Brand and Communication Department; Group Digital and IT Department; Corporate Social Responsibility Department; Group Real Estate Department; Risk Management Department; Transformation Department; Integration Department; and Functional Departments reporting to the Chief Executive Officer (Internal Audit Department and France Institutions and Territories Department).
- The operational functions are as follows: Strategic Sourcing & Supply Department; ENGIE Research; ENGIE Fab; Integration Management Office; Business Development Oversight Department; Industrial Projects Oversight & Support Department; and Nuclear Development Department.

The Métiers, the support functions and the operational functions are grouped within the scope of Corporate.

In addition, the Global Business Support entity groups together the Group's Shared Service Centers in France and Belgium. It covers seven functional areas: general procurement and IT, finance, human resources, real estate and logistics, information systems, and internal consulting and legal.

The Company operates its own business. At the end of 2018, the number of subsidiaries directly or indirectly controlled by the Company was 2,800. In addition to the lists provided in Section 6.2.2 "Consolidated financial statements – Note 2 Main subsidiaries at December 31, 2018" and Section 6.4.2 "Parent company financial statements – Note 4.4 Subsidiaries and affiliates", a list of subsidiaries can be found on the Group's website (www.engie.com, "Investors" section).

The presentation of the Company's activities and the strategic economic assets of its main subsidiaries as well as their geographical location are presented in Section 1.3 "Description of the Group's activities".

(1) There is also a twenty-fourth BU comprising the holding and corporate activities, including the entities responsible for the Group's centralized financing and the contribution of the associate company SUEZ.

AN ORGANIZATION CLOSE TO CUSTOMERS AND TERRITORIES

23 Business Units

11 BUs in Europe and worldwide

- Africa
- Asia Pacific
- Benelux
- Brazil
- China
- Generation Europe
- Latin America
- North America
- North South, Eastern Europe
- Middle East, South and Central Asia, and Turkey
- United Kingdom

8 BUs in France

- Elengy
- France BtoB
- France BtoC
- France Renewable Energy
- France Networks
- GRDF
- GRTgaz
- Storengy

4 Global BUs

- Global Energy Management
- Hydrogen
- GTT
- Tractebel

Corporate

5 Métiers

- Gas Chain
- Solutions for Residentials and Professionals
- Centralized Generation
- Solutions for Businesses
- Decentralized Solutions for Cities and Territories

Support Functions

- General Secretariat
- Finance Department
- Group Human Resources Department
- Global Care Department
- Group Strategy Department
- Brand and Communication Department
- Group Digital and Information Systems Department
- Transformation Department
- Groupe Real Estate Department
- Risk Management Department
- Group Societal Responsibility Department
- Departments reporting to the Chief Executive Officer
  - —Internal Audit Department
  - —Institutions France and Territories Department

Operational Functions

- Strategic Sourcing and Supply Department
- ENGIE Research
- Business Development Oversight Department
- Industrial Projects Department
- ENGIE Fab
- Knowledge Management Department
- Integration Management Office Department

Global Business Support

1.1.4 Strategic priorities

Transformations faced by markets in which the Group is expanding are becoming more and more concrete as the second wave of energy transition is emerging:

- Decarbonization and digitization are continuing;
- A second wave in the energy transition is emerging: local authorities and companies must now respond to climate change and the zero-carbon imperative. Especially, the world's top 500 global companies which, far more than in the past, seek global strategy and implementation planning to address their sustainability and zero carbon requirements;
- Customer transition roadmaps increasingly require a sophisticated integration of strategy, design, engineering, energy-efficient asset construction, digital platforms, operations management, financing syndication and outcome assurance.

Over the past three years, the ENGIE Group has undergone a deep transformation, by focusing its development on three core activities: gas, renewable energies and energy efficiency, while firmly positioning itself in innovative activities (green mobility and smart grids in particular). This transformation has allowed ENGIE to return to organic growth and establish itself as a leader in the competitive energy transition.

ENGIE's ambition is to be the world leader in the growing market for integrated zero-carbon solutions.

During the Capital Markets Day which took place on the 28th of February 2019, the Group presented its ambitions strategic orientations for the 2019-2021 period which articulate around 3 priorities:

- to be the world leader in the growing market for integrated zero-carbon solutions targeting local authorities and companies: ENGIE's unique capability to integrate all these solution elements "as a service" (strategy, design, etc.) to its customers affords the Group a distinctive leadership position in the industry. Especially among Fortune 500 companies, ENGIE is seizing industry leadership with comprehensive 360° programs that cater to these companies with an approach that is strategically focused, cost-efficient and subject to robust performance management;
- to adopt an aligned approach to higher value activity across business lines:
  - in Clients Solutions, accelerating growth across a broadening array of services including on-site co-generation, heating and cooling networks, public lighting, rooftop solar and EV charging stations. In a concrete way these solutions will integrate the financing of the equipments of the companies and the Cities and Territories
  - in Networks, the Group will continue to generate attractive returns and substantial cash flow. In France, the next regulatory return review will be effective in 2020, and ENGIE will continue to invest in the sustainability of its gas networks, adapting to future green gas requirements. ENGIE will also actively seek attractive opportunities to invest in the growth and energy transition management of networks in dynamic developing markets;
  - in Renewables, ENGIE is further scaling its design of complex, multi-source, profiled power purchase agreements (PPAs) and 24/7 green energy flows which are now widely sought. Over the longer term, ENGIE will play a leading role in next generation renewable platforms including offshore wind and green gas. ENGIE targets 50% of new renewable projects dedicated to specific customers by 2021, to be a leading corporate PPA supplier, and to be the world leader in 24/7 green PPAs. The Group plans to add 9 GW of renewables capacity to its portfolio by 2021;
  - in its other generation businesses, ENGIE will continue to optimize operations, reducing its CO_2 footprint. ENGIE will further narrow its thermal capacity, reducing coal generation and selectively honing gas-fired capacity to customer requirements, including combined technologies such as desalination and co-generation. ENGIE's Belgian nuclear operations continue to stabilize, with operational availability anticipated to rise as previously announced;
  - in Supply, ENGIE is continuing to increase its consumer and business contract base, driven by innovative offers and improving service quality. The profitability of this growing customer base is forecast to be offset by industry margin pressure in the consumer segment, and in this context ENGIE's strategic ambitions in this segment remain limited to our current country footprint.
- to leverage key digital technology and financing syndication capabilities:
  - the Group has deployed global digital platforms that strengthen our competitiveness, and will continue to scale up software content in ENGIE's solutions to differentiate us as the leading energy software provider;
  - with an industry-leading flow of customer projects, a strong infrastructure investor relationship network and systematic, proprietary structuring capabilities, ENGIE designs financing syndication as an integrated part of our solutions, optimizing customers' cost of capital and ENGIE's ability to accelerate its growth with lower individual project capital intensity. This model has been utilized over time in ENGIE's thermal and renewables portfolios, and will now be implemented across our Client Solutions and other innovation project pipelines.

The Group adopts selective offer and investment criteria: prioritization of 20 countries, 30 urban areas but also simplifies financial reporting.

ENGIE applies rigorous strategic and financial investment criteria, and has a clear perspective on attractive investment characteristics. Complex, innovative, integrated, longer-term, outcome-based customer programs are preferred to simple, commoditized, standard fee-for-service business. Investment will be differentiated over distinct time horizons, with consistent hurdles of 200 bps over ENGIE's WACC, and 400 bps over cost of equity.

In a move to sharpen geographic focus and capital allocation, 20 countries and 30 major developing market urban areas have been identified as ENGIE's top investment-led growth priorities, with an objective to build scale, top-3 positions and higher density of operations. ENGIE will also exit approximately 20 countries over the next three years in a move to enhance focus and economic returns.

In addition, ENGIE's financial reporting will be simplified, with fewer geographic segments and strategic visibility into the progress of each Global Business Line and our energy Supply operations.

ENGIE expects to invest approximately €11-12 billion in growth over the 2019-2021 period.

ENGIE intends to invest approximately €4 billion annually in growth capital expenditures and smaller bolt-on acquisitions over the 2019-2021 period, while €6 billion of asset disposals are expected over the period. This €11-12 billion program is anticipated to be led by €4-5 billion for Client Solutions. €2.3-2.8 billion will be allocated to Renewables growth to fuel the c. 9GW of incremental capacity, while

€3.0-3.3 billion of additional capital will be invested in our Networks business line.

ENGIE will drive continuing internal cost reduction and improved profitability.

A further 2019-2021 performance program has been launched, consisting of cost reduction initiatives (spanning procurement, digitalization and shared service centers) and revenue and margin enhancement opportunities stemming from optimization of ENGIE's assets and customer offers. The aggregate operating profit impact of the program is currently targeted at €800 million, with delivery weighted slightly towards 2020 and 2021.

ENGIE's indicative profit growth expectations point to sustained acceleration.

Based upon key assumptions, an ENGIE Group EBITDA CAGR of 3.5-6% is expected over the 2018-2021 period. ENGIE Group COI is expected to accelerate to a CAGR of 6.5-8.5% over the same period, predicated on indicative business line COI growth expectations of:

- Client Solutions: 11-14% CAGR, driven by revenue acceleration and more profitable asset-based Solutions;
- Networks: (4%) – (1%) CAGR, given a regulatory review of French infrastructure returns in 2020 and growth expectations in other markets;
- Renewables: 8-11% CAGR, driven by commissioning of 9GW of additional capacity by 2021 and increasing complexity and profitability of our customer activities;
- Thermal: (6%) – (3%) excluding the impact of the disposal of Glow, given continuing generation portfolio optimization, with disposals focused on contracted coal plants and selected merchant assets;
- Nuclear: expectation of a stemming of losses and COI neutrality by 2021;
- Supply: expectations of approximately flat COI over the period.

ENGIE's financial objective is to offer its shareholders attractive returns while maintaining a solid financial structure and robust cash flow generation (see 6.1.1.1.3 "2019 financial targets").

Group net debt: the Group forecasts financial net debt of approximately €20 billion at the end of 2021 (ratio to EBITDA of <2.5x) and economic net debt in the range of €35-37 billion (ratio to EBITDA of <4.0x) at that time, and ENGIE reaffirms its current commitment to the retention of its 'A' debt rating. These debt forecasts assume no change in the existing Belgian nuclear provision legal and regulatory framework.

To become more agile and adapt to the changes in its environment, the Group began implementing an ambitious human resources action plan in 2014.

This involves creating conditions that enable it to deliver its strategy while making individual and collective concerns a central part of its transformation. The action plan was implemented in three strategic areas:

- culture and leadership: centralized responsibility, innovation and performance;
- the adaptation of skills and Métiers to customer and digital solutions;
- agile organization, project mode and continuous improvement.

Within ENGIE, environmental and societal responsibility plays an integral part in the business strategy, through the development of:

- sustainable business, which involves identifying environmental and societal issues and transforming them into opportunities for the Group's businesses;
- the management of ESG risks, which involves managing the risks associated with the Group's activities and facilities that relate to the environment, local and international acceptability, health and safety, human resources management, ethics and governance.

ENGIE has formalized its commitments, primarily through the publication of its environmental and societal responsibility policy in 2014. In early May 2016, ENGIE announced its commitment to six new non-financial targets for 2020 (see 1.2.2. "CSR indicators").

Against this background of transformation, ethics and the safety of people are core elements of any Group's activity.

1.1.5 Transformation plan

In February 2016, ENGIE announced an ambitious three-year transformation plan to accelerate its shift in strategy, adapt its portfolio of activities to its long-term vision and deploy its development priorities. At the end of 2018, this plan is now complete.

The first pillar of the transformation plan involved redesigning and streamlining the portfolio, based on:

- a portfolio rotation program (€15 billion net debt impact targeted over 2016-2018). The Group has already recorded sales of €14 billion to which 2.6 billion can be added early 2019 following the sale of Engie's stake in Glow, Thailand, for a total of €16.5 billion in disposals ;
- an investment program (€15 billion growth CAPEX over 2016-2018, including €1 billion CAPEX on innovation and digital). AT the end of 2018, €16.1 billion have been recorded (€14.3 billion net of disposals under the DBpSO activity in the renewable).

The second pillar entailed investment in technological innovation, business models and digital transformation, to prepare for the future.

ENGIE's operational efficiency and competitiveness were central to the third pillar of the transformation plan. The new performance program, Lean 2018, was launched in January 2016 to bring about long-term improvements in the Group's performance. It initially aimed to achieve recurring cost savings with a net aggregate impact on EBITDA of €1 billion by 2018. This objective was raised to €1.3 billion in savings, which was reached at the end of 2018, with in particular €304 million of gains in 2018. To achieve their objectives, adapted to their situations BUs have used three main families of levers: operations, support functions and purchasing.

During the Capital Markets Day of February 28, 2019, the Group announced a new performance plan, Lean 2021, covering the period 2019-2021. The overall expected impact of the Lean 2021 program is currently set at € 800 million, with a slightly weighted result around 2020 and 2021.

The fourth pillar involved transforming ENGIE internally to make the Group more agile and connected, to attract future talent and to create an environment that fosters career development.

1.1.6 Highlights of 2018

Renewables and Thermal contracted power activities

In France, the Group confirmed its N°1 position in solar and wind power by winning 230 MW in the latest governmental call for tenders and by acquiring a portfolio of 1.8 GW of projects (acquisition of LANGA, 1.3 GW; acquisition of SAMEOLE, 500 MW). In addition, FEIH company (jointly owned by ENGIE and Crédit Agricole Assurances), reached 1.5 GW of solar and wind installed power capacity by the beginning of 2019.

In the United States, ENGIE acquired Infinity Renewables and hence became a leader in the development of wind farms. The company has already developed 1.6 GW of capacity and has a portfolio of 8 GW of projects at various stages of development. In India, the Group opened the Mirzapur solar farm and reached 1 GW of renewable capacities (solar and wind, installed or in construction) by winning a new 200 MW wind project. In Spain, the Group is developing, together with partners, 9 wind farms for a total capacity of 300 MW. In Senegal, ENGIE has been attributed the development of 2 solar parks for a total capacity of 60 MW.

ENGIE has mobilized its expertise to provide customers with complex renewable solutions, either through specific technology or tailor-made solutions. In offshore wind power in France, two ENGIE projects (Le Tréport and Yeu-Noirmoutier islands) were confirmed in July 2018 by the President of the Republic; the first authorizations were obtained in October for the Yeu and Noirmoutier islands project and on February 26th, 2019 for the Dieppe – le Tréport wind offshore project.

In early 2019, ENGIE commissioned the Kathu thermodynamic solar power plant, one of South Africa's largest renewable energy projects. This thermodynamic concentrated solar power plant (CSP) has a capacity of 100 MW and allows, via a molten salt storage system, to store 4.5 hours of autonomy.

The Group announced it will develop small-scale solar power plants, partnering with SUEZ to install photovoltaic solar parks on each of its waste storage and recycling facilities in France for a total estimated capacity of 1 GW, and partnering with GreenYellow to address areas such as roofs and parking lots. In addition, in Norway, ENGIE has signed the financial agreements for a 208 MW wind farm project whose energy will be sold to the aluminum manufacturer Hydro under the terms of a 25-year contract.

In Mexico and in Chile, the Group developed its BtoB green electricity offer and signed a 15-year power purchase agreement (PPA) with steel producer Gerdau. The electricity thus delivered will come from new supply contracts backed by a 130 MW photovoltaic power plant.

Finally, ENGIE is completing the sale of its entire stake in Glow in Asia-Pacific, and thus will cease its coal-fired power plant operations in the region.

Infrastructure activities

In France, in Dunkirk, the Group inaugurated the first pilot to inject green hydrogen to the gas distribution network (GRHYD project), and announced that it will mobilize EUR 800 million over the next five years to develop green gases.

In Brazil, the Group signed the concession contract for the Gralha Azul electric transmission line.

Client Solutions

ENGIE has strengthened its positioning in Client Solutions in several regions.

In Europe, ENGIE is increasing its leadership in airport services with the acquisition of Priora FM SA, a company specialising in building, infrastructure and facility management. In Germany, the Group confirmed its position as a leader in technical services for buildings with the acquisition of Otto Luft-und-Klimatechnik in early 2019. The Group also continued to develop its nuclear maintenance business with the acquisition by its subsidiary ENDEL of SUEZ's specialised subsidiary, ex-SRA SAVAC.

In the United States, ENGIE acquired Unity International, an electrical engineering installation company based in New York City. In Latin America, ENGIE is expanding its service offering with the acquisition of CAM (Compañía Americana de Multiservicios), a leader in installation, operation and maintenance services in the electricity and telecommunication sectors.

During 2018, ENGIE also continued its investments in innovative decentralized technologies, with the acquisition of Electro Power Systems, now ENGIE EPS, a pioneer in hybrid storage solutions and micro-grids, and of SoCore in the United States, which offers integrated solar solutions to cities, local authorities and businesses.

The Group also won landmark contracts with cities and local authorities. In France, ENGIE will create a 3D data and modelling platform for the Île-de-France region called "Smart Platform 2030". In Australia, the Group signed a partnership with Greater Springfield to make it one of the first positive energy cities in the country. In Romania, ENGIE acquired Flashnet, an IoT company specialising in intelligent public lighting.

In green mobility, ENGIE has inaugurated in France the largest hydrogen utility fleet and the first alternative multi-fuel station. It has also partnered with Arval to launch in Europe a new green electric mobility offer in which ENGIE will install and maintain charging points. In early 2019, in Chile, the Group signed a contract to supply an initial phase of 100 electric buses to the city of Santiago.

In the Campus & Universities market, ENGIE won a major contract in the UK for the renovation and management of buildings at the University of Kingston in London. Besides, in the US, to serve the Longwood Medical Campus in Boston, the Group acquired a micro-grid for electricity, heat and cooling.

In order to provide solutions adapted to the needs of retail consumers, ENGIE has enriched its solar self-consumption offer in France with a modular solution of batteries that can be combined with photovoltaic panels, and launched its 1 euro efficient gas boiler offer dedicated to under privileged households. Besides, the Group also invested in HomeBiogas, an Israeli start-up that has developed a digester that allows individuals, in various countries, to transform their organic waste into green cooking gas and liquid fertilizer. Finally, with the acquisition of Vol-V Biomasse, ENGIE becomes the leading biomethane producer in France.

Other Group events

January 10, 2018: ENGIE sets new hybrid bond record with the lowest coupon ever achieved by a Corporate and its first Green Hybrid Bond (Deeply Subordinated Perpetual Bond) of an amount of EUR 1 billion.

May 18, 2018: Following the General Shareholders' Meeting which marked the end of Gérard Mestrallet's term as Chairman of the Board and the designation of Jean-Pierre Clamadieu as an independent administrator, the ENGIE Board met and unanimously appointed Jean-Pierre Clamadieu as new Chairman. The Board also appointed Gérard Mestrallet as Honorary Chairman.

May 18, 2018: In France, ENGIE acknowledges the Conseil d'Etat's decision, announced on May 18, 2018, ruling that regulated tariffs for the sale of electricity do not comply with the European law, due to the absence of a mechanism allowing for a periodic re-examination of the tariffs in addition to their overly broad application engulfing private and professional customers.

June 20, 2018: ENGIE takes note of the European Commission's decision issued on June 20, 2018, against Luxembourg. The latter relates to two tax rulings dated 2008 and 2010 regarding the tax treatment of the financing operations of the Group's activities in Luxembourg.

July 13, 2018: ENGIE, in partnership with Nexity, plans to create its future campus in an exemplary eco-district near Paris La Défense.

August 3, 2018: Results of the 'Link 2018' plan. Launched by ENGIE on 15 February 2018 and concluded on 2 August, the Link 2018 employee shareholding plan enabled more than 40,000 Group employees in 18 countries to take part, with a total amount of 340 million euros in subscriptions, representing 33 million shares. The employees shareholders hold thus more than 4% of ENGIE capital

September 18, 2018 : ENGIE, the leading utility of the Dow Jones Sustainability Index World. ENGIE's CSR performance has once again been recognised by the extra-financial rating agency RobecoSAM which has confirmed the Group's membership of the Dow Jones Sustainability Index (DJSI) World and Europe indices in 2018.

December 11, 2018 : ENGIE confirms its intention to remain SUEZ's reference shareholder and is ready to strengthen industrial and commercial cooperation between the two groups.

January 18, 2019: On January 17, ENGIE issued its first corporate hybrid green bond of 2019, for an amount of €1 billion.

March 14, 2019: ENGIE has annouces completion of teh dispposal of Glow in Thailands for €2.6 billion.

1.1.7 Competitive positioning (1)

Electricity production and marketing and gas marketing are business sectors that are largely open to competition in Europe. However, they are still regulated differently according to the country, particularly with regard to residential energy prices. Activities that constitute natural monopolies – such as the transmission and distribution of electricity and, to a large extent, of gas – are more tightly controlled by national regulators and European rules.

Elsewhere in the world, with few exceptions, private companies often operate under long-term contracts issued on a tender basis.

ENGIE is a European and world leader in the areas of electricity and natural gas:

- ENGIE is one of the top gas sellers and importers in Europe;
- The Group is the leading gas infrastructure operator in Europe with a portfolio that includes a transmission network, distribution networks, and LNG storage and terminals;
- In renewable electricity, ENGIE is a key player in international tenders, particularly in Latin America and the Middle East, with strong positions in Brazil, Peru, Mexico and Chile. The Group is one of the leading power producers in Europe;
- Via some 21 million contracts, ENGIE provides gas and electricity to end customers worldwide, nearly half of which are located outside France.

This global and European leadership is fortified by the Group's deep French-Belgian roots:

- In France, ENGIE is the historic leader of gas marketing and the second-largest producer and supplier of electricity. In renewable energy, ENGIE is the second-largest hydropower operator in France and the number one wind and solar energy company in the country;
- In Belgium, ENGIE, through its subsidiary Electrabel, is the leading producer and supplier of electricity and supplier of natural gas.

The Group is also one of the European leaders in BtoB energy services in France, Belgium, the Netherlands, Switzerland and Italy. ENGIE also holds strong positions in Germany, Spain and the United Kingdom in heat networks and facility management. It is supported by its development bases in Central Europe, Asia, North America, Latin America, the Middle East, and Africa. The Group is the European leader in energy efficiency services, number two in installation and ninth in integrated services. Worldwide, ENGIE ranks third for heating networks (in TWh) and first for cooling networks.

In terms of new activities, ENGIE has taken a leadership position in each of the new distributed generation segments (first in microgrids and isolated microgrids) and in solar units for industrial and commercial customers.

In green mobility, ENGIE ranks second in the world in terms of the number of electric vehicle charging points installed, and seventh for charging points for natural gas vehicles.

(1) These competitive positions are established on the basis of specialist work within the Group, carried out using available information published by stakeholders or entities providing external analysis (Bloomberg and Global Data).

1.2 Key figures

1.2.1 Group financial data

In millions of euros	2014 reported	2014 restated [a]	2015	2016	2016 restated [e]	2017	2017 restated [f]	2018
1. Revenues	**74,686**	**74,686**	**69,883**	**66,639**	**64,840**	**65,029**	**59,576**	**60,596**
of which generated outside France	46,852	46,852	44,817	41,693	39,942	39,307	34,325	35,612
2. Income								
EBITDA	12,138	12,133	11,262	10,689	9,491	9,316	9,199	9,236
• Current operating income after share in net income of entities accounted for using the equity method	7,161	7,156	6,326	6,172	5,636	5,273	5,172	5,126
• Net income, Group share	2,440	2,437	(4,617)	(415)	(415)	1,423	1,320	1,033
• Net recurring income, Group share	3,125	2,725	2,588	2,477	2,477	2,662	2,518	2,425
• Net recurring income from continuing operations, Group share	3,125	2,725	2,588	2,477	2,430	2,372	2,233	2,458
3. Cash flow								
Cash flow from operating activities	8,751	8,751	10,383	10,174	10,174	9,309	9,335	7,873
of which cash generated from operations before financial income and income tax	11,776	11,771	10,942	10,263	9,117	8,305	8,150	8,464
Cash flow from investment [b]	(3,939)	(3,939)	(6,230)	(3,655)	(3,655)	(5,157)	(5,171)	(6,095)
Cash flow from (used in) financing activities [b]	(4,973)	(4,973)	(3,295)	(6,034)	(6,034)	(4,725)	(4,734)	(1,928)
4. Balance sheet								
Shareholders' equity [b]	**49,257**	**49,548**	**43,078**	**39,578**	**39,578**	**36,639**	**36,283**	**35,551**
Total equity [b]	55,959	55,981	48,750	45,447	45,447	42,577	42,122	40,941
Net debt [b]	27,511	27,511	27,727	24,807	24,807	22,548	22,520	21,102
Net debt excl. Internal debt E&P/EBITDA	2.27	2.27	2.46	2.32	2.43	2.25	2.26	2.28
Total assets	165,305	165,304	160,658	158,499	158,499	150,332	150,140	153,702
5. Per-share data (in euros)								
• Average outstanding shares [c]	2,366,768,979	2,366,768,979	2,392,150,727	2,396,131,620	2,396,131,620	2,395,732,581	2,395,732,581	2,396,308,756
• Number of shares at period-end	2,435,285,011	2,435,285,011	2,435,285,011	2,435,285,011	2,435,285,011	2,435,285,011	2,435,285,011	2,435,285,011
• Earnings per share [b] [c]	1.00	1.00	(1.99)	(0.23)	(0.23)	0.53	0.49	0.37
• Net recurring income, Group share, per share [b] [c]	1.32	1.12	1.02	0.97	0.97	1.05	0.99	0.95
• Dividend paid[d]	1.00	1.00	1.00	1.00	1.00	0.70	0.70	0.75
6. Total average workforce	**236,185**	**236,185**	**241,913**	**241,509**	**239,710**	**238,216**	**238,029**	**249,795**
• Fully consolidated entities	150,589	150,589	155,494	153,950	152,175	151,667	151,480	158,505
• Proportionately consolidated entities	769	769	777	764	764	685	685	780
• Entities consolidated using the equity method	84,827	84,827	85,642	86,795	86,771	85,864	85,864	90,510

(a) December 31, 2014 data restated to reflect the retrospective application of IFRIC 21 (see Note 1.1 of Section 6.2 "Consolidated financial statements" of the 2015 Registration Document).

(b) Data including E&P for 2016 and 2017

(c) Earnings per share calculated on the basis of the average number of shares outstanding, net of treasury shares.

(d) 2018: proposed dividend, including an interim dividend of €0.37 paid in October 2018; excluding the exceptionnel dividend of €0.37 per share submitted of the OGM, i.e. a total of €1.12 per share.

(e) Some of the December 31, 2016 data have been restated due to the classification of E&P as discontinued operations (see Note 30 of Section 6 "Consolidated financial statements" of the 2017 Registration Document).

(f) Some of the December 31, 2017 data have been restated due to the retrospective application of IFRS 9 and 15 and the classification of LNG as discontinued operations (see Note 2 of Section 6 "Consolidated financial statements" of the 2018 Registration Document).

1

1.2.2 CSR indicators

The Group's Corporate Social Responsibility performance is based on quantified, time-specific targets and an overall assessment organized around different monitoring methods (indicators, reporting, performance reviews and CSR rating indices).

The Board of Directors' Ethics, Environment and Sustainable Development Committee ("EESDC") defines the scope of the policies undertaken, the outlooks and the action plans in the area of Corporate Social Responsibility. The Executive Committee makes key decisions in this area (see Section 4 "Corporate governance"). The role of the CSR Executive Committee is to prepare annual action plans, monitor their implementation, gather feedback from the various entities and encourage exchange regarding major strategies.

A CSR report is submitted every year to the Executive Committee for approval and future direction, then to the EESDC to provide a progress report on the policy's implementation and the achievement of Group CSR objectives.

In response to changes in the energy sector and to the gradual integration of environmental and societal aspects into stakeholder requirements, ENGIE set itself six new CSR goals in 2016 to be achieved by 2020:

- an 85% satisfaction rate among its BtoC customers;
- a 25% share of renewable energy in the Group's electricity production capacity portfolio;
- a 20% reduction in the CO_2 emissions ratio for energy production compared to 2012;
- 100% of the Group's industrial activities to be covered by an appropriate stakeholder dialogue and consultation mechanism, based on regular meetings with the relevant NGOs and non-profits, and on the development of long-term partnerships related to the Group's activities;
- 25% of Group's workforce to be made up of women;
- and an internal workplace accident frequency rate of below 3.

The 2016-2018 results for the CSR indicators are presented in the following table:

Theme	Indicators	2020 objective	2016 results	2017 results	2018 results
Customer satisfaction	Satisfaction rate of BtoC customers	> 85%	81%	83%	81%
Renewables	Share of renewable energy in the electricity production capacity mix[(1)]	> 25%	19.5%	23.1%	23.7%
GHG emissions	% reduction of the CO_2 equivalent emissions ratio for energy production compared to 2012[(2)]	-20% (354.4[(3)])	-11.3% (392.8[(3)])	-18.1% (363.0[(3)])	-28.7% (315.8[(3)])
Stakeholder dialogue	% of industrial activities covered by an appropriate mechanism for dialogue and consultation	100%	20%	48%	53%
Gender diversity	% of women in Group workforce	> 25%	21.9%	22.2%	21.1%
Health and safety	Internal workplace accident frequency rate	< 3[(4)]	3.6	3.3	3.4

(1) Consolidated at 100%.
(2) Scope 1 specific CO_2 eq. emissions of entities controlled and operated by the Group (environmental reporting)
(3) kg CO_2 eq./MWh.
(4) Scope 2015

The Group achieved a global satisfaction rate among its BtoC customers of 81% in the 13 main countries in which the Group has a commercial presence with private or professional customers. The slight decrease compared to 2017 is due to a methodological change in customer inquiries that are practiced more and more by email than by telephone.

Regarding environmental targets, in 2018 ENGIE posted a 0.6% increase year-over-year in its installed renewable energy capacity mix and a 10.6% decrease in its specific CO_2 emissions (see Section 3.5.4.1 "Climate change"). The Group's goal of reducing specific CO_2 emissions by 20% is reached two years in advance due to the current exit of carbon assets. Installed coal-fired generation capacity amounted to 7.2 GW at the end of 2018, down 7.9 GW compared with the end of 2015 and representing no more than 6.9% of the Group's installed capacity (at 100%).

The roll-out of the mechanism for structured dialogue with stakeholders continued in 2018, leading to a percentage of the Group's industrial activities that comply with the standards related to this dialogue to 53%, in progress by comparison with 2017.

ENGIE posted in 2018 a 21.1% rate of gender diversity in its workforce, down slightly compared to 2017, and an 3.4 employee accident frequency rate, up slightly over 2017 (see Section 3.4.6 "Health and safety policy"). The Group's sales and acquisitions related to its desire to accelerate its business transformation have had a significant impact on these two indicators.

With regard to its investment plans, the Group uses a number of criteria, including ethics, CO_2 emissions, social impact, human resources, environmental management of ecosystems, cooperation with stakeholders, local procurement, and health and safety. The Group also takes into account an internal carbon price when deciding on new projects.

The Group's social reporting (see Section 3.4), environmental reporting (see Section 3.5), and societal reporting (see Section 3.6) are used to publish a set of indicators that are verified by an independent third party (see Section 3.8).

In terms of ESG ratings, ENGIE's CSR performance was again recognized by ESG agency RobecoSAM, which confirmed the Group's membership of the Dow Jones Sustainability Index (DJSI) World and Europe in 2018. The 2018 assessment positions the Group as industry leader in its sector (Multi and Water Utilities) with a rating of 82 out of 100.

The Group continues to be listed in four indices Euronext Vigeo Eiris World 120, Europe 120, Eurozone 120 and France 20. In 2018, the Group was evaluated by the rating agency Sustainalytics. It obtained a score of 70/100, an improvement of 6 points compared with the previous rating awarded in 2015, positioning it as an "Average Performer".

Lastly, as it does every year, ENGIE also completed the CDP (formerly Carbon Disclosure Project) questionnaire. In 2018, the Group maintained its position in the "A-list" of companies recognized for their leadership in terms of strategies and initiatives to combat climate change.

In conclusion, the Group has posted very good CSR ratings, with industry-leading performance recognized by RobecoSAM, MSCI, CDP Climat, CDP Water and Ecovadis.

1.3 Description of the Group's activities

Under the Group's new organizational structure, which is presented in detail in Section 1.1.3 "Organization", ENGIE is now composed of 23 BUs[1], primarily geographic. For financial reporting purposes, the Group has grouped operating segments in accordance with IFRS 8 and presents sector information organized around nine reportable segments (see Section 6.2 "Consolidated financial statements" – Note 7 "Segment information").

In this section, the description of the Group's businesses and strategic economic assets is primarily structured around financial reporting requirements. The first nine sub-sections correspond to the reportable segments (composed of one or more BUs), and the tenth sub-section presents the Group's 5 Businesses.

1.3.1 North America

The North America reportable segment corresponds to the North America BU. The BU entities provide renewable power generation, district energy services, retail electricity sales, natural gas, the United States, Canada and Puerto Rico.

KEY FIGURES

In millions of euros	Dec. 31, 2018	Dec. 31, 2017	Total change *(in %)*
Revenues	3,383	2,964	+14.1
EBITDA	224	224	+0.1

1.3.1.1 Role & Strategy

NORAM BU believes BtoB and BtoT customers will lead the energy transition in demanding more green complex sustainable solutions, mostly because their own customers are asking them to. Our strategy -to provide energy as cleanly as possible to our customers while helping them consume it more efficiently - is clear, impactful and fully aligned with their needs. We plan to be their partner and solution provider by:

- developing leadership in grid scale renewable energy generation to meet growing clean energy mandates of BtoB/BtoT customers (Corporate green PPAs);
- expanding our BtoB/BtoT footprint in key geographies that are dense, urbanized, and high GDP with progressive energy policies where we can meet rising needs of energy transformation solutions such as decentralized energy, efficiency, design/build, facility management and green PPA (onsite or offsite);
- target key market verticals such as Healthcare, Schools, Universities, Industrials, Airports and Data Centers where NORAM BU can manage the way district energy and space is used, although this can be long cycle.

(1) There is also a twenty-fourth BU comprising the holding and corporate activities, including the entities responsible for the Group's centralized financing and the contribution of the associate company SUEZ.

1.3.1.2 Description of activities

BU organization was changed on January 1, 2018 to reflect its strategy to focus on a selected array of activities albeit with a large geographical coverage and strong customer-centricity. Current operations are organized by five main business lines:

- the Asset Optimization organization covers the operating power generation assets, managing district energy customers OSU and LMEC in the BtoT segment, plus ENGIE Storage;
- the Energy Management organization increases cross-selling and comprehensive solution selling in the BtoB space and leverages the capabilities of each organization over complimentary customer portfolios;
- the Energy Services organization consolidates the increasing array of service activities while positioning the BU to derive operational synergies as it continues to acquire service companies and share best practices in the delivery of services to BtoT and BtoB customers;
- Gas and Think Energy are grouped together reflecting the fact that these businesses are undergoing acute transformation in line with current portfolio re-shaping efforts;
- the Business Development organization develops and constructs the newly acquired renewables project portfolios of SoCore and Infinity, on top of its previous activities (including development of BtoT projects and acquisition of service activities).

The asset rotation program is mostly over with the closing of thermal merchant asset (Feb 2017), the closing of operationnel Utility activites (jan. 2018) and the sale of the Everett LNG import terminal (Oct. 2018).

The BU has been successful in M&A growth over last year with the acquisitions of Infinity (grid-scale wind developer), SoCore (developer of solar installations), Talen (BtoB services), Unity (electrical installation); Donnelly (Mechanical Installation); and added major BtoT contracts like LMEC (Longwood Medical Energy Collaborative).

Regulatory changes in 2018 in NoRAM, have had limited impacts on the Groups's activities, including US tariffs set on chinese goods, especially on PV panels.

1.3.2 Latin America

The Latin America reportable segment includes the activities of two BUs: the Latin America BU (Argentina, Chile, Mexico and Peru) and the Brazil BU.

KEY FIGURES

In millions of euros	Dec. 31, 2018	Dec. 31, 2017	Total change *(in %)*
Revenues	4,639	4.383	+5.8
EBITDA	1,775	1,709	+3.8

1.3.2.1 Latin America (excluding Brazil)

1.3.2.1.1 Role & Strategy

The Latin America BU's role in the five countries where ENGIE currently operates (Chile, Peru, Mexico, Colombia and Argentina) is to develop:

- energy supply solutions:
  - supply of power generated from renewable sources, (solar and onshore wind power), and thermal power plants,
  - supply of gas through (GNL and pipeline gas) supply agreements and gas infrastructure management, such as a regasification terminal and transmission and distribution networks.
- energy services.

The Latin America BU is involved in the development of new solutions, particularly through ENGIE Factory (an incubator and accelerator for energy-related startups) and by expanding the BtoB, BtoC and BtoT segments.

1.3.2.1.2 Description of activities

In Peru, ENGIE owns a 61.77% stake in ENGIE Energia Peru, a power generation company with an installed capacity of 2,456 MW. ENGIE Energia Peru is the country's leading operator with a market share of around 20% in terms of installed capacity. ENGIE Energia Peru shares are traded on the Lima stock exchange.

In the services area, ENGIE operates through a wholly owned company under the name ENGIE Services Peru. The entity was established in 2015 and specializes in multi-technical building services. ENGIE Services Peru also offers distributed solar generation solutions in rural areas.

In Chile, ENGIE holds a 52.76% stake in ENGIE Energia Chile (formerly E-CL). This company, listed on the Santiago Stock Exchange, is the largest electricity producer in northern Chile, with an installed capacity of 1,971 MW and a network of 2,293km of transmission lines. Also in the electricity transmission sector, ENGIE holds a 50% stake in TEN. This company operates 600 km of lines, commissioned in November 2017, that connect the north and the center of Chile.

In the gas business, ENGIE holds a 63% stake in GNL Mejillones, an LNG regasification terminal with a 5.5 Mm3/day capacity, and 100% in ENGIE Gas Chile and ENGIE Stream Solutions Chile, companies dedicated to the commercialization of natural gas through distribution pipelines and LNG trucks.

In the services area, ENGIE operates through a wholly owned company under the name ENGIE Services Chile, which mainly provides industrial maintenance, multi-technical services, HVAC engineering and installation and provides solutions in automation and instrumentation for a broad range of clients in the mining, retail and energy sector throughout Chile.

In Mexico, ENGIE operates six local distribution companies providing natural gas to more than 500,000 customers through a 11,500 km network, and 3 gas transmission companies operating over 1,300 km of pipelines.

In renewable power generation, ENGIE was awarded 6 projects in the 2016 and 2017 national tenders for a total of 896.6 MW (4 solar parks and 2 wind farms). Additionally, on October 2018, ENGIE Mexico signed a 15-year power purchase agreement (PPA) to supply renewable energy to steel producer, Gerdau. For this purpose, the Group is developing a 130 MW photovoltaic plant in the state of Sonora.

In Argentina, ENGIE holds a 64.2% stake in Litoral Gas, a gas distribution company with more than 720,000 clients. In addition, it holds a 46.7% stake in Energy Consulting Services (ECS), an electricity and gas sales and consulting firm. ENGIE also holds an interest in Gasoducto NorAndino, an approximately 1,000 kilometers pipeline between Argentina and Chile, wholly owned by ENGIE Energia Chile.

In December 2018, ENGIE Latin America, through its subsidiaries ENGIE Services Chile and ENGIE Services Peru, has acquired CAM, a services company leader in installation, operation and maintenance services for electricity and telecommunication.

1.3.2.2 Brazil

1.3.2.2.1 Role & Strategy

Its mission is to provide innovative and sustainable solutions in energy and services to people, companies and territories.

More specifically, the BU Brazil's strategic directions are focused on:

- centralized power generation - be at the forefront of the transition towards an increasingly renewable world of energy, investing in wind, leveraging sites to invest in centralized solar PV while maintaining core competencies in hydropower;
- gas - be in the forefront of the re-structuring of the gas market in Brazil resulting in a more competitive market and benefit from new opportunities to come;
- services - become relevant in energy-related Services in Brazil with a focus on large commercials and industrial sites and territories;
- decentralized power generation – support development of "prosumer" in Brazil setting up a BtoC decentralized generation.

1.3.2.2.2 Description of activities

- Centralized Energy Generation: ENGIE Brasil Participações (EBP) is the holding company of ENGIE's activities (68.7% share capital) in Brazil. EBP holds power generation assets in two companies, EBE and ESBR, totaling an installed capacity of 9,356 MW in operation (including the Jaguara (424 MW) and Miranda (408 MW) hydropower plants) and 1,032 MW under construction (including the acquisition of the Umburanas wind project (605 MW), with 360 MW under construction and 245 MW in the development phase).
  - ENGIE Brasil Energia (EBE) – The company has 7,856 MW of installed capacity and operates a generating complex of 9,577 MW, accounting for approximately 6% of Brazil's total capacity. 83% of the installed capacity are hydroelectric power plants, 11% thermoelectric and 6% complementary plants (biomass, wind, small hydroelectric power plants and solar). EBE is under the control of EBP, which holds 68.71% of its capital. The compagny is listed on the Brazilian stock exchange.
  - ESBR (Energia Sustentavel do Brasil) : EBP holds a 40% stake in ESBR Participações S.A., company that holds 100% of ESBR. ESBR holds 100% of Jirau hydroelectric power plant (3,750 MW);
- Electricity Transmission: In December 2017, ENGIE, through EBE, marked its entrance in the Transmission Line business in Brazil with 1,000 km of transmission lines and 5 substations in Paraná state, South region of Brazil;
- Solar Decentralized Generation: In Brazil, ENGIE develops Solar Decentralized Generation activities through ENGIE Geração Solar Distribuída (EGSD);
- Integrated Solutions: ENGIE Brasil Soluções Integradas (EBSI) acts in the development and integration of telecommunications, security and safety systems for the oil & gas industry, infrastructures and smart cities. The company is a subsidiary of EBP;
- Energy Services:
  - in January 2018, ENGIE acquired ACS, renamed ENGIE Gerenciamento de Energia (EGE), leader in energy monitoring. Currently, the company manages more than 5,000 contracts,
  - acquired by ENGIE in August 2018, GV Energy is the leader in energy management in Brazil. The company manages and supervises 25,000 public lighting points;
  - in October 2018, EBP acquired Sadenco, one of Brazil's leaders in the management of public lighting networks, with 300,000 points.

1.3.3 Africa/Asia

The Africa/Asia reportable segment comprises the activities of four BUs: the Africa BU, the China BU, the Middle East, South and Central Asia, and Turkey BU (including India and Pakistan), and the Asia Pacific BU (Australia, New Zealand, Thailand, Singapore, Indonesia and Laos). In all of these regions, the Group is active in electricity generation and sales, gas distribution and sales, energy services, and seawater desalination in the Arabian Peninsula.

The Asia Pacific, China, Africa and the Middle East, South and Central Asia, and Turkey operating segments have been grouped together within the Africa/Asia reportable segment as all these regions have high power generation requirements and consequently represent significant growth prospects for the Group in the energy and energy services businesses. A substantial portion of their revenue is generated by electricity sales under long-term agreements.

KEY FIGURES

In millions of euros	Dec. 31, 2018	Dec. 31, 2017	Total change *(in %)*
Revenues	4,014	3,939	+1.9
EBITDA	1,122	1,272	-11,.

1.3.3.1 Africa

1.3.3.1.1 Role & Strategy

The Africa BU is in charge of developing ENGIE activities in African countries where it already operates and of entering a selection of new countries, which offer a promising balance between rewards and risks for the core activities of ENGIE. More specifically, the BU aims at developing:

- infrastructure & centralized power generation: renewable energy (wind, solar photovoltaic and concentrated solar power, hydro, biomass, geothermal) Transmission & distribution and utility scale storage. As natural complement to renewables, gas fired power is developed in several African countries and also gas infrastructure (regasification terminals, storage, transport);
- customers Solutions for Businesses (BtoB), Installation, maintenance, integrated services and energy sales for C&I sector and also provide off-grid solutions for remote clients;
- customer solutions for cities & territories, focusing on public lighting, electric mobility, public safety, area development & airports;
- customer solutions for Access to Energy: deployment of pay as you go Solar Home System, innovative mini-grids solutions and also develop solutions for reliable electricity in urban areas & clean cooking fuels.

1.3.3.1.2 Description of activities

In Morocco, the Tarfaya wind farm (301 MW) is operated by a 50/50 joint venture (TAREC) between ENGIE and Nareva Holding. The farm represents 40% of Morocco total wind capacity. The Safi plant, which started operations in December 2018, includes two state-of-the-art thermal power generation units (2×693 MW). ENGIE holds 35% in the project company SAFIEC.

In Egypt, ENGIE has signed in 2017 a contract to build, own and operate (BOO) the 250 MW Gulf of SUEZ wind farm (Ras Ghareb). Construction of the wind park started end 2017.

In Senegal, ENGIE signed in November, a 25-year PPA with Senelec, for two solar photovoltaic projects (60 MW). Next to large scale grid-connected power generation projects, ENGIE is also active on the off-grid market. In April 2018, ENGIE completed the acquisition of 100% of Fenix International, an energy company offering Solar Home Systems in Africa. Fenix has its main activities in Uganda where it is the largest Solar Home System (SHS) player. To date, Fenix has delivered clean energy to over 300,000 households, impacting over 1,500,000 people.

ENGIE's energy services activities are spread in Africa via a number of companies. In March 2018 the Group concluded the acquisition of SPIE Maroc, a key player in electrical works, HVAC, telecommunications systems and the multi-maintenance market in Morocco.

In February 2018, ENGIE officially acquired 100% of Thermaire Investments (Pty) Ltd. and Ampair (Pty) Ltd. shares. The two companies operate in South Africa, Mozambique and Botswana and are the leaders in the HVAC installation and maintenance segment in the South African market.

In West Africa, ENGIE acquired two companies specializing in energy services. Afric Power and Tieri than employ more than 140 people specialize in the design, installation and maintenance of electrical systems and automated control mechanisms.

The Dedisa and Avon peaking power plants are two open-cycle gas turbine plants (335 MW and 670 MW); ENGIE holds 38% in the two companies that own the plants.

Kathu is a 100 MW concentrated solar power (CSP) plant under construction in the Northern Cape province. Start of operations is expected beginning of 2019. The shareholders of Kathu Solar Park comprise a group of investors, including ENGIE (48.5%).

1.3.3.2 China

1.3.3.2.1 Role & Strategy

Starting 2018, China BU has consolidated its previous activities into two main sectors: Clean Energy and Solutions to Territory & Industry. The expanding scope of each pillar are paving the way for continued growth.

Our priority areas are all located along the coastal line and Yangtze river, focusing BtoB and BtoT in first and second tier cities in the short term.

1.3.3.2.2 Description of activities

Cooperating with its Chinese partners, ENGIE China has operation in 6 JVs, active mainly in solar power development and distributed energy:

- UNISUN (*30% owned by ENGIE*), a solar photovoltaic (PV) development company based in Ningbo city of Zhejiang Province. UNISUN develops both centralized and decentralized projects and has developed ~1GW PV projects by the end of 2018 and is the largest distributed PV developer in the world. After two-year's development, UPER, the O&M arm of UNISUN (100% owned), has become the largest third-party PV O&M provider in China serving for around 1.8 GW PV assets. Meanwhile, UNISUN has formed a good client portfolio covering over 50 cities in China;

- EV Chong (*25% owned by ENGIE via investment closed mid of 2018*) has developed 2 main businesses: 1) Services to Electrical Vehicles charging stations, including development, installation and O&M; and 2) a "battery as services" offer for captive EV fleets;
- SFES, a JV (*40% ENGIE, 60% Chongqing Gas Group*) which operates and develops DHC projects in Chongqing area;
- YUECHI, a single project JV (*49% ENGIE, 51% Sichuan Energy Investment Company - SCEI*) which develops and operates a steam power cogeneration project in Sichuan Province;
- ETS, a service-oriented JV (*50% ENGIE, 50% SCEI*), based in Chengdu city - Sichuan Province, which provides O&M (Yuechi) and technical energy advisory services.

On top of the above activities, ENGIE, through Tractebel, owns 49% of an engineering JV called BUGET (*51% Beiran Enterprise Company*), based in Beijing.

On May 31, 2018, China's national policy makers jointly released a policy document with immediate execution on the same day. The policy restricts new solar installations that require national subsidy (mostly ground mounted projects) and reduces the subsidy of new distributed PV projects by 0.05 RMB/kWh.

Even if the policy came out without any warning, the impact is limited on ENGIE China's overall strategy since UNISUN has started a strategy shift towards distributed wind.

This new regulation obviously slows down the development of new solar photovoltaic projects, and has caused a drop in the price of solar panels.

1.3.3.3 Middle East, South and Central Asia, and Turkey (MESCAT)

1.3.3.3.1 Role & Strategy

The role of the MESCAT BU is to continue to develop strong positions in low-carbon centralized power generation (natural gas) and new activities: renewable energy-based power generation, independent production of desalinated water, and the development of integrated BtoB and BtoT solutions.

The BU's strategy is based on two key pillars:

- safeguarding and growing the value of the portfolio of existing assets;
- generating growth through new business lines and services in the countries of the MESCAT BU via acquisitions and the purchase of larger equity interests.

1.3.3.3.2 Description of activities

Centralized Energy Generation

In the Gulf Cooperation Council (GCC) Countries, the MESCAT BU acts as an asset developer, owner and operator, selling the electricity and water it produces under long-term public Power (and Water) Purchase Agreements (P(W)PAs).

The MESCAT BU is the leading private power and water developer and/or operator in the region, with a total generation capacity of 30 GW and nearly 6 million m^3 of water/day produced from desalination facilities in operation or under construction.

In Southern Asia:

- in Pakistan, ENGIE holds 100% of two combined cycle gas turbine (CCGT) plants for a total capacity of 932 MW. The electricity produced is sold under long-term PPAs to the distribution companies;
- in India, ENGIE now holds a portfolio of nearly 1 GW in renewable power capacities (810 MW of solar and 280 MW of wind), installed or under construction.

In Turkey, ENGIE holds stakes in two CCGTs with total production capacities of 1,243 MW. The electricity is sold to TETAS, the national electricity off-taker, under long-term PPAs.

Decentralized Energy Generation

In India, ENGIE has acquired a majority stake in Simpa Networks, which markets individual solar electrification solutions in the rural areas of northern India.

Gas Value Chain

In Turkey, ENGIE owns 90% of IZGAZ, the country's fifth-largest natural gas distributor, which distributes and markets natural gas to 370,000 residential, commercial and industrial customers in the Kocaeli region.

Services

In the GCC countries, ENGIE is a major facility manager in the region and provides its customers with energy performance services and a range of airport services.

ENGIE holds a 40% stake in Tabreed (National Central Cooling Company PJSC), the leader in urban cooling networks in the GCC. The company distributes the equivalent of one million tons of cooling produced by its 71 urban cooling plants located in the Gulf countries, and is expanding in India.

ENGIE provides operating and maintenance (O&M) services to industrial companies, in both power production and distribution, in Turkey and in the GCC countries.

1.3.3.4 Asia Pacific

1.3.3.4.1 Role & Strategy

In 31 décember, 2018, the Asia-Pacific BU has strongholds in Thaïalnd, Singapore and Australia, commercial activities in: Philippines, Malaysia and Thaïland, and development offices in Indonesia, Mongolia and Japan. The Asia-Pacific BU is at the final stage of a large scale decarbonization with the last of its coal fired power plants under divestment and has embarked on an ambitious growth plan for renewable generation (4 projects under construction and many more in the pipeline), services and new businesses around rural electrification, green mobility and smart cities.

1.3.3.4.2 Description of activities

In Australia, ENGIE operates about 1,000 MW (gross) of renewable (wind turbine) and gas-fired plants. The Hazelwood power plant was closed on March 31, 2017 and the Loy Yang B power plant was sold in January 2018. The BU has a pipeline of solar and wind projects under development, including Willogoleche's solar plant (119 MW) that was commissioned in early 2019. The portfolio also includes a growing energy retail business called "Simply Energy", serving electricity and gas accounts in the BtoB and BtoC segments (around 670,000 contracts) and also offers a suite of energy solutions across solar and battery storage to help customers reduce energy costs and minimize environmental impact, including a virtual power plant. During 2018, energy retail prices were impacted by political intervention and is expected to continue during 2019.

In Thailand, ENGIE has entered, in June 2018, into a Share Purchase Agreement with Global Power Synergy Public Company Ltd. (GPSC) for the sale of its 69.1% interest in Glow, an independent power producer listed on the Stock Exchange of Thailand. The Thailand Energy Regulatory Commission (ERC) approved the transaction on December 26 with one condition precedent, that Glow must sell the business of Glow SPP1 Co. Ltd. (140 MW generation unit), prior to or at the same time as the consolidation with GPSC.

The Group has annouced completion of disposal of Glow on March 14, 2019.

In Thailand, ENGIE also owns a 40% stake in PTT NGD, a distributor of natural gas to industrial customers in the Bangkok region.

In 2017 the Energy Regulatory Commission (ERC) commenced working towards a change in regulation to reduce the exposure of gas distributors to commodity risk. There have been significant delays in implementing this regulatory change, with the best estimate for new regulations being implemented in mid-2019. In the meantime, ENGIE continues to bear commodity risk which has had a significant positive impact on earnings in 2018.

In Indonesia the BU is building two geothermal powerEplants in Sumatra.ENGIE began construction work for the first stage of the geothermal projects of Muara Laboch (80MW) and Rantau Dedap (90MW).

in 2018, ENGIE signed an agreement with Adaro Power and EVI to develop energy access solutions using solar energy and batteries in Papua.

In November 2018, Indonesia introduced new regulation related to solar rooftop that enable net metering for Residential and C&I projects and regulates the process for its developement.

In Singapore, ENGIE holds a 30% stake in Senoko Energy, operating a portfolio of power generation assets with a combined capacity of 3,300 MW. Senoko is also present in the BtoB electricity retail market and is participating in the BtoC retail market opening this year.

Since April 1, 2018, Singapore commenced the soft launch of Open Electricity Market. The full opening will be effective on May 1, 2019.

Singapore introduced Southeast Asia's first Carbon Tax from January 1, 2019. applying to the largest 20 or 30 biggest emitters will impact all the GENCO's.

The Group has been active in district heating and cooling networks in Malaysia (following the acquisition of a 49% stake in Megajana - operating the district cooling plants of CyberJaya) and in Philippines.

Additionally, in Australia, New-Zealand, Thailand, Malaysia, Singapore and Philippines, ENGIE's services businesses provide multi-technical building services and installation with a focus on facility management, maintenance mechanical, fire protection, electrical communications, audio visual and energy efficiency. Especially in Singapore, the BU has two key businesses in energy services:

- ENGIE Services Singapore (Cofely FMO) whose core business is integrated facility management and energy efficiency solutions with key expertise in critical facilities such as airports, healthcare, rail and education;
- ENGIE ITS (Cofely Data Centers) is a specialist in data centers with core capabilities in the design, building and maintenance of data centers.

In Japan, the BU opened an office in Tokyo in early 2018 to oversee its development efforts in the country in renewable generation and energy services.

1.3.4 Benelux

The Benelux reportable segment corresponds to the Benelux BU which includes the Group's activities in Belgium, the Netherlands and Luxembourg, specifically power generation from the Group's nuclear power plants and renewable power generation facilities, electricity and natural gas sales activities, and energy services and installation activities.

KEY FIGURES

In millions of euros	Dec. 31, 2018	Dec 31., 2017	Total change *(in %)*
Revenues	6,690	6,771	-1.2
EBITDA	(186)	550	-133.7

1.3.4.1 Role & Strategy

The Benelux BU is the historical leading provider of electricity and natural gas in the Belgian market, a challenger in the Netherlands, and the leader in the services segment in the Benelux countries. The BU's mission is: "leading in global and sustainable solutions, that make the difference for our customers, in energy, services and technical installations" and its vision is "to be at the heart of the Energy Transition" by making its countries the champions of the Energy Transition.

It therefore develops and implements energy and industrial solutions for the future in Belgium, Luxembourg and the Netherlands:

- reliable, competitively priced carbon-free power generation that complies with the highest standards in terms of safety and environmental protection;
- the supply of energy, energy services and mobility solutions to simplify the life of its retail customers;
- a broad range of know-how and expertise leveraged on behalf of industrial and tertiary customers, cities and local authorities to implement sustainable solutions.

1.3.4.2 Description of activities

The Benelux BU operates and maintains, in compliance with the strictest nuclear safety standards, the Doel and Tihange nuclear power plants in Belgium, representing a total installed capacity of 5,918 MWe (with total drawing rights of 897 MWe held by third parties). Moreover, the Benelux BU owns drawing rights of 1,218 MWe with EDF in France and 290 MWe with E.ON in Germany.

A stable legal and fiscal framework has been set for the nuclear power plants until 2025 defining amongst other things the economic parameters governing the lifetime extension of Tihange 1, Doel 1 and Doel 2 and the mechanism to calculate the level of nuclear contribution to be paid by ENGIE Electrabel.

The Group assumes obligations resulting from the April 11, 2003 Belgian Law relating to the management of spent nuclear fuel and the decommissioning of nuclear power plants. As of December 31, 2018, the nuclear provisions in the Group's consolidated financial statements amounted to €11.6 billion (of which €5.3 billion related to the dismantling of the facilities and €6.2 billion to the management of the downstream part of the fuel cycle). These provisions are based on the basic features presented in the three-year statement approved by the Nuclear Provisions Commission (CPN) on December 12, 2016.

In 2018, the increase of nuclear provisions by €0.4 billion in the Group's consolidated financial statements results from the recurring discounting charge and the additional provision for quantities of irradiated fuel consumed during 2017.

The BU also operates renewable energy production assets, comprising onshore wind capacity of 387 MWe (+29 MWe in 2018) in Belgium and in the Netherlands and solar capacity. It is responsible for developing, building, operating and maintaining these assets. Within the framework of the ENGIE Offshore Wind strategy, the BU is involved since 2011 in the development of the offshore wind project MERMAID. In 2018, it merged with the offshore wind project Seastar to create SEAMADE (487 MWe) which ENGIE Electrabel owns 17.5% in. As regards Offshore High Voltage Substations (OHVS), the BU – through ENGIE Fabricom – is a market leader (22 substations constructed and 7 substations under construction or ordered).

In biogas, the BU has recently acquired the biogas development, engineering and service company BIOGASPLUS to boost its development in the Netherlands.

Through ENGIE Axima, ENGIE Cofely and ENGIE Fabricom, the Benelux BU operates in the tertiary, industrial, energy and transport sectors and provides public and private customers with various multi-technical services and solutions like:

- greater energy efficiency and limited environmental impact of buildings (energy efficiency audits, HVAC systems, multi-technical management and maintenance, energy performance contracts, etc.);
- production, operation and distribution of local and renewable energy sources (cogeneration plants, industrial utilities, etc.);
- integrated services (facility management, multi-site management, public-private partnerships, etc.);
- maintenance activities of networks (medium & low voltage power, low pressure gas, telecom, water, public lighting, etc.);
- installation & industrial maintenance activities (3D printing, electricity & instrumentation, process solutions, automation, etc.);
- construction and maintenance activities to mobility infrastructures in the field of roads (lighting, traffic management, etc), waterways, airport, ports and rail & metro (stations, catenary, signalization, passenger information systems, etc.).

In the retail market, the Benelux BU manages approximately 2.66 million electricity contracts (9.1 TWh) and 1.47 million natural gas contracts (20.9 TWh) in Belgium, and approximately 301,000 electricity (1.2 TWh) and 294,000 natural gas contracts (4.7 TWh) in the Netherlands. Lastly, the BU has developed an innovative offer of technical services for its retail customers. It also has a portfolio of business customers (industrial and tertiary) who buy electricity and natural, as well as energy services.

On the regulatory front, in Belgium, the main changes concern the adoption (at the end of March 2018) of the Energy Pact, which confirms the nuclear exit target but subjects it to several criteria, as well as the draft law (approved by the Cabinet of Ministers of January 11, 2019) on a Capacity Remuneration Mechanism (CRM) designed specifically to guarantee the security of supply in the event of nuclear output.

1.3.5 France

The France reporting sector combines the activities of four BUs: the France Renewable Energy BU (development, construction, financing, operation and maintenance of all renewable power generation assets in France), the France BtoB BU (energy sales and services for buildings and industry, cities and regions and major infrastructure), the France BtoC BU (sales of energy and related services to residential and small business customers), and the France Networks BU (which designs, finances, builds and operates decentralized energy production and distribution facilities - power, heating and cooling networks).

The France Renewable Energy, France BtoB, France BtoC and France Networks operating segments include all French downstream energy business lines and renewable energy production, which is becoming increasingly decentralized. These are complementary businesses that are supported by a strong regional network and primarily aim to develop a combined offering for local customers consisting of energy services, decentralized production resources, and combined gas and electricity supply contracts.

KEY FIGURES

In millions of euros	Dec. 31, 2018	Dec. 31, 2017	Total change *(in %)*
Revenues	15,183	14,157	+7.2
EBITDA	1,669	1,461	+14.2

1.3.5.1 France Renewable Energy

1.3.5.1.1 Role & Strategy

The role of the France Renewable Energy BU is to develop, build, finance, operate and maintain ENGIE's biomethane and power production in France. The BU offers energy production capacity that are greener, more diversified, more local and safer through six sectors: solar power, onshore wind power, fixed offshore wind power, floating offshore wind power, hydroelectric energy and biogas.

The BU also provides technical expertise and industrial support, including procurement, to the Group and in particular its European subsidiaries, through pooled teams of experts.

It performs its missions through the ENGIE subsidiaries that report to and the BU and are described in the following section.

Whether in the most mature existing technologies (hydro, wind, solar, etc.) or in the new technologies (fixed and floating offshore wind, biogas, etc.), the BU is active in all activities that are driving and will drive the green growth in the French energy mix. The BU aims to substantially boost its development in wind and solar while bolstering its positions in hydroelectricity:

- onshore wind: strengthen the Group's leadership in a market that is expected to more than double by 2023. The objective is to reach nearly 3 GW installed capacity in this technology in 2021. The BU is competitively positioned within a secure regulatory framework (notified to the European Commission);
- solar power: significantly accelerate growth in a market expected to more than triple by 2023. The goal is to reach nearly 2.2 GW of installed capacity in this technology in 2021, within a secure regulatory context that has also been notified to the European Commission;
- hydroelectricity: maintain a leadership role by seizing opportunities that will arise on hydraulic concessions while continuing to protect the Group's positions;
- marine energy: leverage the Group's expertise on the first projects to continue to accelerate the development of this segment (fixed and floating offshore wind farms);
- biogas: build on the initial projects developed in order to accelerate significantly and make ENGIE a "market maker" in this high-potential market. ENGIE is setting a target to product and inject 1.5 TWh in the grids by 2023.

1.3.5.1.2 Description of activities

The France Renewable Energy BU comprises a set of subsidiaries owned by ENGIE, either alone or in partnership:

- ENGIE Green (resulting from the merger of Futures Energies and Maia Eolis in 2016 and LCV – La Compagnie du Vent – in 2017 and the progressive integration of the development, operational and maintenance activities of Solairedirect in France as of January 1, 2018): onshore wind, solar, renewable marine energy and biogas;
- SHEM (Société Hydro-Électrique du Midi): hydroelectricity;
- CNR (Compagnie Nationale du Rhône), and its subsidiary CN'Air: hydroelectricity, onshore wind, solar power;
- Dieppe/Le Tréport, and l'Île d'Yeu/Noirmoutier projects: offshore wind power (2 x 500 MW in potential installed capacity);
- Altiservice: management of three ski resorts in the Pyrenees, 100% powered by renewable energies;
- Langa: a company acquired in 2018 that specializes in the development and operation of roof and ground wind and solar farms. Langa holds a portfolio in operation that is expected to reach installed capacity of 215 MW by the end of 2018, including 165 MW of solar energy and 39 MW of wind.

1.3.5.2 France BtoB

1.3.5.2.1 Role & Strategy

In a national context where there is strong focus on energy and environmental efficiency, the France BtoB BU designs, builds and operates high-performance facilities, buildings and infrastructure for both the public sector (local authorities, towns or regions) and the private sector (industrial activities, tertiary sectors, multi-dwelling units).

The solutions deployed by the BU rely on the strong expertise of its four entities, a dense national presence, solid customer relationships, and a drive for innovation. As a result, the BU is able to anticipate and support new needs by combining digital innovations (Building Information Modeling, hypervision, data analysis, etc.), technological innovations (hydrogen, biogas and biomass, mini-cogeneration, micro-grids, etc.) and behavioral innovations (usage performance, self-consumption, appetite for local solutions and sharing, etc.).

To consolidate its position as France's leading integrator of energy and environmental efficiency solutions, the France BtoB BU is stepping up its strategy of organic growth and targeted acquisitions along three lines:

- expansion of its historical business lines in France (see ENGIE Cofely's acquisition of SERT, InterEnergies or DARGENT Thermique);
- reinforcement of its specialist activities, so they become the undisputed leaders with the ability to be deployed in various international regions in support of the Group's other BUs (see ENDEL ENGIE's acquisition of ERAS in industrial engineering, or ENDEL Axima's acquisition of Noske Kaeze, an operator in ship construction and maintenance);
- development of innovative offers that combine new technologies and digital technology, as well as integrated offers; see the acquisition of AEGE (jointly by ENGIE Axima and ENGIE Ineo), a key player in general contracting.

1.3.5.2.2 Description of activities

The complementary expertise of its four historical entities means that the France BtoB BU is active throughout the entire energy services value chain, from design and build (or renovation) to maintenance and full operation, including performance commitments. These energy and environmental efficiency solutions and associated services are aimed at manufacturers, the tertiary sector (public or private), infrastructure managers, municipalities and local authorities, and multi-dwelling unit managers.

- ENGIE Axima specializes in HVAC engineering (heating, ventilation, air-conditioning, cooling and air treatment). It designs, builds or renovates decentralized power-generation and distribution facilities in commercial or industrial buildings. ENGIE Axima is also a major player in fire prevention.
- ENGIE Ineo specializes in electrical engineering and works with municipal and national customers to deploy or modernize their infrastructure networks (railroad tracks, power grids, video-surveillance systems, public lighting, telecommunications networks, urban transport, renewable energy, etc.).
- ENDEL ENGIE specializes in mechanical engineering and provides industrial customers with management and maintenance services for their production facilities or processes. The company is also a leading player in nuclear maintenance.
- ENGIE Cofely specializes in power engineering. It offers a range of energy and environmental performance solutions for the operation and management of industrial, commercial or multi-dwelling buildings. Through its energy savings performance contracts and usage performance contracts, the company ensures that the facilities it operates are optimally efficient while having a minimal environmental footprint. Lastly, ENGIE Cofely provides comprehensive integrated service solutions (such as facility management) to large corporations or government agencies.

1.3.5.3 France BtoC

1.3.5.3.1 Role & Strategy

The France BtoC teams handle energy sales and related services for residential and small business customers.

The goal of the France BtoC BU is to become a key player in the energy transition and home comfort, and to remain a leader in energy supply.

Its strategic priorities are:

- growth of electricity and services sales;
- customer satisfaction;
- operational excellence;
- innovation.

With regard to changes in the regulatory environment, it should be noted that a proposed law is expected in 2019 that will specify the calendar and conditions for the disappearance of the regulated gas tariffs following the decision of the French Council of State (*Conseil d'État*) of July 19, 2017. In addition, the General Data Protection Regulation (GDPR), which provides a framework for the utilization of your personal data, was implemented on May 25, 2018.

1.3.5.3.2 Description of activities

Energy: the BU is still the leading seller of natural gas in France, despite increasingly intense competition from new arrivals on the market. In electricity, the BU accelerated its expansion in 2018 and confirmed its lead over other alternative power suppliers with a portfolio of 4.3 million customers at the end of 2018, including 2 million customers in green electricity. The success of the launch of its green offers in 2016 was confirmed in 2017 and 2018 and positions ENGIE as the leading green energy supplier in France.

Services: the BU is active in (i) the deployment of decentralized power or heat generation solutions based on renewable energy (photovoltaic, heat pumps), (ii) energy efficiency services (energy diagnostics, energy consulting and coaching; facilities design, work, financing and maintenance), and (iii) home services (insurance, equipment maintenance, repairs). Among other things, the Group is a leader in domestic boiler maintenance through its ENGIE Home Services subsidiary.

New offers were launched in 2018, illustrating the BU's capacity for innovation and expanding its offering:

- Home comfort services: "Eideris", a connected boiler offer that provides remote monitoring of the boiler and allows preventive maintenance; "Mes Dépanneurs", a multi-business intervention offer that has expended with Do-it-yourself (DIY) and gardening offers;
- Equipment offers: a water heater offer and an air-conditioning offer complete the product line;
- Energy decentralization services: "My Power + Battery", an expansion of the self-consumption line with the addition of a storage offer coupled with the installation of a photovoltaic roof.
- Energy offers:
  - "Mon Elec", an extensive selection of production sites for green electricity,
  - "Ma Conso", the online service to assist in controlling consumption has been expanded to include new functionalities, including consumption projections, a link with Google voice assistance, a comparison with similar homes, and the impact of the outside temperature on the level of consumption.

1.3.5.4 France Networks

1.3.5.4.1 Role & Strategy

The France Networks BU partners with local authorities in cities and island territories to help accelerate their energy transition by providing innovative, integrated solutions in renewable energy and energy efficiency.

The France Networks BU has leadership positions in the design and management of large heating and cooling networks as well as in power generation and distribution. It builds and operates high-performance facilities and infrastructures designed for both public and private players.

It is backed by an ambitious policy of innovation and development, focused both internally and externally, to meet the needs of its customers and stakeholders and thus contribute to creating value for the regions in which it operates.

Thanks to their local roots, its employees work alongside their customers, whether public, private or retail, to achieve a greener energy mix.

The France Networks BU's strategic priorities are to:

- grow its portfolio of activities by preserving and expanding its existing contracts, capturing new networks and diversifying its activities to facilitate the green transition in the regions its services;
- strengthen its renewable energy production resources (solar, wind, hydropower, geothermal, biomass, biofuel, waste-to-energy, etc.);
- achieve the highest customer relationship standards.

In mainland France, the France Networks BU uses diversified, local and renewable energy sources to make accessible, to the greatest number of customers possible, an efficient, virtuous and sustainable method of heating and cooling in urban areas.

In the island territories, the France Networks BU is developing a comprehensive range of industrial and energy services to support the territories' sustainable development, along with a renewable electricity generation system.

1.3.5.4.2 Description of activities

The France Networks BU provides integrated, customized solutions tailored to the geographical characteristics, economic constraints, and local climate and ecological challenges in its host territories through six operating entities and their subsidiaries:

- CPCU, Paris heating network (France's leading district heating network);
- Climespace, Paris's cooling network (Europe's leading district cooling network);
- ENGIE Réseaux, responsible for France's large heating and cooling networks with recognized expertise in biomass and geothermal energy;
- SMEG and SMA in Monaco, active in gas and electricity distribution and supply, public lighting, heating and cooling production and distribution, waste cleaning and collection services, and waste-to-energy production;
- EEC, Alizés Énergies, Pacific Airport, Socometra, Somainko and Endel NC in New Caledonia, EEWF in Wallis and Futuna, Unelco and Vanuatu Services in Vanuatu: active in power production and distribution, energy services, installation and multi-technical management, and airport facilities management;
- EDT, Marama Nui, ENGIE Services Polynésie, and Poly-Diesel in French Polynesia: active in power production and distribution, installation and technical maintenance, facility management and energy services.

1.3.6 Europe (excluding France and Benelux)

The Europe reportable segment groups together the activities of two BUs: the United Kingdom BU (management of renewable power generation assets and district heating and cooling network assets, supply of energy services and solutions, etc.), and the North, South and Eastern Europe BU (sales of natural gas and electricity and related energy services and solutions, operation of renewable power generation assets, management of distribution networks).

The United Kingdom and North, South and Eastern Europe operating segments have been grouped together within the Europe reportable segment as both BUs have a similar business mix (energy services, production and sales of renewable energy) and operate in mature energy markets that are undergoing a process of transformation as part of the energy transition.

KEY FIGURES

In millions of euros	Dec. 31, 2018	Dec. 31, 2017	Total change *(in %)*
Revenues	9,527	8,831	+7.9
EBITDA	679	650	+4.5

1.3.6.1 United Kingdom

1.3.6.1.1 Role & Strategy

The United Kingdom (UK) BU has the defined mission of improving lives through better living and working environments. The BU combines its capabilities in energy and services to enable customers to embrace a lower carbon, more efficient and increasingly digital world. It does this through the supply of reliable, flexible and renewable energy, energy efficient and smart building solutions, provision of effective and innovative services and the transformation of neighbourhoods through regeneration.

1.3.6.1.2 Description of activities

There are four divisions in the UK BU:

- *Energy infrastructure* (power generation, renewables development and trading and portfolio management):

  The BU has over 2 GW of generation assets. including the UK's foremost pumped storage facility (First Hydro) and an established renewables development business (on & offshore wind and solar). The business has a pipeline of renewable projects in development, including a 23.3% stake in the 950 MW Moray East offshore wind farm in Scotland.
- *Business Energy & Services* (energy efficiency, energy supply & power purchase, facilities management, technical services):

  The BU focuses on combining the deliveries. Its extensive capabilities are designed to serve both public and private organisations. In 2018 ENGIE signed an agreement with Bombardier Transportation, for a five-year contract to deliver integrated FM, production maintenance and project services to 33 sites across 12 countries, including the UK.
- *Places & Communities* (design & refurbishment of homes, buildings and places, facilities management, PV, district energy):

  The UK BU is a strategic partner in placemaking to create and regenerate communities as well as maintain and support them. Activities also include provision of energy efficiency measures and renewable technologies. Customers include local authorities, housing associations, healthcare and educational institutions. In 2018 ENGIE was selected for by Kingston University in London to deliver a major regeneration project across two student accommodation sites with an additional FM contract to maintain the sites over 50 year period.
- *Homes & Enterprises* (energy supply, smart home technology, EV charging and infrastructure):

  ENGIE is a supplier of energy and related services to homes and SME's across the country. The BU also provides EV charging points, connected and smart technologies for consumers. ENGIE UK currently has around 75,000 customers (150,000 customer accounts). In 2018 ENGIE was awarded a 10 year contract to install and manage EV infrastructure across the West Yorkshire region, including supply of 100% renewable electricity.

1.3.6.2 North, South and Eastern Europe (NECST)

1.3.6.2.1 Role & Strategy

The North, South & Eastern Europe Business Unit (BU) is active today in Austria, Czech Republic, Germany, Greece, Italy, Norway, Poland, Romania, Slovakia, Spain and Switzerland. Business areas cover customer solutions (BtoB, BtoT, BtoC), green energy generation (notably wind) and gas infrastructures. The BU implements its strategy through a country-based organization which allows to accelerate its development, all to the benefit of its customers.

Its business environment is characterized by a rapid succession of far-reaching changes, such as decentralization and digitization, although the maturity of these changes varies from country to country. The BU's mission is thus to co-develop, with clients, reliable and sustainable solutions for a new energy world.

1.3.6.2.2 Description of activities

- In Romania, the main activity is natural gas distribution via the Distrigaz Sud Retele subsidiary, which operates a 19,643 km distribution network, with natural gas storage through its Depomures subsidiary. ENGIE Romania supplies natural gas and electricity to 1.7 million customers (BtoC and BtoB) as well as energy services in particular to BtoC customers through ENGIE Servicii. ENGIE Romania operates two wind farms in Gemenele and Baleni, for an installed capacity of 98 MW. In 2018, the BU acquired the internet of things company Flashnet, which develops intelligent energy management systems for cities and is specialized in smart public lighting.

The government re-regulated the wholesale domestic gas prices for residential and non-residential consumers at the end of 2018 for a 3-year period (April 2019 - February 2022) by setting a regulated wholesale price of 68 lei/MWh for natural gas extracted from domestic resources. The retail price of electricity for households will also be regulated. A 2% tax on turnover to be paid to ANRE by gas and electricity license holders has been adopted by the government. Finally, new tariffs methodologies have been drafted by ANRE for both distribution and regulated supply during the fourth regulatory period (starting in January 2019); however, these draft methodologies must be revised in order to harmonize their provisions with the new primary legislation.

- In **Italy**, the BU is active in natural gas and electricity sales with more than 820,000 consumers (BtoC and BtoB). In 2018, it reinforced its position in public lighting, becoming one of the main players in Italy, and in district heating networks with, among others, the acquisition of Cinisello Balsamo's grid. The BU also provides energy efficiency and decentralized solutions to residential clients, businesses and public authorities, participating to many Consip public procurement tenders. ENGIE Italy operates 165 MW of wind and ground- and roof-mounted solar power assets, as well as biomass units.

  In 2018, the Italian Parliament approved the end of regulated prices for gas and electricity in July 2020.
- In **Germany**, the BU is active in the installation, operation and maintenance (O&M) of energy efficiency solutions. It also supplies power and gas mainly in connection with its stakes in four municipal utilities, encompassing activities in heating networks, energy distribution and decentralized solutions. With effect as from December 31, 2018, ENGIE sold 100% of ENGIE Energielösungen GmbH and phased out the BU's pure commodity supply activity for BtoB at national level. The BU also operates 338 MW of renewables (wind, hydro) and a battery storage site.
- In **Spain**, the entities operate 66 MW of solar and hydropower through a partnership with Mitsui, and cogeneration units and heating networks in Barcelona. ENGIE Spain is also active in installation and maintenance services and supply of energy efficiency solutions. It supplies natural gas and electricity to BtoB customers. In 2018, the BU achieved a major development in renewables with a 300 MW wind project under a 12-year power purchase agreement (PPA).
- In **Portugal**, the BU is mainly involved in renewable energy power generation, via TrustWind (a 50-50 joint venture with Marubeni), operating notably 489 MW of wind power. It also distributes heating and cooling to the city of Lisbon through its Climaespaço subsidiary, and provides O&M services and energy efficiency solutions.
- In **Poland**, the BU is active in installation and integrated services and has a BtoB customer portfolio in electricity. It is also active in wind power generation, with an installed capacity of 138 MW, as well as in heating networks.
- In **Norway**, the BU partnered in 2018 with Susi Partners to develop a 208 MW wind farm in Tonstad where the power is sold under a 25-year offtake agreement with aluminum producer Hydro.
- In **Austria** and Switzerland, the BU is mainly active in energy efficiency services, installation and maintenance. In 2018, the BU stepped in the airport industry by acquiring Priora FM which handles the management of buildings, infrastructures and performs all facility management tasks for Geneva and Zurich airports.
- In the **Czech Republic** and **Slovakia**, the BU provides installation and O&M solutions. It is an important private heating network operator in Slovakia and owns facilities for manufacturing switchboards in the Czech Republic.
- In **Greece**, ENGIE Hellas subsidiary is active in energy efficiency solutions and technical services for buildings and supplies electricity and gas to retail, industrial and commercial customers.
- In **Hungary**, the Group finalized in January 2018 the sale of 100% of Égáz-Dégáz to NKM, a company owned by the Hungarians state.

1.3.7 Infrastructures Europe

The Infrastructures Europe reportable segment groups together the activities of four BUs: GRTgaz, GRDF, Elengy, and Storengy. These BUs develop, operate and maintain – primarily in France and Germany – natural gas transmission, storage, and distribution networks and facilities, along with LNG terminals. They also sell access rights to these infrastructures to third parties.

The GRTgaz, GRDF, Elengy and Storengy operating segments, which comprise the gas infrastructure businesses in Europe (distribution, transport, storage, and LNG terminals), have been grouped together within the Infrastructures Europe reportable segment as they are all regulated businesses (or businesses likely to be regulated) with similar risk profiles and margins.

KEY FIGURES

In millions of euros	Dec. 31, 2018	Dec. 31, 2017	Total change *(in %)*
Revenues	5,694	5,446	+4.6
EBITDA	3,499	3,386	+3.3

1.3.7.1 GRTgaz

1.3.7.1.1 Role & Strategy

GRTgaz is an independent subsidiary of ENGIE. In addition to GRTgaz employees who own 0.35% of the capital of their company, GRTgaz shareholders are ENGIE and Société d'Infrastructures Gazières (SIG), a consortium composed of CNP Assurances, CDC Infrastructures and Caisse des Dépôts. ENGIE and the SIG respectively own 75% and 25% of the remaining share of the capital.

GRTgaz develops, operates and maintains the main gas transmission network in France, manages the natural gas flows that flow through it, and markets network access services to gas suppliers. It manages gas transmission operations in Germany through its GRTgaz Deutschland subsidiary. In 2017, GRTgaz acquired ENGIE subsidiary Elengy, which operates LNG terminals in France.

GRTgaz's strategy is to ensure the company's development in the long term both in France and internationally. GRTgaz is intent on:

- being a leader in gas infrastructure in Europe, in particular by contributing to better integration of the European markets;
- being a driving force in the energy transition, particularly by promoting new uses of natural gas (industry/mobility), developing renewable natural gas by injecting biomethane into the transmission network, and conducting research on monetizing surplus renewable energy (power-to-gas);
- continuing to expand internationally in countries where natural gas consumption is growing fast, in close collaboration with other Group entities.

1.3.7.1.2 Description of activities

In France, it owns and operates more than 32,000 km of buried pipeline and 26 compression stations to take gas from suppliers to consumers (distributors or manufacturers directly connected to the transmission network). GRTgaz has a public service mandate to guarantee the continuous supply of gas to consumers. It also sells transmission services to network users. GRTgaz plays an active role in the energy transition, investing in innovative solutions to adapt its network accordingly and combine competitiveness and security of supply with environmental protection.

GRTgaz's business is conducted within a general framework designed to guarantee the independence of the grid manager.

France's Energy Code stipulates that the construction and operation of natural gas transmission pipelines are subject to a specific and non-transferable authorization issued by the competent administrative body. Pursuant to its ruling of December 15, 2016, the French Energy Regulation Commission (CRE) defined the methodology and set the tariffs for the use of transmission networks in France known as "ATRT 6," which entered into force in April 2017 for a period of around four years. A revision clause at the end of two years allows an adjustment of the blueprint for net operating expenses under certain conditions.

The new tariff set by the CRE provides GRTgaz with all the resources needed to respond to the challenges of energy transition and takes account of the changes in the gas market. The CRE is also strengthening the GRTgaz performance incentives and the incentive scheme for the creation of more selective interconnection capacity.

This new framework was supposed to result in a 0.4% reduction in the average unit tariff over the ATRT6 period, as a result of various factors:

- first, the erosion of the subscriptions anticipated over the period and the commissioning of significant investment projects;
- and second, a drop in energy prices, a decrease in the weighted average cost of capital from 6.5% to 5.25% (real before taxes), and efficiency targets set for GRTgaz.

Within this framework, and in application of the methodology, the tariff update led to an increase of 3.0% in the average tariff on April 1, 2018 (CRE ruling of February 7, 2018) related primarily to the creation of the single market place in France.

1.3.7.2 GRDF

1.3.7.2.1 Role & Strategy

In France, GRDF, independent subsidiary of ENGIE, develops, operates and maintains the distribution networks, delivers gas for suppliers and consumers, and connects biomethane producers to the network. GRDF is tasked with giving all natural gas suppliers equal access to its network.

Its strategy is revised every four years. In 2018, GRDF developed its activities according to the three objectives stated in its enterprise project, covering the period from 2015 to 2018:

- strive for operational excellence in the performance of its business lines to be recognized as a committed professional;

- make natural gas an energy of the future by demonstrating its relevance in the energy mix;
- build a responsible, more open and collaborative business model with all the business lines.

1.3.7.2.2 Description of activities

The distribution activity has specific features related to its classification as a local utility. Each municipality where natural gas supply is available grants a concession to an authorized distributor to operate the natural gas utility in its territory. Concessions are entered into or renewed based on standard specifications established jointly by the French national federation of concession-granting and state-controlled municipalities (FNCCR) and GRDF. Concession-granting bodies exercise control to ensure the proper execution of the obligations resulting from these specifications.

Distribution structures belong to the municipalities even when they are built and financed by the concession operator, who has an exclusive right to use them. The Energy Code recognizes the entitlement of exclusive concession rights to historical concession operators, i.e., GRDF and 22 local distribution companies (ELD), to exclusive service areas. As holders of a "distribution monopoly," they are the sole operators with whom municipalities may renew the concession. The grounds for terminating a concession contract early are strictly controlled (listed exhaustively) as is the date the concession can be terminated (cannot be in the first half of the contracted term). Termination also requires two years' notice and the concession-granting authority must pay compensation to the concession operator for early termination.

Apart from the exclusive service areas of GRDF and the local distribution companies, the Energy Code allows all municipalities not supplied with natural gas to entrust their public gas distribution to the authorized operator of their choice.

In addition to the special case of public service delegations recently acquired after a competitive bidding process, GRDF's activity is remunerated by a tariff set by the CRE. Following the CRE's decision of March 10, 2016, the new GRDF natural gas distribution tariff, "ATRD5," entered into force on July 1, 2016 for a period of four years. It applies to the GRDF exclusive service area. The structure of this tariff is consistent with the previous tariff. The CRE took into account all major projects that GRDF will take on during the period, allowing the company to continue its industrial safety and development initiatives while at the same time requiring it to increase its productivity.

This new tariff framework led to an increase of 2.76% effective July 1, 2016. The transmission rate remains stable, as the decrease in the rate by -2.05% on July 1, 2017 was followed by an increase of 2.01% on July 1, 2018. The rate hike on July 1, 2018 primarily covers the increase in unpaid charges repaid to the gas suppliers and the expenses related to the pilot phase of the gas changeover project (conversion from B gas to H gas for the customers in northern France).

The year 2018 was also the year of the implementation of the CRE's decisions on the remuneration of natural gas suppliers for the customer management services they perform on behalf of the distributor.

The Energy Code assigns a joint service, primarily responsible for construction, worksite project management, network operations and maintenance, and metering operations. GRDF and Enedis (formerly ERDF) are linked by an agreement defining their relationship within the Joint Department, the services it provides, and the distribution of the resulting costs. This agreement, signed for an indefinite period, may be terminated at any time, subject to 18 months' notice, during which period the parties undertake to renegotiate this agreement.

1.3.7.3 Elengy

1.3.7.3.1 Role & Strategy

LNG terminals are port facilities that allow liquefied natural gas (LNG) to be received and regasified. New services have been developed since 2012, such the reloading of LNG tankers, transshipment between vessels, and LNG tank truck loading.

Elengy is the second-largest European LNG terminal operator (source: GIIGNL), with three LNG terminals in France. The facilities operated by Elengy had a total regasification capacity of 21.25 billion m^3 (Gm^3) of gas per annum as of December 31, 2018.

Elengy's strategy is defined around on the following key points:

- optimize operation methods for each of the three sites in order to get best value from them regardless of their utilization rate;
- imagine and offer, in its terminals or other infrastructures, new storage and transfer services for imported or renewable LNG, particularly with a view to its use as an onshore or maritime fuel;
- find growth opportunities internationally by highlighting the asset management and operations expertise developed over the past 50 years.

In 2017, GRTgaz, ENGIE's independent subsidiary, acquired Elengy.

1.3.7.3.2 Description of activities

- Fos Tonkin Terminal: Brought into service in 1972, Fos Tonkin is located on the Mediterranean coast and receives LNG primarily from Algeria. Its regasification capacity stands at 3 billion Gm^3 of gas per year. Its jetty can accommodate vessels carrying up to 75,000 m^3 of LNG and its tank has a total capacity of 80,000 m^3.
- Montoir-de-Bretagne Terminal: Montoir-de-Bretagne, which was brought into service in 1980, is located on the Atlantic coast and receives LNG from various sources. It has a regasification capacity of 10 Gm^3 of gas per year, two docks that can accept tankers transporting up to 260,000 m^3 of LNG (Qmax) and three storage tanks with a total capacity of 360,000 m^3 of LNG. The work completed in 2017 allowed the start-up of a new, sustainable transshipment activity.
- Fos Cavaou Terminal: the Fos Cavaou terminal was brought into commercial service in 2010. It has a regasification capacity of 8.25 billion Gm^3 of gas per year, a jetty that can accommodate Qmax-size tankers, and three tanks with a total capacity of 330,000 m^3 of LNG. The terminal is owned by a dedicated subsidiary, Fosmax LNG, in which Elengy has a 72.5% stake and Total Gaz Electricité Holding France SAS has a 27.5% stake. It is operated by Elengy.
- Access to LNG terminals (principles and tariffs): the LNG terminals are accessible to all LNG suppliers. The tariffs for access to regasification are regulated. The current tariffs were set by the CRE ruling of January 18, 2017 and have been in force since April 1, 2017.

They are significantly lower than the previous tariffs: 6.5% for Montoir, 18.2% for Fos Tonkin, and 18.6% for Fos Cavaou. These decreases are mainly due to the lower return on assets, reduced operating expenses, and higher productivity, all of which benefit the LNG terminal users.

The current tariffs apply to a basic service, i.e., the main offer of the LNG terminal operators, which can be supplemented by subscription to an option that guarantees uniform supply for 20 to 40 days.

The LNG tanker transshipment and loading services are not regulated.

1.3.7.4 Storengy

1.3.7.4.1 Role & Strategy

With Storengy and its subsidiaries, the Group is the leader in underground gas storage in Europe, with net storage capacity of 12.2 billion m^3. Against a backdrop of long-term adverse market conditions and major shakeups in the energy sector, Storengy adapts to handle the risks weighing on its core business and develop new ambitions made possible by the energy transition.

Its strategy is to:

- provide high-performance, innovative solutions to its customers by optimizing its operations in its traditional markets and by promoting regulatory frameworks adapted to the business of storage infrastructure manager;
- be a driving force in the energy transition, leveraging its sites to best serve its territories;
- develop business in growth markets: production and storage of renewable gas, solutions designed to compensate for the intermittent nature of the production of electrical renewables and geothermal power, and by creating value for its core expertise (drilling, geosciences, surface processes, risk management, etc.).

1.3.7.4.2 Description of activities

In France, as of December 31, 2018, the subsidiary Storengy SA was operating in France:

- 14 underground storage facilities (13 of them wholly owned). Nine of these storage facilities are in aquifers (total useful storage volume of 9 billion m^3), four are in salt caverns (total useful storage volume of 1 billion m^3), and one is in a depleted field (useful storage volume of 80 million m^3); three of these sites are in reduced operation according to precise regulatory procedures (corresponding to a total useful volume of 880 million m^3);
- 36 compressors with a total power of 186 MW, to withdraw and inject natural gas;
- surface facilities to process the gas withdrawn, before injection into the transmission network.

Underground storage facilities fall under the Mining Code and are operated pursuant to a concession granted by the French government following a public inquiry and competitive tenders. In light of the 2018 campaign, the French regulatory system governing the storage business was completely reformed. The system lays out the following major principles:

- the Multi-Year Energy Schedule defines the scope of the infrastructures that are essential to the safety of supply in the region. This scope is the regulated infrastructures;
- every year, a decree establishes the minimum subscription and fill level for storage facilities;
- the French Energy Regulation Commission (CRE) defines the authorized revenue of the storage operators;
- storage capacity are marketed via public auctions combined with a compensation system to allow reaching the authorized revenue defined by the CRE.

Following consultations initiated by the public authorities with the various actors (storage operators, natural gas suppliers in France) the CRE, in its resolution of February 22, 2018, set the parameters of the regulation. These parameters have been applied since January 1, 2018.

In Germany, Storengy Deutschland GmbH, a wholly owned subsidiary of Storengy, holds and operates six storage sites for a working capacity of nearly 1.7 billion m^3 (three salt sites and three depleted sites).

In the United Kingdom, Storengy UK Ltd, a wholly owned subsidiary of Storengy, is dedicated to the construction and marketing of storage capacity in saline cavities at Stublach, in Cheshire. The planned storage capacity at the site is 400 million m^3 of useful volume, divided into 20 cavities. Half of the capacity (10 cavities) was in operation and being sold in 2017. In 2018, Storengy UK placed five new cavities under gas.

1.3.8 Global Energy Management

The GLobal Energy Management (GEM B manages and optimizes the Group's portfolios of physical and contractual assets (excluding gas transmission, distribution and storage infrastructures), particularly in the European market, on behalf of the BUs that hold power generation assets and of customer portfolios. It is also responsible for selling energy to national and pan-European key industrial accounts and for supplying energy to the BUs which sell it on to their customers. Lastly, it leverages its expertise in the energy-related financial markets to provide solutions to third parties.

The Global Energy Management reportable segment includes the activities the GEM BU and the Entreprises et Collectivités (E&C) entity attached to it. The partnership between the operations of "Entreprises & Collectivités" and the GEM BU is reflected in the integration of the energy management teams for BtoB customers in France. As the partnership is operational, the financial results of the "Entreprises et Collectivités" activities are reported separately from those of GEM under the "Other" segment.

KEY FIGURES

In millions of euros	Dec. 31, 2018	Dec. 31, 2017	Total change *(in %)*
Revenues	6,968	7,638	-8.8
EBITDA	240	(188)	N/A

1.3.8.1 Role & Strategy

Operating in the Group's major businesses - the decarbonization of customer offers and the digitization and decentralization of energy production - the Global Energy Management (GEM) BU is at the core of the energy value chain and manages the Group's portfolio of assets in electricity, natural gas, environmental products and other raw materials such as biomass. It is also developing a portfolio of international external customers. Finally, GEM provides the Group and third parties with various services in energy supply and logistical operations, optimization of assets in the markets, direct access to those markets, and also contributes to the understanding and organization of the markets worldwide.

1.3.8.2 Description of activities

The GEM BU's activities are as follows:

- supply and management of gas assets: management and structuring of gas supplies and related logistical support, optimization and enhancement of asset flexibilities in the market, management of capacity contracts (transmission and storage) and gas regulation;
- management and development of electricity assets: optimization and balancing of positions, enhancement of ancillary products, access to markets and proactive monitoring of regulations, management of electricity assets and development of asset management activities for third parties;
- energy supply and risk management: marketing of gas, electricity and energy services to major pan-European or national industrial accounts, internal sourcing for sales entities within the Group in the northwest Europe region;
- market access services: marketing of standard products organized around risk management and access to the energy markets in Europe, Asia Pacific and America;
- services to manage and create value for renewable assets: development of market solutions to accelerate the energy transition, decentralized production aggregator (wind/solar) and flexibility services (DSM).

The entry into force of the Vigilance Act 2018 led the GEM BU to analyze all its different supply chains and suppliers.

Since May 2018, the GEM BU has also fully adopted the new General Data Protection Regulation (GDPR), the new European Union legal framework that governs the collection and processing of data.

1.3.9 Other

The "Other" reportable segment includes the activities of the Europe Generation BU, which includes the Group's thermal power generation activities in Europe, the Tractebel BU (engineering companies specializing in the energy, hydropower, and infrastructure sectors), the GTT BU (specializing in the design of cryogenic membrane confinement systems for maritime transport and onshore and offshore storage of LNG), the contribution of the Hydrogen BU, the "Entreprises et Collectivités" activities of ENGIE SA, and the Group's holding and corporate activities, which include the entities that centralize the Group's financing requirements, and the contribution of the equity associate SUEZ.

On January 1, 2018, the French government introduced a new mode of access to storage capacities via an auction process. This new mechanism, which was introduced by the Act of December 30, 2017 ending hydrocarbon exploration and production, led to the regulation of the natural gas storage activity in France, replacing the negotiated access that prevailed until that date, and now allows all market players to subscribe to storage capacity at market value.

On May 18, 2018, the Council of State (*Conseil d'État*) ruled that the regulated natural gas sale tariffs are incompatible with EU law, which means the French government will have to progressively eliminate the regulated natural gas tariffs and the regulated electricity tariffs for the sites of large companies in order to make them compatible with the law of the European Union.

On November 1, 2018, the merger of France's two balancing areas, PEG Nord (northern Gas Exchange Point) and TRS (Trading Region South), resulted in a single balancing region (Trading Region France) for the French natural gas market, like the electricity market. This progress in the implementation of the European electricity network codes is intended to harmonize the operating rules of the forward, day-ahead, intraday and balancing markets.

The European tri-party negotiations on the "Clean Energy Package" ended on November 13, 2018, and will impact the design of the electricity markets: stronger regional coordination, increased availability of the trans-border transport capacity market, and increased demand in the markets.

The entry into force of the Vigilance Act in 2018 led the GEM BU to analyze all its different supply chains and suppliers.

Since May 2018, the GEM BU has also fully adopted the new General Data Protection Regulation (GDPR), the new European Union legal framework that governs the collection and processing of data.

On January 3, 2018, the entry into force of the new European Markets in Financial Instruments Directive (MIFID II) helped to increase transparency and the protection of customers in terms of the financial products from which they benefit.

KEY FIGURES

In millions of euros	Dec. 31, 2018	Dec. 31, 2017	Total change (in %)
Revenues	4,498	5,445	-17.4
EBITDA	213	136	+56.6

1.3.9.1 Generation Europe

1.3.9.1.1 Role & Strategy

The market environment of BU Generation Europe is impacted by a transition towards a less carbon intensive economy. This is characterized by an ever-increasing share of renewable energy sources (RES) combined with a stable or even decreasing demand for power, which has led to over-capacity and an intensified competition on its mature markets.

However, the rise of intermittent RES triggers more generation volatility and thus both issues of security of supply for the industry and grid stability for the Transmission System Operators (TSO). For that, natural gas power plants play a key role in today's energy markets, by offering the needed flexibility. To allow the power plants to remain operational and, produce power at times of low power generation from renewable energy sources, governments are also gradually adopting various mechanisms which remunerate power generators to ensure back-up capacity (Capacity Reserve Mechanism, strategic reserve...).

In this context, BU Generation Europe wants to play that role of perfect complement to renewables and to help large industrial customers to face the challenges of the energy transition. BU Generation Europe offer power energy competitively on mature European commodity markets by bringing to market the most economically priced energy, by :

- operating and developing selectively low CO_2 emitting gas generation activities;
- developing battery storage, especially in combination with CCGTs, and where possible extend pump-storage;
- offering solutions for large industrials, for the (new) challenges they face in the energy transition;
- supporting the development of a sustainable value chain around green hydrogen.

The BU has also continued to remodel its portfolio of activities, this contributing to the ENGIE transformation plan.

1.3.9.1.2 Description of activities

BU Generation Europe is managing a portfolio of thermal generation assets with an installed capacity of 20.3 GW in 8 European countries (Belgium, The Netherlands, Germany, France, Italy, Portugal, Spain, and Greece). The installed capacity split by technology is the following: gas (15.6 GW), coal (2.9 GW), hydropower and pump storage (1.3 GW), biomass & others (0.5 GW).

Next to its power generation business, BU Generation Europe offers services to large industrial customers around energy and O&M solutions, to help them face the challenges in the energy transition, based on our strengths, proximity and our strong references.

1.3.9.2 Tractebel

1.3.9.2.1 Role & Strategy

As many other fields, the engineering business is evolving worldwide as customer needs are changing. In a very competitive environment where megafirms offer a wide range of services in more countries than before, Tractebel wants to strengthen its global consulting and engineering capabilities. Tractebel will focus on an urban future, engineering tools and integrated solutions by combining its expertise in energy, water and urban infrastructure.

1.3.9.2.2 Description of activities

Tractebel provides a full range of services throughout the life cycle of its clients' projects. Its broad range of expertise extends across Europe, Africa, Asia and Latin America, allowing it to rise to its clients' most demanding challenges with high-quality engineering and consulting services, no matter where their projects are. In 2018, Tractebel acquired Overdick and Deutsche Offshore Consulting to become a leading offshore wind player. Furthermore, it signed an agreement with Tata Consulting Services to develop new products and services protecting utilities against emerging cyber security threats. Tractebel's participation in the design of Armonia, a 100 MW microgrid in Palau, the engineering of the Mirzapur Solar Power Plant in India or its consulting services for Greater Springfield in Australia through its 360° City Scan, are some of the emblematic projects which underline the company's mission to shape the world of tomorrow.

1.3.9.3 Gaztransport & Technigaz (GTT)

1.3.9.3.1 Role & Strategy

The company specializes in systems of cryogenic, or very low temperature, membrane containment used for sea transport and onshore and offshore storage of LNG and other liquefied gases. It was formed in 1994 by the merger of Gaztransport and Technigaz.

GTT aims to:

- provide the various stakeholders in the LNG chain (shipyards, ship owners, gas companies) with containment systems designed by the company for safe and reliable bulk transportation and storage of liquefied gas;
- provide engineering, consultancy, training, maintenance assistance and execution of technical studies at every stage of the liquefied gas chain;
- and promote new outlets for LNG, contributing to the development of LNG as a shipping fuel and encouraging the transport of LNG by sea or river in small or mid-sized vessels.

1.3.9.3.2 Description of activities

Over the past 50 years, GTT has developed tried and tested technologies for sea transportation and onshore and offshore storage of LNG and other liquefied gases.

The confinement systems designed by GTT are based on its Mark and NO membrane technologies for LNG tankers and other floating units; GST for LNG onshore storage tanks. These systems make it possible to transport and store liquefied gas in bulk, safely and reliably.

GTT also provides solutions for the use of LNG as a fuel for shipping as well as a broad range of services in engineering, assistance in emergency situations, consulting, training, maintenance assistance and the performance of technical studies. In 2018, GTT won a record number of orders for LNG tankers and confirmed its entrance into the high-potential LNG fuel market.

Traded in Compartment A of the Euronext Paris market, GTT is 40.41% held by ENGIE.

1.3.9.4 ENGIE SA "Entreprises & Collectivités" activities

1.3.9.4.1 Role & Strategy

Entreprises & Collectivités (E&C) aims to be the preferred energy supplier for businesses, local authorities and condominiums (BtoB segment) in France, except for the so-called "Giants" customers, that are in the scope of the Global Energy Management BU, and for customers at the low end of the small business customer portfolio, that are in the scope of the France BtoC BU.

1.3.9.4.2 Description of activities

In 2017, E&C conducted a transformation plan organized around three key projects: an ambitious performance plan, a strong refocus on the core business of energy supply, and closer ties with the Global Energy Management BU teams responsible for wholesale supply on the markets. E&C also moved under the management scope of the BU's Chief Executive Officer while remaining independent. In 2018, E&C continued its correction by prioritizing the development of new customers, the customer experience and operational excellence.

E&C is structured into two major commercial segments (Key Accounts, covering the top end of the public and private portfolios, and Enterprises, covering diffuse and single-site customers such as condominiums and small- and medium-sized industries) and has three key differentiators: expertise (to guide its customers in a complex energy world), green energies (to help its customers move toward a low-carbon world) and customer satisfaction (to facilitate the management of its customers' energy needs on a daily basis).

1.3.9.5 BU Hydrogen

1.3.9.5.1 Role & Strategy

ENGIE's Hydrogen Business Unit (H2 BU) was launched in 2018 to reach a priority goal: devise carbon-free energy solutions based on renewable hydrogen, produced from the electrolysis of renewable electricity, to make a 100% renewable world a reality for territories.

ENGIE's strategy is to develop large scale integrated solutions to lower hydrogen production costs.

To achieve this goal, ENGIE will adopt a comprehensive and phased approach :

- develop large scale projects in the most favourable geographies with industrial clients, designing replicable offers for targeted segments such as ammonia, refineries or mines ;
- expand to a wider range and scalable uses, such as mobility, heating, power grid services or energy storage to develop multi usage H2 platforms .

1.3.9.5.2 Description of activities

Progressing Large Scale Projects

The BU develops, in a stepwise approach, large hydrogen Hubs, starting with local consumption anchored on large industrials.

A number of concrete commercial leads for large scale developments are under discussion with key players, with 3 of them that could eventually reach projects after a first phase currently reaching pre-feasibility stages.

At the same time, prospection is progressing in areas most favorable to the development of projects, in the MESCAT area, in Morocco, South of France, USA, etc.

1.3.10 Description of the Métiers

The Métiers work with the Group Strategy Department, ENGIE Research, and ENGIE Lab to develop the medium-term strategy of their various business segments and the roadmaps of their support actions in order to accelerate the growth of the BUs in their fields.

1.3.10.1 Métier Gas Chain

The Métier Gas Chain covers all activities in the gas value chain up to its supply to the Group's customers. The Métier's ambition is to promote natural gas as a driver of the energy transition worldwide, to introduce innovative solutions, and to develop new uses for natural gas.

The Métier's main activities are:

- "traditional" gas chain activity (over the different links in the value chain) in a variety of contexts in which they may or may not separate marketing activities from infrastructure activities;
- new gas activities (new products and solutions such as biogas, small-scale LNG, transported LNG, hydrogen, etc.).

1.3.10.2 Métier Centralized Production of Electricity

The Métier Centralized Production of Electricity is active in renewable and thermal power projects and in power distribution projects.

The Métier's objectives are to:

- support the development and acquisition of centralized thermal power units;
- accelerate the increase in production from renewable resources;
- develop the most innovative and competitive solutions.

1.3.10.3 Métier Decentralized Solutions for Cities and Territories

The Métier Decentralized Solutions for Cities and Territories aims to guide the Group's approach to the long-term challenges of massive urbanization and the digital revolution by:

- helping to transform new ideas into new products and services within each BU;
- promoting the sharing of best practices and knowledge management within the BUs;
- creating the Group's strategy for each activity within its particular scope.

1.3.10.4 Métier Solutions for Businesses

The Métier Solutions for Businesses comprises energy sales and services, two activities characterized by highly competitive markets that require Group entities to adapt to customers' changing needs and expectations.

The Métier promotes the creation of more local, flexible, and innovative offerings, its main role being to:

- provide the BtoB entities with a strategic approach to the market through strategic analyses, and maintain competitive and technological intelligence to monitor changes in their environments;
- guide investments and disinvestments;
- support the business activities of current Group customers and prospects by promoting existing offerings or developing new ones, forming partnerships, and so on.

1.3.10.5 Métier Solutions for Residentials and Professionals

The goal of the Métier Solutions for Residentials and Professionals is to speed up and facilitate the energy transition in the residential and small business market by offering cutting-edge solutions.

To achieve this ambition and handle the unprecedented changes that are shaking up the energy world, the Métier is building on the following three components:

- increasing ENGIE's presence by developing the customer portfolio and providing access to energy in emerging countries;
- opening up new opportunities and supporting operational excellence by increasing customer satisfaction and improving commercial performance;
- aligning skills with accountability and customer focus by facilitating the ability to develop new ideas.

1.4 Real estate, plant and equipment

The Group owns or leases a significant amount of industrial real estate around the world. Many Group activities involve operating very large plants that the Group only partially owns.

As of December 31, 2018, the Group operated electricity power plants, natural gas terminals and storage facilities in over 40 countries.

The tables below show the main facilities currently in operation, either wholly or partially owned by the Group. Leased properties are discussed in Notes 22 and 23 of Section 6.2.2 "Consolidated Financial Statements".

POWER PLANTS (CAPACITY > 400 MW EXCLUDING UNITS UNDER CONSTRUCTION)

Country	Site/plant	Total capacity [1] *(in MW)*	Type of plant
South Africa	Avon	670	Fuel-oil fired
Germany	Wilhelmshaven	726	Coal
	Zolling	538	Coal-, biomass-, fuel oil-fired
Saudi Arabia	Marafiq	2,744	Natural gas
	Ju'aymah	484	Natural gas
	Shedgum	484	Natural gas
	Uthmaniyah	484	Natural gas
	Riyadh PP11	1,729	Natural gas
Australia	Pelican Point	478	Natural gas
Bahrain	Al Dur	1,234	Natural gas
	Al Ezzel	954	Natural gas
	Al Hidd	929	Natural gas
Belgium	Amercœur	451	Natural gas
	Coo	1,164	Hydraulic pumping
	Doel	2,910	Nuclear
	Drogenbos	460	Natural gas
	Herdersbrug	480	Natural gas
	Tihange	3,008	Nuclear
Brazil	Cana Brava	450	Hydroelectric
	Estreito	1,087	Hydroelectric
	Jaguara	424	Hydroelectric
	Jirau	3,750	Hydroelectric
	Miranda	408	Hydroelectric
	Ita	1,450	Hydroelectric
	Jorge Lacerda	773	Coal
	Machadinho	1,140	Hydroelectric
	Salto Osòrio	1,078	Hydroelectric
	Salto Santiago	1,420	Hydroelectric
Chile	Mejillones	884	Coal-fired and natural gas
	Tocopilla	891	Natural gas, coal- and fuel oil-fired
United Arab Emirates	Fujairah F2	2,000	Natural gas
	Mirfa	1,599	Natural gas
	Shuweihat 1	1,500	Natural gas
	Shuweihat 2	1,510	Natural gas
	Taweelah	1,592	Natural gas
	Umm Al Nar	1,532	Natural gas
Spain	Cartagena	1,199	Natural gas
	Castelnou	791	Natural gas
USA	Astoria 1	575	Natural gas
	Astoria 2	575	Natural gas
France	CombiGolfe	435	Natural gas
	CyCoFos	490	Natural gas and steelworks gas-fired plant
	DK6 (Dunkirk)	788	Natural gas and steelworks gas-fired plant
	Génissiat	423	Hydroelectric
	Montoir-de-Bretagne	435	Natural gas

Country	Site/plant	Total capacity [1] *(in MW)*	Type of plant
Greece	Viotia	570	Natural gas
Italy	Torre Valdaliga	1,134	Natural gas
	Vado Ligure	782	Natural gas
Kuwait	Az Zour North	1,539	Natural gas
Morocco	Safi	1,250	Coal
Oman	Al-Rusail	665	Natural gas
	Barka 2	678	Natural gas
	Barka 3	744	Natural gas
	Sohar	585	Natural gas
	Sohar 2	744	Natural gas
Pakistan	Uch 1	551	Natural gas
Netherlands	Eems	1,929	Natural gas
	Flevo	841	Natural gas
	Rotterdam	731	Coal
Peru	Chilca	917	Natural gas
	ILO Nodo	600	Fuel-oil fired
	ILO 31	564	Fuel-oil fired
Puerto Rico	Ecoelectrica	507	Natural gas
Portugal	Elecgas	840	Natural gas
	Pego	576	Coal
	Turbogas	990	Natural gas
Qatar	Ras Laffan B	1,025	Natural gas
	Ras Laffan C	2,730	Natural gas
United Kingdom	First Hydro	2,088	Hydraulic pumping
Singapore	Senoko	3,201	Natural gas and fuel oil-fired
Thailand	Gheco One[2]	660	Coal
	Glow IPP[2]	713	Natural gas
Turkey	Ankara Boo	763	Natural gas
	Marmara	480	Natural gas

(1) Capacity of assets held by ENGIE, all of which are taken into account irrespective of the real ownership percentage.
(2) Finalization of the disposal in March 2019

UNDERGROUND NATURAL GAS STORAGE (> 550 MM³ OF TOTAL USEFUL STORAGE VOLUME [1])

Country	Location	Gross useful volume *(Mm^3)* [1]
France	Gournay-sur-Aronde (Oise)	1,310
France	Germigny-sous-Coulombs (Seine-et-Marne)	820
France	Saint-Illiers-la-Ville (Yvelines)	680
France	Chémery (Loir-et-Cher)	3,600
France	Céré-la-Ronde (Indre-et-Loire)	570
France	Étrez (Ain)	690
France	Cerville (Meurthe-et-Moselle)	650
Germany	Uelsen	840

(1) Useful storage volume held by ENGIE, all of which is taken into account irrespective of the real ownership percentage.

LNG TERMINALS

Country	Location	Total regasification capacity *($Gm^3(n)$ per annum)* [1]
France	Montoir-de-Bretagne	10
France	Tonkin (Fos-sur-Mer)	3
France	Cavaou (Fos-sur-Mer)	8.25
Chile	Mejillones	2.0
Puerto Rico	Penuelas	0.8

(1) Capacity of assets held by ENGIE, all of which are taken into account irrespective of the real ownership percentage.

1.5 Innovation, research and technologies policy

1.5.1 Innovation

In order to be a leader of the energy transition in Europe, the Group relies on innovation to meet its customers' new requirements.

ENGIE Fab is the starting point for innovation, nurturing new business from idea to implementation. ENGIE Fab is organized around three segments: Innovation & Sourcing, ENGIE New Ventures, and ENGIE New Business Factory.

The Innovation and Sourcing segment aims to position the Group at the cutting edge of developments in mature energy markets and to stimulate the convergence of energy services and information technology. It fosters the development of new models for growth and the exercise of the Group's business lines. A number of tools and processes have been deployed to foster entrepreneurial creativity and ensure that innovation promotes the Group's long-term commercial development. The innov@ENGIE collaborative platform, designed for ENGIE employees, aims to foster innovation within the Group and promote collaborative innovation among employees. On December 31, 2018, innov@ENGIE had over 22,500 members and nearly 800 innovation ideas had been proposed.

The platform builds on existing approaches, particularly the Innovation Awards, an annual in-house competition that recognizes innovative projects put forward by the Group's employees. The 2018 edition of the Innovation Awards received 530 submissions from 36 countries.

To strengthen its links with the innovation ecosystem of its host regions, the Group partners with major innovation-themed events. In 2018, ENGIE participated in the Consumer Electronics Show (CES) in Las Vegas and in the Viva Technology trade show in Paris. In May 2018, ENGIE's "Innovation Week" saw the organization of around 130 events, bringing together thousands of participants, including Group employees, customers, startups and entrepreneurs from 25 countries.

Since 2014, ENGIE has launched more than 90 calls for projects aimed at startups. More than 2,650 proposals were received in response to the technological or commercial needs of the Group's operating entities.

The investment fund ENGIE New Ventures has been helping innovative startups since 2014, in order to create opportunities for ENGIE. With €166 million in funds, it aims to acquire (minority) stakes in startups under development that have a connection to the Group's activities, offering them both financial and operational assistance. It also invests in other funds (e.g. in the Paris Fonds Vert fund in 2018).

At December 31, 2018, the ENGIE New Ventures portfolio had 18 direct investments. The most recent of these include investments in Unabiz (Singapore – IoT applications and objects), HomeBiogas (Israel – biogas production from organic household waste), and Redaptive (USA – energy efficiency).

ENGIE New Business Factory was created in mid-2018 with the aim of incubating and accelerating new businesses every year, in order to produce solutions with the potential to become major new income streams for ENGIE ("scalutions", or scalable solutions). Three initial ideas have been identified and are under development: DERMS (energy management systems), TEO (blockchain solution for the authentication of renewable energy), and A2E (renewable cooking gas).

1.5.2 Research & Technologies

In a time of energy transition, research and technological development activities lay the groundwork for the Group's future by strengthening its ability to identify, evaluate and test new technologies and business models to validate safe and efficient solutions that will be integrated into the offerings of tomorrow. R&D also helps the continuous improvement of operational performance.

These activities, which rely on partnerships with globally recognized organizations (e.g., laboratories, universities, manufacturers and startups), help to integrate the Group within a powerful R&D and innovation ecosystem. This raises its profile in the industry and boosts its growth in the markets.

In 2018, Group expenditures on research and technological development amounted to €182 million.

The Research & Technologies network, which is led and managed *ENGIE Research* comprises 900 employees. It includes all Group entities conducting research specific to their fields of activity:

- research centers:
  - the ENGIE CRIGEN Lab (specializing in research and innovation in natural gas and new energies),
  - the ENGIE Laborelec Lab (center of excellence specializing in electric power technology research),
  - the ENGIE Cylergie Lab (energy efficiency services and smart energy management).

  These Labs are supplemented by international satellites connecting the Group to highly active local research ecosystems. In 2018, ENGIE Research expanded its global footprint. In addition to the Labs in Singapore (APAC), Abu Dhabi (Middle East) and Santiago (LATAM), two new Labs were created: the China Lab in Shanghai and the Brazil Lab in Florianópolis;
- centers of expertise and engineering: the Center of Expertise in Economic Modeling and Studies (CEEME), the Nuclear Development Department, the ENGIE EPS R&D Center (a recent acquisition that expands the Group's R&D capacities), and ENGIE Tractebel;
- BUs and subsidiaries that conduct additional research to support their activities, such as the France BtoB business unit, GRTgaz, GRDF, Storengy (GeoEnergyl Lab), Compagnie Nationale du Rhône (CNR), and Gaz Transport & Technigaz (GTT).

Cross-disciplinary expertise spread across various research and technological development entities around the world is grouped into 22 thematic Labs corresponding to the Group's major research areas related to its business challenges: new energy sources, new energy uses, digital and support technologies.

Below is a list of some of the most notable research work carried out in 2018 by these Labs:

- new energy sources:
  - new biogas production technologies: continued R&D work on all sectors working on green gases that can be injected into the networks, with research clearly differentiated according to the maturity of the various sectors, including incremental innovations (e.g., new biogas purification technologies), performance optimization through the implementation of digital technologies, and industrialization of new sectors by dramatically reducing production costs. ENGIE is also coordinating a European project on behalf of the European Gas Research Group (GERG) to assess the impact of biomethane trace compounds on gas infrastructure and end uses,
  - hydrogen energy sector: continued assessment of high-temperature electrolyzer technologies, primarily with the Atomic Energy Commission, and development of a solar hydrogen production prototype in collaboration with a US startup. The Group also launched the MéthyCentre project in France to produce synthetic methane from CO_2 recovered from anaerobic digestion and electrolysis-produced hydrogen. With regard to hydrogen uses, the first tests have begun of a prototype reversible fuel cell combined with hydrogen and battery storage, designed for use in zero-energy buildings (micro-CHP). Finally, the Group commissioned the GHRYD power-to-gas demonstrator in Dunkirk (France) to test the technical and economic feasibility of injecting renewable hydrogen into natural gas distribution networks,
  - liquefaction: the first successful tests on bio-LNG production technology (LiLiBox solution) which then entered the industrialization phase; the LNG innovation prize awarded to the Optiretail digital solution (which reduces LNG transport and distribution costs) at the 2018 World Gas Conference in Washington DC (USA),
  - solar energy: the launch in June 2018 of a demonstrator that generates power from organic photovoltaic films that were installed on the steel façade and integrated into the glass of an ENGIE Fabricom building in Zwijnaarde (Belgium); further testing of antifouling systems integrated into photovoltaic modules and robots that can clean PV panels,
  - wind and marine energy: set-up of a pilot project (100 kW) in France based on airborne wind technology, which includes the development of a first 30-kW prototype that will then be assessed for potential use in Belgium; analysis of the interaction between radars and wind turbines,
  - geothermal energy: development of an innovative method of detecting geothermal steam for power generation, successfully tested in Muara Laboh (Indonesia); launch of a zero-emission geothermal plant pilot project in Castel Nuovo (Italy) that includes the reinjection of non-condensable gases;
- new energy uses:
  - energy management in the future homes of tomorrow: consolidation of the results produced by a peer-to-peer community energy platform demonstrator involving 70 homes; further assessment of the potential for an energy retrofit of individual homes (in collaboration with the Energyville R&D center in Belgium and KU Leuven),
  - energy efficiency of sustainable buildings and cities: development, in partnership with French startup Boostheat, of an innovative natural gas heat pump technology using CO_2; the implementation of a tool to track renovation work and building management services using a blockchain approach; and the development of a BIM pilot project (testing of eight technologies for scanning existing buildings, testing of different software, and management of dynamic data generated by the pilot project),
  - green mobility: continued development and assessment of smart charging technology; implementation of the smart parking concept; planning for changes in urban mobility with autonomous vehicles. In the field of natural gas mobility, research continued on gas storage technology, and on improving the profitability of natural gas stations and the quality of biomethane for road transport,
  - future industry: completion of the first proofs of concept implementing digital simulations of thermal, mixed-reality and digital twin systems applied to combustion systems for Industry 4.0. The Group also commissioned an industrial-scale system that will use natural biopolymers to treat regasification water (Elengy Terminal, Fos-sur-Mer, France),
  - energy storage: continued assessment and testing of batteries from different suppliers, with a particular focus on safety, assessment of second-life batteries and how they age, and the development of machine learning algorithms to predict capacity loss,
  - microgrids: assessment of the technological building blocks needed to develop microgrids (converters, inverters, generators, etc.) and the development of simulators to identify the best solution for moving forward with the Renewable Energy Integration Demonstration-Singapore (REIDS) project for multi-fluid and multi-energy island microgrids in Singapore,
  - indoor air quality: implementation of a protocol for monitoring air quality and comfort in commercial buildings undergoing renovation; roll-out of an offering that meets indoor air quality standards in schools and nurseries; development of technology that will continuously measure trichloramine in the air of public swimming pool facilities; air quality audits in commercial buildings (or specific-use buildings); testing of new connected air quality sensors,
  - lighting: development of a service to assess public lighting infrastructure including the monitoring of lighting levels; the identification of the number of lighting points; the locating of defective lighting points,
  - CO_2 emissions and use: identification of the most relevant CO_2 capture and recovery technologies for different types of industry (cement works, refineries, etc.) and active involvement in the CO_2 Value Europe association with a particular focus on the conversion of CO_2 into fuel,
  - environmental and societal impacts: continued development of methodologies and services for assessing the environmental and economic performance of industrial ecology projects or various renewable energy sectors; assessment of the environmental consequences of rolling out green gas networks at the regional level;

- digital, cross-functional and disruptive technologies:
  - artificial intelligence (AI): continued development of algorithms and models, for example for BtoT (business to territory) customers (road traffic optimization, etc.), to improve the performance of industrial assets (e.g., detection of defects on wind turbines, etc.) or for facilities management for BtoB customers (recognition of objects in indoor spaces, etc.); development of several blockchain applications in the energy sector; development of platforms for energy communities and microgrids (development of an energy management system for the REIDS pilot in Singapore),
  - cyber security: development of an integrated approach to safeguard energy-community and microgrid systems,
  - communicating sensors and nanotechnologies: continued development of new miniaturized connected sensors such as micro-analyzers for measuring the calorific value of gas; testing in Brazil of an autonomous sensor infrastructure to detect geological sources of natural hydrogen; prototyping of autonomous, blockchain-ready counting sensors for Guarantee of Origin certificates; production launch of connected ATEX sensors to monitor biogas facilities; or the development of a fall-detection service for the elderly that can be integrated into an e-health offering,
  - robots and drones: in 2018, priority was given to developing solutions for site monitoring and anomaly detection in the Group's infrastructures, including the development of autonomous robotic platforms, computer tools to detect, locate and analyze defects (in wind turbines, solar panels, heating networks, engineered structures, etc.), and indoor or subsea inspection offerings; and long-term assignments conducted to monitor gas infrastructures,
  - Energu system modeling: continued work on optimizing multi-fluid energy systems (energy-mobility, multi-fluid energy districts, road map for decarbonization and rural electrification); development of simulation and optimization tools for integrating available flexibility into a building's electrical systems,
  - 3D printing: testing of the fatigue strength of 3D-printed metal parts.

The expertise developed by these thematic Labs in close collaboration with the BUs and leading external partners allows new technologies to be brought to maturity and the integration of the best of them into new high value-added offerings for our customers.

1 Presentation of the Group

2 Risk factors and control

The material risks to which the Group is exposed, based on its own assessment, are described below. Other, less significant risks or risks unknown to date could also affect the Group. If these risks were to materialize, they could have a negative impact on the Group's operations, financial position and earnings, image and outlook, and/or on the ENGIE share price.

2.1 Risk management process

2.1.1 Enterprise risk management policy

The Group has adopted an Enterprise Risk Management (ERM) policy, the principles of which are consistent with professional standards (including ISO 31000 and the Federation of European Risk Management Associations). The policy sets out ENGIE's ambition to "manage its risks in order to ensure its performance".

The Group's Enterprise Risk Management Policy applies to the Group's businesses and controlled entities, while observing the rules of governance that apply to each entity.

This policy promotes risk-taking at a reasonable level from a legal perspective, acceptable to generally held opinion and economically viable. It stipulates that all managers are risk managers. Generally, the Management Committees of the Group's entities are the main bodies that determine the actions to be taken to manage risks, except when a specific risk committee is created, such as for market risk.

To achieve this aim, the Group has appointed the Risk Management Director as Chief Risk Officer. His objective is to ensure the effectiveness of the risk management system. He coordinates the designated Chief Risk Officers of each of the BUs and Corporate Functions. These Chief Risk Officers assess the BU's or Function's overall risk exposure and ensure that risk mitigation plans are implemented.

Risk analysis and coordination of action plans are performed in collaboration with all the Group's functional lines.

Each year, the Group's ERM process begins with a risk review by the Executive Committee. An ERM campaign is then launched across the Group, setting out guidelines for risk management throughout the year. It highlights priority risks, each of which is coordinated by an Executive Committee member and will be monitored specifically by one of the Board's standing committees (see Section 4.1.1.2.3 "Standing committees"). It results in a new Group risk review that is presented to the Executive Committee, then to the Audit Committee. After examining the review, the Audit Committee gives its opinion on the effectiveness of the risk management system to the Board of Directors.

Knowledge of risks resulting from feedback from operating entities and functional departments is supplemented by interviews with directors, an analysis of publications by external analysts and a review of major events.

2.1.2 Crisis management

ENGIE may have to face crisis situations. The Group has defined a crisis management policy, which sets out the general principles and the roles of the various participants, and has set up a dedicated organization.

The Group is thus equipped with a warning, analysis and decision-making system to manage crises at the relevant organizational level.

The effectiveness of the system is regularly assessed by means of internal controls and appropriate exercises.

2.1.3 Risk and insurance coverage

ENGIE's Insurance Department is responsible for preparing, establishing and managing insurance programs in the areas of Group asset protection (against property damage and loss of earnings), personal protection, third-party claims (civil liability) and automobile insurance, and for prevention.

For each of these areas:

the amounts insured depend on the financial risks resulting from potential claim scenarios and coverage conditions offered by the market (available capacities and tariff conditions);

financing is optimized: low or moderate hazard risks are covered by self-insurance plans, through deductibles and retentions or through the use of the Group's reinsurance company whose commitments on a cumulative basis represent a maximum estimated loss of approximately 0.14% of the Group's 2018 revenues.

However, the Group could, in certain cases, be required to pay out sizable compensation not covered by the current insurance program or could incur very high costs that its insurance policies do not reimburse or reimburse inadequately. Although the Group has excellent insurance coverage, specifically with regard to civil liability and environmental risks, it could be liable beyond the maximum insured amount or for events not covered (primarily due to the common insurance exclusions).

2.1.3.1 Civil liability

A civil liability program for corporate officers and managers covers the representatives of ENGIE, its subsidiaries and Group representatives within its equity holdings.

A general civil liability program (including for environmental damage) has been taken out for all the entities for a total amount of €800 million. This program predominantly provides first-euro coverage or coverage for

amounts in excess of the underlying coverage taken out by some entities (usually up to USD 50 million).

2.1.3.2 Nuclear civil liability

As an operator of nuclear power plants in Doel and Tihange (Belgium), Electrabel's civil liability is governed by the Paris and Brussels Conventions, which aim to ensure that victims receive compensation and to encourage solidarity among signatory countries, and by the Belgian Law of July 22, 1985, (amended by the Laws of June 29, 2014 and December 7, 2016) and a Royal Decree dated December 2, 2018.

This liability falls exclusively on the operator of the facility where the nuclear accident occurs. In return for this strictly objective liability, the amount of the compensation is capped per accident and limited in time to a period of 10 years. This period was increased to 30 years by the amended Law of June 29, 2014, and reduced again to 10 years by the Law of December 7, 2016. The signatory countries to the conventions also created a mechanism that provides additional compensation beyond the maximum amount.

The nuclear civil liability insurance program taken out by Electrabel complies with the Belgian national law requiring the operator to provide financial guarantees or to take out civil liability insurance up to €1.2 billion. Insufficient capacity in the insurance markets, however, resulted in a shortfall of up to €891 million. This only affected the liability extended by the Law of June 29, 2014, and only for nuclear accidents that allegedly occurred between January 1, 2016, and December 24, 2016, when the Law of December 7, 2016 came into force.

2.1.3.3 Property damage

The Group's entities have property insurance covering the facilities that they own, lease or manage on behalf of third parties, with the exception of gas transmission and distribution network pipelines and heat networks in France. The main programs provide cover based either on replacement value or on contractual limits per loss event. In the latter case, the limits are set on the basis of major scenarios estimated in accordance with insurance market rules and available offers (cost and capacity).

Insurance covering business interruption and additional operating costs is taken out based on each risk analysis and in consideration of existing assistance plans.

Construction projects are covered by "Erection All Risks" programs taken out by the owner or operator, project manager or prime contractor.

2.1.3.4 Employee protection programs

The operating entities develop programs covering employees against the risk of accidents and for medical expenses, in accordance with legislation in effect and pursuant to company agreements.

2.2 Risks related to the external environment

The Group is sensitive to the structural and economic risk factors that affect the energy sector. These risks are all analyzed and assessed as part of strategic planning processes that allow the Group to anticipate certain changes in the external environment and prepare for them. The Group's research and innovation policy also helps to deal with strategic developments (see Section 1.5.1 "Innovation" and 1.5.2 "Research & Technologies").

2.2.1 Economic and competitive environment

The Group's activity is impacted by the level of energy demand and commodity prices, as well as by far-reaching changes in the energy sector (e.g. the decentralization and decarbonization of generation, renewable energy, new technologies, digitization, new competitor profiles, etc. (see Sections 1.1.4 and 1.1.7).

After several years in decline, European commodities prices have begun to climb again. Their regular fluctuations have created uncertainty regarding some of the Group's assets.

The weak growth in natural gas demand could result in overcapacity in the gas infrastructure.

With regard to service-related activities, competition remains strong and weighs on margins.

In its different businesses, the Group competes with players with increasingly diverse profiles, both in terms of size – with major international players and local emerging players – and sectors. The decentralization of systems due to energy transition has lowered the entry barriers to some activities (photovoltaic power, services), allowing smaller players to compete with the Group.

The emergence of digital and smart energy technologies has impacted the gas and electricity value chain, as well as services in general, with new competitors from the information technology and equipment manufacturer sectors. More generally, competition is intensifying on energy markets, with key players (oil companies, etc.) becoming more and more active throughout the entire value chain.

In response to these uncertainties and changes:

- In the short term, the Group is rationalizing its generation fleet, managing market risk (see Section 2.5.1 "Commodities market risk"), adapting its asset portfolio and keeping an active watch on the changes taking shape; the Group has also started to significantly reduce its merchant exposure;
- In the medium term, the Group is getting ready to offer a new energy market model and is campaigning for a higher CO_2 price on the European market. It is also taking action in Europe and France to propose a change to the gas market through the development of biogas and, in Belgium, to create the conditions required to operate nuclear power plants under favorable economic conditions. It is also transforming its business model (see Sections 1.1.4 and 1.1.5).

2.2.2 Regulatory and political environment

The legal and regulatory landscape for the Group's businesses is changing, both in terms of environmental and social issues and energy sector regulation.

2.2.2.1 Environmental and social legislation

The Group's businesses are subject to a host of laws and regulations that address environmental protection issues, promote energy systems with zero or low greenhouse gas emissions, reduce energy consumption, protect health and the biosphere, and impose safety standards. The legislative bills and regulatory texts mentioned below, or others yet to come, could impact the Group's strategy and results:

Internationally:

Following the adoption of the Paris Agreement, the world's first universal climate change agreement, at the COP21 in December 2015, the COP22, COP23 and COP24 began to draw up the road map for the signatory States. Although much work remains to be done to finalize the arrangements to implement the agreement by 2020, the 1.5°C report produced by the IPCC (Intergovernmental Panel on Climate Change) demonstrates that there can no longer be any doubt as to the need to accelerate national CO_2 emissions policies. The Group is actively preparing for this.

In Europe:

- Europe's 2030 climate and energy policy (the "Energy Union") promotes energy efficiency, CO_2 emission reductions, and an increase in the percentage of renewable energies in the energy mix;
- Changes in European and national regulations on CO_2 allowances and prices have affected the CO_2 market in Europe and have consequences for the relative competitiveness of natural gas and coal power generation. On the European front, the 2018 agreement on the post-2020 reform of the EU Emissions Trading System resulted in higher CO_2 prices, which remain volatile;

In France:

- As part of the French law on the energy transition for green growth, the Programmation Pluriannuelle de l'Énergie (PPE, or Multi-Year Energy Program), published in October 2016, reaffirmed its two priorities of decreasing the CO_2 footprint and developing renewable energy sources. The Group continues to pay close attention to measures aimed at achieving these objectives, particularly support mechanisms for renewable energy, competitive tendering for hydropower concessions, and measures to combat fuel poverty. The SNBC (Stratégie Nationale Bas-Carbone or National Low-Carbon Strategy) and its implementation in the form of a PPE is expected to be updated by the public authorities in 2019. Decisions made regarding the energy mix could materially influence market share in natural gas;
- The fourth obligation period under France's energy saving certificates scheme (Certificats d'Économie d'Énergie or CEE), which runs from January 1, 2018, to December 31, 2020, will significantly increase ENGIE's obligations compared to the previous period. The scarcity of CEEs, lower flat rates and more stringent requirements resulted in an increase in CEE prices in 2018. This is expected to continue and could impact the Group's margins;
- The future thermal regulation, depending on how it addresses the CO_2 footprint of new buildings, could give a boost to electric heating, to the detriment of gas;
- The law on restoring biodiversity, nature and landscapes in France has introduced the principle of "Avoid, Reduce, Offset" to the environmental code. This principle has also been applied to the regulations of other countries. It also introduces the principle of environmental prejudice. The biodiversity plan, published on July 4, 2018, has supported the implementation of this law and accelerated the implementation of the National Biodiversity Strategy (2020 objective). These laws have tightened environmental constraints on projects in France but are effectively a driver of innovation for the implementation of solutions that preserve nature.

The increasing implementation of "soft law" across the world requires the Group to analyze its activities through an additional lens, and to better incorporate the input and expectations of stakeholders.

The Group is shifting its strategy and rationalizing its generation fleet and its project portfolio so that it can take advantage of opportunities, and is working to limit all of these risks, principally as part of a proactive environmental and social policy (see Section 3.5 "Environmental information"). In 2015, the Group decided not to launch any new developments in coal. In January 2018, it sold its stake in the Loy Yang B coal-fired power plant in Australia, and is in the process of selling its stake in Glow in Thailand and the coal assets it owns in Germany and the Netherlands, thus reducing risks related to coal activities.

2.2.2.2 Sector regulations

In Europe and in some other regions including the United States, Asia Pacific, Mexico and Brazil, public authorities intervene in the energy sector through regulation and the extension of regulatory powers in the area of competition. These measures can take the form of increased taxation on energy company profits, the withdrawal of funds established for the decommissioning of nuclear power plants, changes to the rules governing the markets and the security of supply, interventions by regulators in the deregulated sector to encourage the development of competition, and the move towards the remunicipalization of certain utilities.

Some regulatory changes may alter the risk profile of the Group and impact its earnings and its business model:

In Europe:

- The Juncker Commission launched the Clean Energy Package, a wide-ranging series of laws implementing its "Energy Union" project, as well as the Clean Mobility Package for sustainable mobility. Some developments are positive, because they introduce greater visibility, such as the formalization of an energy and climate framework for 2030 based on targets for the development of renewables and energy efficiency, a stronger carbon market, and the redesign of the electricity market model (see below, Section 2.2.2.1). Others could have more negative effects on the Group's businesses, for example the trend towards electrification, particularly in building and transport. In the final phase of negotiations on the architecture of the new electricity market, the Group is paying particular attention to the framework that will enable coordinated development of national capacity markets in a legally secure environment, to the future rules on ownership of electricity storage assets, and to the impact of future European standards on changes in regulated electricity tariffs. It is also focused on ensuring that gas solutions (LNG, NGV and hydrogen) are included in the range of alternative fuels promoted by the Clean Mobility Package;
- The implementation of common rules for the European internal electricity and gas markets (including the electricity and gas network codes) is intended to complete the creation of a real internal energy market. These changes, which are necessary but will not be enough to adapt the market to the energy transition, could facilitate the emergence of price signals enabling the various sources of flexibility (production, demand, storage) to be valued in the market;
- The guidelines for state aids for energy and the environment, published in 2014, have impacted the Group's activities, in particular support mechanisms for renewable energy sources (to gradually integrate them into the market) and energy efficiency, infrastructure financing, environmental tax exemptions and exemptions from the costs linked to the financing of renewables (preferential rates for manufacturers) and capacity payment mechanisms.

In France:

- A portion of the Group's sales are made in the context of regulated tariffs. French laws and rules and European regulations, and decisions by regulators (in particular, the French Energy Regulation Commission (CRE) with regard to decisions on tariffs for access to certain infrastructures) may affect the Group's revenue, profits or profitability, in the event of the partial pass-through of supply, infrastructure and commercial costs to natural gas selling prices or the partial pass-through of costs from gas infrastructure access tariffs or the sales of electricity generated from renewable energy.
- The regulation of underground natural gas storage facilities that came into force on January 1, 2018, has ensured greater stability in the associated revenues. However, the scope of the regulated assets has yet to be defined as part of the annual revision of the PPE.
- The opening up of the electricity market to suppliers other than the traditional operator, aside from the opening obtained for very large customers, is still limited and could be jeopardized by the emergence of price cuts arising from regulated tariffs that remain and compete with commercial offerings.
- The decision by the French Council of State (Conseil d'État) on July 19, 2017, which paves the way for the removal of regulated tariffs for gas sale to individuals without removing as well the regulated tariffs for electricity sale , may negatively affect the Group's market share in France. The decision by the French Council of State on May 18, 2018, heralds the end of regulated tariffs for electricity sale to some professional customers. The government has undertaken to legislate on gas and electricity tariffs via the PACTE law, which was submitted to the National Assembly in October 2018 and is scheduled for submission to the Senate in early 2019.

In Belgium:

- The government has been working on drawing up an "energy pact" with the aim of defining the key strategic objectives of the future energy and sustainable development policy adopted at the end of March 2018. It still aims to do away with nuclear power by 2025, as long as certain criteria are met: security of supply, climate change targets, competitive prices for manufacturers and nuclear safety. A monitoring committee will be set up to assess compliance with these criteria. Following the pact, the Group could be subject in the medium term to new regulations, such as those defining the power generation mix to be achieved by 2050, and/or new obligations imposed on gas and electricity suppliers in order to achieve the goals of the energy pact. The pact will also provide opportunities for the Group, particularly in the services area.
- The bill on the implementation of a capacity remuneration mechanism (CRM), which objective is to ensure security of supply, i.e. sufficient power production capacity to allow for the phase-out of nuclear power by 2025, is expected to be put to a vote before the next federal elections in May 2019.
- The decision to extend the operating life of the nuclear power unit Tihange 1 to 50 years took effect on October 1, 2015, with a program of associated works that will continue until early 2020 (see Notes 10 and 14 of Section 6.2.2 "Notes to consolidated financial statements"). The Belgian government's decision to extend the date of shutdown of the Doel 1 and 2 nuclear power units after 50 years, which was confirmed by parliamentary vote at the end of June 2015, was approved by the Belgian Federal Agency for Nuclear Control (FANC) as part of its fourth ten-year review, on the basis of a committed modernization program that will be in place early 2020. Legal proceedings brought by environmental organizations before the Constitutional Court against the Belgian state regarding the lack of any environmental impact analysis or public consultation in connection with the adoption of the law passed in June 2015 are still ongoing, and there is a risk that this law may be annulled (See Note 28 of Section 6.2.2 "Notes to consolidated financial statements").

- Compliance with the seismic standards recommended by the European Nuclear Security Regulators Association could be transposed into Belgian law and lead to additional investment, hurting Electrabel's bottom line.
- The operation of nuclear power plants is regulated in part by radioactive waste authorizations. The Group therefore reduces its radioactive liquid and gaseous effluent waste as much as possible, while controlling the volume of low and medium level radioactive waste. In Belgium, all nuclear waste management is the responsibility of ONDRAF, the Belgian National Agency for Radioactive Waste and Enriched Fissile Material. ONDRAF proposes, as a national policy, that high level radioactive waste and/or long-lived waste be stored in deep geological repositories and not in long-term storage facilities. This proposal has yet to be approved by the Belgian government.
- Spent nuclear fuel is currently stored at generation sites. At present there are two possible scenarios for its management: either a portion of spent fuel is reprocessed and the rest is discharged directly into deep geological repositories; or all of the spent fuel is discharged into deep geological repositories. It is up to Synatom to propose a solution that is likely to be approved by the Belgian government.
- Costs associated with the management of spent fuel and the dismantling of plant and equipment are included in the costs of nuclear power production and are the subject of provisions. The assumptions and sensitivities regarding the assessment of these amounts are detailed in Note 20.2 of Section 6.2.2 "Notes to Consolidated financial statements".

In the rest of the world:

- Price control mechanisms also exist in countries other than France, specifically Belgium, Italy, Romania, Brazil and Mexico, for energy generation, distribution and sales, which may potentially impact the Group's results.
- In Brazil, the Group is exposed to changes in the regulation of electricity markets, such as subsidy reductions;
- Changes in energy market regulations in the United States could impact the Group's activities and development in this region;
- In Mexico and the Asia-Pacific region, deregulation of the energy markets or tariff changes could jeopardize the maintenance or renewal of certain power sales agreements or affect their profitability, leading to greater uncertainty over results.

Through its presence in the EU and Member State institutions, the Group tries to anticipate any legislation likely to affect it, and formulates proposals for decision-makers. The Group also partially diversifies regulatory and legislative risks by conducting its business in a number of different countries. However, some regulatory developments offer new opportunities for the Group's activities.

2.2.2.3 Social responsibility

In order to carry out its activities, the Group must hold various permits and authorizations. Dealing with the regulatory authorities concerned to obtain or renew these can involve long and costly procedures. The Group may face opposition from the local population or associations during the installation or operation of certain equipment, or in relation to protests against energy prices.

The Group therefore carries out broad consultation processes prior to the start of its projects, forges partnerships with civil society and ensures that its activities have a positive economic impact, in line with community expectations (see Section 3.6 "Societal information").

France's law of March 27, 2017 on the duty of vigilance of parent and ordering companies extends the scope of the Group's legal responsibilities and thus the list of potential areas that could be subject to non-compliance, which could impact the Group's reputation (see Section 4.3 "Vigilance plan").

2.2.2.4 Country risk

The Group is present, operates or procures natural gas and a variety of industrial components in a large number of countries. The Group is, therefore, exposed to a variety of risks, including changes in regulation, sovereign default, convertibility, expropriation, corruption, acts of war or terrorism, and the extra-territorial effects of some legislation. Moreover, in the event of a dispute with national governments or other local public entities, the Group might be unable to defend its rights in certain countries due to a lack of independence of local courts.

The diversity of the Group's locations mitigates country risk to some extent. Attention thresholds by country or group of countries enable the Group's exposure to be monitored. The Group also manages these risks within partnerships or contractual negotiations adapted to each location. It chooses its locations by applying a formal investment procedure that appraises risk. The inclusion of international arbitration clauses in major contracts is applied as widely as possible.

The Group's decentralized organization means that the Business Units are responsible for their own income statements and investments. Each Business Unit is overseen by a Group Executive Vice President who is a member of the Executive Committee. This organization enables the Group to closely manage political and regulatory changes in each country in which it operates, while ensuring that country risk is taken into account at the appropriate level.

- In the United States, the CAATSA (Countering America's Adversaries Through Sanctions Act) of August 2, 2017 allows (on a discretionary basis) the US President to impose secondary sanctions on any entity that participates, in particular through investment, in the construction and/or maintenance of Russian gas export pipelines (Section 2.3.2). On October 31, 2017, the State Department published public guidance on the way in which it intends to implement the Act in practice. In this guidance, the State Department indicated that projects that had been initiated before August 2, 2017 would not be subject to potential sanctions under this Section 2.3.2. It is specified that "projects initiated before August 2 2017" must be understood as any project contracted before said date, which is the case for project Nord Stream II. On these grounds, ENGIE's contractual financing commitments, signed before August 2 2017, have been fulfilled. However, if the Nord Stream II project were to become subject to sanctions, these could impact the project contractors (but alternative solutions exist), ENGIE's future investments (to which a "drawstop" would then be applied, like other European companies, in order to avoid sanctions, and Gazprom would have to continue to fund the project alone) or investments already made, obliging ENGIE to withdraw from its financing agreements. This last scenario seems unlikely. The Group is mobilizing all its resources to reduce this risk.

- In Europe, an orderly Brexit is expected to have a limited impact on the Group's activities. Uncertainties about the ability of the UK government and the European authorities to reach a political agreement and the possibility of a "no-deal" Brexit are being monitored in order to identify the legal issues that could affect the Group's activities in the United Kingdom and those of entities with links to the UK BU. The consequences of a "no deal" Brexit on gas and electricity trading, the functioning of the European carbon market, the continuity of contracts and the HR process, in particular, will have to be defined on the basis of how the negotiations play out and if an agreement is reached or not between the UK and the European Union
- The UK's withdrawal from the Euratom treaty is not likely to have a significant effect on ENGIE, as the Group has withdrawn from the NuGen project, Group subsidiaries with activities in the UK nuclear sector are based in the UK with UK staff, and measures have already been taken by Synatom in relation to nuclear fuel.

2.2.3 Impact of climate

Information presented in this section and in Section 3.5.4.1 "Climate change" reflects the financial risks associated with the effects of climate change and the measures taken by the company to mitigate them by implementing a low carbon strategy in all the components of its activity.

In the short term, climate phenomena (e.g., temperature variation, flooding, wind, drought) affect energy generation and demand. They have a direct effect on the Group's results.

To adapt its offering to fluctuations in annual demand, ENGIE optimizes its portfolio of assets, its gas resources (by modulating its supplies and managing its underground storage), and its power generation fleet.

In the longer term, climate change could have a bigger impact on the Group's activities, for example through changes in regional or seasonal energy demand, the obligation to reduce CO_2 equivalent emissions, conflicts over water use, and the preservation of natural carbon sinks, etc.

To manage this risk, ENGIE acts on different levels:

- the Group is firmly committed to combating climate change by investing in low-carbon technologies, reducing its greenhouse gas emissions and adapting its operations accordingly. The Group promotes international carbon pricing in order to accelerate the transition to a low-carbon society, while guaranteeing a level playing field for all players;
- the Group has set 2020 targets for greenhouse gas emissions and renewable energy (see Section 3.5 "Environmental information") The expansion of its renewable energy fleet and the development of service offerings are the main drivers of ENGIE's energy transition strategy. For the longer term, ENGIE made the decision at the end of 2017 to pursue a trajectory compatible with the goal of limiting the global temperature increase to 2°C, by reducing its direct emissions by 85% by 2050 and developing the substitution of natural gas by renewable gas;
- The Group is gradually developing adaptation plans to prepare for an increase in extreme weather events (see Section 3.5 "Environmental information");
- Since anticipating the implementation of Article 173 of the French Energy Transition Law regarding greater transparency on climate risks, the Group has followed the work of the TCFD (Task Force on Climate-related Financial Disclosures) and is now reviewing the implementation of its recommendations.

2.2.4 Reputational risk

The energy sector is the subject of various public debates due to the profound changes that it is undergoing.

The Group is exposed to reputational risk, both directly and indirectly, especially when the Group's values, ethics, operational excellence or legitimacy as an operator are called into question.

As a vital part of the Group's intangible corporate assets, the "ENGIE" brand (registered in more than 100 countries) is constantly monitored to protect it against any fraudulent use that could harm the Group's image.

Through its policies, organization, procedures and governance, the Group endeavors to prevent operational risks (see Sections 2.3 "Operational risks" and Section 2.4 "Industrial risks") and smear campaigns that could affect its reputation.

The Group relies on an external monitoring agency to record disputes, including those on social networks, where its name is mentioned, in order to identify and deal with any problems at source.

The Group takes its environmental and societal responsibilities seriously; It decided to close the Hazelwood coal-fired power plant in Australia at the end of March 2017 and manages its nuclear activities without compromise in terms of safety.

2.3 Operational risks

2.3.1 Purchases and sales

2.3.1.1 Purchase and sale of natural gas

The Group has established a procurement portfolio composed, in part, of long-term contracts, including some with a take-or-pay clause which, under certain conditions, stipulates that minimum quantities will be taken during a period.

In case of major gas supply interruption (for example, due to the interruption of Russian deliveries or an interruption to transit in Ukraine) or difficulty in renewing certain contracts under favorable economic conditions, the replacement cost for gas, including transportation, could be higher and affect the Group's margins. To mitigate this risk, the Group has a number of tools for flexibility and modulation (flexibility in long-term contracts, storage and regasification capacity, and purchasing in the marketplaces) as well as a diversified portfolio.

Prices of long-term purchase contracts may be decorrelated from selling prices or prices in the gas markets (mainly due to transmission costs). This spread might have a significant impact on the Group's results. Long-term contracts include price adjustment clauses, so that the economic balance between producer and buyer can be adjusted. The Group's buy/sell margin may therefore change according to price adjustments in gas contracts and the state of the gas market in general.

Negotiations in recent years have led to the integration of market indices in long-term contracts and/or to the reduction of the difference between contract prices and market prices. They have also led to increased frequency of price revisions.

2.3.1.2 Purchase and sale of electricity

The Group is an electricity producer with a major presence in Europe and Brazil, where the profitability of its assets is linked mainly to prices in electricity markets. The economic climate or decisions by some states regarding the electricity sector may lead to volatility in electricity prices, which may have an impact on Group earnings.

The Group may also have to buy power to supply its customers, for example to cover any temporary non-availability of its facilities. These purchases are optimized but could generate extra supply costs.

The Group monitors changes in its risk exposure and makes decisions accordingly (see Section 2.5.1 "Commodities market risk").

2.3.1.3 Operational risks related to the purchase and sale of energy

In its portfolio optimization activities for physical assets (power plants), long-term contracts and customers, as well as in managing the associated financial positions, the Group is exposed to operational risks such as fraud, execution error, and process and system failure. If they were to materialize, these risks would likely result in both economic and reputational consequences for the Company. Operations are monitored via appropriate processes, and risks are taken into account as part of the Group's internal control program, known as "INCOME". In addition, a specific system for increased monitoring of operational risks has been set up in some of the Group's entities, with the aim of recording incidents, analyzing their primary causes and establishing appropriate mitigation plans.

2.3.1.4 Purchase risks and supply chain risks (excluding energy)

The main task of ENGIE's Purchasing function is to offer operational managers a panel of competitive, distinctive suppliers and to negotiate with them and monitor contracts. This relationship with suppliers enables ENGIE's business to be developed while maintaining compliance with the Group's commitments and managing the risks of the entire supply chain.

The management of purchasing risk replicates the structure of the purchasing function:

- Risks relating to the Group's key suppliers (called "preferential" suppliers) are managed cross-functionally in the Group's Strategic Sourcing & Supply Department by the Category Manager in charge of his or her category. He or she carries out a full analysis of all the different supply chain risks (technical, industrial, financial, ethical, health and safety, environmental, human rights, etc.). Suppliers are classified and selected according to their exposure to these risks weighted for country risk. Contracts with these suppliers include specific clauses according to the risk criteria encountered, which may result in penalty systems in the event of non-fulfillment. Lastly, the performance delivered by suppliers is measured periodically as part of business reviews, and the associated improvement plans are reviewed by the Category Manager.
- Risks related to the major suppliers of each BU are managed by the Chief Procurement Officers (CPOs) of each BU, who adapt their mitigation plans according to the specific requirements of their BU (activities, local legislation, etc.). This management of the BU's purchasing risk is incorporated into its ERM system.
- More generally, the Purchasing chain's main risks, which are managed at the Group level, are:
  - Operational or contractual breaches by our suppliers,
  - The loss of sensitive Group data entrusted to our suppliers,
  - Failure to comply with the commitments of a socially responsible company (SRC), particularly in the areas of health and safety, human rights and the environment (all of which are part of the duty of vigilance prevention plan),
  - Late payment by ENGIE of supplier invoices.

Lastly, in industrial projects, risk management covers the purchasing chain, suppliers and subcontractors.

2.3.2 Management of assets and development

2.3.2.1 Optimization of the asset and investment portfolio

For the purposes of external expansion, especially by means of acquisitions, the Group may issue equity securities or have recourse to borrowing. Acquisitions present risks related to integration difficulties and failure to achieve expected benefits and synergies. Risks related to the valuation of assets or liabilities or non-achievement of expected results could arise at the end of the acquisition process, resulting in provisions for asset impairment. The Group also sells assets for which it may be obliged to provide certain liability guarantees (see Note 17.1.5 to the financial parent company statements).

The processes implemented by the Group for analyzing, auditing (especially during due diligence) and structuring risks during a planned acquisition are designed to provide a more accurate assessment of the uncertainties that arise in such cases and to propose mechanisms to protect against the risks identified. The resulting risk allocation depends on the quality of the information transmitted to the Group and is limited by the legal and regulatory framework applicable under local corporate law, and the outcome of the negotiation process.

With regard to integration, the Group has set up a dedicated team to develop a suitable methodology and to support BUs through the process.

2.3.2.2 Risks related to development and major projects

The Group bases its growth on various industrial construction projects, such as gas or electricity infrastructure for production or transportation, of which it is the owner. These projects include some major projects, such as thermal power plants (Fadhili in Saudi Arabia, Safi in Morocco, Pampa Sul in Brazil, IEM Red Dragon in Chile), off-shore wind farms (Tréport and Noirmoutiers in France, Moray in the United Kingdom) and gas infrastructures (Stublach gas storage in the United Kingdom, in particular) and a majority of medium-to-small projects (renewable energy [KATHU solar park in Africa and wind projects, particularly in Brazil and Egypt] and local heating or cooling networks). The profitability of these assets depends greatly on cost control and construction deadlines, the operational performance of the industrial asset, external phenomena (e.g. natural disasters and strike actions), regulatory and fiscal changes and changes in the competitive environment and energy markets over the medium and long term, which could reduce the profitability of certain assets and result in lost revenues or asset impairment.

The Group is also responsible for the facility design and construction phases of some projects. Although these projects are always subject to in-depth studies and the Group has acknowledged expertise, construction deadlines may not always be met, resulting in penalties, construction costs may be higher than anticipated, the facilities' performance may not comply with the specifications or subsequent accidents may trigger the Group's civil, professional or criminal liability. This could have a negative impact on the Group's image, financial position, or earnings.

The Group has strengthened the operational monitoring and oversight of projects and has put in place a program to monitor the portfolio of large-scale projects at Group level, in order to provide the warnings needed to launch corrective actions. A policy governing supervision of project construction and joint project management methods have reinforced existing mechanisms within the entities executing industrial projects. In addition, training focused on project risk management has been developed for all project managers and developers.

Furthermore, the implementation of contract management measures enables part of these risks to be mitigated, including by compensation mechanisms. Insurance underwriting allows for insured losses to be indemnified and also improves prevention.

2.3.2.3 Risks relating to partnerships and minority investments

Partnerships and acquisitions of equity stakes are one of the ways in which the Group can share the economic and financial risks inherent to some projects, by limiting its capital employed and allowing it to adapt more appropriately to the specific context of local markets (see Note 4 to Section 6.2.2 "Notes to consolidated financial statements"). The Group strives as much as possible to protect its interests as a partner, including through the signing of shareholders' agreements, possible representation in governance (board of directors, management positions) and reporting.

However, changes to the project, the economic situation, the partner's or the Group's strategy, and even the local political environment may, in some cases, lead to changes in the control or governance of a partnership or to disinvestment.

To address these situations, the Group may establish contractual provisions to resolve impasses within partnerships (deadlock resolutions), exit clauses and, in the event of disputes with the partner(s), litigation resolution clauses.

2.3.3 Legal risks

The Group manages its activities carefully, including their legal aspects. In order to limit the legal risks inherent in any commercial activity, the Group monitors the legal and regulatory framework, its operating activities, partnerships, acquisitions and contracts concluded with third parties, in particular through the presence of legal departments, both at the parent company level and in each BU.

However, the Group may find itself having to deal with disputes, investigations and/or legal proceedings. The most significant of these are described in Note 28 of Section 6.2.2 "Notes to consolidated financial statements". To the Company's knowledge, no other administrative, legal or arbitration proceedings (including proceedings that have been postponed or threatened[1]) exists that is likely to have, or has had, material impact on the financial position or profitability of the Group in the past 12 months.

(1) This term refers to investigations or audits underway

2.3.4 Ethical risks

The main risks identified are: corruption, violations of human rights, non compliance to competition and/or embargo rules, fraud and breaches of personal data. Any breach of the ethical principles of the Group could constitute a legal and reputational risk (see Note 28 of Section 6.2.2 "Notes to consolidated financial statements").

In order to prevent as far as possible these risks from materializing, ethical compliance policies and procedures are deployed throughout the entire Group and they are applicable in all our controlled entities. The Ethics, Compliance and Privacy Department promotes their implementation within the Group, relying on the management line and the Ethics & Compliance Officers and Data Protection Managers networks. Those policies and procedures are instrumental in the compliance to new Sapin II laws and Duty of Vigilance as well as to the European Regulation n°2016/679 on the protection of personal data.

Ethical risks are analyzed annually and action plans are implemented if necessary. Moreover, risks relating to corruption and human rights are specifically assessed as part of the Group's risk analysis process (see Section 4.2 "Ethics, Compliance and Privacy").

In addition, the policy on the analysis of ethical risks relating to investment projects and major contracts and the human rights guidelines applicable to the whole Group require the entities to analyze corruption risks and human rights risks for every new project.

2.3.5 Risks related to human resources

In the context of its ambitious transformation plan (new businesses, digitization, etc.) the Group could encounter difficulties in ensuring that it has the right skills to support its development and to unite employees around its business plan.

The skill risk relates as much to quality (adaptation of skills to new activities) as to skills volumes (shortage in the labor market).

The transformation plan could also undermine employee engagement, resulting in individual or collective attitudes that are not aligned with the behaviors required for the transformation or to at-risk situations regarding occupational well-being.

2.3.5.1 Workforce competencies

Developing the employability of its workforce is one of the Group's main HR priorities.

Pursuing the commitments made in the European Social Agreement, which it signed on April 8, 2016, ENGIE is providing HR support for the transformation in three key ways: anticipating the skills needed and managing changes in the Group's jobs (ENGIE Skills prospective approach), stimulating the internal labor market (ENGIE Mobility) and training (ENGIE Schools, in particular) (see Section 3.4.1 "Human resources development and mobility policies").

2.3.5.2 Employee commitment

Given the scale and speed of the Group's transformation, it needs to support managers and employees to give meaning to the changes and promote buy-in.

In October 2018, for the third consecutive year, the Group carried out its "ENGIE & Me" engagement survey to measure employee buy-in and adapt its action plan.

Via its "ENGIE Leadership Way" program, ENGIE promotes managerial behavior that fosters innovation and employee development (see Section 3.4.1.4 "Targeted development policies"). In addition, the Group provides a "co-leader" training program for its 30,000 managers. ENGIE is also particularly attentive to the prevention of psychosocial risks.

By communicating regularly about innovation, new business models, and other topics related to the transformation, the Group aims to strengthen internal support and encourage dialogue with employees.

2.3.5.3 Occupational well-being

The steps taken since 2016 to adapt the Corporate headquarters' organization, to push forward ways of working and more generally to anchor the Group's transformation are accompanied by different measures aiming at preventing, detecting and remedying at-risk situations, regarding occupational well-being, inherent to this type of transformation.

2.3.6 Risks related to health and safety and protection of Group assets

2.3.6.1 Health and safety at work

The Group is committed to eradicating fatal accidents and reducing workplace accidents and occupational illnesses. The Group health and safety policy was agreed with the union federations at European level and subsequently worldwide. An action plan was defined for the period 2016-2020, which was strengthened in 2017 with a specific action program called "No Life at Risk", the aim of which is to develop the safety culture and the commitment and vigilance of all individuals in order to protect their lives and those of others, involving everybody working on behalf of the Group. (see Section 3.4.6 "Health and safety policy"). In 2018, the focus was put on the health and safety of subcontractors.

2.3.6.2 Employee safety

The international scope of the Group means that some employees and other parties such as subcontractors may be exposed to health and safety risks, the threat of which warrants a specific organization incorporating a "country watch". Wherever it operates, the Group continually assesses the risks related to terrorism, armed conflict, political or social unrest, organized or ordinary crime and, more generally, the occurrence of "unconventional" situations.

Geographic areas are subject to classification, which correspond to specific prevention and protection measures. To accomplish this mission, the Group relies on State services as well as specialized providers. If a specific situation occurs, the crisis management system may be triggered, in order to deploy the necessary assistance measures to ensure the safety of all people concerned.

2.3.6.3 Protection of tangible and intangible corporate assets

The Group's sites and industrial or tertiary facilities, which make up its tangible assets, may be exposed to malicious acts. Information, whether digital, physical or even communicated verbally, constitutes the Group's intangible assets and may also be exposed to malicious acts.

To fight against this type of risk, the Group implements a policy for the protection of tangible and intangible assets, covering technical (including IT), legal, managerial and organizational areas. Sensitive sites where tangible corporate assets are located are subject to protective measures tailored to the local situation and revised according to the current threat status.

The Group continually acts to protect its intangible assets in order to deal with any reported incidents and to prevent any internal or external action aimed at capturing and using sensitive information. An Information Security Committee brings together members from all the relevant functional departments under the authority of the Executive Vice-President in charge of Digital and Information Systems to coordinate and manage the Group's security policies. It reports to the Executive Committee.

2.3.7 Risks related to information systems

The Group is continually exposed to new threats from the introduction of new technologies, particularly the multiplication of connected objects, the development of industrial control systems, the spread of mobility tools, and the development of new uses (e.g. social networking). Cyber attacks target both the company and its customers and partners. More generally, IT system failure could result in information losses or leaks, delays and/or extra costs that could be detrimental to the Group's activities or its reputation.

In response, the Group continually adjusts its prevention, detection and protection measures for all of its information systems and critical data. The Group therefore has a Global Security Operation Center (GSOC) in place that is operated worldwide with the assistance of Thales, strengthened controls for access to its cloud platforms, data encryption devices and cyber-insurance cover. To comply with the new regulations (European Regulation 2016/679 on the protection of personal data, European Directive 2016/1148 on the security of networks and information systems), assessments are organized for the sites or applications concerned (Data Privacy Impact Assessments) and some Group entities have taken steps to obtain ISO 27001 certification of the security of their information systems. Large-scale attacks are managed by the Incident Management Committee (IMC), which reports to the Group Security Department. In connection with its internal control policy and security policy, these organizational, functional, technical and legal security measures are subject to continuous controls that include testing (intrusion tests, social engineering tests, phishing tests, cyber crisis management tests, etc.) and campaigns to raise awareness.

2.4 Industrial risks

The areas of activity in which the Group operates entail major industrial risks capable of causing harm to individuals and property, and exposing it to claims for civil, criminal and environmental liability. These risks may concern facilities that belong to the Group or are managed by the Group on behalf of third parties (manufacturers or local authorities), or facilities where the Group's employees work. The industrial safety of the facilities that the Group operates is one of its major concerns. The handling of these risks is subject to in-depth monitoring and specific targeted investments, and audits of the facilities in question are performed regularly.

2.4.1 Industrial facilities and Seveso sites

The Group operates and builds systems for gas transmission, distribution and storage, regasification and gas liquefaction facilities, bio-methanization plants, power plants, and hydro facilities, and provides services in an industrial environment. Some of these facilities are classified as "upper tier" Seveso sites.

Risks can stem, for example, from operating incidents or design flaws or from external events beyond the Group's control (including third-party actions and natural disasters). Industrial accidents can cause injuries, loss of life or major property and/or environmental damage, as well as activity interruptions and operating losses.

The Group carries out its industrial activities in compliance with a framework of safety regulations, including the "Seveso III [(1)]" European directive. These industrial risks are controlled by implementing a safety management system at these sites based on the principle of continuous improvement, which is intended to reduce the level of residual risk by responding to the highest risks as a priority. Moreover, industrial safety is part of the Group's internal control program. The Group conducts periodic audit and control missions to ensure that these measures are effectively implemented.

A specific action plan for protecting industrial control systems linked to industrial processes has been implemented and is updated according to changes in threat. It aims to prevent the risk of activity interruption or accidents due to cyber-attacks.

For the greatest part, these risks are covered by insurance policies. In the event of a major claim, these policies could prove insufficient (see Section 2.1.3 "Risk and insurance coverage").

A Group Industrial Safety Committee meets twice a year, and more often if there is a specific issue that needs to be addressed, mainly to encourage the inter-BU and inter-Métier exchange of information on risks and accidents and the sharing of best practices in the Group's various activities.

2.4.2 Pollution of the surrounding environment

Facilities that the Group owns or manages on behalf of third parties may entail risks of damage to the natural environment (air, water, soil, habitat and biodiversity), and may pose health risks to consumers, neighboring residents, employees and subcontractors. These health and environmental risks are governed by strict national and international regulations. Non-compliance with or violation of these environmental standards could have a significant negative impact on the Group's image, its business, financial situation, earnings and outlook, and trigger its liability as a legal entity. Any amounts set aside, insured or guaranteed may be insufficient. Complaints and convictions relating to the environment are detailed in Section 3.5.4.9, "Active prevention of environmental risks".

Health and environmental risks are regularly monitored by the Group, by external auditors and by government authorities, both for operational sites and closed facilities, such as former gas plants.

2.4.3 Risks of nuclear activities

The Group has established governance principles for the operation, maintenance and decommissioning of nuclear power plants based on its experience as an operator and service provider. It is also active in employee recruitment, training and retention, both for facilities in operation and nuclear services entities, and is involved in developing new services.

In Belgium, Electrabel, a Group subsidiary, owns and operates seven pressurized water reactors at two nuclear power stations at Doel and Tihange. Since the commissioning of the first reactor in 1974, these sites have not experienced any major nuclear safety incidents that could have resulted in danger to employees, subcontractors, the general population or the environment. However, they could present civil liability risks for Electrabel, specifically in the event of a nuclear accident or the discharging of large quantities of radioactive material into the environment.

(1) Directive 96/82/EC (Seveso II), amended and superseded by Directive 2012/18/EU ("Seveso III).

All individuals working at Group nuclear power plants have the appropriate qualifications and are aware of their personal responsibility with regard to nuclear safety, in particular control room operators. During operations, compliance with safety and security rules and conditions at the facilities are subject to inspection by the Belgian Federal Agency for Nuclear Control (FANC), assisted by Bel-V, its technical support subsidiary. Independent checks are also carried out by Electrabel's nuclear safety department, which reports directly to its Chief Executive Officer, independently of the line management of the nuclear power sites. In addition, both nuclear sites have OHSAS 18001, ISO 14001 and EMAS certification.

Electrabel takes into account feedback from accidents or incidents, in order to continue to improve the safety and security of its facilities (the most severe natural disasters, risks of cyber attack and sabotage). The terrorist risk is addressed with the competent authorities of the Belgian State.

In order to strengthen the safety culture at Doel and Tihange, Electrabel, in agreement with the FANC, has set up the CORE (COmmon REsponsibility) plan, which concerns the central functions and the two nuclear sites. The plan was closed in October 2018 with the agreement of the FANC, as the actions undertaken had become an integral part of the management system and monitoring in the context of inspections relating to the management system.

In 2015, hydrogen-induced flaws, created during the vessel manufacturing process, were detected in the vessel walls of the Doel 3 and Tihange 2 reactors. The recommissioning of the reactors was authorized at the end of November 2015 by the FANC and confirmed during inspections in 2016 and 2017.

In October 2017, during a planned shutdown, the concrete ceiling of the Doel 3 reactor bunker was found to have degraded. The same kind of degradation was discovered in reactors with a similar bunker design: Tihange 3, Doel 4 and Tihange 2. Stripping of the damaged areas showed anomalies at Tihange 2 and 3 in the positioning of the concrete frames of the bunker, which had been present since the building was constructed. These buildings house second-level emergency systems such as emergency pumps and diesel generators. The building has to be able to withstand external events, so that these emergency systems are guaranteed to operate at all times. The extent of the degradation and the anomalies identified during inspection calls into question the ability of these buildings to withstand an external accident such as a falling aircraft. Electrabel decided to adapt the review program for its nuclear power plants in order to inspect and repair the degraded areas.

In April 2018, Electrabel found a minor leak in the emergency water cooling circuit of the Doel 1 reactor. The reactor was stopped after this event, and the maintenance review of the Doel 1 reactor was brought forward so that the repair could be carried out. Electrabel decided to inspect the second pipe in the same water cooling circuit of Doel 1, as well as the pipes of Doel 2, as it has the same reactor cooling system.

The risk of one or more nuclear units not being available for technical or safety reasons is one of Electrabel's major risks, and could have an impact on its performance objectives.

Following the discovery in 2013 of a gel-like substance on the surface of barrels of medium level radioactive waste (originating in the Doel plant and stored at Belgoprocess), waste conditioning processes at the Doel and Tihange sites were subject to additional checks by ONDRAF, the Belgian National Agency for Radioactive Waste and Enriched Fissile Material. As a result, the accreditations for a number of processes were either not renewed or were withdrawn. Several performance tests have been established to meet all the ONDRAF requirements and regain the accreditations. At this time, the accreditations have been regained, except for two categories at Doel and one at Tihange. The situation regarding the storage capacity and availability of waste treatment facilities remains complex. Temporary solutions have had to be developed to increase storage capacity at the two generation sites.

2.4.4 Exploration & production of hydrocarbons

After the sale of its hydrocarbon exploration and production business to Neptune in early 2018, ENGIE is now only a minority co-shareholder in the Touat project in Algeria, as Neptune is the operator.

2.5 Financial risks

2.5.1 Commodities market risk

The Group is chiefly exposed to two kinds of commodity market risk: price risk directly related to fluctuating market prices, and volume risk (weather risk and/or risk depending on economic activity). The Group is exposed to these risks, particularly with regard to gas, electricity, coal, oil and oil-based products, other fuels, CO_2 and other green or white products related to the energy transition (Guarantees of Origin, energy savings certificates and the Capacity Remuneration Mechanism (CRM) (note 18.2 of Section 6.2.2 "Notes to consolidated financial statements).

With the exception of trading activities, market risks are assessed by means of their impact on EBITDA. Accordingly, the main risk indicators for managing the energy portfolios include sensitivity to unit price changes, EBITDA at Risk, portfolio hedging ratios and stress tests based on predefined unfavorable scenarios. For trading activities, and in accordance with market standards, risk indicators include sensitivities, Value at Risk (VaR) and stress tests (see Note 18.1 of Section 6.2.2 "Notes to consolidated financial statements").

The Group has implemented a specific governance process to manage market and counterparty risks based on (i) the general principle of separation of risk management and risk control, (ii) a Group-level Energy Market Risks Committee that is responsible for validating risk policies and monitoring consolidated exposure, (iii) following the market and counterparty risk mandates, and (iv) a specific risk control function coordinated by the Finance Department.

Part of its electricity generation activity outside Europe is secured by long-term Power Purchase Agreements (PPA) in which variations in operating expenses, in particular for fuels, are transferred as "pass-throughs" into electricity sale prices. This substantially limits exposure to fuel price fluctuation risks, even if the transfer is not perfect in some contracts.

The Group also uses derivatives to offer hedging instruments to its clients and to hedge its own positions.

2.5.2 Counterparty risk

Due to its financial and operational activities, the Group is exposed to the risk of its counterparties default (customers, suppliers, partners, intermediaries, and banks).

The impact of this may be felt in terms of payment (non-payment for services or deliveries made), delivery (non-delivery of supplies or services that have been paid for) or assets (loss of financial investments).

Following the introduction of the new IFRS 9 standard, the Group has defined a Group-level methodology to assess counterparty risk, which is described in note 18.2 of Section 6.2.2 "Notes to consolidated financial statements".

These risks are managed via framework agreements that use standard mechanisms such as third-party guarantees, netting agreements and margin calls, or dedicated hedging instruments. Operational activities may also involve prepayments or suitable recovery procedures (especially for retail customers).

2.5.3 Foreign exchange risk

The Group is exposed to foreign exchange risk, which is defined as the impact on the balance sheet and income statement of exchange rate fluctuations, in the performance of its operational and financial activities. This risk is broken down into (i) a transactional risk related to current operations, (ii) a specific transactional risk related to investment, merger-acquisition or disposal projects, (iii) a translational risk related to the value of assets outside the Eurozone, and (iv) a risk related to the consolidation of the subsidiaries' accounts in euros where the functional currency is not the euro. The three main exposures to translational and consolidation risks correspond, in order of importance, to assets in US dollars, Brazilian real and British pounds.

For an analysis of foreign exchange risk sensitivity, see Note 18.1.3.2 of Section 6.2.2 "Notes to consolidated financial statements".

As part of the Group's foreign exchange risk policy, recurring transactional risk is subject to systematic hedging as soon as this risk is material and almost certain to arise. During the examination of investment projects, the specific transactional risk is subject to a case-by-case hedging strategy. Finally, translational risk is covered by partial hedging strategies subject to a reasonable hedging cost and sufficient market liquidity in relation to the risk of currency depreciation.

2.5.4 Interest rate risk

The Group is exposed to interest rate fluctuations. The Group's objective is to control its borrowing costs by limiting the impact of interest rate changes on its income statement. To do this, the Group seeks to achieve a balance between fixed, floating and protected floating ("capped floating") rates. This distribution may change within the limits set by management according to the market situation.

The breakdown of the outstanding financial debt by type of interest rate and the analysis of sensitivity to interest rate risk are presented, respectively, in Note 18.1.4.1 and Note 18.1.4.2 of Section 6.3 "Notes to consolidated financial statements".

In order to manage the interest rate structure for its net debt, the Group uses hedging instruments, particularly interest rate swaps and options. Managed centrally, rate positions are reviewed periodically and when any new financing is raised. This management is subject to a risk mandate: any substantial change in the rate structure requires prior approval from the Finance Department.

2.5.5 Liquidity risk

Liquidity is based on the regular renewal of various financing tools available to the Group such as credit lines, bond financing or other financing tools, to ensure their availability and their adequacy in relation to financing requirements. These credit facilities are pre-agreed and appropriate for the scale of its operations and for the timing of contractual debt repayments. Note 18.3 of Section 6.3 "Notes to consolidated financial statements" explains the distribution of the various forms of financing used.

ENGIE pools the majority of the cash flow requirements and surpluses of the Group's majority-owned subsidiaries, as well as most of their medium- and long-term external financing requirements. Financing vehicles (long-term and short-term) provide centralization, as do the Group's dedicated cash-pooling vehicles in France, Belgium and Luxembourg.

2.5.6 Impairment risk

Assumptions and estimates are made to calculate the recoverable value of goodwill and tangible and intangible fixed assets. They particularly refer to market outlook and changes in the regulatory framework, which are used for the measurement of cash flows, which sensitivity varies depending on the activity, and the determination of the discount rate.

Any changes to these assumptions could have a significant effect on the amount of the recoverable value and could lead to changes in the impairment to be recognized (see Note 14 of Section 6.3 "Notes to consolidated financial statements").

2.5.7 Equity risk

As of December 31, 2018, the Group holds a number of non-consolidated interests in listed companies (see Note 17.1.1.1 of Section 6.3 "Notes to consolidated financial statements"), the value of which fluctuates according to the position of the relevant companies and/or trends in the world stock markets.

In addition, the Group holds interests in listed companies consolidated using the equity method, including SUEZ (see Note 4 in Section 6.3 "Notes to consolidated financial statements"), for which a significant or extended fall in the share price below the value on the balance sheet is an indication of impairment.

2.5.8 Tax risk

Given their tightening budget constraints and pressure from the media, national governments are increasingly introducing anti-abuse measures, both general and special, with a broad and subjective scope, and are giving their supervisory authorities increased powers of investigation. This has created a climate of tax insecurity that may have an impact on the Group's results. Similarly, the European Commission's interventions in both state aid (especially the querying of prior agreements issued by authorities that were designed to confirm the complex tax treatment of certain transactions and consequently give companies legal security) and draft directives in the area of combating tax avoidance (see ATAD1 and 2 [1]) and the European harmonization project (see CCCTB [2]) have created uncertainty and may impact the Group's results over various time periods (see Note 28 of Section 6.2 "Notes to consolidated financial statements").

The ENGIE group has established a tax policy that has been published on its website since 2015, along with the corporation tax amounts incurred each year in the main jurisdictions where it operates. This policy mainly states that the Group undertakes to respect with honesty and integrity the tax laws and regulations that apply to it and to pay its fair share of taxes in the countries where it operates. To this end, internal procedures, including regular control mechanisms, have been put in place to ensure its proper application in the countries concerned. These procedures cover both corporate tax practices and the choice of location of Group structures. Furthermore, tax practices within the

(1) ATAD: Anti-Tax Avoidance Directive

(2) CCTB: Common Consolidaded Tax Base

Group comply with its Code of Ethics and its environmental, social and societal principles. The Group therefore considers that it is compliant with the requirements of the new Article L225-102-1 of the French Commercial Code relating to combating tax fraud.

2.5.9 Pension funding risk

A significant portion of the Group pensions commitments and the assets associated with these plans are concentrated in France and in Belgium. Other defined-benefit pension plans are mainly located in Europe and Brazil.

In recent years, the Group has terminated a number of defined-benefit plans and replaced them with defined-contribution plans. The defined-benefit plans still in operation include, in France, the special Electricity and Gas Industry (EGI) plan, which is a statutory plan.

Note 21 of Section 6.2.2 "Notes to consolidated financial statements" details the items measured and recognized.

The calculation of commitments is estimated via actuarial methods using methodologies, assumptions and models to assess liabilities or determine asset allocations and associated risks that could have a significant impact on hedging levels and financing requirements.

In France, commitments within the scope of the EGI are estimated using actuarial assumptions and rules governing, respectively, benefits paid out by statutory plans and amounts that remain the Group's responsibility. These assumptions and rules may be subject to changes that increase the Group's commitments and therefore require an increase in the relative relevant provisions.

Substantial commitments exist in the form of other post-employment benefits and other long-term employee benefits, in addition to pension liabilities. These mainly comprise energy-related benefits provided to retired employees within the scope of the EGI.

Hedging levels and financing requirements for the Group's pension plans vary according to the performance of financial markets and asset allocations, as well as interest and inflation rates and changes in the applicable legal and regulatory framework.

For some plans outside the scope of the EGI, ENGIE may be required to fully or partly finance any difference between the market value of these assets and the hedging levels projected for these plans, or any insufficiency in the return on the assets in respect of the guaranteed minimum average rates.

2.6 Internal corporate control procedures

2.6.1 Internal control definitions and objectives

Internal control standard

ENGIE's internal control is based on the COSO II model of the Committee of Sponsoring Organizations of the Treadway Commission and the AMF reference framework. It is based on five components: control environment, risk assessment, control activities, information and communication, and monitoring activities.

Internal control objectives

ENGIE's internal control aims to provide reasonable assurance that the following objectives are being met:

- compliance with laws and regulations;
- reliability of accounting and financial information;
- effectiveness and efficiency of operations.

Internal control is constantly being adapted to changes in the Group's organization and businesses and contributes to the rolling out of its strategy.

Internal control limits

Internal control cannot provide absolute assurance, particularly due to possible dysfunctions relating to error or human failure and arbitrage between the costs relating to the potential occurrence of a risk and the cost of the measures designed to prevent it.

INCOME program

On the basis of financial materiality and an analysis of risks, each year ENGIE updates the scope of the most significant controlled entities that are subject to centralized monitoring through the INCOME program (181 entities in 2018).

2.6.2 Internal control organization and stakeholders

2.6.2.1 Organization of internal control

The organization of internal control complies with the principles of the Group's organization, particularly decentralization, autonomy and the accountability of managers. In the context of the authorities delegated by the Chief Executive Officer, each manager of a BU or entity is responsible for implementing and overseeing an internal control system that conforms to the applicable regulatory framework and any specific features thereof. The Internal Control Department reports to the Finance Department and is in charge of leading and coordinating the system at Group level. It proposes and updates a framework, a methodology and an information system that centralizes all the data relating to the rolling out and assessment of the system's effectiveness.

2.6.2.2 Elements of the general compliance framework

Ethics and compliance

In line with its values and its undertakings, ENGIE aims to act in compliance with the laws and regulations in force in the countries where it operates in all circumstances. To this end, the Group has established an ethics policy that guides its strategic decisions, management and professional practices. It also has the necessary tools to measure compliance with this undertaking (see Section 4.2 "Ethics, compliance and privacy").

Recruitment, training and skills management

The quality, commitment and skills of its employees are necessary conditions for the management of the Group's operations. Recruitment, training and skills management policies are key elements of the internal control system, ensuring the required level of competence in all areas, particularly those in which specific expertise is needed, in accordance with the Group's values (see Section 3.4 "Social information").

Information systems

The digital and IS strategy, and the IT solutions policies and standards, are defined by the Group Digital and IT Department. The security of information systems of the sectors and central functions of the Group is the responsibility of the corresponding functional departments, in accordance with these policies and standards. Similarly, the BUs are responsible for the security of their information systems under the control of the Group Digital and IT Department and, for the industrial control systems (ICSs), under the control of the Global Care Department, in cooperation with the Group Digital and IT Department, which coordinates the technical actions to secure these ICSs for sites classed as critical and sensitive.

Important subjects for internal control, such as the segregation of duties and the management of access rights, are taken into account during the design stage of new information systems and regularly reviewed thereafter.

The IT managers of the BUs are, among other things, in charge of the information system recovery plans, while the information systems security officer of the BU is responsible for cybersecurity.

Internal policies and standards

All the decisions, standards and procedures issued by corporate defining the Group's methods of operation are available on its intranet. The Finance Department provides all the procedures and rules intended to ensure the reliability of the accounting and financial information applicable to the Group's entities. The Internal Control Department provides all the Group's employees with the following procedures and best practices:

- methodological guides for entities relating to the definition, assessment and coordination of an internal control system adapted to the nature of their activities;

- internal control frawork (48 sets in 2018) covering business, support and global processes (e.g.: sales, procurement, payroll, information systems, accounting, tax, investment , cash management and personal data protection). Each framework details the intrinsic risks and the key controls designed to manage them;
- best practice on subjects such as the segregation of duties, the role of directors, data protection, etc.

These guidelines can be tailored as needed to the BUs and entities.

2.6.2.3 The system's stakeholders

The stakeholders and their respective roles are presented according to a "three lines of defense" management model, overseen by ENGIE's governance bodies.

The Group's governance bodies

The Board of Directors ensures the proper functioning of internal control within the Group. The Executive Committee defines the organization and responsibilities of managers and ensures compliance with the delegations of authorities. An annual review of internal control is submitted to the Executive Committee and the Audit Committee.

First line of management

The operational managers, who are responsible for the internal control of the processes of their entities, constitute a key element of the system. They ensure that control activities are effectively implemented, analyze the results, correct any deficiencies and endeavor to improve the efficiency of their system.

The Management Committees of the BUs and entities are responsible for establishing and overseeing the internal control covering the scope of their activities. They play a vital role in the quality of the control environment: promoting Group values, defining the organization, assessing results, communicating, etc.

Second line of management

This line of management is organized into sectors, overseen by the Group's functional departments.

The Finance Department carries out internal accounting and financial control (see the relevant section below). Within this department, the Insurance division is involved in risk identification, loss prevention, and the definition and implementation of hedging strategies.

The General Secretariat helps to make the Group's operations and the decisions of its managers legally secure, particularly in the following areas: commitments, litigation, arbitration, studies and actions to protect the criminal liability of the Group and its managers, embargo, company law, financial and stock market regulation, intellectual property law, competition law and regulation and financial law.

Within the General Secretariat, the Ethics, Compliance and Privacy Department is responsible for drafting ENGIE's ethics and compliance rules, as well as ensuring that such rules are actually applied in accordance with the laws and regulations in force.

The Corporate Societal Relations Department is responsible for compliance with environmental laws and regulations throughout ENGIE. It assesses the environmental maturity of the Group's various businesses and is in charge of regulatory environmental reporting.

The Internal Control Department coordinates the implementation of the internal control policy approved by the Executive Board. It coordinates a network of representatives who are in charge, under the responsibility of the managers of the entities, of guiding internal control, and organizes training and information sessions. It monitors and anticipates external regulatory developments as well as changes to the Group, in order adapt the relevant procedures.

Third line of management: the Internal Audit Department

Reporting to the Chief Executive Officer, the Audit Department operates throughout the Group in accordance with an annual plan based on risk analysis and interviews with the operational managers. This plan may be expanded at the request of the Executive Committee so that it covers priority subjects for the Group (subjects related to ethics, personal data protection, etc.). Submitted for approval to the Audit Committee, this plan is designed to cover all of the entities and enables the quality of the business control and management environment to be checked.

Internal Audit also assesses the internal control covering operational and financial processes and the reliability of the self-assessment of controls carried out under the INCOME program.

Internal Audit presents its conclusions to the managers of the BUs and entities and regularly reports on its key observations and on the progress of the associated action plans to the Executive Committee and the Audit Committee. It regularly meets with the Statutory Auditors to share internal control analyses.

2.6.3 Internal control relating to financial and accounting information

2.6.3.1 Organization and stakeholders

The Group Accounting Department is in charge of financial reporting, preparing the parent company financial statements of ENGIE and the financial vehicles managed by Corporate, producing the consolidated financial statements, and liaising with the accounting departments of the AMF. It establishes the Group's accounting principles and oversees their implementation to ensure compliance with the accounting standards. It monitors the evolution of standards and their impact on the Group's financial statements and adapts the principles accordingly. Within the Group Accounting Department, the Group Consolidations Department and the Accounting Standards Department optimize the handling and resolution of complex technical problems. These departments strengthen the quality and standardization of the analyses performed and the positions taken.

The Enterprise Performance Management Department is tasked with establishing the analyses and reports required by the Executive Board for the economic and financial coordination of the Group. It draws up and maintains the Group's management control toolkit and oversees the rolling out of these toolkits to the various entities. It guides the Management Control sector in defining and implementing processes and tools.

The IT Solutions Department Finance Sector is a centralized activity at the corporate level that is responsible for the IS strategy of the Finance Function and for the determination and coordination of the IT solutions policies, rules and standards applicable to the sector. Applications and

infrastructure are distributed to the BUs and Métiers in accordance with the policies defined by corporate. The IT Solutions Department Finance Sector oversees the implementation of the Group's IS security policy within the sector and monitors and plans IS spending and investments.

The consolidated reporting entities all use the SAP software package "Business Objects Financial Consolidation" for the consolidation of the Group's financial statements and management reporting. This application is jointly managed by the Accounting IT Center of Expertise (which handles administrative tasks and system configuration and provides operating assistance to users) and the Information Systems Department, which is in charge of specific underlying infrastructures.

The Group Tax Department is responsible for defining and rolling out the Group's tax policy. It coordinates the validation of tax returns and transfer pricing documentation and ensures that tax data are uniformly reported. As it has a central administrative role, the Group Tax Department is hierarchically responsible for all tax activities. Generally speaking, it is closely supported by the Finance Departments of the BUs, which assume responsibility for tax in terms of compliance and transparency.

The Investor Relations Department is in charge of relations with the analysts that cover the Group and, more broadly, with institutional investors. With regard to management information, the Management Control sector of corporate is the Investor Relations Department's only source of information. All other information arising from the legal reporting process, that is classed as regulated information pursuant to AMF rules, is provided by the Group Accounting Department. Lastly, the department oversees and coordinates the process of market communication (quarterly, half-yearly and annual financial information and information on major transactions) in collaboration with the General Secretariat.

The Finance Departement also uses the current "Missions and operating principles of financial communication" procedure, which sets out management principles for the Group's financial communication and clearly defines its activities in areas concerning analyst and investor relations and market intelligence.

Through the functional lines, all of these corporate departments oversee internal control within their respective areas via the Finance Departments of the BUs, which are specifically responsible for:

- producing the separate financial statements of the legal entities and accounting bodies that comprise them and converting them according to IFRS. corporate is responsible for consolidating these converted data;
- implementing internal control procedures at all the operating subsidiaries, as well as decentralized management control (see the section entitled "Setting objectives and coordination" below).

2.6.3.2 Consolidation process

The Group Accounting Department is in charge of producing the consolidated financial statements, supported by the BU consolidation, Enterprise Performance Management and the management control teams. It manually updates the accounting principles and closing instructions disseminated before each phase of consolidation.

Each of these entities carries out controls in its own area of responsibility to ensure that Group accounting standards and policies have been circulated and applied correctly. This principle of subsidiarity allows second-tier controls to be applied to the prepared information, at the following levels:

- at the BU level for information passed on to this level by the reporting entities;
- at the corporate level for information passed on to this level by the BUs.

The CEO and CFO of each BU attest to the quality and comprehensiveness of the financial information provided to the Group by means of a representation letter.

Discussions with the Statutory Auditors enhance the quality of financial information with respect to the standards, particularly in the case of complex situations that are open to interpretation.

2.6.3.3 Setting objectives and coordination

Every year, each of the Group's BUs produces a medium-term business plan (MTBP), a budget and budget re-estimates. The Enterprise Performance Management Department, which reports to the Finance Department, prepares instructions for this purpose for each BU, including details such as macroeconomic hypotheses, financial and non-financial indicators, the timetable and the segmentation of the scope of activity. Each BU is responsible for sending these instructions to the subsidiaries and reporting entities within its scope after tailoring them to the specific characteristics of its business activity.

The BU Committee, which is chaired by the Executive Board and brings together the corporate departments and the operational and financial departments of each BU, approves for each BU the objectives set for the following year, the corresponding budget and the outlook beyond the current year derived from the budget process and the MTBP, to be used as the basis for the impairment testing of goodwill and long-term assets. The Group's consolidated budget and MTBP are presented to Audit Committee and the Strategy, Investment and Technology Committee before being submitted to the Board of Directors.

The BU Committees enable regular dialogue between the BUs and the Group based on analyses of real current data, forecasts and past data.

2.6.4 Formalization and coordination of internal control

Within the scope of the INCOME program, oversight of the internal control system takes place at several levels:

- the operational managers oversee the correct implementation of the control activities of their processes, assess the results and rectify any weaknesses detected;
- a formalized annual process of self-assessment of key controls, carried out with the support of the individuals responsible for internal control within the entities, taking into account the entities' control processes and general control environment;
- Internal Audit reviews the quality of the self-assessments and the pertinence of the action plans.

Outside the scope of the INCOME program, internal control toolkits and a specific questionnaire are provided to the entities. These enable sensitive areas to be covered, such as the separation of tasks and the protection of assets.

The Group also implements a system of commitment involving the managers of the BUs and the main functional departments concerning the establishment, oversight and effectiveness of an internal control system covering their respective areas of responsibility.

Each year, meetings take place between the Internal Control Department and the Statutory Auditors in order to share analyses of the quality of the existing systems and to identify, where necessary, action plans to rectify any weaknesses detected.

2.6.5 Recent actions to strengthen the system

The most significant actions are as follows:

- the progress of the Common Finance project for integration of the information systems of the BUs and the subsidiaries;
- the design and roll-out, with the Group Ethics and Compliance Department, of a set of internal control toolkits focused on personal data protection;
- the strengthening of internal control relating to the vigilance plan (see Section 4.3 "Vigilance plan");
- the in-depth analysis of incidents reported to the Group Ethics and Compliance Department in order to make the prevention system more efficient.