Total in China
2020

TOTAL

Summary

TOTAL

1 Foreword of Total China Country Chair

William Zhao
Total China Country Chair

Energy markets are changing, driven by climate change, technology and societal expectations.

To solve the dual challenge of providing more energy with fewer emissions, Total shares the ambition of getting to net-zero emissions by 2050, together with society, for our global business across our production and energy products used by our customers. To achieve this ambition, we have identified four key areas of intervention: emission control, products, customer demand and carbon sinks.

Emissions from our operations are first on the list. To realize carbon-neutral in our own production facilities, we have increased energy efficiency, acted on reducing routine flaring, on electrifying our processes and on reducing methane emissions.

On the product side, we are actively pursuing a rebalancing of our energy mix, gradually reducing the average carbon content of our products by expanding the share of natural gas in our product portfolio and promoting an integrated expansion along the renewable energy value chain.

Shaping customers' demand toward lower-carbon energy solutions is crucial to our carbon neutrality ambition. In this sense, we are promoting sustainable alternatives to existing products. Examples include supplying LNG bunker fuel for promotion of natural gas in the shipping industry.

To balance out our footprint through negative emissions, we are investing in two solutions: natural carbon sinks such as forests, regenerative agriculture and wetlands, and carbon capture, utilization and storage (CCUS) solutions, to which we allocate 10% of our total R&D budget each year.

With China unveiling its target of reaching carbon neutrality by 2060, we find our ambition and strategy perfectly in line with the needs of the country, which sets the ground for mutual success. As China continues further along the road of energy transition, Total's businesses in China and with China are also changing from the traditional scope of energy development and marketing to encompass the entire industry value chain, powered by our common vision of working together to create a sustainable energy future.

1 Foreword of Total China Country Chair

As one of the major suppliers to China's natural gas demand, despite the impact of the Covid-19 pandemic, Total's gas operation in the South Sulige field has recorded several production peaks with rates above 10 Mm^3/d, a milestone first reached only in 2020.

In LNG, besides Total continuing to be the supplier of more than 4 MT of LNG yearly to the Chinese market, in 2020 we also delivered the first shipment of carbon-neutral LNG to the Chinese National Offshore Oil Corporation (CNOOC), and completed the first transition on the Shanghai Petroleum and Natural Gas Exchange online platform. This testifies the Group's efforts in expanding its position in the entire LNG value chain in China and its commitment to delivering better and more flexible solutions via digital innovations.

Total is not only in China, we are also with China worldwide on a global scale. After Yamal LNG, a huge collaborative success, we have signed investment agreements with China National Petroleum Corporation (CNPC) and CNOOC to kick off an official launch of Arctic LNG 2. With a projected annual production of 19.8 million tons, this new LNG site will deliver services to many more customers in Asia, including China.

Total is accelerating its expansion in the local renewable energy sector. We have established several JVs with Chinese partners on different segments of the Photovoltaics (PV) value chain. We also teamed up with Envision for deployments in the fast-growing distributed PV market in China. In energy storage, our subsidiary Saft opened a new manufacturing hub for Energy Storage Solutions (ESS) in Zhuhai this year to enhance its ability to serve the global ESS market and to support the transition to renewable energy. Saft is also in partnership with Tianneng for the production of lithium-ion cells, providing energy storage solutions for mobilities in China and worldwide.

2020 is also the year that saw the opening of our first standalone EV charging station in Wuhan. Following the launch, Total plans to become a significant player on the EV market across China within the coming years. Total's service station network in China has kept expanding also this year, with all of the station to be progressively equipped with advanced digital services, as a result of the recently signed agreement with China tech giant Alibaba. The agreement is set to enhance the accessibility and flexibility of our product offerings and services to local consumers.

As an innovation powerhouse, China is gaining increasing momentum and recognition in emerging energy technologies. We hope to enable innovation in China while providing services to the world. 2020 has seen the continuation of our participation in CHEERS, the Chinese-Europe Emissions-Reducing Solutions, where our Group works in tandem with prestigious universities, research centers and leading equipment manufacturers for the development of large-scale, low-cost, and high-efficiency CCUS technology.

Investments will also be directed to innovative energy startups. In 2019, our venture capital arm - Total Carbon Neutrality Ventures - closed a USD 50 million investment into the Cathay Smart Energy Fund to support promising Chinese startups aiming for energy transition and decarbonization technologies.

Total always views our company as an integral part of our host regions. In China, we want to do more than our economic contribution to help the country thrive. For over 40 years since our entrance to China, we never stopped upholding the broader responsibilities we possess on safety, education and public health. This year, to guarantee the safety of our employees and to support local communities in their frontline efforts to combat the epidemic, Total has swiftly implemented ad hoc policies to reduce risk of contagion while ensuring the continuation of operations at its facilities and made a donation of RMB 2 million to China Charity Federation for the purchase of medical supplies in Hubei Province. In addition, all the Total-operated service stations in Wuhan continued to work to ensure an adequate and continuous supply of fuel, crucial for the transportation of rescuers and supplies.

While the country is embarking on the journey of energy transition, at Total, we are ready to walk with China side by side, strengthening our partnerships with local players to realize our common ambition of a net-zero future.

2 Reaching NET ZERO

Total has set its new Climate Ambition to get to net zero emissions by 2050 together with society for its global business and energy products used by its customers

Total's Global Strategy for Low Carbon Energy

2020 has been a challenging year. The global Covid-19 pandemic has cast its effect on virtually all countries worldwide resulting in various degrees of economic slowdown. In terms of energy consumption, this means a predicted decrease of 5% of the global energy demand by the end of the year, a drop of 18% of energy investment and an expected decline of 7% of energy-related CO_2 emissions during the same time, according to the data released by the IEA in its 2020 World Energy Outlook[1].

The recent suppression of GHG emissions, however, is just a short-term, accidental effect on a long-term challenge against climate change. With energy demand returning to pre-crisis levels in 2023[2], and with estimated 10 billion people worldwide needing access to energy by 2050, the quest for satisfying growing energy demand while decreasing carbon emissions in accordance with the objectives of the Paris Agreements calls for structured approaches and the involvement of energy players, governments and communities alike.

In response to this challenge, Total took a major step forward in 2020 adopting a new Climate Ambition to get to net zero emissions by 2050 together with society for its global business and energy products used by its customers.

This ambition is supported by the strategy to develop Total as a broad-energy company, continuing on the path of the diversification of our energy mix, which already saw the progressive share reduction of oil products from 66% of our sales in 2015 to 55% in 2019, while natural gas and electricity have surged respectively from 33% to 40% and from less than 1% to 5%. By 2030, oil will stand at 35%, while we plan on bringing natural gas to 50% and electricity, especially renewable energies, to 15%.

Not only acting on products, but also controlling emissions at our industrial facilities and acting on customer demand are essential in Total's low-carbon strategy, which we believe provides a competitive advantage and creates long term value for our stakeholders: customers, employees, shareholders and the community at large, whose interests are perfectly aligned in our energy transition trajectory.

The Climate Ambition is not just a declaration of intent, but a concrete commitment towards carbon neutrality in three steps, with clear interim milestones:

*Net Zero across Total's worldwide operations by 2050 or sooner (*scope 1+2*);

*Net Zero across all its production and energy products used by its customers in Europe by 2050 or sooner (*scope 1+2+3*);

*60% or more reduction in the average carbon intensity of energy products used worldwide by Total customers by 2050 (less than 27.5 gCO_2/MJ) - with intermediate steps of 15% by 2030 and 35% by 2040 (scope 1 + 2 + 3).

Scope 1: Direct emissions from sites (distinguishing between operated scope and equity share)
Scope 2: indirect emissions related to purchased energy consumption of operated sites
Scope 3: other indirect emissions. Total reports only category 11 of Scope 3 (use of products sold), which is the most significant

[1, 2] IEA, 2020, World Energy Outlook 2020.

01

Acting on Emissions

Becoming carbon neutral in GHG emissions from our own production facilities is the first step towards the fulfillment of Total's Climate Ambition.

To this aim, we have increased energy efficiency, acted on reducing routine flaring, on electrifying our processes and on reducing methane emissions. This has translated into an improvement in energy efficiency of more than 10% since 2010.

At the same time, we are reducing our methane emissions, which have far greater warming potential than carbon dioxide. We have committed to maintaining methane emissions at operated gas facilities close to zero, with a target of less than 0.1% of commercial gas produced. In addition, we launched the second phase of the Oil & Gas Methane Partnership (OGMP), with a more ambitious methane reporting program that will extend gradually and include non-operated assets.

A CO_2 Task Force was also established in 2019 that draws on Total's full array of expertise. We also systematically post emissions data at the entrance to each industrial site, to raise awareness and motivate the workforce. Each site's operation teams were mobilized to identify initiatives to reduce emissions, a bottom-up approach that in 2020 only has revealed more than 500 projects, from improving energy efficiency to adopting new operating principles, optimizing processes or making changes to facilities. Some of these projects are in the analysis stage and others already in execution.

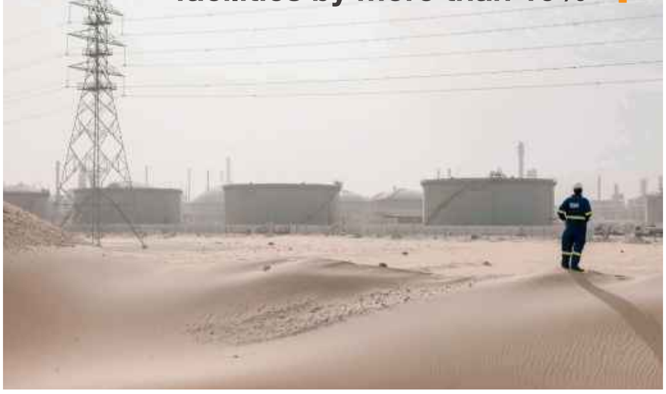
Energy Efficiency

1% yearly reduction of energy intensity is the target we set for all our industrial facilities as part of our emission reduction efforts. To evaluate our performance, since 2011, Total introduced the Group Energy Efficiency Index (GEEI), which measures net primary energy consumption relative to the Group's level of activity. Since 2010, we have improved energy efficiency at our facilities by more than 10%, and we are continuing our efforts to maintain that rate of improvement.

Refining & Chemical has received special attention, being the most energy-intensive segment of our production capacity. 250 projects have been financed with almost USD 450 million for the period 2018-2025 for initiatives covering measuring and tracking energy efficiency, sharing best practices, technology upgrade deployment, installing energy management systems and promoting an energy efficiency mindset.

+ 10%

Since 2010 Total has improved enegy efficiency at our facilities by more than 10%



Zeroing Routine Flaring by 2030

Total has pledged to completely discontinue routine flaring at our operated facilities by 2030. This has been our priority since 2000, a commitment we had reinforced in 2014 when Total became the first company to join the "Zero Routine Flaring by 2030" project with the World Bank, leading the way for many other energy companies that joined the same initiative at a later stage. In 2017, we met our interim targets of 80% reduction of routine flaring between 2010 and 2020, and we are continuing on the path to zero routine flaring by 2030 by refraining from practicing routine flaring on all new projects and retrofitting existing sites to limit our reliance on flaring of any kind.

- 45%

Since 2010, Total has reduced methane emission by 45%

Controlling Methane Emissions

Methane is a potent GHG, and it is responsible for one-quarter of the current global warming. Reducing methane emissions is vital to reach the target of carbon neutrality and to ensure natural gas can continue playing a key role in the energy transition.

For already 30 years, Total has been committed to reducing its methane emission focusing on its primary sources: flaring, venting and fugitive emissions. Results so far have been remarkable and have put Total among the industry best: 45% reduction since 2010 with a commitment to maintaining methane emission at operated gas facilities close to zero, with a target of less than 0.1% of commercial gas produced.

All our new projects apply new design standards aimed at ensuring near-zero methane emissions via the elimination of instrument gas, adopting continuous venting, systematically installing closed flared and also by adopting new tech such as ground-based infrared cameras for leakage detection, soon to be supplemented with satellite-based or drone-mounted aerial devices.

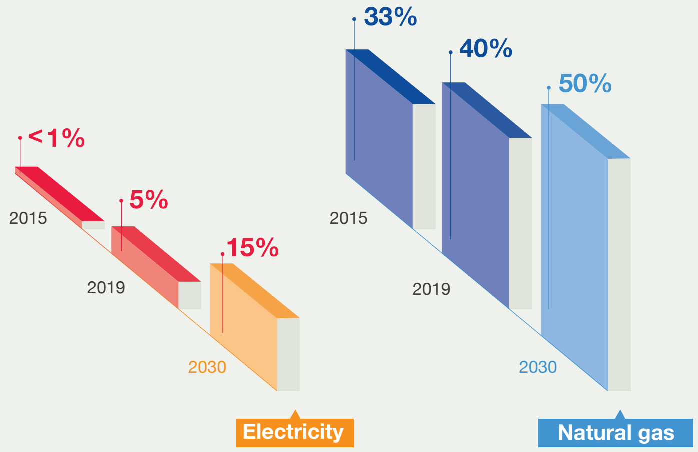
We have also renewed our participation in international partnerships and industry initiatives aimed at disseminating knowledge around methane emission as well as detection, measurement and reduction methods, such as the Oil & Gas Methane Partnership, the Methane Science Studies jointly financed by the UNEP, the EU Commission and the Environmental Defense Fund. Moreover, in 2017, we signed the Methane Guiding Principles on reducing methane emission along the natural gas value chain.

02

Acting on Products

Total is gradually reducing the average carbon content of its mix energy products by expanding the share of gas and renewable energy in our offering.

The Progressive Increase of the Share of Natural Gas and Electricity in Total's energy mix by 2030



Natural gas, which is the cleanest fossil energy, emits just half as much GHG in power generation as coal. In addition, it is also an extremely flexible source to complement renewables, which are seasonal and intermittent by nature. Now, natural gas accounts for more than half of Total's oil and gas production.

For LNG, we are already the second-largest operator worldwide in a segment that has been growing 10% annually since 2015. To strengthen our position in this market, we have developed two major projects, the Artic LNG 2 in Russia and Mozambique LNG, and launched regasification projects in new markets, such as the Dharma site in India, where we work to facilitate the switch from coal to gas.

Part of our expansion strategy in the natural gas value chain is the incorporation of an increasing proportion of biogas and hydrogen in the total gas offer, making it available also to consumers via hydrogen filling stations, like the 83 now in operation in Germany and the first station recently opened in France. Still in France, in January 11, 2021 Total announced the acquisition of Fonroche Biogaz, a market leader in the design, building and operation of anaerobic digestions units in France.

Essential to our net-zero strategy is the integrated expansion along the renewable energy value chain. By the end of 2020, Total's gross renewable generation capacity will reach 6,500 MW, more than doubling from the 3,000 MW in 2019. This growth reflects an acceleration in new projects in 2020, with, for example, more than 5,000 MW of wind power in France, the United Kingdom and South Korea; more than 2,000 MW of solar assets in operation in India; more than 5,000 MW of solar projects in Spain, and a giant 800 MW solar farm in Qatar.

Natural Gas

Set to become the energy source for one-quarter of the global energy demand in the next two decades, natural gas is a major focus in the reshaping of our energy mix. Three major projects were approved in 2019: Artic LNG 2 in Russia, with a production capacity of 19.8 Mtpa, Mozambique LNG (12.9 Mtpa) and NLNG Train 7 in Nigeria, with a capacity of 7.6 Mtpa. By these projects, we have strengthened our position as the world's second largest operator in LNG, with a plan of expanding our portfolio to reach 50 Mtpa by 2025.

Electricity

Driven by electric mobility, digital technology and broader access, electricity is set to account for 31% of total global final energy consumption in 2040, versus 19% in 2018. To become an integrated player across the electricity value chain, we are pursuing a strategy of producing, storing, trading and distributing electricity. The expansion of our power generation capacity is coming from a mix of investment in large-scale renewable and natural gas power generation projects around the world (more than USD 8 billion invested globally in the period 2016-2020).

Our expansion in renewables has been fueled by acquisitions, such as the takeover of Lampiris, Eren RE, Direct Energie and the EDP's electricity sales operations in Spain; by the creation of Joint Ventures, such as the one formed with India's Adani Group for solar energy distribution, and by Total's own developed projects. Our gross renewable power generation capacity by the end of 2020 is projected to reach 6,500 MW.

Power generation from natural gas has seen a rapid increase thanks to the acquisition of new combined-cycle gas turbine (CCGT) power plants in France - 2 from KKR-Energas (2018) and Spain - 2 plants from EDP (2020), and a new project in Landivisiau (France) worth 450 MW. To date, the Group boasts 3,600 MW of power generation capacity from natural gas.

Hydrogen

To support our ambition to become a supplier of hydrogen, in July 2020 Total set up a Hydrogen business unit dedicated to the implementation of hydrogen solutions. Much of the efforts are concentrating in Europe where conditions are mature for the adoption of renewable hydrogen in particularly for industries where decarbonization and/or electrification are problematic.

To exploit opportunities created by the application of hydrogen to mobility, a network of 83 filling station in Germany has been deployed with our JV H2 Mobility Germany and, in July 2020, the first of such station was open also in Le Mans, France.

Energy Storage

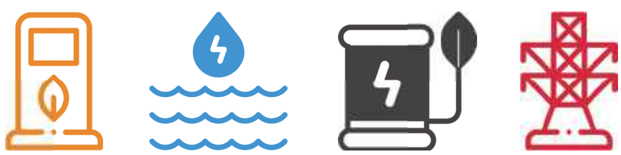
Key to the success of our renewables strategy, energy storage has received growing attention and investment from Total. The acquisition of Saft in 2018 has signed a cornerstone for our development in this area. Since then, not only Saft has maintained its position as a global leader in its traditional industrial oil market but has also expanded in the very promising electric mobility and ESS sectors. In addition, the partnership signed with Tianneng in China for the production of lithium-ion cells will further strengthen Saft's competitive advantage allowing the company to capitalize on its expertise in battery safety and stability.
Saft will be providing frequency regulation services to RTE, the French grid operator with 130 MWh batteries.

Biofuels

With growth in biofuel sales exceeding 10% annually, the Group anticipates that biofuels will account for about 15% of its fuel sales portfolio by 2030 and 25% by 2050.

Total is seeking to develop synergies with existing assets, such as its La Mède refinery, which was converted into a biorefinery in 2019. In September 2020, Total has announced a project to convert its Grandpuits refinery into a zero-crude complex including a biofuel plant supplied with animal fats from Europe and used cooking oil and other vegetable oils, excluding palm oil. In addition, Total has taken an important step in biofuel distribution by acquiring the Brazilian Zema, which operates 280 service stations and sells blends with biofuel content around 30%.

Lastly, in order to mitigate the impact on arable lands of the first-generation biofuels, Total is actively encouraging the advent of biofuels of second-generation derived from crop residues and non-agricultural biomass via investment in R&D and participation in research consortiums, such as the BioTfueL, an initiative set for testing the potential of more sustainable sources for biofuels.



03

Acting on Demand

Total wants to make carbon neutrality an ambition shared with its customers. To shape demand, it is guiding its customers toward lower-carbon energy solutions and helping them use energy more efficiently.

In France, for example, we have launched a program to encourage consumers to switch from oil to other sources for home heating, including electricity, natural gas or wood, following our policy to phase out the sales of fuel oil for power generation by 2025.
Further initiatives have been promoted in other sectors to support a gradual shift towards a low-carbon future. In mobility, for example, we have announced the creation of a JV with Groupe PSA to develop batteries for EV, leveraging the expertise of our Saft affiliate. Similarly, in shipping, Total has signed an agreement with CMA CGM for the promotion of the usage of bunker fuel in place of fuel oil.

For years, Total has been trying to speed up the adoption of natural gas vehicle fuel, mainly for use by professional transporters. Our partnership with CleanEnergy aims to encourage heavy-duty vehicles in North America to switch to natural gas

Mobility

The mobility industry is moving towards electrification, meaning that demand for integrated solutions in this area will surge in the near future. To meet the emerging needs of consumers, business and governments, Total is developing a comprehensive offering that ranges from the supply of energy to the provision of comprehensive charging stations.

Automotive Cells Company (ACC), the JV we have created with Groupe PSA, will be developing and producing high-performance lithium-ion batteries for a total output of 48 GWh by 2030, enough to supply 1 million EV annually, roughly the 10% of the European market.

In charging, Total already operates more than 16,000 charging points thanks also to the acquisition, in 2018, of G2mobility, a French leader in charging solutions. Our expertise in this area has won us the largest concession contract for EV charging: the installation and operation of 20,000 new public charge points in the Netherlands, awarded by the Metropolitan Region Amsterdam.

LNG and Hydrogen for Mobility

Natural gas, either compressed (CNG) or liquefied (LNG), and hydrogen are alternatives to electricity to reduce transport-related carbon emissions with promising growth potential. In 2017 Total acquired the Netherlands-based PitPoint, Europe's third-largest NGV fuel supplier, to boost the rollout of NGV fuel for trucks and transporters. In addition, we have plans of developing a network of more than 600 service stations offering NGV by 2025.

Hydrogen for transportation finds application in trains, trucks and urban mass traffic. To seize the opportunity it presents, Total has partnered up with five other players (Air Liquide, Daimler, Linde, OMV and Shell) to launch the H2 Mobility consortium with a goal to promote hydrogen mobility in Germany.

Natural Gas in the Shipping Industry

90% of goods worldwide are transported by sea. Every year, approximately 265 Mt of marine fuel is burnt in the shipping industry, with significant impact in terms of GHG. To address this issue, Total has launched LNG bunker fuel, which reduces GHG emissions by around 20%, and signed an agreement with CMA CGM in 2019 for the supply of 270,000 tons of LNG over 10 years.

To boost our maritime LNG distribution network, Total has commissioned two dedicated supply vessels and signed an agreement to charter its first two LNG-powered very large crude carriers.

Promoting Plastic Recycling and Bioplastics

Plastic is a widely used material thanks to its inherent properties. However, managing the end of life for many plastic products presents challenges. Total is investing in recycling and bioplastics with the ambition of producing 30% recycled plastics by 2030. In addition, with the Total Corbion PLA joint venture, we aim at becoming a world leader in the production of polylactic acid (PLA) – considered the best of the bioplastics because it is biobased, biodegradable and recyclable.

Beyond plastic, our focus on recycling spans across multiple areas, including complementary mechanical and chemical options. In mechanical recycling, we have already become the French leader in high-performance recycled polypropylene for the automotive industry thanks to our Synova affiliate. In chemicals, we have launched multiple initiatives with companies such as Citeo, Recycling Technologies, Nestlé and Mars to test technology used for chemical recycling.

04

Investing in Carbon Sinks

Beyond the many actions Total is taking in terms of curbing emissions, adapting its energy mix and help shaping consumer demand, our Group is also actively acting on negative emission in an effort to balance out its carbon footprint.
Total is investing heavily in two solutions: natural carbon sinks, such as forests, regenerative agriculture and wetlands, and carbon capture, utilization and storage (CCUS).

10% of Total's R&D budget is devoted to the development of CCUS technology

Nature-based Solutions

Nature Based Solution (NBS) is Total's business unit set in motion in June 2019 to drive the Group's development of natural carbon sinks. Backed by an annual budget of USD 100 million, NBS is tasked with funding, developing and managing projects on natural carbon sinks in accordance with the overall Group's target of reaching sustainable carbon storage capacity of 5 million tons per year by 2030.

To ensure their viability over time, our solutions in natural carbon sinks are connected to the agricultural and forestry value chain of the communities they are implanted in. Only by catering our solutions to local and regional farming, water resources and weather conditions, we can ensure the long-term sustainability of our projects, as well as the positive environmental, social and financial yields for the local communities.

Our approach to natural carbon sinks is exemplified by a project currently being studied in Africa where workers will plant a forest of acacia trees on thousands of hectares as a first step towards the complete restoration of forestry resources as well as the establishment of land for agroforestry crops, which will provide food and wood for the surrounding communities. The project is set to sequester more than 10 million tons of CO_2 equivalent over a period of 35 years.

Similar initiatives will be implemented in other regions of Africa and in South America, where our NBS is working on a project to preserve a million hectares of virgin forest with capacity of sequestering more than 15 million tons of CO_2 equivalent over a decade.

Carbon Capture, Utilization and Storage (CCUS)

The complete elimination of carbon emission is unattainable under the current industrial structure of modern economies, where key industries, such as electricity, cement and steel manufacturing will continue to be significant emitters of carbon dioxide for several decades to come.

With this in mind, solutions aimed at CCUS have become an essential part in our strategy to carbon neutrality, with 10% of our total R&D budget now devoted to the development of CCUS technology.

Total began developing a pilot project for CCUS back in 2010, the first of its kind in Europe. Located in Lacq, in southern France, the facility covered the entire CCUS chain, capturing and treating CO_2 generated from a steam production unit and then storing it in an onsite reservoir.

Seven years later, in 2017, our Group partnered with Equinor and Shell for a large-scale carbon storage project developed on Norway's continental shelf, the Northern Lights project. The storage site takes delivery of CO_2 from multiple industry sources in several countries. Once transferred to the Northern Light marine terminal, the captured CO_2 will then be transported by ship and injected in liquid form into a geological reservoir located 2.8 km under the seabed. In 2020, the Norther Lights project received final investment decision and is set to be underway soon.

In 2019, Total joined the National Carbon Capture Center (NCCC) in the United States. The facility tests carbon capture technology on a pilot scale (10 tons of CO_2 per day) with the goal of reducing carbon emissions from fossil fuel-based power plants. Through its evaluation of some 60 technologies, the NCCC has already reduced the projected cost of carbon capture by one third.

Also in the United States, in early 2020, Total signed a partnership with Svante, LafargeHolcim and Oxy Low Carbon Ventures to assess the viability of a commercial-scale facility to capture and store 2 Mt of carbon annually at a cement plant in Colorado.

3 Total in China

China's path towards a clean energy transition is in perfect harmony with Total's carbon neutrality goals. This lays the foundation for long-term cooperation

In 2016, China ratified the Paris Agreement on limiting global warming to 2 °C by mid-XXI century. In September this year, China restated its pledge to net-zero carbon emission and declared the country's commitment to reach carbon neutrality by 2060. Meeting this target will require a shift in the country's energy mix, moving away from coal and increasing the share of natural gas and renewable sources. Total, as a broad energy company active in China for more than 40 years, is ready to accompany the country in its journey to net-zero carbon emission.

> **China set the objective to "have CO_2 emissions peak before 2030 and achieve carbon neutrality before 2060"**

Being the world's largest energy consumer and one of the fastest-growing economies globally, China is faced with the challenge of decarbonizing the domestic energy system while guaranteeing a stable energy supply to fuel further economic growth.

To meet the objective of reducing carbon intensity by 60-65% by 2030 (compared to 2005), the country is acting to increase the share of natural gas and renewable sources in the total energy consumption.

Natural gas, of which China is already the world's largest importer, is expected to reach 15% of the country's primary energy consumption by 2030 from 8% in 2019[3], on account of governmental support for the production from conventional and unconventional sources, and international cooperation in this sector.

The transformation of the electricity sector, currently the single largest source of China's CO_2 emissions, is a key passage in the country's path towards a low-carbon future. China's investments in renewable energies are on the rise, and the country continues to be the global leader in additions of new wind and solar PV capacity[4]: additional 56GW of combined wind and solar energy in 2019 alone. More government support in favor of the stable and sustainable development of power production from renewables is expected to come from the 14th Five years Plan in 2021, where opportunities shall open not just for energy production, but also for distribution and storage.

As the first international energy company entering in China immediately after reform and opening-up, Total has grown together with its local partners to extend its operations along the entire energy value chain in the country and abroad. Our objectives of carbon neutrality and our ambition to become a broad energy company are perfectly aligned with China's transition trajectory towards a cleaner energy system and set the ground for a long-term partnership.

[3] US EIA, 2020, Country Analysis: China.
[4] Oxford Energy, 2020, Current Direction for Renewable Energy in China.

01

Exploration and Production

Total is active in Exploration and Production of oil and gas in over 50 countries worldwide. We put our expertise to work to deliver affordable and reliable energy sources to satisfy growing energy demand in conjunction with our objectives of sustainability and accessibility.
For this reason, while oil still provides the world's most accessible energy source, it is natural gas who has seen the largest increase in production in our energy portfolio as it responds to our carbon neutrality ambitions and to those of our partner countries, China above all.

Total is one of the first international companies to enter China's oil and gas exploration market. Since the 80s of the last century, we have been working in and with China to build a trusting, close, and productive partnership with the country. Our shared vision and effective work have led to the roll-out of projects, both onshore and offshore.

We have explored for oil and gas in many Chinese offshore and onshore basins: Beibu Gulf (South China Sea), Bohai Bay (East China Sea), Onshore Tarim Basin and Ordos Basin.

Our 30-year Production-Sharing Contract (PSC) signed in 2006 with China National Petroleum Corporation for the evaluation, development and production of tight gas in South Sulige has continued showing successful results over the whole 2020. Despite the impact of the Covid-19 pandemic, we did not just maintain production levels, but the field reached several peaks with rates above $10Mm^3/d$, a milestone first reached at South Sulige this year.

Drilling has been conducted with the same slim-hole drilling technology introduced for the first time in China by Total in Sulige, which not only lowers the investments usually associated with the complex geological environment but also helps reduce the amount of waste as a by-product of drilling operation, thus alleviating the effects on the natural ecosystem. An additional 89 wells have been drilled in 2020 to add to the more than 700 already in operation and connected to gas distribution grids as of the end of 2019.

As safety remains a top priority in the Group's core values, the South Sulige field showed once more a consistent track record in high health and safety standards of its employees while guaranteeing a stable gas supply to Beijing, Xi'an, Yinchuan, and many other local markets.

In offshore, in 2017 Total signed a PSC with China National Offshore Oil Corporation and CPC Corporation Taiwan for offshore exploration of the Taiyang block in the northern edge of the South China Sea. A total of 8,125 km of 2D seismic data were acquired at the end of 2019, and the partnership is now heading for a 3D seismic data acquisition campaign. The agreement with CNOOC and CPC signed our return to deep-sea offshore exploration in this region after 40 years of absence, in a domain that stands as a strategic focus for Total.

Our partnership with CNOOC was further extended in 2018 when we signed a Strategic Collaboration Agreement in deep-sea offshore projects, which gave Total access to more extensive seismic data over a wider area of CNOOC's operating blocks to come up with alternative approaches to explore the northern field of the South China Sea.

The cooperation with our Chinese partners extends far beyond the borders of the country. With CNOOC, CNPC and local partners we have operations and close collaborations in a number of sites globally, including Russia, Kazakhstan, Nigeria, Uganda, United Arab Emirates, Iraq and Brazil.

Among them, Yamal LNG, located in Russia's Far North, is certainly one of the most iconic projects the Group is conducting at an international level. First launched in 2013, Yamal LNG sees Total partnering with CNPC and Russia's Novatek to leverage the immense onshore gas resources of Russia's Yamal Peninsula. The project, which is one of the world's largest of its kind, will supply 16.5 Mt of LNG per year when at full capacity, a large share of which will be directed to China. In July 2018, the first LNG carrier dispatched by Yamal LNG to China made

South Sulige reached production peaks above 10 Mm^3/d for the first time in 2020

a successful delivery to CNPC at Rudong Port, Jiangsu Province, opening a new chapter of natural gas supply to the Chinese market from the Yamal plant.

Not far from Yamal, on the Gydan peninsula, the Artic LNG 2 got underway in late 2019. The project sees Total deepening its partnership with CNCP and CNOOC for the establishment of a facility that, at full capacity, is projected to reach an annual production of 19.8 Mt of LNG. The first production line is forecast to flow before the end of 2023, followed by the second and third lines by the end of 2024 and 2026 respectively. Arctic LNG 2 adds to our growing portfolio of competitive LNG developments based on giant low-cost resources primarily intended for the fast-growing Asian markets.

Both Yamal LNG and Artic LNG 2 are projects of enormous scale, with potential impact on the environment. Together with our partners, Total constantly monitors the environmental impact of its projects by, among the others, reducing flaring to a minimum and deploying all the latest-generation technology for turbines.

International Procurement Office (IPO)

Established in Shanghai since 2009, Total's International Procurement Office (IPO) is a Total Global Procurement entity, which supports all oversea projects and branches during the sourcing and the qualification phases.

During 2020, under the pressure of the global Covid-19 pandemic, our IPO successfully managed to guarantee the safety of employees and stable support to our stakeholders in a context of rapidly changing local regulations.

2020 also saw the implementation of the Environmental Roadmap initiated in 2019 with mainly four pillars: Support to Renewable Energy Activities, Supplier's Risk Management, Supplier's Strategy and Carbon Neutrality.

02

Gas, Renewables and Power

At Total, today's climate concerns are integral to our strategic decisions. The Gas, Renewables & Power (GRP) segment is spearheading the Group's ambition in the field of low-carbon businesses, by expanding in downstream gas and renewable energies as well as in energy efficiency businesses.

By 2030, the country's goal is to increase the gas share to 15% of total energy from 8% in 2018. In renewables, China has already become the world's largest producer and consumer market with leading positions in solar, wind, hydropower, electric cars, and batteries.

Total is committed to walking side by side with China and to partner with local players at a domestic and global level to seize the opportunities arising from the country's energy transition towards a carbon neutral energy system.

Total's gross renewable power generation capacity will reach 35GW by 2025

Natural Gas

As a broad energy company and the second-largest global LNG player, Total has made natural gas, the least pollutant of all fossil fuels, a cornerstone of its strategy to meet growing global demand for energy while helping to mitigate climate change.

This is reflected in the Group's climate strategy of increasing the share of natural gas in our portfolio, leveraging its availability and affordability as well as its flexibility as a complementary energy source to renewables. To this aim, our investments are directed to further strengthen our position in the whole value chain from production and liquefaction, shipping, trading, as well as regasification and storage. We are particularly focusing on LNG, targeting at a portfolio of 50 million tons per year in 2025.

Due to its low-carbon potential and flexibility, LNG is finding broader application in the Chinese market, where the energy needs of a growing economy have to be weighed against the increasingly pressing environmental concerns. Despite the slowdown at the beginning of the year due to the Covid-19 outbreak, China's gas demand recovered fast, and LNG imports are set to hit a record 67-69 million tons this year, a tenth more than 2019's total and at a growth rate that could see China overtake Japan as the world's top buyer by 2022[5].

Total now supplies over 4 Mt of LNG to the Chinese market. In the Group's record of LNG sales to China, 2008 saw the signature of a SPA with CNOOC for the delivery of 1 Mt of LNG per year. In October 2018, this SPA was amended by the partners to increase the contract volume of LNG from 1 Mtpa to 1.5 Mtpa and extended the term of the contract from 15 years to 20 years.

In April 2019, Total signed a 10-year LNG SPA with Guanghui Energy to deliver 0.7 Mt of LNG per year to the Guanghui Energy's Qidong LNG terminal in Jiangsu. In 2019 Total also started its deliveries on the 0.5 Mtpa long term contract with ENN LNG Trading.

In August 2020, Total and CNOOC completed the first transaction on the newly launched Shanghai Petroleum and Natural Gas Exchange online platform for international LNG trade, marking the first step in the digitalization of China's international LNG trade and reinforcing our Group's push towards digital solutions with an aim to provide better and more flexible LNG products and services for the strong market demand in China.

2020 also saw the delivery of the first shipment of carbon neutral LNG from Total to the Chinese National Offshore Oil Corporation. The shipment, delivered on September 29 at the Dapeng terminal in China, reinforces the cooperation between Total and its long-standing partner CNOOC and represents a new step towards carbon neutrality.

As China proceeds with reforming its mid-stream natural gas infrastructure, one of the goals is to open the market and ensure fair access to all third parties, a shift that will bring more abundant opportunities to downstream players in natural gas. On top of actively pursuing LNG import projects and contracts with China, Total also has plans to be more involved in the downstream market to support the development of the gas market in China.

[5] Reuters, 2020, China on Course for Record LNG Imports as Industries Recover, Expand.

First shipment of carbon neutral LNG from Total to CNOOC in September 2020

3 Total in China

Renewable energies are critical in our pledge to reach net-zero carbon emission by 2050. To pursue this target, we have lifted our investment goal for gross renewable power generation capacity to 35GW by 2025. Since 2015, Total has allocated more than 10% of its investments to renewables and electricity, more than any other major. That share will increase on average to more than 15% between 2021 and 2025 and to more than 20% between 2026 and 2030.

Solar

In China, solar PV represents an important focus area for us. To tackle the world's largest photovoltaic market, our affiliate Total Solar has continued its program of expansion via joint ventures in different segments of the value chain, playing a significant role in the construction of multiple photovoltaic power stations around China. In addition to our involvement in the solar plant projects in Inner Mongolia, Sichuan and Hebei, we have also formed a joint venture with Tianjin Zhonghuan Semiconductor to partner on the manufacturing of high-efficiency photovoltaic products.

Another partnership, this time with Envision, was signed in September 2019. The partnership led to the creation of the JV TEESS to enable Total's access to the Chinese distributed PV market. TEESS will be able to harness the strengths of both players to bolster the scale of distributed PV generation to over 1GW within 3 years. When that goal becomes reality, TEESS will become China's largest service provider in the distributed PV sector to help Chinese industrial and commercial customers in their move toward renewables.

2020 also saw the completion of the solarization project of our TLC Guangzhou plant. The facility was equipped with a solar roof – the first of this kind among Total China affiliates – with total installation capacity of 121KW. The experience at the TLC Guangzhou plant will also benefit future solarization projects among Total affiliates in China.

Energy Storage

High energy storage capacity will support the integration of renewable energy during the energy transition and fight against climate change. Renewable energy is intermittent in nature which requires energy storage solution to ensure a stable and flexible power supply, as well as balance of grid network.

In 2016 Total acquired Saft, a leading global provider of advanced technology battery solutions, which has been providing products and services for land, sea, air and space for over one century.

Already in 2006, Saft opened its Asia manufacturing base in Free Trade Zone, Zhuhai. The facility, which expanded to a total footprint of 12,000 square meters after moving to the current site in 2016, has seen a steady increase in production and sales over the years. Today, the plant boasts a production capacity of 65 million primary lithium batteries per year.

In 2020, a new manufacturing hub for energy storage solutions (ESS) was open in Sanzao, Zhuhai. This will enhance the company's capacity to serve the global ESS market and support the transition to renewable energy. The manufacturing capacity of the new 6,600m^2 plant will be around 200 containers per year, which is equivalent to 480 MWh.

In April 2019, Saft signed an agreement with China's Tianneng Group to create Tianneng Saft Energy Co (TSE), a JV that will develop, manufacture and sell advanced lithium batteries, modules and battery packs for electric bicycles, electric vehicles and energy storage solutions for the Chinese and global markets.

Rail transportation and aviation are two other areas in which Saft experienced rapid expansion.

In the rail market, Saft completed a contract to supply MSX battery systems for the new metro trains built for the Changzhou Rail Transit Line 1 project in 2018. It also won a contract by the Chengdu Metro to supply onboard battery systems for different metro lines in the city. In May 2019, Saft inaugurated a new assembly line in Zhuhai for MRX and MSX rail battery cells, with a maximum production capacity of 19 megampere-hours (MAh)/year.

In the aviation industry, Saft is widely recognized as a primary battery supplier in China. Its batteries were selected to equip the MA700 advanced turboprop regional aircraft of AVIC XAC Commercial Aircraft, a subsidiary of Aviation Industry Corporation of China (AVIC), to power the aircraft's maiden flight in 2020. This new contract will further confirm Saft's leadership in battery supply for the Asian aerospace market.

03

Refining and Chemicals

Total is a global leader in petrochemical production, with the refining and chemical segments being key value drivers for our company. We work hard to deliver our customers clean and low-carbon polymers products to fulfil our drive for a carbon-neutral future and the commitment to satisfy the needs of our customers around the world, especially in China.

Polymers

China's burgeoning economic growth has fueled constant evolutions in its consumer market. As a global leader in petrochemical production, Total has always strived to deliver Chinese consumers high-value-added polyethylene and polypropylene that boost performance and guarantee competitive advantages.

We tackle the needs of the rubber, adhesive and sealants markets with functional additives via the manufacturing and supply capability of our affiliate Cray Valley. Total Carbon, another vital subsidiary of ours, manufactures and markets polylactic acid (PLA) polymers, a biobased and biodegradable polymer with lower carbon footprint compared to its traditional counterparts.

The use of the biodegradable PLA polymers is just another example of Total's stance for the adoption of low-carbon solutions. Our commitment to a greener future is also embodied by our participation in the creation of the Alliance to End Plastic Waste (AEPW), an initiative to improve the management, recovery, recycling and reduction of plastic waste that sees the participation of global manufacturers of chemicals and plastics as well as consumer goods companies, retailers and waste management companies.

Specialty Chemicals

By leveraging the expertise of our specialty chemical subsidiary Hutchinson, Total has reached a leading global position in areas such as vibration control, fluid management and sealing technologies. Our solutions help make mobility safer, increase comfort levels as well as enhance energy efficiency in markets such as automotive and trucks, aerospace, defense, energy, rail and industry.

Since it took its first steps in the Chinese market in 1998, Hutchinson has continuously expanded its operation to own, as of today, four production sites in the country - Suzhou, Wuhan, Chongqing and Shenyang – with a combined workforce of more than 2,700 employees, which puts the company at the highest ranks of the industry.

Thanks to its production standards, Hutchinson has earned recognition from premium automotive brands, in China and abroad, with whom we have launched full-scale partnerships. In 2020, we have signed an agreement with Evergrande Auto for the supply of static sealing solutions for their new EE4 platform, which includes four of their new EV models.

In the railway sector, Hutchinson Suzhou has developed and delivered new secondary suspensions for the trains on the Guangzhou Metro Line 18 and Line 22, which meet the EN 45545-2 standard.

With outstanding performance, Hutchinson has awarded annual best partner by BBAC and HAIER Group for its reliable products, as well as the strong sense of responsibility of all staff in pursuit of excellent service.

04 Marketing and Services

Our Marketing and Services (MS) division develops and markets products primarily derived from crude oil, along with all of the associated services. Its 31,000 employees are present in 109 countries, and its products and services are sold in 150 countries. Every day, more than 8 million customers are served through our network of over 14,000 service stations located in 62 countries worldwide.

China has a world-leading environment for digital innovation and a fertile ground for making it a reality. To continuously creating value to our customers in China, Total has embraced a digitalization push in line with the country's formidable IT transformation.

In 2020, Total MS China has signed a Memorandum of Understanding (MoU) with Chinese tech giant Alibaba Group (Alibaba) to utilize the Alibaba Business Operation System (ABOS) and leverage Alibaba's leading digital technology, providing digital infrastructure and support for Total's service stations, as well as lubricants and special fluids to businesses in China. In addition, we launched O2O sales model in partnership with Tuhu, Tmall Auto Care, KA+ and Le Che Bang.

Total's first standalone EV charging station opened in Wuhan in 2020

Station and Fuels

It was 1999 when Total began to operate its wholly-owned service stations in China. Only a few years later, in 2005, the company formed partnerships with Sinochem under two JVs, Total-Sinochem Fuels Co., Ltd and Total-Sinochem Oil Co., Ltd. By the end of October 2020, the total number of service stations operated by our Group in China has risen to 342. Of them, 192 are independently run by Total and 150 by our partners.

Our quest for clean mobility and our drive for innovation has led to the introduction of Total Excellium fuels. Excellium fuels can clean and keep cleaning the essential components of the engine, so to enhance performance while economizing consumption. The new line of fuels was first made available in all Total-Sinochem sites located in Beijing city.

In addition, in accordance with government requirements and following national standards, Total service stations also provide ethanol fuels in designated areas.

In September 2020, Total brings its high-quality electric charging services into China with the launch of its first standalone electric vehicle charging station in Wuhan. Equipped with 12 units of 120kW dual chargers, this EV charging station provides fast charging service to the public for both commercial fleets and private customers. Following the launch, Total plans to become a significant player in the EV market across China within the coming years.

Electric vehicles could represent nearly a third of all vehicles and half of all sales worldwide by 2040. If that boom is to materialize, the number of charging points needs to be increased dramatically. Current growth in the EV industry is bringing charging solutions into a new era in terms of ambition and capacity. Our ambition is to deliver to our customers top-notch charging services wherever we do operate charging points.

Lubricants

Total has recorded a steady increase in the sales of its lubricants in China since it first entered the country in the early 1990s. Today, Total Lubricants offers more than 1,000 products and service to the Chinese market to meet diverse industrial customers' lubricant demands. Over the years, the Group has invested in three lubricant blending plants and one grease plant, each equipped with a high degree of automation. Thanks to our constant efforts of optimization and innovation, our logistics network has by now extended across the whole country.

In the field of automotive oil, we provide a full range of diversified lubricant products designed for passenger cars, commercial vehicles and motorcycles, as well as gear lubricants, flushing oil, antifreezes, and other associated petroleum products. In 2020, Total Quartz full synthetic products and low-viscosity products with synthetic technology have been all upgraded to the API SP standard, making Total the international brand owning multiple API SP products in the industry.

For the fast-developing EV market, Total took the lead and launched a series of innovative fluid products for electric and hybrid vehicles already in 2018, and proceeded in further consolidating our position in the market. In 2020, Total presented QUARTZ electric vehicle drivetrain multi-functional lubricants, a brand new multi-functional lubricants formulation for highly integrated power assemblies.

In the industrial oil market, Total's integrated solutions, advanced technology and thoughtful services have won the trust from clients across a wide range of industries, including steel, power, cement, mining, paper manufacturing, chemicals, compressor, textile, metalworking, and food processing. In 2020, when facing the severe Covid-19 epidemic, we established strong cooperative relationships with chemical groups such as Yisheng Petrochemical Corporation and INTCO Group, participating in providing key personal protection products for people all over the world.

Working side by side with partners is key for our performance in the Chinese market. In 2020, Total Lubricants has assisted luxury car maker Aston Martin for the China launch communication of its first luxury SUV, the DBX. In the same year, Total Lubricants and KA+ Car Care signed an agreement to jointly promote the development of related products and services in the commercial vehicle after-market, with the KA+'s mature O2O truck maintenance system and Total's cutting-edge integrated lubrication solutions.

As a champion of a healthy lifestyle, Total has been an active sponsor of local sporting events in China. Since 2017, Total has organized the Total-Li Ning-Li Yong Bo Cup 3V3 Badminton Tournaments in more than ten Chinese cities, which attracted extensive attention and created a new world record for the largest number of badminton contestants in one tournament. Total has also been the official sponsor of several major events under the Badminton World Federation (BWF) since 2015, including the 2019 Total BWF Sudirman Cup held in Nanning in May.

Special Fluids

Total has more than 50 years of product development experience in the field of special fluids, and is committed to providing and producing the highest purity and renewable special fluids for users all over the world. We supply more than 150 kinds of products, which can be used in metal processing, rubber & plastic, water treatment, poultry vaccine and other special industries. In China, special fluids can provide customers with customized solutions and services based on customer applications, develop customized special fluid products according to customer needs, provide formula application and new formula development support, and provide patent support and other services.

Marine Fuel

Total supports international shipping clients through its bunkering arm, Total Marine Fuels Global Solutions (TMFGS), which offers a diversified range of marine fuels and associated services globally. Its product portfolio consists of low sulfur fuel oils that contain sulfur content below 0.5%, Liquefied Natural Gas (LNG) and biofuels, which is in line with its strategic focus on cleaner marine fuels to support the maritime industry's decarbonization roadmap.

To enable the widespread use of LNG in shipping, TMFGS is actively investing in critical LNG bunkering infrastructure, including the chartering of two 18,600 cbm-capacity LNG bunker vessels built by Hudong-Zhonghua Shipbuilding in Shanghai, to serve the bunkering hubs of Rotterdam, Singapore and the Mediterranean.

In October 2019, Total entered into an agreement with Chinese public company, Zhejiang Energy Group (ZEG), to set up a joint venture, Zhejiang Petroleum Marine Fuels Co., Ltd in the Zhoushan region of China. By tapping in TMFGS' global bunkering network, leading expertise and strong management experience, Zhejiang Petroleum Marine Fuels Co., Ltd is today a leading bunkering company dedicated to providing international shipping companies safe, reliable, competitive and high quality marine fuel solutions across the Zhejiang Pilot Free Trade Zone.

Total's participation in the Getting to Zero Coalition and in the Coalition for the Energy of the Future, both initiatives focused on the development and promotion of zero-emission and sustainable marine fuels, underscores the Group's commitment to further support the maritime industry's decarbonization goals, with attention to reducing emissions, fighting global warming and also protecting biodiversity.

Total Marine Fuels Global Solutions (TMFGS) offers a diversified range of marine fuels and associated services globally

Lubemarine

Total supplies lubricants also to the marine industry through Total Lubmarine, its specialized marine lubricants business which provides innovative solutions to the global shipping industry.

Total Lubmarine provides lubricant solutions in over 1,000 ports worldwide, with the Lubmarine China team based in Shanghai, offering premium marine lubricants and services throughout China. Our pioneering solutions in marine engine oils and greases operate in the most extreme conditions, and our technical expertise helps OEMs, vessel owners and operators to successfully reduce costs, increase vessel reliability, mitigate engine risks and improve environmental credentials.

As a testament to the excellent work Total has done in this area in China, Total Lubmarine recently won a new tender from COSCO Shipping Bulk Carrier. It was a win for a total of 8 new buildings of 210,000 DWT (deadweight) each, giving estimated annual sales up to 1,000 metric tons.

Total Lubmarine provides lubricant solutions to over 1,000 ports worldwide

4 Sustainable Development in China

As one of the first international energy company entering China, Total sees itself as an integrated part of the local community.

01 Research & Development

Research & Development is at the core of our Group's DNA and represents a key factor in our strategy of reaching net-zero carbon emissions by 2050. As one of the top 100 most innovative companies worldwide, we allocate more than USD 1 billion a year of investment in our R&D programme, which involves more than 4,300 employees with 18 research centres globally, as well as numerous partnerships with universities, start-ups and industrial companies.

To fulfill Group's ambitions, our R&D programme focuses are organized in five strategic domains, including digital transformation, safety, efficiency, low-carbon mix, and new products and services.

Total sees China as a critical partner in its global innovation map and has launched over 40 research projects successfully in the country since 2009. We are committed to innovate in China while seeking to provide sustainable energy solutions to the world.

R&D is a driver for long-term transformation and a key factor in our Climate Ambition strategy to net-zero carbon emission. For this reason, our Group devotes more than 40% of its research effort to projects aimed at decarbonizing our energy mix. From renewable energies and hybrid power systems for mobility and industrial sites to biofuels and carbon capture, we are investing in strategic sectors that will contribute to carbon neutrality in the future.

Carbon capture, utilization and storage is an important part of our efforts towards carbon neutrality. It helps capture carbon dioxide and store it underground safely and permanently, thus reducing the carbon footprint of associated industrial operations.

Since 2010, the year we began developing a pilot project for CCUS in Lacq, southern France, our Group has been a pioneer in this area, to which we dedicate 10% of our total R&D spending. After Lacq, Total has participated in a number of initiatives, including the Northern Light project in Norway and the partnership with Svante, LafargeHolcim and Oxy Low Carbon Ventures for a CCUS facility in Colorado.

In China, Total participates in CHEERS, the Chinese-Europe Emissions-Reducing Solutions (CHEERS) project together with prestigious universities, leading research institutes and premier local equipment manufacturers from both China and Europe for the development of large-scale, low-cost, and high-efficiency CCUS technology to refining, petrochemical, power and other energy industries. The success of CHEERS project will contribute with a unique solution with the potential to reduce 15% or even higher CO_2 emission in refining and chemical processes.

Industrial carbon emissions are not only an object of research and experimentation, but are also explored for potential alternative uses. In 2020, through their innovative partnership, LanzaTech, Total and L'Oréal have premiered the world's first sustainable packaging made from captured and recycled carbon emissions. This successful project demonstrates the commitment of our Group towards a sustainable circular economy and paves the way for more opportunities for the capture and re-use of industrial carbon emissions.

Innovation at Total also takes the form of a strong push towards digital transformation. 30% of the Groups investment in R&D is devoted to digitalization in areas from product innovation to service and operations. In 2020, we signed a MoU with Alibaba Group to utilize its Alibaba Business Operation System to provide digital infrastructure and support for our service stations. Another tech giant, this time Google, has become our partner for the development of Solar Mapper, our innovative tool that, by leveraging Google Cloud's brand-new AI algorithms, promises to accelerate the deployment of solar panels for individuals by providing a faster and more accurate estimate of the solar energy potential of their homes compared to any other currently available tool.

Total has also been active in the exchange of research and innovations with China, namely via the Total China Scientific Forum (TCSF), an initiative launched for the first time in 2009, which has now grown into an international platform for the energy industry. The latest edition of the TCSF was held in November 2019 in Chengdu, under the theme of “Low Carbon Energy Innovation”. The two-day gathering focused on the development of innovative technologies for the LNG industrial chain, low-carbon transportation, and CCUS.

Total is also a partner with the Chinese Academy of Sciences for the development of new generation and advanced bioprocesses for fuel and chemical production.

Energy startups as a driver for innovation are constantly on our radar. Last year, our Group announced that the Total Carbon Neutrality Ventures (TCNV), Total's venture capital arm, will increase its investment capacity to USD 400 million over the following five years and will concentrate entirely on carbon neutrality projects. In the same year, TCNV invested USD 50 million equivalent in RMB into the Cathay Smart Energy Fund of Hubei. This RMB investment fund focuses on innovative Chinese startups committed to the transition and decarbonization of the energy industry towards a sustainable circular economy.

02 Contributing to Our Host Communities

In China, the early outbreak of the Covid-19 pandemic reinforced our commitment to the health and safety of our employees as well as strengthening our sense of being an integral part of the Chinese community.

The outbreak of Covid-19 called for immediate actions to ensure the health and safety of our employees and to support local communities in their frontline efforts to combat the epidemic. The leadership of Total China, in line with local government policies, timely devised and implemented specific company policies and measures aimed at reducing the risk of contagion and promoting the safety of our staff in China. Postponed working hours, remote working, strict disinfection protocols, distribution of protection items such as masks, gloves and goggles are just some of the measures we implemented to guarantee operations in a safe environment.

In February 2020, Total China also announced that it had donated RMB 2 million to China Charity Federation (CCF) to help China fight the coronavirus epidemic. The donated fund was designated to purchase medical supplies for the epidemic prevention and control in Hubei Province, support frontline hospitals and medical workers, as well as support the epidemic prevention and control work in other areas of Hubei Province. Total staff in China has also made voluntary donations in cash or medical supplies to the affected regions.

Total, together with many other French companies, made donations to Wuhan through the Cathay Smart Energy Fund, in which Total invested with other partners. 550,000 pieces of medical supplies from overseas were raised and delivered to Hubei and other seriously affected regions.

Total Professeurs Associés

Total Professeurs Associés (TPA) is one of our most successful initiatives in bridging the gap between the energy industry and academic institutions. Consisting of a group of senior or retired professionals from Total, TPA has been active in providing intensive practical courses on topics covering many aspects of the energy industry, with no charge to the participants. This has made TPA a valuable industry platform for trust building and information sharing of latest developments.

In 2009, TPA offered its first course in China at the South China University of Technology (SCUT). Thus far, we have partnered with numerous top Chinese universities such as Tsinghua University, the SCUT and the China University of Petroleum in Beijing (CUPB), and have successfully delivered courses to over 17,000 students.

For the 2020 edition, considering the limitation imposed by the epidemic, much of the event was held online, a decision that managed to guarantee the continuity of what has become a valuable industry platform for trust-building and information sharing among Chinese and international professionals and students.

Road Safety Training Program

Road Safety Training program aims to teach the value of safety to children and assist educators in developing a robust road safety program for schoolchildren. Since the launch in 2010, Total's Road Safety education program has been held for 11 consecutive years. It has involved more than 40 schools in 19 cities across the country, training more than 16,000 students.

In 2020, our training camp was held in schools in 7 cities, including Shanghai, Beijing, Tianjin, Xi'an, Wuhan, Zhenjiang and Guangzhou. With the strong support of the Beijing Traffic Safety Publicity and Education Base, more than 1,000 students participated in the training this year.

For its distinctive contribution to the promotion of a better and safer environment, our Road Safety Training program received the "Good Planet" award by the CCIFC China French Chamber of Commerce and Industry in China.

Total's Road Safety education program has been held for 11 consecutive years. It has involved more than 40 schools in 19 cities across the country, training more than 16,000 students

03 Safety

Safety is a core value of Total. Being a broad energy company with operations in risky environments, we apply strict safety standards that hold on both our employees and contractors alike. This has allowed our Group to boast safety figures among the best in the energy business, which is proof to our relentless pursuit of the safety of our employees.

At Total, safety is more than just a business principle – it is embedded as an integral part of our DNA. Our commitment to enhancing safety conditions for our employees is reflected in the overall decline of our Total Recordable Injury Rate (TRIR) and Loss Time Injury Rate (LTIR) figures over the past decade.

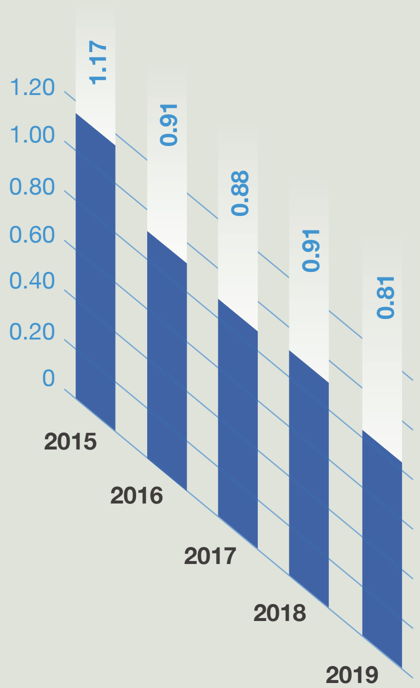
In 2017, we published the latest edition of our 12 Golden Rules on occupational safety. These guidelines build on the lessons learned from previous cases and provide an easy and understandable reference for employees to act upon to create a safe work environment.

At Total, we strive to promote safety as a shared value among our employees across all of our locations. In this perspective, initiatives such as the World Day for Safety have been launched to bring our employees together on a shared platform to promote a common culture around safety. In 2020, Total's World Day for Safety reached its 13th session with the "Joint Safety Tours: Our Lives First" event. On that day, all of Total China's subsidiaries, offices, plants, stations and worksites carried out a wide range of activities to apply our Golden Rules, boosting employee safety skills.

Safety is, first and foremost, both a personal and collective responsibility that requires all to take action and play an indispensable part. Since September 2007, Total China has maintained its record of fatal accidents at zero, an extraordinary testament to our commitment to safety.

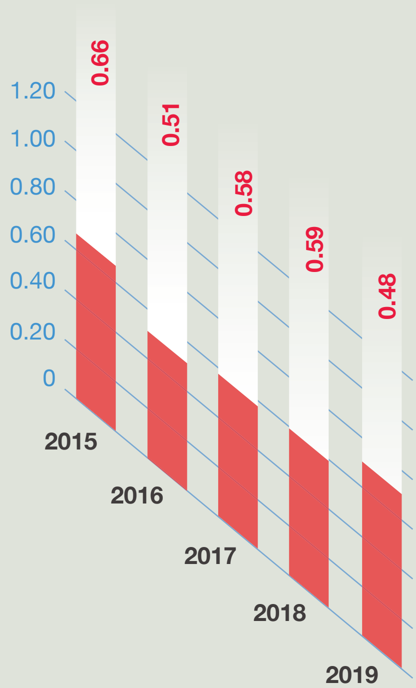
TRIR

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



LTIR

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



Key figures

100,000
Employees

Production of
3 MBOE/Day
in 2019, of which
> **50**% natural gas

$11.8B
Adjusted Net
Income in 2019

NO. 2
Liquefied Natural
Gas Operator

8 M
customers served each
day at 14,000 service
stations across the world

Nearly **800**
Production Sites

35GW
of Low – carbon
electricity generation
capacity by 2025

$1B
Spent on R&D in 2019,
including 40% on
Low–carbon

total.com.cn

Total is a broad energy company that produces and markets fuels, natural gas and electricity. Our 100,000 employees are committed to better energy that is more affordable, more reliable, cleaner and accessible to as many people as possible. Active in more than 130 countries, our ambition is to become the responsible energy major.

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