RISK FACTORS

The Group and its businesses are subject to various risks relating to changing competitive, economic, political, legal, social, industry, business and financial conditions. These conditions, along with TOTAL's approaches to managing certain of these risks, are described below and discussed in greater detail elsewhere in this Annual Report, particularly under the headings "Item 4. Information on the Company — Other Matters", "Item 5. Operating and Financial Review and Prospects" and "Item 11. Quantitative and Qualitative Disclosures About Market Risk".

A substantial or extended decline in oil or natural gas prices would have a material adverse effect on our results of operations.

Prices for oil and natural gas historically have fluctuated widely due to many factors over which we have no control. These factors include:

- global and regional economic and political developments in resource-producing regions, particularly in the Middle East, Africa and South America;
- global and regional supply and demand;
- the ability of the Organization of Petroleum Exporting Countries (OPEC) and other producing nations to influence global production levels and prices;
- prices of alternative fuels which affect our realized prices under our long-term gas sales contracts:
- governmental regulations and actions;
- global economic and financial market conditions:
- war or other conflicts;
- cost and availability of new technology;
- changes in demographics, including population growth rates and consumer preferences; and
- adverse weather conditions (such as hurricanes) that can disrupt supplies or interrupt operations of our facilities.

Substantial or extended declines in oil and natural gas prices would adversely affect our results of operations by reducing our profits. For the year 2011, we estimate that a decrease of \$1.00 per barrel in the average annual price of Brent crude would have the effect of reducing our annual adjusted net operating income from the Upstream segment by approximately 60.13 billion (calculated with a base case exchange rate of \$1.30 per 61.00). In addition to the adverse effect on revenues, margins and profitability from any fall in oil and natural gas prices, a prolonged period of low prices or other indicators could lead to reviews for impairment of the Group's oil and natural gas properties and could impact reserves. Such reviews would reflect management's view of long-term oil and natural gas prices and could result in a charge for impairment that could have a significant effect on our results of operations in the period in which it occurs. Lower oil and natural gas prices over prolonged periods may also reduce the economic viability of projects planned or in development, causing us to cancel or postpone capital expansion projects, and may reduce liquidity, thereby potentially decreasing our ability to finance capital expenditures. If we are unable to follow through with capital expansion projects, our opportunities for future revenue and profitability growth would be reduced, which could materially impact our financial condition.

We face foreign exchange risks that could adversely affect our results of operations.

Our business faces foreign exchange risks because a large percentage of our revenues and cash receipts are denominated in dollars, the international currency of petroleum sales, while a significant portion of our operating expenses and income taxes accrue in euros and other currencies. Movements between the dollar and euro or other currencies may adversely affect our business by negatively impacting our booked revenues and income, and may also result in significant translation adjustments that impact our shareholders' equity.

Our long-term profitability depends on cost effective discovery and development of new reserves; if we are unsuccessful, our results of operations and financial condition would be materially and adversely affected.

A significant portion of our revenues and the majority of our operating income are derived from the sale of crude oil and natural gas which we extract from underground reserves discovered and developed as part of our Upstream business. In order for this business to continue to be profitable, we need to replace depleted reserves with new proved reserves. Furthermore, we need to accomplish such replacement in a manner that allows subsequent production to be economical viable. However, our ability to discover or acquire and develop new reserves successfully is uncertain and can be negatively affected by a number of factors, including:

- unexpected drilling conditions, including pressure or irregularities in geological formations;
- equipment failures or accidents;
- our inability to develop new technologies that permit access to previously inaccessible fields;
- adverse weather conditions;

- · compliance with unanticipated governmental requirements;
- shortages or delays in the availability or delivery of appropriate equipment;
- · industrial action: and
- problems with legal title.

Any of these factors could lead to cost overruns and impair our ability to make discoveries or complete a development project, or to make production economical. If we fail to discover and develop new reserves cost-effectively on an ongoing basis, our results of operations, including profits, and our financial condition, would be materially and adversely affected.

Our crude oil and natural gas reserve data are only estimates, and subsequent downward adjustments are possible. If actual production from such reserves is lower than current estimates indicate, our results of operations and financial condition would be negatively impacted.

Our proved reserves figures are estimates reflecting applicable reporting regulations as they may evolve. Proved reserves are those reserves which, by analysis of geosciences and engineering data, can be estimated with reasonable certainty to be economically producible — from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations — prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation. Reserves are estimated by teams of qualified, experienced and trained earth scientists, petroleum engineers and project engineers, who rigorously review and analyze in detail all available geosciences and engineering data (e.g., seismic, electrical logs, cores, fluids, pressures, flow rates, facilities parameters). This process involves making subjective judgments, including with respect to the estimate of hydrocarbons initially in place, initial production rates and recovery efficiency, based on available geological, technical and economic data. Consequently, estimates of reserves are not exact measurements and are subject to revision. In addition, they may be negatively impacted by a variety of factors which are beyond our control and which could cause such estimates to be adjusted downward in the future, or cause our actual production to be lower than our currently reported proved reserves indicate. The main such factors include:

- a decline in the price of oil or gas, making reserves no longer economically viable to exploit and therefore not classifiable as proved;
- an increase in the price of oil or gas, which may reduce the reserves that we are entitled to under production sharing and risked service contracts:
- changes in tax rules and other government regulations that make reserves no longer economically viable to exploit; and
- the actual production performance of our reservoirs.

Our reserves estimates may therefore require substantial downward revisions to the extent our subjective judgments prove not to have been conservative enough based on the available geosciences and engineering data, or our assumptions regarding factors or variables that are beyond our control prove to be incorrect over time. Any downward adjustment would indicate lower future production amounts, which could adversely affect our results of operations, including profits as well as our financial condition.

We have significant production and reserves located in politically, economically and socially unstable areas, where the likelihood of material disruption of our operations is relatively high.

A significant portion of our oil and gas production occurs in unstable regions around the world, most significantly Africa, but also the Middle East, Asia-Pacific and South America. Approximately 32%, 22%, 10% and 8%, respectively, of our 2010 combined liquids and gas production came from these four regions. In recent years, a number of the countries in these regions have experienced varying degrees of one or more of the following: economic instability, political volatility, civil war, violent conflict and social unrest. In Africa, certain of the countries in which we have production have recently suffered from some of these conditions. The Middle East in general has recently suffered increased political volatility in connection with violent conflict and social unrest. A number of countries in South America where we have production and other facilities, including Argentina, Bolivia and Venezuela, have suffered from political or economic instability and social unrest and related problems. In Asia-Pacific, Indonesia has suffered some of these conditions. Any of these conditions alone or in combination could disrupt our operations in any of these regions, causing substantial declines in production. Furthermore, in addition to current production, we are also exploring for

and developing new reserves in other regions of the world that are historically characterized by political, social and economic instability, such as the Caspian Sea region where we have a number of large projects currently underway. The occurrence and magnitude of incidents related to economic, social and political instability are unpredictable. It is possible that they could have a material adverse impact on our production and operations in the future.

We are exposed to risks regarding the safety and security of our operations. In addition, while our insurance coverage is in line with industry practice, we are not insured against all possible risks.

TOTAL engages in a broad scope of activities, which include drilling, oil and gas production, processing, transportation, refining and petrochemical activities, storage and distribution of petroleum products, and production of base chemical and specialty products, and involve a wide range of operational risks. Among these risks are those of explosion, fire or leakage of toxic products, as well as environmental risks related to emissions and discharges into the air, water or soil and the management of waste. We also face risks, once production is discontinued, because our activities require environmental site remediation. In the transportation area, the type of risk depends not only on the hazardous nature of the products transported, but also on the transportation methods used (mainly pipelines, maritime, river-maritime, rail, road), the volumes involved, and the sensitivity of the regions through which the transport passes (quality of infrastructure, population density, environmental considerations).

Certain branches or activities face specific additional risks. In Exploration & Production, we face risks related to the physical characteristics of our oil or gas fields. These include the risks of eruptions of crude oil or of natural gas, discovery of hydrocarbon pockets with abnormal pressure, crumbling of well openings, leaks that can harm the environment and risks of fire or explosion. These events may cause injury or death, damage or destroy crude oil or natural gas wells as well as equipment and other property, lead to a disruption of activity or cause environmental damage. In addition, since exploration and production activities may take place on sites that are ecologically sensitive (tropical forest, marine environment, etc.), each site requires a risk-based approach to avoid or minimize the impact on human health, flora and fauna, the ecosystem and biodiversity. ToTAL's activities in the Chemicals segment and the Refining & Marketing division also entail additional health, safety and environmental risks related to the overall life cycle of the products manufactured, as well as raw materials used in the manufacturing process, such as catalysts, additives and monomer feedstocks. These risks can arise from the intrinsic characteristics of the products involved (flammability, toxicity, or long-term environmental impacts such as greenhouse gas emissions), their use (including by customers), emissions and discharges resulting from their manufacturing process, and from recycling or disposing of materials and wastes at the end of their useful life.

If an event occurs leading to personal injury, death, property damage or discharge of hazardous materials into the environment, contractual terms may provide for indemnification obligations, either by TOTAL in favor of third-parties or by third-parties for TOTAL's benefit. With respect to joint ventures operated by TOTAL, contractual terms generally provide that TOTAL assumes liability for damages caused by its gross negligence or willful misconduct. With respect to joint ventures in which TOTAL has an interest but that are operated by others, contractual terms generally provide that the operator assumes liability for damages caused by its gross negligence or willful misconduct. All other liabilities of any type of joint venture are generally assumed by the partners in proportion to their respective ownership interests. With respect to third party providers of goods and services, the amount and nature of liabilities assumed by the third party depends on the context and may be limited by contract. With respect to the Group's customers, TOTAL seeks to ensure that its products meet applicable specifications and that TOTAL abides by all applicable consumer protection laws.

To manage these risks, we maintain worldwide third-party liability insurance coverage for all of our subsidiaries. In addition, we also maintain insurance to protect us against the risk of damage to Group property and/or business disruption. Our insurance and risk management policies are described under "Item 4. Other Matters — Insurance and risk management". While we believe our insurance coverage is in line with industry practice and sufficient to cover normal risks in our operations, we are not insured against all possible risks. In the event of a major environmental disaster, for example, our liability may exceed the maximum coverage provided by our third-party liability insurance. The loss we could suffer in the event of such a disaster would depend on all the facts and circumstances and would be subject to a whole range of uncertainties, including legal uncertainty as to the scope of liability for consequential damages, which may include economic damage not directly connected to the disaster. The Group cannot guarantee that it will not suffer any uninsured loss and there can be no assurance,

particularly in the case of a major environmental disaster or industrial accident, that such loss would not have a material adverse effect on the Group.

We are subject to stringent environmental, health and safety laws in numerous jurisdictions around the world and may incur material costs to comply with these laws and regulations.

Our workforce and the public are exposed to risks inherent to our operations that potentially could lead to injuries, loss of life or environmental damage and could result in regulatory action, legal liability and damage to our reputation.

We incur, and expect to continue to incur, substantial capital and operating expenditures to comply with increasingly complex laws and regulations covering the protection of the natural environment and the promotion of worker health and safety, including:

- costs to prevent, control, eliminate or reduce certain types of air and water emissions, including those costs incurred in connection with government action
 to address climate change:
- · remedial measures related to environmental contamination or accidents at various sites, including those owned by third parties;
- compensation of persons claiming damages caused by our activities or accidents; and
- ullet costs in connection with the decommissioning of drilling platforms and other facilities.

In addition, growing public concerns in the EU and globally that rising greenhouse gas emissions and climate change may significantly affect the environment and society could adversely affect our businesses, including by the addition of stricter regulations that increase our operating costs, affect product sales and reduce profitability.

If our established financial reserves prove inadequate, environmental costs could have a material effect on our results of operations and our financial position. Furthermore, in the countries where we operate or expect to operate in the near future, new laws and regulations, the imposition of tougher license requirements, increasingly strict enforcement or new interpretations of existing laws and regulations or the discovery of previously unknown contamination may also cause us to incur material costs resulting from actions taken to comply with such laws and regulations, including:

- modifying operations;
- installing pollution control equipment;
- implementing additional safety measures; and
- performing site clean-ups.

As a further result of any new laws and regulations or other factors, we may also have to curtail, modify or cease certain operations or implement temporary shutdowns of facilities, which could diminish our productivity and materially and adversely impact our results of operations, including profits.

Security threats require continuous assessment and response measures. Acts of terrorism against our plants and offices, pipelines, transportation or computer systems could severely disrupt businesses and operations and could cause harm to people.

Our operations throughout the developing world are subject to intervention by various governments, which could have an adverse effect on our results of operations.

We have significant exploration and production, and in some cases refining, marketing or chemicals operations, in developing countries whose governmental and regulatory framework is subject to unexpected change and where the enforcement of contractual rights is uncertain. In addition, our exploration and production activity in such countries is often done in conjunction with state-owned entities, for example as part of a joint venture, where the state has a significant degree of control. In recent years, in various regions globally, we have seen governments and state-owned enterprises exercising greater authority and imposing more stringent conditions on companies pursuing exploration and production activities in their respective countries, increasing the costs and uncertainties of our business operations, which is a trend we expect to continue. Potential increasing intervention by governments in such countries can take a wide variety of forms, including:

- · the award or denial of exploration and production interests;
- · the imposition of specific drilling obligations;
- price and/or production quota controls;
- · nationalization or expropriation of our assets;
- unilateral cancellation or modification of our license or contract rights;
- · increases in taxes and royalties, including retroactive claims;
- the establishment of production and export limits;
- the renegotiation of contracts;
- payment delays; and
- currency exchange restrictions or currency devaluation.

Imposition of any of these factors by a host government in a developing country where we have substantial operations, including exploration, could cause us to incur material costs or cause our production to decrease, potentially having a material adverse effect on our results of operations, including profits.

We have activities in certain countries which are subject to U.S. and EU sanctions and our activities in Iran could lead to sanctions under relevant U.S. and EU legislation.

We currently have investments in Iran and, to a lesser extent, Syria, Myanmar, Sudan and Cuba. U.S. legislation and regulations currently impose economic sanctions on these countries.

In 1996, the United States adopted legislation implementing sanctions against non-U.S. companies doing business in Iran and Libya (the Iran and Libya Sanctions Act, referred to as "ILSA"), which in 2006 was amended to concern only business in Iran (then renamed the Iran Sanctions Act, referred to as "ISA").

Pursuant to this statute, the President of the United States is authorized to initiate an investigation into the activities of non-U.S. companies in Iran and the possible imposition of sanctions (from a list that includes denial of financing by the U.S. Export-Import Bank, limitations on the amount of loans or credits available from U.S. financial institutions and prohibition of U.S. federal procurements from sanctioned persons) against persons found, in particular, to have knowingly made investments of \$20 million or more in any 12-month period in the petroleum sector in Iran. In May 1998, the U.S. government waived the application of sanctions for TOTAL's investment in the South Pars gas field. This waiver, which has not been modified since it was granted, does not address TOTAL's other activities in Iran, although TOTAL has not been notified of any related sanctions.

In November 1996, the Council of the European Union adopted regulations which prohibit TOTAL from complying with any requirement or prohibition based on or resulting directly or indirectly from certain enumerated legislation, including ILSA (now ISA). It also prohibits TOTAL from having its waiver for South Pars extended to other activities.

In each of the years since the passage of ILSA and until 2007, TOTAL made investments in Iran in excess of \$20 million (excluding the investments made as part of the development of South Pars). Since 2008, TOTAL's position has consisted essentially in being reimbursed for its past investments as part of buyback contracts signed between 1995 and 1999 with respect to permits on which the Group is no longer the operator. In 2010, TOTAL's production in Iran represented less than 0.1% of the Group's worldwide production.

ISA was amended in July 2010 by the Comprehensive Iran Sanctions, Accountability and Divestment Act of 2010 ("CISADA"), which expanded the scope of ISA and restricted the President's ability to grant waivers. In addition to sanctionable investments in Iran's petroleum sector, parties may now be sanctioned for any transaction exceeding \$1 million or series of transactions exceeding \$5 million in any 12-month period for knowingly providing to Iran refined petroleum products, and for knowingly providing to Iran refined petroleum products, or expansion of Iran's domestic production of refined petroleum products, or (ii) contribute to the enhancement of Iran's ability to import refined petroleum products. The sanctions to be imposed against violating firms generally prohibit transactions in foreign exchange by the sanctioned company, prohibit any transfers or payments involve any interest of the sanctioned company, and require blocking of any property of the sanctioned company that is subject to the jurisdiction of the United States. Investments in the petroleum sector commenced prior to the adoption of CISADA appear to remain subject to the pre-amended version of ISA. The new sanctions added by CISADA would be available with respect to new investments in the petroleum sector or any other sanctionable activity occurring on or after July 1, 2010. Prior to CISADA's enactment, TOTAL discontinued now-prohibited sales of refined products to Iran.

On September 30, 2010, the U.S. State Department announced that the U.S. government, pursuant to the "Special Rule" provision of ISA added by CISADA that allows it to avoid making a determination of sanctionability under ISA with respect to any party that provides certain assurances, would not make such a determination with respect to TOTAL. The U.S. State Department further indicated at that time that, as long as TOTAL acts in accordance with its commitments, TOTAL will not be regarded as a company of concern for its past Iran-related activities.

France and the European Union have adopted measures, based on United Nations Security Council resolutions, which restrict the movement of certain individuals and goods to or from Iran as well as certain financial transactions with Iran, in each case when such individuals, goods or transactions are related to nuclear proliferation and weapons activities or likely to contribute to their devolopment. In July and October 2019, the European Union adopted new restrictive measures regarding Iran (the "EU Measures"). Among other things, the supply of key equipment and technology in the following sectors of the oil and gas industry in Iran are prohibited: refining, liquefied natural gas, exploration and production. The prohibition extends to technical assistance, training and financial assistance in connection with such items. Extension of loans or credit to, acquisition of shares in, entry into joint ventures with or other participation in enterprises in Iran (or Iranian-owned enterprises outside of Iran) engaged in any of the targeted sectors also is prohibited. Moreover, with respect to restrictions on transfers of funds and on financial services, any transfer of at least €40,000 or equivalent to an Iranian individual or entity shall require a prior authorization of the competent authorities of the EU Member States.

TOTAL continues to closely monitor legislative and other developments in France, the European Union and the United States in order to determine whether its limited activities in Iran could subject it to the application of sanctions. However, the Group cannot assure that current or future regulations or developments regarding Iran will not have a negative impact on its business or reputation.

The United States also imposes sanctions based on the United Nations Security Council resolutions described above, as well as broad and comprehensive economic sanctions, which are administrated by the U.S. Treasury Department's Office of Foreign Assets Control (referred to as "OFAC"). These OFAC sanctions generally apply to U.S. persons and activities taking place in the United States or that are otherwise subject to U.S. jurisdiction. Since August 16, 2010, transactions between Iranian entities and non-U.S. financial institutions holding U.S. bank accounts in the United States have been subject to OFAC restrictions. Sanctions administered by OFAC target Cuba, Iran, Myanmar (Burma), Sudan and Syria. TOTAL does not believe that these sanctions are applicable to any of its activities in these countries.

In addition, many U.S. states have adopted legislation requiring state pension funds to divest themselves of securities in any company with active business operations in Iran or Sudan. State insurance regulators have adopted similar initiatives relating to investments by insurance companies in companies doing business with the Iranian oil and gas, nuclear, and defense sectors. TOTAL has no business operations in Sudan and, to date, has not made any significant investments or industrial investments there. The Genocide Intervention Network (formerly known as Sudan Divestment Task Force) report states that TOTAL should be regarded as "inactive" in Sudan by the U.S. states that have adopted such divestment legislation. CISADA and the Sudan Accountability and Divestment Act, which was adopted by the U.S. Congress on December 31, 2007, support these state legislative initiatives. If TOTAL's operations in Iran or Sudan were determined to fall within the prohibited scope of these laws, and TOTAL were not to qualify for any available exemptions, certain U.S. institutions holding interests in TOTAL may be required to sell their interests. If significant, sales of securities resulting from such laws and/or regulatory initiatives could have an adverse effect on the prices of TOTAL's securities.

For more information on TOTAL's presence in Cuba, Iran, Sudan and Syria, see "Item 4. Other Matters — Business Activities in Cuba, Iran, Sudan and Syria".

ITEM 4. INFORMATION ON THE COMPANY

HISTORY AND DEVELOPMENT

TOTAL S.A., a French société anonyme (limited company) incorporated in France on March 28, 1924, together with its subsidiaries and affiliates, is the fifth largest publicly-traded integrated international oil and gas company in the world.(1)

With operations in more than 130 countries, TOTAL has activities in every sector of the oil industry, including in the Upstream (oil and gas exploration, development and production, LNG) and Downstream (refining, marketing and the trading and shipping of crude oil and petroleum products) segments.

TOTAL also has operations in Base Chemicals (petrochemicals and fertilizers) and Specialty Chemicals, mainly for the industrial market. In addition, TOTAL has interests in the coal mining and power generation sectors.

(1) Based on market capitalization (in dollars) as of December 31, 2016