
TOTAL IN CHINA 2017

THE
RESPONSIBLE
ENERGY
MAJOR



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Shaping Tomorrow's Energy

From climate change to demographic growth and economic development, energy is connected with all the key issues facing today's world. At Total, we are committed to finding solutions to the challenge of climate change, while also supporting economic and social development worldwide by providing affordable, reliable and clean energy. That's why we have made this commitment the very basis of our strategy and ambition to become the responsible energy major. It is our collective and unifying ambition, bringing together the various strands of our global business. Total takes action today in order to shape tomorrow's energy.

Key Figures (2016)



98,109

employees

in 130+ Countries at
January 31, 2017 after the
sale of Atotech



800+ production plants



Revenue of **\$ 149.7 billion**



Adjusted net income **\$ 8.3 billion**

A global energy leader



No. 4

international oil and
gas company

2.5 Mboe/d produced in 2016,
of which approximately 48%
gas



Refining & Chemicals:
a global top 10
integrated manufacturer

1.9M barrels of oil refined every day



A major integrated
Solar operator, with
SunPower and Total
Solar



More than
4 million+

customers a day
served at Total service
stations worldwide

Responsible growth



23%

decrease in
greenhouse gas
emissions since 2010
in our operated scope



USD 6.7 billion
forecasted spending
on R&D between
2016 and 2020

Interview with Chairman



To meet these challenges, we are adapting our business and operations, and developing tangible solutions so as to provide affordable, reliable and clean energy to as many people as possible. It is our “One Total, One Ambition” project.



Bertrand de La Noue

General Representative of Total in China
Chairman of Total (China) Investment Co., Ltd.

As an energy company, Total is facing three major challenges over the next 20 years: supplying energy to a larger population, tackling climate issues and anticipating changes in our customer needs. To meet these challenges, we are adapting our business and operations, and developing tangible solutions so as to provide affordable, reliable and clean energy to as many people as possible. It is our “One Total, One Ambition” project.

To address climate change, we have adopted the IEA’s 2°C scenario as our baseline principle, guiding our investment decisions. However, even if the share of renewables in the global energy mix is increased by 2035, oil and gas will continue to account for more than 40% of all energy supply. Total prefer an approach that favors natural gas, which emits half as much carbon as coal, and provides a higher degree of reliability. This will see gas make up the biggest share of our portfolio, with LNG leading the way.

Our commitment to delivering gas also aligns with the environmental objectives of the Chinese government as the country shifts its energy production from coal to gas and renewables. We are supporting this shift with continued investment in development and production in the South Sulige tight gas field, and through partnerships with CNPC in large gas projects in places such as Russia and Iran. We are also developing and extending our LNG supply agreements, through long term and spot deals, with state-owned and private Chinese companies.

Renewables and solar, in particular, will be of increasing importance in meeting growing energy demand. Our ambitions remain centered on consolidating and

leveraging the market-leading position of SunPower and its cutting-edge technology. We will also continue to promote the growth of our solar business in utility-scale solar power plant projects, notably through partnerships in China. Total’s acquisition of Saft is an important and complementary move, improving our expertise in battery technologies and options in the energy storage space.

Addressing customer needs and anticipating changes are also key factors in our strategy. We strive to offer the highest quality products and the best services. In that respect, we introduced our TOTAL EXCELLIUM fuel to the China market this year, which is a Total Ecosolutions product, providing customers with a choice of products that increase fuel efficiency without compromising on product quality. We are also expanding our lubricants and grease offerings to ensure optimized customer satisfactions.

Finally, we continue to be proud of the contributions we have made at the community level and have always recognized that our responsibilities are much broader than simply focusing on our business operations. These responsibilities are well captured in our core values of: safety, respect for each other, pioneer spirit, stand together, and performance. These guide both our response to the major energy challenges identified and the fulfilment of our broader social responsibilities through local level employee and community initiatives. Total will continue to live these values as we strive to be the world’s responsible energy major.

Total China Overview

Being the first international energy company to enter China's offshore exploration and refining business in the early 1980s, Total has since grown to currently employ around 5,000 people and owns 25 companies in China. We are active across the entire value chain from upstream to downstream and chemicals, working in mutually beneficial partnerships sharing technologies and know-how, as well as jointly developing business opportunities with Chinese partners in China and across the world.



Exploration & Production

Exploration & Production conducts our oil and natural gas exploration, development and production operations in more than 50 countries. Total first arrived in China in the 1980s, and was the first international oil company to conduct offshore oil and gas exploration in China. Over the almost 40 years since, Total has explored for oil and gas in many Chinese offshore and onshore basins including Beibu Gulf, Bohai Bay, Yellow Sea, South sea and Tarim Basin, and built a proud history of working with Chinese NOCs on projects across the world. Key to the success of these partnerships is the close attention to each partner's specific needs and the response to these needs in the context of the partnership, allowing both sides to progress their positions and break new ground.

In 2006, Total signed a Production Sharing Contract (PSC) with CNPC for the evaluation, development and production of natural gas resources in the South Sulige gas field. CNPC (51%) now operates the project with Total (49%) providing project management and technical support and expertise. The planned

Key Global E&P Partnerships with Chinese Partners



- 1 Akpo and Egina deepwater field in Nigeria with CNOOC
- 2 Uganda oil projects with CNOOC
- 3 Halfaya oil field in Iraq with PetroChina
- 4 Kazakhstan Kashagan field with CNPC
- 5 Yamal LNG project in the Arctic with CNPC
- 6 Brazil Libra PSC project with CNPC and CNOOC
- 7 South Pars 11 project in Iran with CNPC
- 8 ADCO Concession Agreement with CNPC and CEFC in Abu Dhabi

total production of the project is approximately 440 million barrels of oil equivalent by 2036 (the term of the contract). After its first gas in 2012, the cumulative wellhead gas production of the project has already reached 6 bcm as of March 2017.

In 2017, Total signed a Production Sharing Contract with China National Offshore Oil Corporation (CNOOC) and CPC Corporation Taiwan (CPC) for the Taiyang exploration block in the South China Sea. This agreement is significant as it marks Total's re-entry into deep offshore exploration

in this region after almost 40 years of absence, in a domain which for the Group is a strength and strategic focus.

Otherwise, through its integrated International Procurement Office (IPO) in Shanghai, Total is sourcing high-quality products in China for its projects worldwide. IPO identifies and selects the highest quality local suppliers through a rigorous process that ensures that qualified suppliers comply with strict health and safety standards and labor laws.



Gas, Renewables & Power

Gas, Renewables & Power spearheads Total's ambitions in the electricity value chain by expanding in downstream gas, renewable energies and energy efficiency. We are the world's fourth-largest listed producer of natural gas and the second largest liquefied natural gas (LNG) operator. LNG is a critical element in Total's and China's energy transition to acknowledge the

International Energy Agency's 2°C scenario. Gas will undoubtedly play a vital role in our response to the climate challenges ahead. With 7.5 Mt of LNG delivered to China since 2010, Total is contributing to China's current transition from a largely coal-dominated energy mix to a more diversified and climate-friendly one.



Total has supplied over **7.5 million** tons of LNG to China since 2010.

Total and CNOOC signed a Sales and Purchasing Agreement (SPA) for up to 1 million tons in annual sales of LNG for a 15-year period, beginning in 2010. In 2014, the parties set a framework for an additional supply of 1 million tons of LNG per year as well as further cooperation throughout the LNG value chain. In 2016, we signed a pioneer contract to supply 0.5 million tons of LNG per year from 2018 to the private gas distributor ENN.

Our SunPower affiliate is a world leading solar company specializing in high-efficiency PV technologies. In November 2013, the joint venture – China Concentrated Photovoltaic (Inner Mongolia) Co., Ltd. – was officially established in Hohhot by SunPower together with three Chinese partners, and has been

steadily expanding its footprint in Inner Mongolia, Sichuan and Hebei. Furthermore, we are pleased to have secured a SunPower deal with Dongfang Electric and Tianjin Zhonghuan to produce the most high-tech panels available in the most efficient manner possible. Last September, Total China and SunPower also committed to supplying solar modules for the first Panda Power Plant in the UNDP’s Panda Solar Power Plant program, which promotes sustainable development and green energy advocacy. The Group’s recent acquisition of Saft, a global leader in high-tech batteries for industrial applications, will further accelerate our growth in renewables. Saft has recently doubled the capacity of its Zhuhai battery plant in Guangdong.



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Refining & Chemicals

Refining & Chemicals is a world leader in petrochemicals production, and active in specialty chemicals, has a refining capacity of nearly 2 million barrels per day. Total was the first international oil company to participate in a refinery in China. Total has been cooperating with partners Sinochem, PetroChina and the municipality of Dalian, in West Pacific Petrochemical Company Ltd. (WEPEC), since the refinery started operations in 1996.

In China, Total has two petrochemical plants in Foshan and Ningbo, which opened in 2003 and 2014 respectively. Both plants produce polystyrene, and with an annual production capacity of 200,000 tons each, they allow us

to meet the demands of the Chinese market in a broad array of sectors. The polystyrene produced by the plants is used in rigid packaging, industrial sheets, and insulation. Through injection, the polystyrene is also used to produce a variety of items including boxes, stationery, knives, forks, and toys. The polystyrene is further used in the production of other items including air-conditioner cases, refrigerator liners, television covers, office automations, and food packaging. In 2017, in response to the emerging needs of our customers, Total launched a polypropylene automotive production line at the Ningbo plant. The line has a capacity of 15,000 tons per year and was launched with



Together our Ningbo and Foshan plants have doubled our polystyrene production capacity in China to **400,000** tons per year.

the high-end car industry in mind. Altogether, these two petrochemical plants allow the Group to actively participate in the polymers business in China and reinforce its position as one of the leading petrochemical companies in Asia.

Since 1995, Total's specialty chemical subsidiary Hutchinson has also steadily increased its production facilities in China, becoming a key industrial player in the regional market for products made from process

rubber, with manufacturing plants in Suzhou, Wuhan, Chongqing and Shenyang. In 2016, Hutchinson boasts two newly expanded manufacturing plants in Shenyang and Wuhan to accommodate newly developed manufacturing abilities for car part orders. With these milestones, Hutchinson will continue to realize volume growth in China and satisfy our growing number of customers in this crucial market.



Hutchinson has manufacturing plants in Suzhou, Wuhan, Chongqing, and Shenyang.



Marketing & Services

Marketing & Services designs and markets a broad array of refined products, including fuels and specialty products. M&S continues to grow and introduce products and services that promote responsible energy use to our customers. Globally, we have over 16,000 service stations in 150 countries.

In China, we are pursuing a growth strategy with Sinochem that delivers efficient fuel products and innovative services to our customers in a safe and responsible manner. The strategy underpins our expanding service station network, and as our market continues to grow we have introduced the Group's TOTAL EXCELLIUM premium fuel in China. As a Total Ecosolutions product, TOTAL EXCELLIUM improves engine efficiency and contributes to a reduction in polluting emissions such as carbon monoxide and hydrocarbons. To improve customer

experience, we have also introduced an E-membership program, mobile payment solutions, and product delivery at our service stations, and we continue to bolster the options available to all of our customers by becoming a supplier of eco-friendly fuel and specialty products directly to industrial customers.

Total's lubricants business in China has continued to grow from strength to strength over the years, to now become Total's biggest lubricants market in terms of volume. In this area Total offers a comprehensive range of high quality products to the automotive and industrial sectors, and we have invested in three lubricant plants, one grease plant, and a nationwide logistics network to ensure stringent product quality and optimal customer satisfaction. To further strengthen brand awareness and support local sporting events, Total also recently renewed our partnership

with the Badminton World Federation (BWF) until 2021, and in China we are organizing the 2017 Total-Li Ning-Li Yong Bo Cup 3V3 Badminton Tournaments. The tournaments will be held in 13 cities across China, and with 6,000 players competing, the tournament could potentially set a new world record for the largest number of badminton contestants in one tournament.



In 2012, China became Total's largest lubricants market (auto and industrial).

Taking Action Today

The International Energy Agency (IEA) developed the 2°C scenario with the ambition of keeping global temperature rises below 2°C. This scenario would require emissions of no more than 35 Gt CO₂-eq in 2035, yet, based on current trends, global emissions will total approximately 75 Gt CO₂-eq in 2035. At Total, we recognize the crucial role that the energy industry can play in reducing the world's carbon emissions. For this reason we use the IEA's 2°C scenario as a baseline for our decision-making. This reflects the integral role that climate considerations play in our corporate strategy now and in the future.

The challenges we face in meeting the 2°C scenario are China's challenges as well. The country's latest Five-Year Plan emphasizes addressing environmental pressures and deploying cleaner energy, with the government introducing tough new emissions standards and promoting the role of gas and renewable energies. The market is responding too, as shown by the renewable energy market's explosive growth and the continuing shift from coal to gas. The challenges we face in this area will continue to be centered on diversifying energy sources and meeting environmental goals.

Total's strategy – to become the responsible energy major, providing affordable, reliable and clean energy to as many people as possible – is consistent with the IEA 2°C scenario and China's energy transition. We are taking action on carbon intensity by aggressively advancing the role of natural gas and investing in Carbon Capture, Utilizations and Storage (CCUS) R&D. Total is also making major investments in solar energy and energy storage to raise the profile and proportion of renewable energy in our energy mix. We are committed to raising energy efficiency standards at our facilities and production sites, and empowering customers through our products and services to make responsible and energy efficient decisions.



Take Action on Carbon Intensity

Total is steadily promoting the emergence of natural gas in our energy mix to meet changing global energy needs and uphold the highest safety and environmental standards

Our 20-year ambition is to gradually reduce the carbon intensity of the energy we produce and deliver to customers, through continued growth in natural gas and renewables. We plan to encourage the production of natural gas over oil and to grow our share of low-carbon businesses: midstream and downstream gas, renewable energies and energy storage, energy efficiency, clean fuels and carbon capture, utilization and storage (CCUS) technology. These businesses will generate value in terms of the emissions they prevent and move us to closer our aim of low-carbon businesses accounting for close to 20% of our portfolio by 2035.

An Assertive Natural Gas Strategy

Natural gas is an abundant energy source and the cleanest fossil fuel, making it the best option for tackling climate change while providing for the world's energy needs. Natural gas already comprises nearly 50% of Total's energy mix and is fundamental to the actions we are taking to address the IEA 2°C scenario. By 2035 natural gas could comprise as much as 60% of our overall output as we continue to make substantial ongoing investments in gas related projects. For instance, the flagship South Sulige project between Total in China and CNPC is a prime example of our successful partnerships with NOCs and our ability to anticipate the rising role of natural gas in meeting the world's future energy needs. This March, the cumulative wellhead gas production of South Sulige reached 6 bcm and is forecast to reach 440 million barrels of oil equivalent by 2036.

Total has also made significant strides in natural gas vehicle fuel as part of this strategy. Natural gas vehicle fuel offers a responsible alternative that can meet emissions standards such as Euro 6 and can be used in any vehicle from passenger cars to trucks. In its compressed natural gas (CNG) form, the fuel is especially suitable to city buses and garbage trucks, and in its liquefied natural gas (LNG) form it is particularly suited to long-haul trucks. As one of the world's biggest natural gas operators, we now operate roughly 450 natural gas vehicle fueling stations in Asia, Africa and Europe, and in May 2017 we acquired Dutch firm PitPoint B.V., Europe's third-largest provider of natural gas vehicle fuel with a network of 100 stations.

While natural gas is the backbone of the 2°C scenario, it cannot be used to its full potential unless certain environmental risks are mitigated. This starts with methane, a greenhouse gas with a higher global warming potential (GWP) than carbon dioxide. Total is taking steps, including training employees, to measure and mitigate methane emissions more effectively. We've also joined the Climate & Clean Air Coalition (CCAC) and we are participating in the Oil & Gas Methane Partnership to promote more effective measurement, mitigation and reporting of methane emissions.

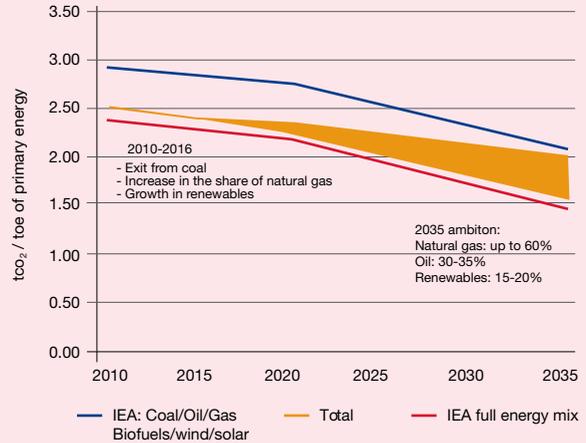


Production forecast for South Sulige is approximately **440 million** barrels of oil equivalent by 2036.

Carbon intensity calculation and projects

In taking the 2°C scenario into account in our strategy, we compare the change in the carbon intensity of our projected growth profile for primary energy production to the change under the 2°C scenario. To calculate the carbon intensity of Total's energy production mix, we use an emissions factor specific to each type of primary energy, calculated on the basis of IEA data. That emissions factor represents the ratio of CO₂ emissions to production of the type of energy in question.

Carbon Intensity of Total's Energy Mix Compared With That of the IEA's 2°C Scenario



Providing LNG to China

As China moves away from coal towards cleaner fossil fuels, Total is increasingly securing opportunities to provide the Chinese market with affordable and reliable LNG. In January 2016, Total signed an agreement with Chinese LNG distributor ENN LNG Trading to deliver 0.5 million tons of LNG per year for the next 10 years. Sourced from Total's global LNG portfolio, the deliveries are expected to begin in 2018 upon completion of ENN's Zhoushan LNG receiving terminal.

Globally, we are working deep in the Russian Arctic with CNPC on the Yamal LNG project. This is a major and complex project that will eventually produce 14 trillion cubic meters of gas. We have also returned to Iran together with CNPC. In November, we signed an agreement with the National Iranian Oil Company (NIOC) to operate the South Pars (SP11) project with a 50.1% interest alongside CNPC (30%). Looking ahead, China's "Belt and Road" initiative will continue to provide impetus for Total and our Chinese partners in sourcing LNG from around the world for the Chinese market.



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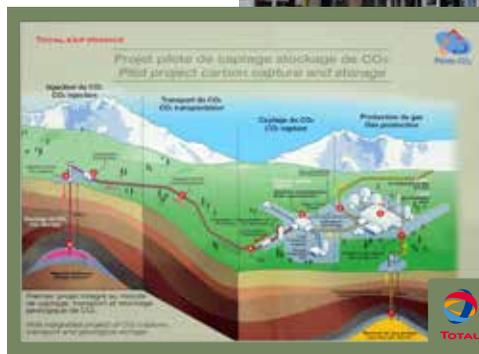
In delivering natural gas there can be significant logistical constraints for certain markets. In response, Total pioneered LNG to overcome some of these constraints and continues to take action to safeguard the ongoing provision of affordable LNG. The development of floating storage and regasification units (FSRUs) is one option. These are best suited for countries with no domestic natural gas supply or land-based terminals, and can be moored to a docking facility or out at sea. The cost and environmental footprint of a FSRU is smaller than an onshore terminal with half the deployment time needed.



The Yamal LNG project contains around **14 trillion** cubic meters of gas and will produce **90 thousand** barrels of oil equivalent per day.

CCUS

In the IEA's 2°C scenario, it is assumed that 6 billion tons of carbon will be captured and stored each year by 2050. Progress in CCUS technology will be critical. Total has been actively involved in this field. The Lacq pilot project between 2010 and 2013 helped us gain relevant expertise, especially in designing a formal approval process for carbon storage. Today our R&D budget for CCUS has tripled in just two years. Our approach is to improve existing technology in a bid for quick yet concrete action, while investing in upstream research in the hopes of yielding innovative, cost-effective solutions that are less energy-intensive. To this end we have cultivated multiple research agreements with universities and industry partners to create the conditions for CCUS to thrive.



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Take Action on Renewable Energy

Preparing for the future energy landscape with responsible investment in renewables

We have options available as we take steps to reduce the carbon intensity of our energy production mix. One of these is developing renewable energies. By 2035, renewables are expected to make up over 20% of the energy mix, compared to 9% currently. That trend will be led by a surge in solar and wind power, easily replacing coal in power generation, especially with the emergence of high-performance energy storage technology and other solutions for overcoming the intermittent nature of these energy sources. At Total, our focus in the renewables space is mainly in solar, through Total Solar and our subsidiary SunPower, but we are also active in biofuels and in energy storage through Saft. These are areas where we can bring our expertise, capital and scale to maximum effect. Our new Gas, Renewables & Power (GRP) segment spearheads our ambitions in this regards.

Accelerating the Solar Energy Transition

Abundant, renewable, clean solar energy is an important element in the IEA's 2°C scenario. Despite occasional market headwinds, and the sector withdrawal of some of our industry peers, we have continued to invest in solar and developing new photovoltaic power generation capacity. Since our acquisition of SunPower in 2011 and the recent creation of Total Solar, we have invested and deployed new capacity and further developed the efficiency of our technology. With an efficiency percentage of 22.8%, SunPower solar panels are the most efficient in the world, leveraging SunPower Maxeon™ cells to convert sunlight into energy more efficiently than conventional panels.

Installation of new capacity worldwide hit a record high in 2016 at 75 to 80 GW, surpassing the record of 58 GW set the previous year. Alongside that rapid surge in capacity, solar power is now more competitively priced and in some regions the tariff can rival that of the most inexpensive sources of power generation. We are active across the entire photovoltaic solar value chain, from manufacturing photovoltaic cells to developing utility-scale plants and installing solar home systems, and our solar portfolio has also shown exceptionally strong growth.

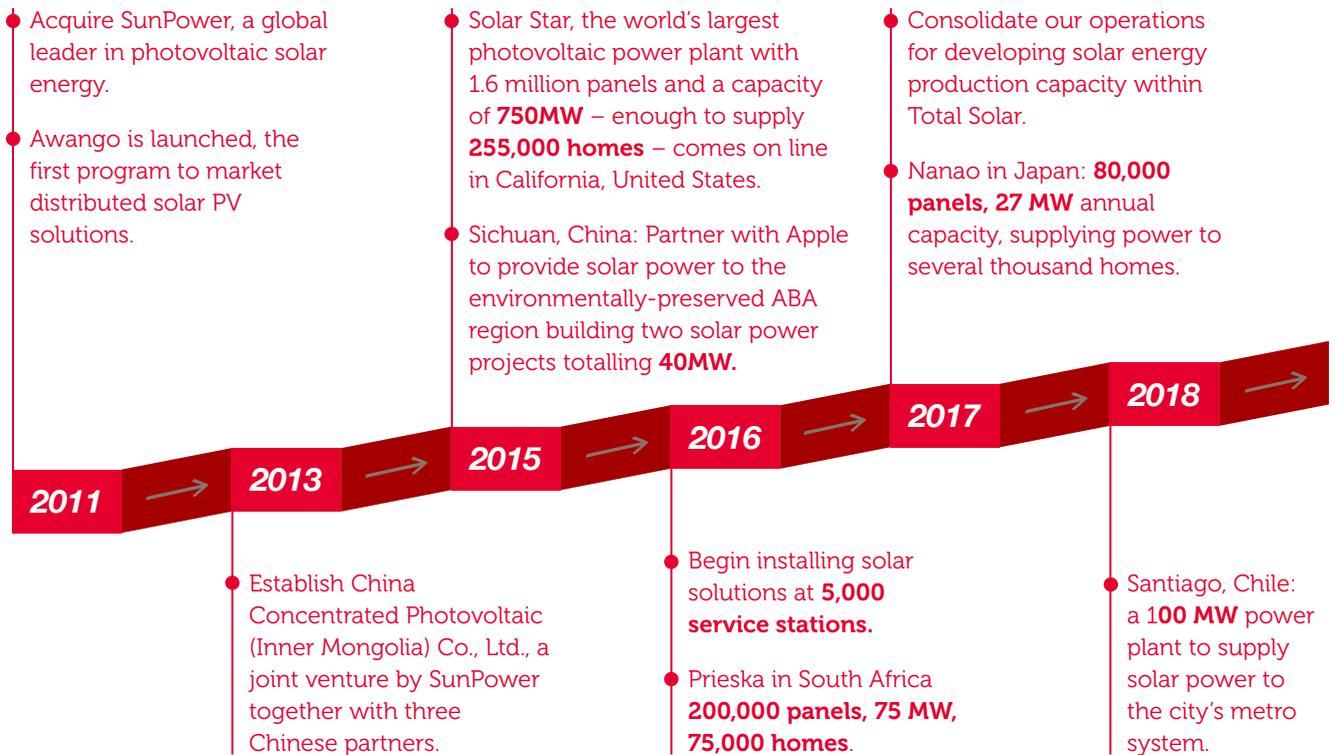
In China, a highly competitive solar market, SunPower has managed to establish important partnerships, from our first solar photovoltaic power station joint venture in



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Inner Mongolia, to our solar power project with Apple in Sichuan. More recently, SunPower has reached deals with Dongfang Electric Corp. and Tianjin Zhonghuan Semiconductors to produce high-tech solar panels for the Chinese market, and in September 2016, we committed to supplying solar modules for the first Panda Power Plant in the UNDP's Panda Solar Power Plant green energy advocacy program.

Milestones



Creating the Future of Energy Storage

Total acquired the high-tech battery maker Saft in last July, in a deal that complements our solar power efforts and presents further growth opportunities in renewables through energy storage. As an energy solutions provider, Saft offers long-term solutions for reducing fossil fuel consumption and carbon emissions. Its Li-ion batteries are an essential component in smart grids, helping to improve power grid management and reducing energy lost during transmission and distribution.

Saft's high-efficiency batteries will also play a critical role in reducing transportation-related carbon emissions by 40% by 2030. Li-ion batteries are lightweight and space-saving, and can meet the technical challenges posed by hybrid and electric propulsion, not only in urban environments, but also at ports, airports and industrial sites and in shipping. In Southeast Asia and China, Saft currently commands 40% of the battery market for subway systems. Saft is also a trusted partner and battery supplier

for rail projects, including in China, where it supplied the batteries for Beijing's first driverless subway. Saft also has a battery plant in Zhuhai, and following the acquisition, Total is developing an expansion strategy for Saft such that its production capabilities can effectively scale with emerging market demand.





Total's refinery in La Mède, France.

Biofuel and Biorefinery R&D

Alongside solar, Total also has a focus on bioenergy. For 20 years, Total has been producing biofuels and announced last year that the crude oil refinery in La Mède, France, would be transformed into a biorefinery. Once complete, the refinery will be capable of producing 25,000 tons of bionaptha per year and will be powered by a solar farm using SunPower technology.

Biofuels could also prove to be a long-term energy solution for air transportation. Between now and 2030, the number of air passengers is likely to double to 6 billion per year. The air transportation sector is aiming to half its net greenhouse gas emissions (from the 2005 baseline). In this area, Total has research projects under way with Amyris and Biofuel. We have also taken part in a number of demonstration programs, including Air France's

Lab'line for future flights between Paris and Toulouse and Cathay Pacific flights for their new Airbus A350s. By 2018 we expect to be able to produce biojet at our La Mède biorefinery from hydrotreated vegetable oil (HVO).

In China, Total is working with the Qingdao Institute of Bioenergy and Bioprocess Technology (QIBEBT) on biofuel R&D, and this year secured a second collaboration agreement with QIBEBT to further the current levels of fruitful cooperation. The collaboration has been ongoing since 2013 on a research program to screen and identify enzymes that can be efficiently used to produce biofuels and feedstock for green chemicals. The results have raised our understanding of the enzymatic production of biofuels and chemicals, and make the collaboration an important initiative in Total's phototrophic pathway R&D efforts.



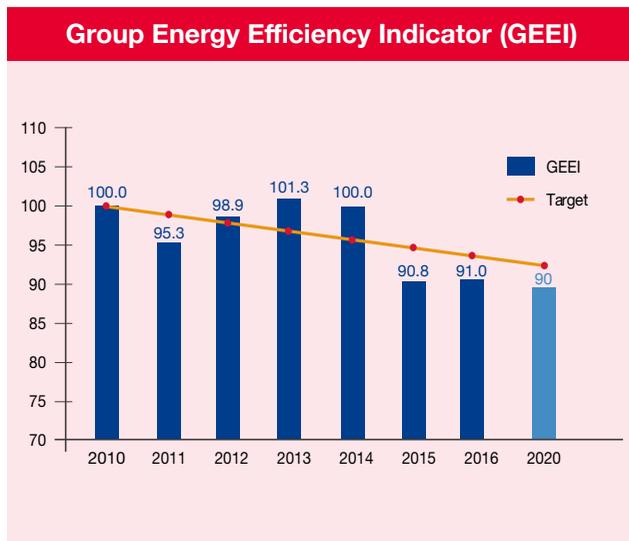
Take Action on Energy Efficiency

Raising operational efficiency and developing smarter solutions in using precious energy resources

The ongoing search for energy efficiency gains will be decisive in realizing the IEA 2°C scenario. As an organization we are making continual improvements in our operational efficiency reducing energy consumption and emissions. We are on track to meet ambitious energy efficiency, emissions and flaring reduction targets. As an example, we have installed solar panels at dozens of our industrial sites and 5,000 of our service stations worldwide. For the service stations alone, installed capacity will near 200 MW and carbon emissions will be reduced by 100,000 tons annually. Through our products and services we are encouraging responsible energy usage by our customers. A 1% reduction in energy use by our customers has the same impact as a 10% reduction at our facilities. The expansion of our Total Ecosolutions product range led to 1.75 million less tons of carbon emissions across the entire life cycle in 2016 and 8 million less tons since its launch in 2009.

Improving Our Operational Efficiency

Since 2010, our energy efficiency has improved by nearly 9% leading to the setting of a new target of an average 1% per year improvement in the energy efficiency of our facilities from 2010 to 2020. We are also pursuing ISO 50001 energy management certification. In 2015, our Leuna refinery in Germany obtained the certification, as did several Marketing & Services sites across Europe and the Total ABK Exploration & Production site in Abu Dhabi.



Smart Digital Applications

By finding smarter ways of utilizing data and digitalization and integrating new technologies we have effectively modernized and upgraded our Antwerp refining and petrochemicals platform to meet consumers' ever-changing needs. To date we have invested €1 billion in the Antwerp platform with the aim of enhancing operational efficiency to reach an availability rate of greater than 94%.

We have improved our industrial and environmental performance by making it easier for the platform's three sites to share and exchange resources. With energy efficiency a top priority, the platform uses off-gas – a byproduct from oil refining – as fuel in refinery furnaces, and in July of 2017 the platform started up production of ethylene using ethane feedstock, which is extracted from natural gas and is significantly cheaper than oil-derived feedstock, improving our overall performance.



Total's Antwerp refining and petrochemicals platform in Belgium.

Transportation and Cars

The need to improve energy efficiency levels in transportation is driving the emergence of solutions focused on fuel efficiency and emissions reductions. Total is playing a key role by providing automakers with extremely energy-efficient products, quality services and innovative materials, and the development of alternative fuels.

We are also actively supporting the wider use of electric vehicles. Under the 2°C scenario, electric vehicles reduce demand for oil by 4 million barrels per day by 2035. Although they still represent just 0.1% of all cars on the road today, electric vehicle usage is steadily increasing. This can in part be attributed to regulation requiring vehicle emissions reductions, as well as decreasing battery prices, and the increasing driving range of the new generation of electric vehicles.

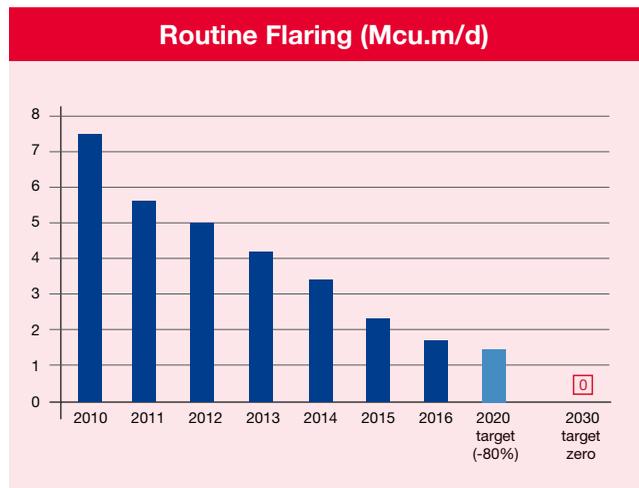
With help from our R&D efforts, we intend to play a prominent role in this transition to more sustainable transportation. We have partnered with PSA Group to achieve several breakthroughs that draw on successful collaborative efforts between several different Total business areas. For example, Total and PSA developed a demonstrator car, with a conventional engine that can travel 100 kilometers on just 2 liters of fuel. Creating lighter and slimmer components using some of our special polymers and materials together with our products provided superior performance for both the car's interior and exterior.



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Reducing Greenhouse Gas Emissions in Facilities

For over a decade Total has published our improvement objectives and accomplishments. In 2016, our direct greenhouse gas emissions amounted to 39 MtCO₂-eq in our operated scope, down 23% from 2010. At each E&P site we are also stepping up our efforts to reduce routine flaring in production activities. In 2000, we pledged that this practice would be eliminated in new developments. A member since 2002 of the Global Gas Flaring Reduction (GGFR) Partnership, we worked with the World Bank to create and launch the Zero Routine Flaring by 2030 initiative, bringing together oil and gas companies, producing countries and international institutions to support flaring reduction. The interim objective is to reduce routine flaring by 80% from the 2010 baseline over the period of 2010-2020. The ultimate target is no flaring by 2030.





TOTAL EXCELLIUM fuels are a range of premium fuels that offer average energy savings of up to 2.7% depending on the vehicle.

Energy Efficiency Products and Services for Our Customers

Total is committed to working with our customers to improve their understanding of energy efficiency through innovative products and services. Products with our Total Ecosolutions label reduce energy consumption by up to 2.2% and displace more than 1.75 million metric tons of carbon equivalent emissions. One of our more prominent Total Ecosolutions products is our TOTAL EXCELLIUM fuels, which are a range of premium fuels that offer average energy savings of up to 2.7% depending on the vehicle.

TOTAL EXCELLIUM fuels are currently available in 57% of our service stations around the world, including China, where they have been available since last year. TOTAL EXCELLIUM fuels have been enriched with additives that continuously clean essential engine components such as inlet valves. Compared to a fuel with no specific additives, TOTAL EXCELLIUM fuels prevent up to 93% fouling in petrol engines, and keep engines performing at their optimum level by eliminating deposits on fuel injection

systems. TOTAL EXCELLIUM was first released in Beijing in December of 2016, followed by a launch in Wuhan in January of 2017, and will gradually be rolled out to further Chinese cities.

Total also develops and markets retail lubricants under the Total Ecosolutions label. These products can reduce fuel consumption by anywhere from 1 to 2.2%. Chinese consumers have access to these lubricants through the Total Quartz product line.

In addition to our products, we are also increasing the number of energy efficiency services we are providing. For example, in anticipation of the emergence of electric vehicles, we are focused on building a regional network of 300 outlets across Europe, with more than 1,000 charging stations for electric vehicle drivers. Through our affiliates BHC Energy and TENAG, Total is also offering solutions such as energy audits and smart energy system installation to manage and reduce energy consumption.

Sustainable Development in China

We secure the future of our company by putting our employees and the local communities where we operate at the very heart of our corporate responsibility. For over 20 years we have been working with local stakeholders and creating shared value on employee and community safety, community development, local education efforts, and R&D partnerships and arrangements.



Safety

Ensuring the safety of our employees, contractors and facilities is the cornerstone of operational efficiency and indispensable to building strong and sustainable growth. As an industry we often operate in inherently risky environments and must always work vigilantly, though the strict application of safety guidelines and an established culture, to embed safety into the core of everything we do.

Our relentless drive for safety can be best demonstrated in our industry-leading safety figures. For more than 10 years, the Group's TRIR and LTIR figures have declined continuously. In 2016, we recorded a TRIR figure of 0.91, and a LTIR figure of 0.51; our TRIR figure of less than 1 is industry-leading. We experienced 38 significant Losses of Primary Containment incidents in 2016, down from 51 in 2015. In China we are extremely proud that we have recorded zero fatalities since November 2006.

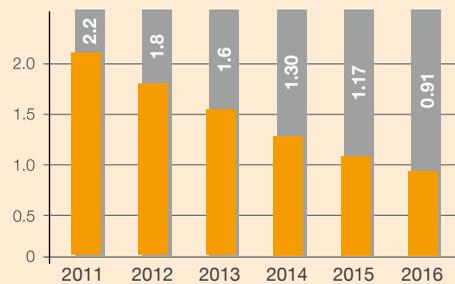
Safety: Core Value and the Golden Rules

Safety is more than just a business principle or a top priority. It is a core value for Total. As a core value, safety is part of Total's DNA, underpins the way we work together, and is part of the shared conventions on which our community is built. Reinforcing the safety message on the 10th World Day for Safety, Total released a simplified set of the Golden Rules' expressions that are easier to understand, reference, and act upon. We provided training on how to apply the Golden Rules to improve performance, and what it means to exemplify safety as an essential positive value throughout the Group, and in all our affiliates in China.

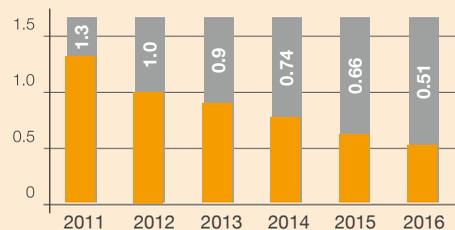


Global Injury Rates

Total Recordable Injury Rate (TRIR), i.e. number of recordable injuries per million hours worked



Lost Time Injury Rate (LTIR), i.e. number of lost time injuries per million hours worked



Our Culture of Safety

The Total Foshan Polystyrene plant embodies our culture of safety. Over the years, the Foshan plant has built an impressive award-winning emergency management system and dedicated team, and has turned the plant into a prime example of best practices in terms of occupational safety. In February 2017, the plant launched a joint safety drill with local authorities and the South China University of Technology. Around 50 harbor administration bureau officials and harbor crew were present. The drill simulated a leaking oil pipe causing pollution and fire, to which Foshan plant staff needed to respond appropriately by establishing an emergency rescue team for first-aid, stopping the leakage, and extinguishing the fire.



Road Safety Training

Our Road Safety Training program is one of the best examples of us taking what we know about safety into the communities in which we operate. Since 2010, our Road Safety education has successfully trained 8,300 students across 17 Chinese cities, and distributed more than 10,000 training books. In China, a country that is committed to improving road safety conditions and reducing road fatalities, Total is serious about imparting best practices and teaching the value of safety to the most vulnerable members of society: children.





Public Health

Over the years Total has developed multiple programs, to improve community health standards in countries where it operates. In China, these initiatives include emergency medicines, first aid, health awareness and programs to promote personal health and wellbeing.

Sino-French Emergency and Disaster Medicine Center

Total China has a longstanding history of fostering Sino-French cooperation in improving the two countries' emergency and disaster systems, and enhancing the level of emergency professionals. This year marked the ten-year anniversary of the establishment of the Sino-French Emergency and Disaster Medicine Center. The center was established by Total in partnership with the Beijing Health and Family Planning Commission and the French Embassy in China, with the aim of providing high-level continuous medical training for Chinese specialists in emergency medicine. The activities of the Center were recently extended and this year included a natural disaster drill for the Beijing-Tianjin-Hebei region. The drill, organized by the Commissions of Health and Family Planning of Beijing, Tianjin and Hebei, was observed and evaluated by renowned French experts.



By the middle of 2017, 141 French and Chinese experts have delivered over 2,800 hours of courses to more than 9,700 Chinese medical professionals.

China National First-Aid Training Competition

Our first aid-centered programs aim to educate communities on first-aid and impart valuable lessons on responding in emergency situations. This year marked the tenth year of the Total-sponsored "First-Aid Training for Beijing Middle School Students" program. We were pleased to find that several cities, including Yinchuan, Langfang, Hangzhou, and Shenzhen applied the lessons from the program to expand the first-aid training activities in their respective cities.

Last year, Total China cooperated with the Beijing Emergency Centre to hold the 4th "Total China First-Aid Instructors' Competition". Over 30 first-aid instructors from across China participated in



the event. The competition focused on their ability to transfer their skills to others by having contestants deliver first-aid training lasting five minutes on a randomly selected topic. By focusing on sharing knowledge, we aim to expand the safety culture of Total into the communities in which we operate.



Education

Helping host countries develop the skills of their young people and actively supporting local education are keys to creating shared value in places where we operate. Whether by sharing our unique expertise through Total Professeurs Associés, or by continuing to grow long-term partnerships such as the CUPB Summer School, Total is driven to educate students, professionals and the public to support community development in China.



Total Professeurs Associés

One of our most successful initiatives to build bridges between the oil industry and university world is Total Professeurs Associés (TPA), which consists of a group of senior or retired Total employees delivering courses sharing their industry expertise. TPA has been active in China for 14 years, providing intensive practical courses on topics covering every aspect of Total's business. By mid-2017, TPA had successfully delivered 179 integrated weeks and 161 short conferences to over 14,500 students in 19 Chinese universities, further cementing our key university partnerships in the country. Total has several close partnerships with top universities across China, including China University of Petroleum Beijing and South China University of Technology.

Total China Scientific Forum

To promote the exchange of scientific ideas, expertise, and technologies, Total has hosted the Total China Scientific Forum every year since 2011. The 7th Total China Scientific Forum was convened in Beijing last November, and was dedicated to Carbon Capture, Utilization and Storage (CCUS). Last year's CCUS theme reflects the importance Total attaches to developing CCUS into a reliable emissions management method, and our recognition that CCUS is not only a challenge to Total, but to the broader industry and society. More than 150 experts and guests from Total, Chinese companies, and research institutions exchanged ideas over the latest R&D progress in their fields, including professors and experts from Tsinghua University and China University of Petroleum.



CUPB Summer School

Since 2007, Total China and TPA have been working with CUPB to jointly organize the annual National Postgraduates Summer School. Over the past nine years, 37 TPA professors have been involved in this flagship program for the benefit of more than 1,700 students from all over China. The subjects taught range from crude oil production to intercultural management. The two-week Summer School program is set to run for the foreseeable future with both TPA and CUPB confirming their interest in long-term cooperation.



Scholarships

We want the communities we work in to benefit from our operations as well. Our financial contributions to schools and universities are an integral element of this commitment. Total has funded over 10,000 university scholarships in 40 countries, to widen access to higher education to students who most need our help. In past years, 25 Chinese students have studied in France after receiving Total International Scholarships. Total Lubmarine has also provided Shanghai Maritime University and Dalian Maritime University with annual scholarships for over a decade, as well as sponsoring various sports and education programs.

Total Energy Summer School



Total Energy Summer School (TESS) is one of Total's flagship programs in the education domain. Almost every year, we invite close to 100 students from around 80 universities worldwide to join our one week summer school in Paris. During the four-day program, key energy issues and challenges were discussed with Total's managers and experts. More than 100 Chinese students have attended TESS since 2006 – many of whom are now employed in the industry.

Journey of Harmonious Energy Campaign



Between 2012 and 2014, Total China sponsored the "Journey of Harmonious Energy" campaign, which has since become an integral part of our business in China. By increasing energy

awareness and education, our hope is to encourage a cultural shift and greater valuing of energy as a precious resource. Lifestyle changes can have a big impact, and so the campaign aimed to stimulate public interest in energy discussions, and help Total foster an energy saving culture with the public. The best energy is the energy we save, which is why the campaign also focused on enhancing the efficiency of our products: fuels, lubricants and chemicals with the help of our R&D teams. The campaign took us to five cities: Beijing, Shanghai, Guangzhou, Tianjin, and Nanjing.

OUR ACTIVITIES

EXPLORE AND PRODUCE

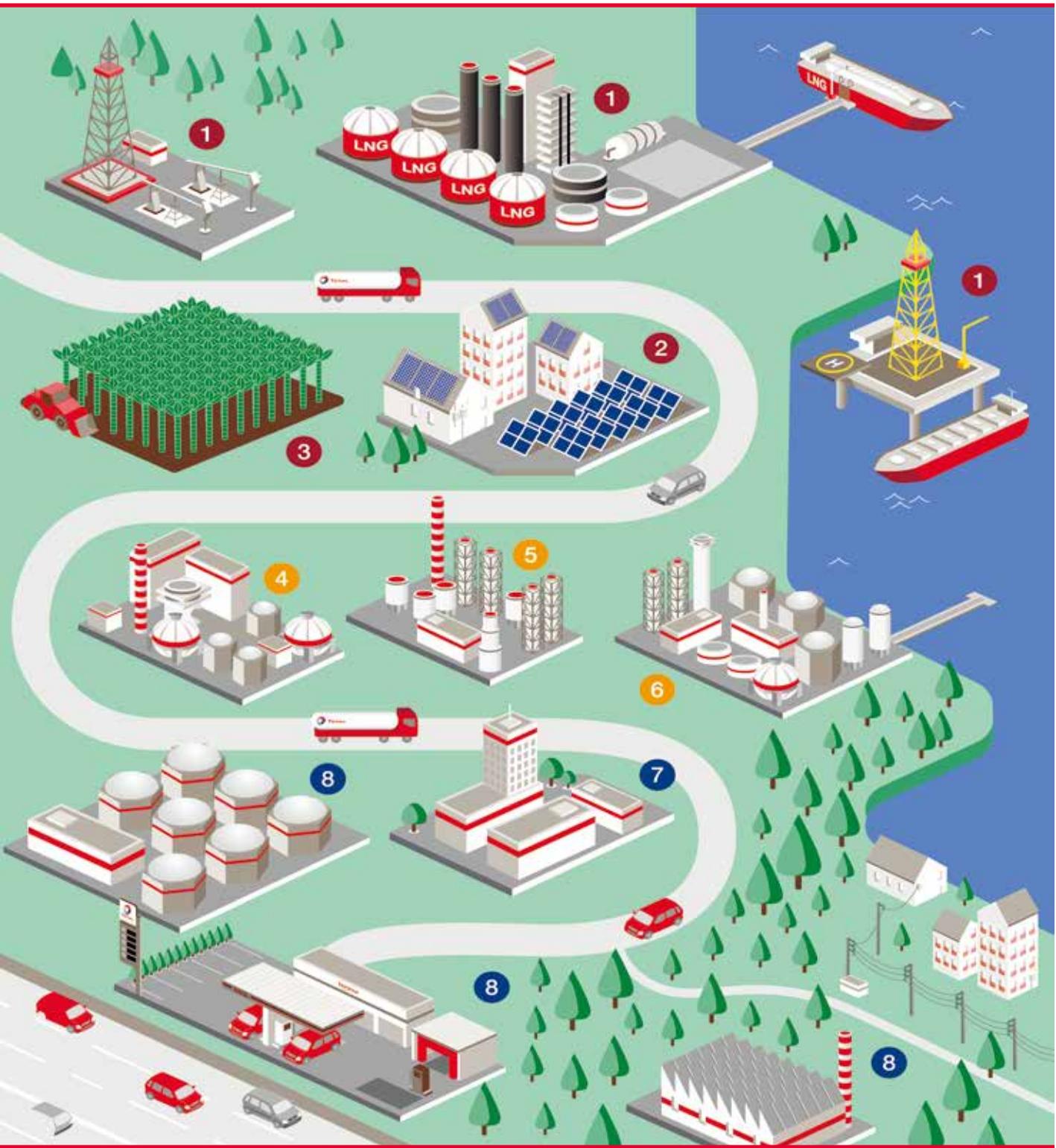
- 1 OIL AND GAS
- 2 SOLAR
- 3 BIOMASS

TRANSFORM AND DEVELOP

- 4 SPECIALTY CHEMICALS
- 5 POLYMERS
- 6 REFINING - PETROCHEMICALS

SHIP AND MARKET

- 7 TRADING - SHIPPING
- 8 PRODUCTS AND SERVICES



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Total is a major energy player committed to supplying affordable energy to a growing population, addressing climate change and meeting new customer expectations.

Those commitments guide what we do. With operations in more than 130 countries, we are a global integrated energy producer and provider, a leading international oil and gas company, and a major player in solar energy with Total Solar and our affiliate SunPower. We explore for, produce, transform, market and distribute energy in a variety of forms, to serve the end customer.

Our 98,000 employees are committed to better energy that is safer, cleaner, more efficient, more innovative and accessible to as many people as possible. As a responsible corporate citizen, we focus on ensuring that our operations worldwide consistently deliver economic, social and environmental benefits.

Our ambition is to become the responsible energy major.



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