

2016 EDITION

# factbook



**TOTAL**

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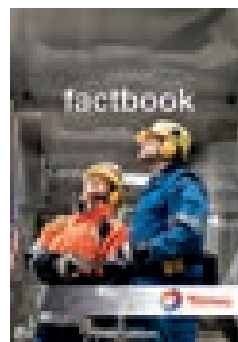
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### Need further information?

Log on to [www.total.com](http://www.total.com)  
You can consult the Factbook online, download it in PDF and the tables are also available in Excel format.



### Abbreviations

b:	barrel
cf:	cubic feet
/d:	per day
/y:	per year
€:	euro
\$ and/or	
dollar:	U.S. dollar
t:	metric ton
boe:	barrel of oil equivalent
kboe/d:	thousand boe/d
kb/d:	thousand barrel/d
Btu:	British thermal unit
M:	million
B:	billion
MW:	megawatt
MWp:	megawatt peak (direct current)
TWh:	terawatt hour
AMF:	French Financial Markets Authority
API:	American Petroleum Institute
ERM:	European Refining Margin Indicator.

ERM is an indicator intended to represent the margin after variable costs for a hypothetical complex refinery located around Rotterdam in Northern Europe. The indicator margin may not be representative of the actual margins achieved by TOTAL in any period because of TOTAL's particular refinery configurations, product mix effects or other company-specific operating conditions.

FEED:	Front-End Engineering and Design
FPSO:	Floating Production Storage and Offloading
IFRS:	International Financial Reporting Standards
LNG:	liquefied natural gas
LPG:	liquefied petroleum gas
ROE:	Return on Equity
ROACE:	Return on Average Capital Employed
SAGD:	Steam Assisted Gravity Drainage
SEC:	United States Securities and Exchange Commission

### Conversion table

1 boe =	1 barrel of crude oil = approx. 5,404 cf of gas <sup>(1)</sup> in 2016
1 b/d =	approx. 50 t/y
1 t =	approx. 7.5 b (for a gravity of 37° API)
1 Bm <sup>3</sup> /y =	approx. 0.1 Bcf/d
1 m <sup>3</sup> =	approx. 35.3 cf
1 t of LNG =	approx. 48 kcf of gas
1 Mt/y of LNG =	approx. 131 Mcf/d

(1) This ratio is calculated based on the actual average equivalent energy content of TOTAL's proved developed and undeveloped natural gas reserves and is subject to change.

## PROFILE



### A GLOBAL ENERGY GROUP

With operations in more than 130 countries, TOTAL is engaged in every sector of the oil and gas industry, including Upstream (hydrocarbon exploration, development and production) and Downstream (refining, Petrochemicals, Specialty Chemicals, Trading and shipping of crude oil and petroleum products and marketing). TOTAL is also involved in the renewable energies and power generation sectors.

### STRATEGY

TOTAL is a leading international oil and gas company and aims to be the responsible energy major by helping to supply accessible, affordable and clean energy to as many people as possible. To accomplish this goal, TOTAL leverages its integrated business model, which enables it to capture synergies between the different activities of the Group. To achieve its ambition, TOTAL relies upon its operational excellence, technological expertise and capacity to manage complex projects.

The Group's strategy is based on four main priorities:

- driving profitable, sustainable growth in Exploration & Production's hydrocarbon activities, with priority given to reducing production costs, disciplined investments and cash flow generation;
- continuing to enhance the competitiveness of major integrated refining and petrochemical platforms;

- increasing the distribution of petroleum products, particularly in high-growth regions, and offering innovative solutions and services that meet customers' evolving needs above and beyond the supply of petroleum products; and
- expanding along the full gas value chain by unlocking access to new markets, and developing profitable low-carbon businesses, in particular renewable energies.

This strategy incorporates the challenges of climate change, using as a point of reference the 2°C scenario of the International Energy Agency and its impact on energy markets. TOTAL's challenge is to increase access to affordable energy to satisfy the needs of a growing population, while providing concrete solutions to help limit the effects of climate change and supplying its clients with an energy mix featuring a progressively decreasing carbon intensity.

In addition to safety, the values of respect, responsibility and exemplary conduct underpin TOTAL's Code of Conduct and accompany priority business principles in the realms of safety/security/health/environment, integrity (preventing corruption, fraud and anti-competitive practices) and human rights. It is through strict adherence to these values and principles that TOTAL intends to build strong and sustainable growth for the Group and its stakeholders and deliver on its commitment to better energy.

### KEY FIGURES FOR 2016

**+4.5%**  
Upstream production growth

**34%**  
Downstream ROACE <sup>(1)</sup>

**8.3 B\$**  
adjusted net income

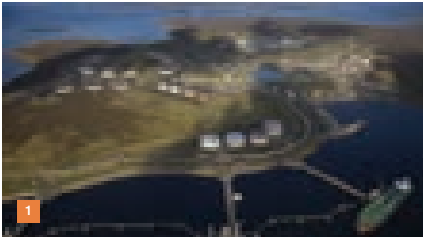
**18 B\$**  
Capex incl. resource renewal

**2.8 B\$**  
Opex savings

2015-17 asset sales programme

**80%**  
complete

(1) Excluding New Energies.



1



2



3



4



5



6

## 2016 HIGHLIGHTS

### JANUARY

#### RUSSIA – E&P

Transfer of Total's 20% interest and operatorship of the Kharyaga Production Sharing Agreement to Zarubezhneft. Following the transaction, Total retains a 20% interest in Kharyaga.

#### DOMINICAN REPUBLIC – M&S

Acquisition of a majority 70% interest in the leading Dominican fuel retailer from Putney Capital Management, including a network of 130 stations and significant commercial oil products and lubricants sales positions.

### FEBRUARY

#### INDONESIA – GAS

Signature of long-term LNG sale and purchase agreements with state-owned Indonesian company Pertamina for the supply of LNG volumes increasing from 0.4 to 1 million tons/year over a period of 15 years beginning 2020.

#### CHINA – GAS

Signature of a Heads of Agreement with ENN LNG Trading for the delivery of 0.5 million tons/year of LNG for a period of 10 years. The deliveries will be sourced from Total's global LNG portfolio and are expected to begin in 2018 upon completion of ENN's Zhoushan LNG receiving terminal.

#### UNITED KINGDOM – E&P

Start-up of production from the Laggan and Tormore gas and condensate fields, located in the West of Shetland area. The fields, which are operated by Total with a 60% interest, will produce 90,000 barrels of oil equivalent (boe) per day. **1**

#### ARGENTINA – E&P

Start-up of production at the offshore Vega Pleyade gas and condensate field in the Tierra del Fuego region of Argentina. Operated by Total, the project will have a production capacity of 70,000 boe/day. **2**

### MARCH

#### CORPORATE

Appointment of Momar Nguer as President Marketing & Services and member of the Executive Committee of Total, replacing Philippe Boisseau.

#### CORPORATE

Signature of a strategic cooperation agreement with China National Petroleum Company to extend the two companies' existing collaboration in major projects.

### APRIL

#### CORPORATE

Signature of a Memorandum of Understanding with Korea Gas Corporation to reinforce mutual cooperation to explore opportunities throughout the LNG value chain.

#### CORPORATE

Presentation of Total's new organization to become the responsible energy major, including the creation of the Gas, Renewables & Power and Total Global Services segments and the two new divisions within Holding: People & Social Responsibility and Strategy & Innovation.

### MAY

#### EAST AFRICA – M&S

Acquisition of Gulf Africa Petroleum Corporation's assets in Kenya, Uganda and Tanzania. Through the acquisition of two logistical terminals in Mombasa, Kenya and Dar es Salaam, Tanzania, as well as a retail network of around 100 service stations, Total strengthens its position in petroleum product distribution and services in East Africa.

### JUNE

#### NEW ENERGIES

Acquisition of Lampiris, the third-largest supplier of natural gas and renewable power to the Belgium residential sector, to expand Total's gas and power distribution activities. **3**

#### QATAR – E&P

Signature of an agreement with Qatar Petroleum, granting Total a 30% interest in the concession covering the offshore Al-Shaheen oil field for a period of 25 years. The giant field's production represents about half of Qatar's oil production. **4**

### JULY

#### CORPORATE

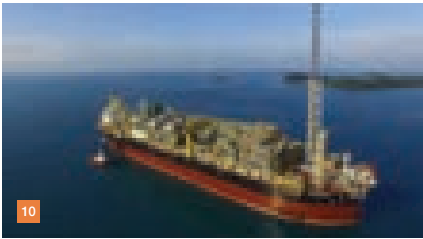
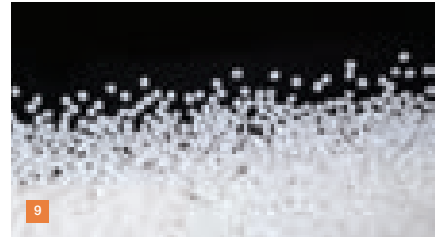
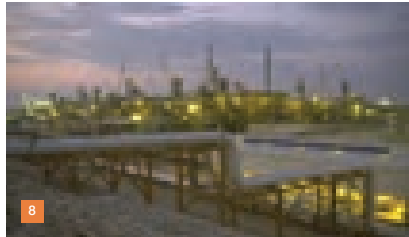
Executive Committee appointments made as part of the "One Total" project: Philippe Sauquet was appointed President of the new Gas, Renewables & Power branch and Executive Vice President Strategy & Innovation; Bernard Pinatel was appointed President Refining & Chemicals; and Namita Shah was appointed Executive Vice President People & Social Responsibility.

#### JAPAN – GAS

Signature of a binding Heads of Agreement with Chugoku Electric for the direct supply of LNG for a period of 17 years starting from 2019. Total will supply Chugoku Electric with up to 0.4 million tons of LNG/year sourced from the company's global portfolio.

#### NEW ENERGIES

Friendly takeover of Saft Group. Through this acquisition, Total takes control of Saft, as part of its ambition to accelerate its development in the fields of renewable energy and electricity. **5**



## 2017

### AUGUST

#### BOLIVIA – E&P

Start-up of production the Incahuasi gas and condensate field, the Group's first operated development in Bolivia, with a production capacity of 50,000 boe/day. <sup>6</sup>

### SEPTEMBER

#### USA – E&P

Acquisition of a 75% interest in the Barnett Shale assets in North Texas from Chesapeake. Total E&P USA becomes the 100% owner and operator of the assets.

### OCTOBER

#### CORPORATE

Sale of the Specialty Chemicals' affiliate Atotech to The Carlyle Group for \$3.2 billion.

#### BRAZIL – E&P/GAS

Signature of a Memorandum of Understanding with Petrobras to form a Strategic Alliance covering Upstream and Downstream activities in Brazil as well as international opportunities. <sup>7</sup>

### NOVEMBER

#### IRAN – E&P

Signature of a Heads of Agreement with the National Iranian Oil Company for the development of phase 11 of South Pars, the world's largest gas field. <sup>8</sup>

#### FRANCE – NEW ENERGIES

Launch of a program to equip 5,000 of Total's service stations worldwide with solar panels within five years, with the total capacity of approximately 200 MW.

#### THAILAND – R&C

Creation of a joint venture in bioplastics with Corbion (50/50) to produce and market polylactic (PLA) polymers. The partners plan to build a world-class PLA polymerization plant with a capacity of 75,000 tons/year at Corbion's site in Thailand. <sup>9</sup>

#### AZERBAIJAN – E&P

Signature of an agreement with SOCAR, the national oil company of Azerbaijan, establishing the contractual and commercial terms for a first phase of production of the Absheron gas and condensate field, in the Caspian Sea.

#### IVORY COAST – GAS

Total becomes the operator of a LNG re-gasification terminal in Ivory Coast with a capacity of 3 million tons/year. Total will use the terminal to supply LNG volumes from its global portfolio.

### DECEMBER

#### MEXICO – E&P

Award of exploration licenses on 3 Blocks in offshore Mexico, following the country's first competitive deep water bid round. The company will be the operator of Block 2 in the Perdido basin (50% interest) and won a participating interest of 33.3% in Blocks 1 and 3 in the Salina basin.

#### USA – GAS

Acquisition of approximately 23% of Tellurian to develop an integrated gas project, from the acquisition of competitive gas production in the US to the delivery of LNG to international markets from the Driftwood LNG terminal.

#### BRAZIL – E&P/GAS

Signature of an Assets Package Agreement with Petrobras in the framework of the Strategic Alliance announced in October 2016. The agreement includes participation in two high-quality pre-salt fields, Lapa (35%, operator) and Iara (22.5%), two co-generation plants (50%) and some regasification capacity in the Bahia LNG terminal. <sup>10</sup>

### JANUARY

#### UGANDA – E&P

Signature of an agreement to acquire an additional 21.57% interest in the Uganda Lake Albert oil project from Tullow. <sup>11</sup>

### FEBRUARY

#### GABON – E&P

Signature of an agreement for the sale of stakes and the transfer of operatorship in various mature assets in Gabon to Perenco. It includes the sale of the Group's 100%-owned affiliate Total Participations Pétrolières Gabon and the sale of Total Gabon (Total 58%) interests in five fields and the Rabi-Coucal-Cap Lopez pipeline network.

### MARCH

#### CONGO – E&P

Start-up of production from Moho Nord deep-offshore project, in the Republic of the Congo. Operated by Total, the project has a production capacity of 100,000 boe/day. <sup>12</sup>

#### USA – R&C

Total enters a partnership with Borealis and Nova to form a joint venture (Total 50%) with the aim of building a \$ 1.7 billion ethane steam cracker in Port Arthur and a new Borstar polyethylene unit on the United States Gulf Coast.

## GROUP REORGANIZATION



In order to implement TOTAL's strategy and in line with the "One Total" company project, a new organization, fully effective since January 1, 2017, was put in place and is structured around four business segments following the creation of the Gas, Renewables & Power (GRP) segment, alongside the existing Exploration & Production, Refining & Chemicals and Marketing & Services segments.

The GRP segment spearheads TOTAL's ambitions in low-carbon businesses by expanding in Downstream gas and renewable energies as well as in energy efficiency businesses. This segment brings together the Gas and New Energies divisions (excluding biotechnologies) and a new Innovation & Energy efficiency division. Concerning bioenergies, a new Biofuels

division now regroups within the Refining & Chemicals segment all these activities.

In order to improve efficiency, reduce costs and create value within the Group, the new branch Total Global Services (TGS) pools the various segments' support services (Accounting, Purchasing, Information Systems, Training, Human Resources Administration and Facilities Management). The entities making up TGS operate as service companies for internal clients across all four business segments and the Corporate Holding level.

Finally, the diverse Corporate entities were regrouped in two divisions.

The new People & Social Responsibility division consists of: the Human Resources division, including Senior Executive

Management; the Health, Safety and Environment division, which combines HSE departments across the different segments to establish a strong, unified environmental and safety model; the Security division; and the new Civil Society Engagement division.

The new Strategy-Innovation division is made of: a new Strategy & Climate division, responsible notably for ensuring that TOTAL's strategy incorporates climate issues; the Public Affairs division; the Audit division; the Research & Development division (which replaces the Scientific Development Department and now coordinates all of the Group's R&D activities and notably transversal programs such as on carbon capture, use and storage of CO<sub>2</sub>); the Chief Digital Officer; and the Senior Vice President of Technology.

# CORPORATE



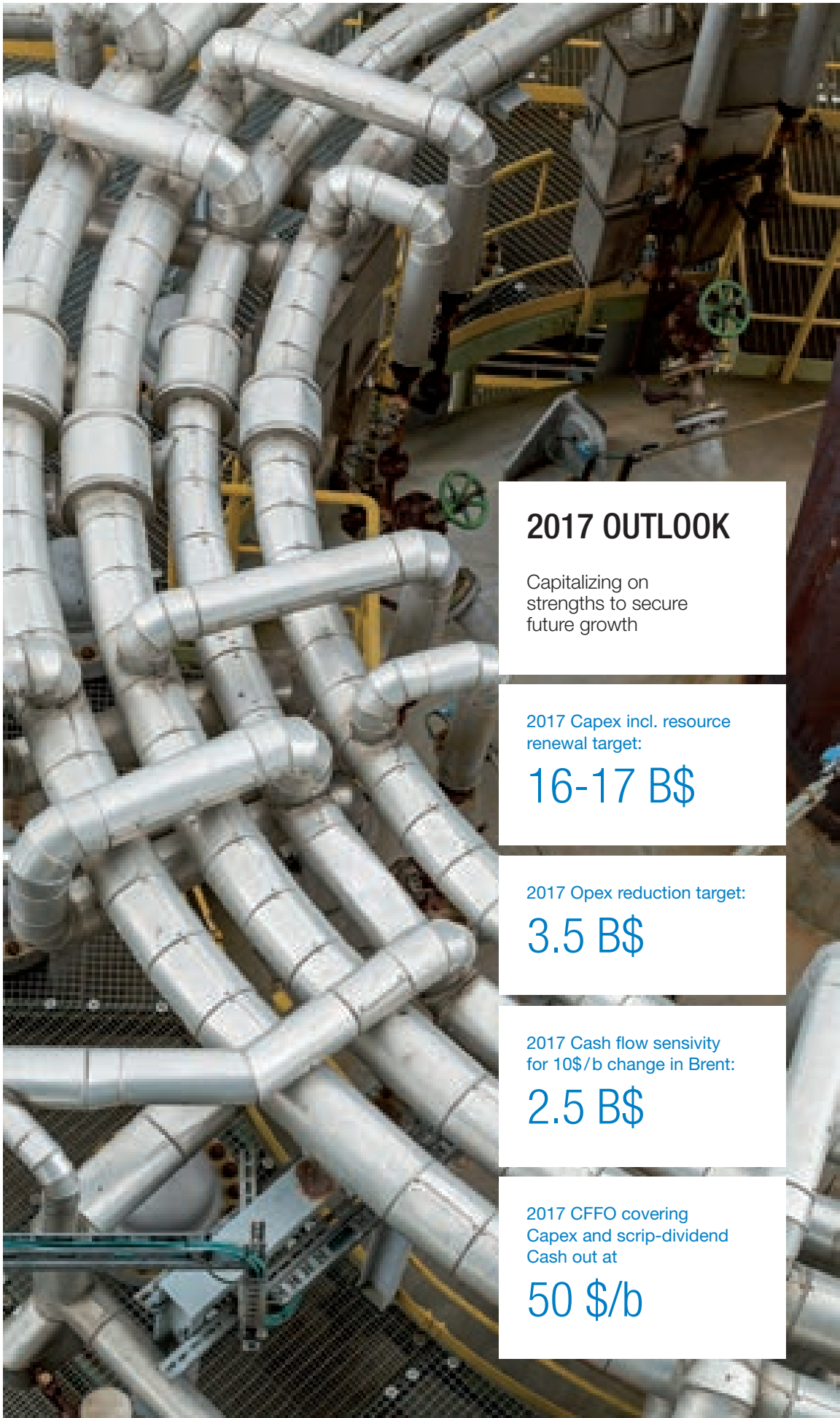
**16.5 B\$**  
Cash flow  
from operations

**8.3 B\$**  
adjusted net  
income

**3.4 \$**  
adjusted fully-  
diluted earnings  
per share

**2.45 €**  
dividend  
per share<sup>(1)</sup>

(1) Pending approval at the May 26, 2017 Annual Shareholders' Meeting.



## 2017 OUTLOOK

Capitalizing on strengths to secure future growth

2017 Capex incl. resource renewal target:

**16-17 B\$**

2017 Opex reduction target:

**3.5 B\$**

2017 Cash flow sensitivity for 10\$/b change in Brent:

**2.5 B\$**

2017 CFFO covering Capex and scrip-dividend Cash out at

**50 \$/b**



## FINANCIAL HIGHLIGHTS

(in million dollars, except percent and per share amounts)	2016	2015	2014	2013	2012
<b>Sales</b>	<b>149,743</b>	<b>165,357</b>	<b>236,122</b>	<b>251,725</b>	<b>257,037</b>
Adjusted operating income from business segments <sup>(1)</sup>	8,928	12,672	21,604	27,618	31,946
<b>Adjusted net operating income from business segments<sup>(1)</sup></b>	<b>9,420</b>	<b>11,362</b>	<b>14,247</b>	<b>15,861</b>	<b>17,153</b>
Net income (Group share)	6,196	5,087	4,244	11,228	13,648
<b>Adjusted net income (Group share)<sup>(1)</sup></b>	<b>8,287</b>	<b>10,518</b>	<b>12,837</b>	<b>14,292</b>	<b>15,772</b>
Fully-diluted weighted-average number of shares	2,389,713,936	2,304,435,542	2,281,004,151	2,271,543,658	2,266,635,745
<b>Adjusted fully-diluted earnings per share (\$) <sup>(1) (2)</sup></b>	<b>3.38</b>	<b>4.51</b>	<b>5.63</b>	<b>6.29</b>	<b>6.96</b>
<b>Dividend per share (€) <sup>(2)</sup></b>	<b>2.45 <sup>(3)</sup></b>	<b>2.44</b>	<b>2.44</b>	<b>2.38</b>	<b>2.34</b>
<b>Dividend per ADR (\$) <sup>(2)</sup></b>	<b>2.61 <sup>(3) (4)</sup></b>	<b>2.67</b>	<b>2.93</b>	<b>3.24</b>	<b>3.05</b>
Net-debt-to-equity ratio (as of December 31)	27.1%	28.3%	31.3%	23.3%	21.9%
Return on Average Capital Employed (ROACE) <sup>(5)</sup>	7.5%	9.4%	11.1%	13.0%	15.5%
Return on Equity (ROE)	8.7%	11.5%	13.5%	14.9%	17.7%
<b>Cash flow from operating activities</b>	<b>16,521</b>	<b>19,946</b>	<b>25,608</b>	<b>28,513</b>	<b>28,858</b>
Gross investments <sup>(6)</sup>	20,530	28,033	30,509	34,431	29,475
Organic investments <sup>(7)</sup>	17,484	22,976	26,430	28,309	23,789
Divestments (at the sale price)	2,877	7,584	6,190	6,399	7,543

(1) Adjusted results are defined as income at replacement cost, excluding non-recurring items, and excluding the impact of fair value changes.

(2) Based on the fully-diluted weighted-average number of common shares outstanding during the period.

(3) 2016 dividend subject to approval at the May 26, 2017 Annual Shareholders' Meeting.

(4) 2016 estimated dividend in dollars includes the first quarterly interim ADR dividend of \$0.67 paid in October 2016 and the second quarterly interim ADR dividend of \$0.65 paid in January 2017, as well as the third quarterly interim ADR dividend of \$0.64 payable in April 2017 and the proposed final ADR dividend of \$0.65 payable in June 2017, both converted at a rate of \$1.05/€.

(5) Based on adjusted net operating income and average capital employed using replacement cost.

(6) Including acquisitions and increases in non-current loans.

(7) Organic investments = net investments, excluding acquisitions, divestments and other operations with non-controlling interests.

## MARKET ENVIRONMENT

	2016	2015	2014	2013	2012
Year-end euro/dollar (€/\$)	1.05	1.09	1.21	1.38	1.32
Average euro/dollar (€/\$)	1.11	1.11	1.33	1.33	1.28
Year-end Brent price (\$/b)	56.8	37.3	57.3	110.3	110.0
Average Brent price (\$/b)	43.7	52.4	99.0	108.7	111.7
Average refining margins (\$/t) – ERMI <sup>(1)</sup>	34.1	48.5	18.7	17.9	36.0

(1) Total's European Refining Margin Indicator (ERMI); published quarterly by the Group.

## OPERATIONAL HIGHLIGHTS BY QUARTER

(in million dollars)

	2016 Full Year	2016 Quarters			
		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
<b>Adjusted operating income from business segments<sup>(1)</sup></b>	<b>8,928</b>	<b>1,770</b>	<b>1,979</b>	<b>2,237</b>	<b>2,942</b>
Upstream	2,737	142	580	781	1,234
Refining & Chemicals	4,373	1,297	965	891	1,220
Marketing & Services	1,818	331	434	565	488
<b>Adjusted net operating income from business segments<sup>(1)</sup></b>	<b>9,420</b>	<b>1,878</b>	<b>2,523</b>	<b>2,339</b>	<b>2,680</b>
Upstream	3,633	498	1,127	877	1,131
Refining & Chemicals	4,201	1,128	1,018	917	1,138
Marketing & Services	1,586	252	378	545	411

(1) Adjusted results are defined as income at replacement cost, excluding non-recurring items, and excluding the impact of fair value changes.

## FINANCIAL HIGHLIGHTS BY QUARTER

(in million dollars, except percent,  
per share amounts and share buybacks)

	2016 Full Year	2016 Quarters			
		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
<b>Adjusted net income (Group share)<sup>(1)</sup></b>	<b>8,287</b>	<b>1,636</b>	<b>2,174</b>	<b>2,070</b>	<b>2,407</b>
Adjusted fully diluted earnings per share (\$) <sup>(1)</sup>	3.38	0.68	0.90	0.84	0.96
<b>Net income (Group share)</b>	<b>6,196</b>	<b>1,606</b>	<b>2,088</b>	<b>1,954</b>	<b>548</b>
<b>Net-debt-to-equity ratio (as of end of period)</b>	<b>27.1%</b>	<b>30.2%</b>	<b>30.0%</b>	<b>30.6%</b>	<b>27.1%</b>
Shares outstanding (as of end of period)	2,430,365,862	2,454,029,976	2,503,262,274	2,504,029,528	2,430,365,862
Fully-diluted weighted-average number of shares	2,389,713,936	2,350,462,067	2,378,565,375	2,403,550,668	2,433,165,882
Number of shares bought back during the period	-	-	-	-	-
Share buybacks (B\$)	-	-	-	-	-

(in million dollars, except percent,  
per share amounts and share buybacks)

	2013 Full Year	2013 Quarters			
		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
<b>Adjusted net income (Group share)<sup>(1)</sup></b>	<b>14,292</b>	<b>3,698</b>	<b>3,581</b>	<b>3,628</b>	<b>3,385</b>
Adjusted fully diluted earnings per share (\$) <sup>(1)</sup>	6.29	1.63	1.57	1.59	1.49
<b>Net income (Group share)</b>	<b>11,228</b>	<b>1,948</b>	<b>3,364</b>	<b>3,682</b>	<b>2,234</b>
<b>Net-debt-to-equity ratio (as of end of period)</b>	<b>23.3%</b>	<b>25.9%</b>	<b>27.6%</b>	<b>23.0%</b>	<b>23.3%</b>
Shares outstanding (as of end of period)	2,377,678,160	2,365,933,626	2,376,735,991	2,377,196,179	2,377,678,160
Fully-diluted weighted-average number of shares	2,271,543,658	2,269,007,119	2,274,457,002	2,274,700,388	2,275,542,248
Number of shares bought back during the period	4,414,200	-	-	4,414,200	-
Share buybacks (B\$)	0.2	-	-	0.2	-

(1) Adjusted results are defined as income at replacement cost, excluding non-recurring items, and excluding the impact of fair value changes.

(2) Quarterly data for 2012 has not been restated following the application of revised accounting standard IAS 19 effective January 1, 2013. Therefore, in the absence of such information, the sum of the quarters for this year is not equal to the full year restated of IAS 19.

## MARKET ENVIRONMENT AND PRICE REALIZATIONS

	2016 Quarters					2015 Quarters				
	Full Year	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	Full Year	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
<b>Market environment</b>										
Average euro-dollar (\$/€)	1.11	1.10	1.13	1.12	1.08	1.11	1.13	1.11	1.11	1.10
Brent price (\$/b)	43.7	33.9	45.6	45.9	49.3	52.4	53.9	61.9	50.5	43.8
Average refining margins (\$/t) – ERMI <sup>(1)</sup>	34.1	35.1	35.0	25.5	41.0	48.5	47.1	54.1	54.8	38.1
<b>Price realizations<sup>(2)</sup></b>										
TOTAL average liquids price (\$/b) <sup>(3)</sup>	40.3	31.0	43.0	41.4	46.1	47.4	49.5	58.2	44.0	38.1
TOTAL average gas price (\$/MBtu)	3.56	3.46	3.43	3.45	3.89	4.75	5.38	4.67	4.47	4.45

(1) Total's European Refining Margin Indicator (ERMI); published quarterly by the Group.

(2) Consolidated subsidiaries excluding fixed margin and buy-back contracts and including hydrocarbon production overlifting/underlifting position valued at market price.

(3) Crude oil and natural gas liquids.

2015 Full Year	Quarters			
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
<b>12,672</b>	<b>3,311</b>	<b>4,064</b>	<b>3,204</b>	<b>2,093</b>
4,925	1,531	1,995	994	405
5,649	1,335	1,604	1,713	997
2,098	445	465	497	691
<b>11,362</b>	<b>2,780</b>	<b>3,334</b>	<b>2,963</b>	<b>2,285</b>
4,774	1,359	1,560	1,107	748
4,889	1,100	1,349	1,433	1,007
1,699	321	425	423	530

2015 Full Year	Quarters				2014 Full Year	Quarters			
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
<b>10,518</b>	<b>2,602</b>	<b>3,085</b>	<b>2,756</b>	<b>2,075</b>	<b>12,837</b>	<b>3,327</b>	<b>3,151</b>	<b>3,558</b>	<b>2,801</b>
4.51	1.13	1.34	1.17	0.88	5.63	1.46	1.38	1.56	1.22
<b>5,087</b>	<b>2,663</b>	<b>2,971</b>	<b>1,079</b>	<b>(1,626)</b>	<b>4,244</b>	<b>3,335</b>	<b>3,104</b>	<b>3,463</b>	<b>(5,658)</b>
<b>28.3%</b>	<b>28.2%</b>	<b>25.9%</b>	<b>26.6%</b>	<b>28.3%</b>	<b>31.3%</b>	<b>23.5%</b>	<b>27.1%</b>	<b>27.8%</b>	<b>31.3%</b>
2,440,057,883	2,385,555,781	2,396,360,090	2,415,089,789	2,440,057,883	2,385,267,525	2,378,259,685	2,382,870,577	2,384,527,055	2,385,267,525
2,304,435,542	2,285,344,747	2,292,139,361	2,311,978,156	2,328,765,893	2,281,004,151	2,276,773,146	2,281,218,870	2,284,596,468	2,286,737,894
4,711,935	-	-	4,711,935	-	4,386,300	-	-	4,386,300	-
0.2	-	-	0.2	-	0.3	-	-	0.3	-

2012 Full Year <sup>(2)</sup>	Quarters			
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
<b>15,772</b>	<b>4,037</b>	<b>3,576</b>	<b>4,206</b>	<b>3,943</b>
6.96	1.78	1.58	1.85	1.74
<b>13,648</b>	<b>4,808</b>	<b>1,945</b>	<b>3,853</b>	<b>3,036</b>
<b>21.9%</b>	<b>22.6%</b>	<b>21.9%</b>	<b>21.2%</b>	<b>21.9%</b>
2,365,933,146	2,364,545,977	2,364,546,966	2,365,919,246	2,365,933,146
2,266,635,745	2,264,743,824	2,264,091,516	2,268,296,670	2,270,173,079
1,800,000	-	-	-	1,800,000
0.1	-	-	-	0.1

2014 Full Year	Quarters				2013 Full Year	Quarters				2012 Full Year	Quarters			
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
1.33	1.37	1.37	1.33	1.25	1.33	1.32	1.31	1.32	1.36	1.28	1.31	1.28	1.25	1.30
99.0	108.2	109.7	101.9	76.6	108.7	112.6	102.4	110.3	109.2	111.7	118.6	108.3	109.5	110.1
18.7	6.6	10.9	29.9	27.6	17.9	26.9	24.1	10.6	10.1	36.0	20.9	38.2	51.0	33.9
89.4	102.1	103.0	94.0	61.7	103.3	106.7	96.6	107.2	102.5	107.7	115.2	101.6	107.6	106.4
6.57	7.06	6.52	6.40	6.29	7.12	7.31	6.62	7.18	7.36	6.74	7.16	7.10	6.00	6.94

## CONSOLIDATED STATEMENT OF INCOME

For the year ended December 31, (in million dollars, except per share amounts)	2016	2015	2014	2013	2012
<b>Sales</b>	<b>149,743</b>	<b>165,357</b>	<b>236,122</b>	<b>251,725</b>	<b>257,037</b>
Excise taxes	(21,818)	(21,936)	(24,104)	(23,756)	(22,821)
Revenues from sales	127,925	143,421	212,018	227,969	234,216
Purchases, net of inventory variation	(83,377)	(96,671)	(152,975)	(160,849)	(162,908)
Other operating expenses	(24,302)	(24,345)	(28,349)	(28,764)	(29,273)
Exploration costs	(1,264)	(1,991)	(1,964)	(2,169)	(1,857)
Depreciation, depletion and impairment of tangible assets and mineral interests	(13,523)	(17,720)	(19,656)	(11,994)	(12,237)
Other income	1,299	3,606	2,577	2,290	1,897
Other expense	(1,027)	(1,577)	(954)	(2,800)	(1,178)
Financial interest on debt	(1,108)	(967)	(748)	(889)	(863)
Financial income and expense from cash and cash equivalents	4	94	108	85	128
Cost of net debt	(1,104)	(873)	(640)	(804)	(735)
Other financial income	971	882	821	696	717
Other financial expense	(636)	(654)	(676)	(702)	(641)
Equity in income (loss) of affiliates	2,214	2,361	2,662	3,415	2,582
Income taxes	(970)	(1,653)	(8,614)	(14,767)	(16,747)
<b>Consolidated net income</b>	<b>6,206</b>	<b>4,786</b>	<b>4,250</b>	<b>11,521</b>	<b>13,836</b>
Group share	6,196	5,087	4,244	11,228	13,648
Minority interests	10	(301)	6	293	188
Earnings per share (\$)	2.52	2.17	1.87	4.96	6.05
Fully-diluted earnings per share (\$)	2.51	2.16	1.86	4.94	6.02
<b>Adjusted net income</b>	<b>8,287</b>	<b>10,518</b>	<b>12,837</b>	<b>14,292</b>	<b>15,772</b>
<b>Adjusted fully-diluted earnings per share (\$)</b>	<b>3.38</b>	<b>4.51</b>	<b>5.63</b>	<b>6.29</b>	<b>6.96</b>

## SALES

(in million dollars)	2016	2015	2014	2013	2012
<b>By business segment excluding inter-segment sales</b>					
Upstream	14,683	16,840	23,484	26,367	28,449
Refining & Chemicals	65,632	70,623	106,124	114,483	117,067
Marketing & Services	69,421	77,887	106,509	110,873	111,281
Corporate	7	7	5	2	240
<b>Total</b>	<b>149,743</b>	<b>165,357</b>	<b>236,122</b>	<b>251,725</b>	<b>257,037</b>
<b>By business segment including inter-segment sales</b>					
Upstream	31,753	34,767	52,667	64,017	68,947
Refining & Chemicals	87,099	97,417	151,074	166,758	174,201
Marketing & Services	70,168	78,798	108,124	113,032	112,251
Corporate	314	225	241	179	496
Inter-segment sales	(39,591)	(45,850)	(75,984)	(92,261)	(98,858)
<b>Total</b>	<b>149,743</b>	<b>165,357</b>	<b>236,122</b>	<b>251,725</b>	<b>257,037</b>
<b>By geographic area excluding inter-segment sales</b>					
France	33,472	36,536	51,471	57,650	59,077
Rest of Europe	71,551	79,463	114,747	128,661	133,439
North America	15,383	14,857	23,766	22,332	22,675
Africa	15,294	17,612	23,281	23,146	23,025
Rest of world	14,043	16,889	22,857	19,936	18,821
<b>Total</b>	<b>149,743</b>	<b>165,357</b>	<b>236,122</b>	<b>251,725</b>	<b>257,037</b>

## DEPRECIATION, DEPLETION & IMPAIRMENT OF TANGIBLE ASSETS AND MINERAL INTERESTS BY BUSINESS SEGMENT

As of December 31, (in million dollars)	2016	2015	2014	2013	2012
Upstream	(11,589)	(15,857)	(15,938)	(9,484)	(9,555)
Refining & Chemicals	(1,002)	(1,092)	(2,901)	(1,736)	(1,856)
Marketing & Services	(895)	(744)	(781)	(733)	(780)
Corporate	(37)	(27)	(36)	(41)	(46)
<b>Total</b>	<b>(13,523)</b>	<b>(17,720)</b>	<b>(19,656)</b>	<b>(11,994)</b>	<b>(12,237)</b>

## EQUITY IN INCOME/(LOSS) OF AFFILIATES BY BUSINESS SEGMENT

As of December 31, (in million dollars)	2016	2015	2014	2013	2012
Upstream	1,094	1,720	2,509	2,889	2,385
Refining & Chemicals	946	602	315	500	312
Marketing & Services	174	39	(162)	26	(115)
Corporate	-	-	-	-	-
<b>Total</b>	<b>2,214</b>	<b>2,361</b>	<b>2,662</b>	<b>3,415</b>	<b>2,582</b>

## INCOME TAXES

(in million dollars)	2016	2015	2014	2013	2012
Current income taxes	(2,911)	(4,552)	(10,904)	(13,607)	(15,970)
Deferred income taxes	1,941	2,899	2,290	(1,160)	(777)
Income taxes	(970)	(1,653)	(8,614)	(14,767)	(16,747)

## ADJUSTMENT ITEMS TO OPERATING INCOME BY BUSINESS SEGMENT

(in million dollars)

	Upstream	Refining & Chemicals	Marketing & Services	Corporate	Total
<b>Year 2016</b>					
Inventory valuation effect	-	695	(43)	-	652
Effect of changes in fair value	(4)	-	-	-	(4)
Restructuring charges	(19)	-	(18)	-	(37)
Asset impairment of charges	(2,089)	-	(140)	-	(2,229)
Other	(899)	(68)	(156)	-	(1,123)
<b>Total</b>	<b>(3,011)</b>	<b>627</b>	<b>(357)</b>	<b>-</b>	<b>(2,741)</b>
<b>Year 2015</b>					
Inventory valuation effect	-	(859)	(254)	-	(1,113)
Effect of changes in fair value	(16)	-	-	-	(16)
Restructuring charges	(43)	-	(5)	-	(48)
Asset impairment of charges	(6,783)	(70)	(24)	-	(6,877)
Other	(1,024)	(176)	(57)	-	(1,257)
<b>Total</b>	<b>(7,866)</b>	<b>(1,105)</b>	<b>(340)</b>	<b>-</b>	<b>(9,311)</b>
<b>Year 2014</b>					
Inventory valuation effect	-	(2,944)	(525)	-	(3,469)
Effect of changes in fair value	31	-	-	-	31
Restructuring charges	-	-	-	-	-
Asset impairment of charges	(6,529)	(1,450)	-	-	(7,979)
Other	(164)	(36)	(26)	-	(226)
<b>Total</b>	<b>(6,662)</b>	<b>(4,430)</b>	<b>(551)</b>	<b>-</b>	<b>(11,643)</b>
<b>Year 2013</b>					
Inventory valuation effect	-	(978)	(87)	-	(1,065)
Effect of changes in fair value	(74)	-	-	-	(74)
Restructuring charges	-	(373)	(3)	-	(376)
Asset impairment of charges	(855)	(184)	(4)	-	(1,043)
Other	(113)	(54)	(44)	-	(211)
<b>Total</b>	<b>(1,042)</b>	<b>(1,589)</b>	<b>(138)</b>	<b>-</b>	<b>(2,769)</b>
<b>Year 2012</b>					
Inventory valuation effect	-	(230)	(71)	-	(301)
Effect of changes in fair value	(12)	-	-	-	(12)
Restructuring charges	-	(3)	-	-	(3)
Asset impairment of charges	(1,538)	(266)	(87)	-	(1,891)
Other	(752)	(24)	(223)	(115)	(1,114)
<b>Total</b>	<b>(2,302)</b>	<b>(523)</b>	<b>(381)</b>	<b>(115)</b>	<b>(3,321)</b>

## ADJUSTMENT ITEMS TO NET INCOME BY BUSINESS SEGMENT

(in million dollars)

	Upstream	Refining & Chemicals	Marketing & Services	Corporate	Total
<b>Year 2016</b>					
Inventory valuation effect	-	498	(19)	-	479
Effect of changes in fair value	(3)	-	-	-	(3)
Restructuring charges	(4)	-	(28)	-	(32)
Asset impairment of charges	(1,867)	(25)	(202)	(3)	(2,097)
Gains (losses) on asset sales	292	-	(25)	-	267
Other	(478)	(88)	(139)	-	(705)
<b>Total</b>	<b>(2,060)</b>	<b>385</b>	<b>(413)</b>	<b>(3)</b>	<b>(2,091)</b>
<b>Year 2015</b>					
Inventory valuation effect	-	(590)	(157)	-	(747)
Effect of changes in fair value	(9)	-	-	-	(9)
Restructuring charges	(10)	(52)	(10)	-	(72)
Asset impairment of charges	(5,249)	(59)	(127)	(12)	(5,447)
Gains (losses) on asset sales	162	1,288	360	-	1,810
Other	(516)	(257)	(193)	-	(966)
<b>Total</b>	<b>(5,622)</b>	<b>330</b>	<b>(127)</b>	<b>(12)</b>	<b>(5,431)</b>
<b>Year 2014</b>					
Inventory valuation effect	-	(2,114)	(339)	-	(2,453)
Effect of changes in fair value	25	-	-	-	25
Restructuring charges	-	(13)	(7)	-	(20)
Asset impairment of charges	(5,514)	(1,409)	(140)	-	(7,063)
Gains (losses) on asset sales	1,314	(105)	-	-	1,209
Other	(193)	(58)	(40)	-	(291)
<b>Total</b>	<b>(4,368)</b>	<b>(3,699)</b>	<b>(526)</b>	<b>-</b>	<b>(8,593)</b>
<b>Year 2013</b>					
Inventory valuation effect	-	(656)	(72)	-	(728)
Effect of changes in fair value	(58)	-	-	-	(58)
Restructuring charges	-	(537)	(30)	-	(567)
Asset impairment of charges	(581)	(183)	(9)	-	(773)
Gains (losses) on asset sales	(58)	(59)	-	-	(117)
Other	(113)	(676)	47	(79)	(821)
<b>Total</b>	<b>(810)</b>	<b>(2,111)</b>	<b>(64)</b>	<b>(79)</b>	<b>(3,064)</b>
<b>Year 2012</b>					
Inventory valuation effect	-	(149)	(52)	-	(201)
Effect of changes in fair value	(9)	-	-	-	(9)
Restructuring charges	-	(31)	(68)	-	(99)
Asset impairment of charges	(985)	(247)	(155)	(39)	(1,426)
Gains (losses) on asset sales	326	-	-	438	764
Other	(491)	(57)	(140)	(465)	(1,153)
<b>Total</b>	<b>(1,159)</b>	<b>(484)</b>	<b>(415)</b>	<b>(66)</b>	<b>(2,124)</b>

## CONSOLIDATED BALANCE SHEET

As of December 31, (in million dollars)	2016	2015	2014	2013	2012
<b>ASSETS</b>					
<b>Non-current assets</b>					
Intangible assets, net	15,362	14,549	14,682	18,395	16,965
Property, plant and equipment, net	111,971	109,518	106,876	104,480	91,477
Equity affiliates: investments and loans	20,576	19,384	19,274	20,417	18,153
Other investments	1,133	1,241	1,399	1,666	1,571
Non-current financial assets	908	1,219	1,319	1,418	2,145
Deferred income taxes	4,368	3,982	4,079	3,838	2,982
Other non-current assets	4,143	4,355	4,192	4,406	3,513
<b>Total non-current assets</b>	<b>158,461</b>	<b>154,248</b>	<b>151,821</b>	<b>154,620</b>	<b>136,806</b>
<b>Current assets</b>					
Inventories, net	15,247	13,116	15,196	22,097	22,954
Accounts receivable, net	12,213	10,629	15,704	23,422	25,339
Other current assets	14,835	15,843	15,702	14,892	13,307
Current financial instruments	4,548	6,190	1,293	739	2,061
Cash and cash equivalents	24,597	23,269	25,181	20,200	20,409
Assets classified as held for sale	1,077 <sup>(1)</sup>	1,189 <sup>(3)</sup>	4,901 <sup>(6)</sup>	3,253 <sup>(7)</sup>	5,010 <sup>(8)</sup>
<b>Total current assets</b>	<b>72,517</b>	<b>70,236</b>	<b>77,977</b>	<b>84,603</b>	<b>89,080</b>
<b>Total assets</b>	<b>230,978</b>	<b>224,484</b>	<b>229,798</b>	<b>239,223</b>	<b>225,886</b>
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>					
<b>Shareholders' equity</b>					
Common shares	7,604	7,670	7,518	7,493	7,454
Paid-in surplus and retained earnings	105,547	101,528	94,646	98,254	92,485
Currency translation adjustment	(13,871)	(12,119)	(7,480)	(1,203)	(1,696)
Treasury shares	(600)	(4,585)	(4,354)	(4,303)	(4,274)
<b>Total shareholders' equity – Group share</b>	<b>98,680</b>	<b>92,494</b>	<b>90,330</b>	<b>100,241</b>	<b>93,969</b>
Non-controlling interests	2,894	2,915	3,201	3,138	1,689
<b>Total shareholders' equity</b>	<b>101,574</b>	<b>95,409</b>	<b>93,531</b>	<b>103,379</b>	<b>95,658</b>
<b>Non-current liabilities</b>					
Deferred income taxes	11,060	12,360	14,810	17,850	16,006
Employee benefits	3,746	3,774	4,758	4,235	4,939
Provisions and other non-current liabilities	16,846	17,502	17,545	17,517	15,285
Non-current financial debt	43,067	44,464	45,481	34,574	29,392
<b>Total non-current liabilities</b>	<b>74,719</b>	<b>78,100</b>	<b>82,594</b>	<b>74,176</b>	<b>65,622</b>
<b>Current liabilities</b>					
Accounts payable	23,227	20,928	24,150	30,282	28,563
Other creditors and accrued liabilities	16,720	16,884	16,641	18,948	19,316
Current borrowings	13,920	12,488	10,942	11,193	14,535
Other current financial liabilities	327	171	180	381	232
Liabilities directly associated with the assets classified as held for sale	491 <sup>(2)</sup>	504 <sup>(4)</sup>	1,760 <sup>(6)</sup>	864 <sup>(9)</sup>	1,960 <sup>(10)</sup>
<b>Total current liabilities</b>	<b>54,685</b>	<b>50,975</b>	<b>53,673</b>	<b>61,668</b>	<b>64,606</b>
<b>Total liabilities</b>	<b>230,978</b>	<b>224,484</b>	<b>229,798</b>	<b>239,223</b>	<b>225,886</b>

(1) \$1,077 million of Atotech has been classified as "Assets classified as held for sale".

(2) \$491 million of Atotech has been classified as "Liabilities directly associated with the assets classified as held for sale".

(3) \$497 million of Fuka in United Kingdom has been classified as "Assets classified as held for sale". \$458 million of Total Turkey has been classified as "Assets classified as held for sale". \$234 million of Kharyaga in Russia has been classified as "Assets held for sale".

(4) \$82 million of Fuka in United Kingdom has been classified as "Liabilities directly associated with the assets classified as held for sale". \$258 million of Total Turkey has been classified as "Liabilities directly associated with the assets classified as held for sale". \$164 million of Kharyaga in Russia has been classified as "Liabilities directly associated with the assets classified as held for sale".

(5) \$2,401 million of OML 138 in Nigeria has been classified as "Assets classified as held for sale". \$1,664 million of Bostik has been classified as "Assets classified as held for sale". \$469 million of TCSA has been classified as "Assets held for sale". \$367 million of Totalgaz has been classified as "Assets held for sale".

(6) \$831 million of OML 138 in Nigeria has been classified as "Liabilities directly associated with the assets classified as held for sale". \$606 million of Bostik has been classified as "Liabilities directly associated with the assets classified as held for sale". \$58 million of TCSA has been classified as "Liabilities directly associated with the assets classified as held for sale". \$265 million of Totalgaz has been classified as "Liabilities directly associated with the assets classified as held for sale".

(7) \$2,527 million of OML 138 in Nigeria has been classified as "Assets classified as held for sale". \$726 million of Block 15/06 in Angola has been classified as "Assets classified as held for sale".

(8) \$814 million of OML 138 in Nigeria has been classified as "Liabilities directly associated with the assets classified as held for sale". \$50 million of Block 15/06 in Angola has been classified as "Liabilities directly associated with the assets classified as held for sale".

(9) \$2,181 million of OML 138 in Nigeria has been classified as "Assets classified as held for sale". \$1,887 million of Transport et Infrastructures Gaz France (TIGF) including \$1,643 million tangible assets has been classified as "Assets classified as held for sale". \$614 million of Tempa Rossa has been classified as "Assets classified as held for sale". \$329 million of Upstream Trinidad & Tobago have been classified as "Assets classified as held for sale".

(10) \$662 million of OML 138 in Nigeria has been classified as "Liabilities directly associated with the assets classified as held for sale". \$1,167 million of Transport et Infrastructures Gaz France (TIGF) including \$1,046 non current financial debt has been classified as "Liabilities directly associated with the assets classified as held for sale". \$131 million of Upstream Trinidad & Tobago have been classified as "Liabilities directly associated with the assets classified as held for sale".



## NET TANGIBLE & INTANGIBLE ASSETS BY BUSINESS SEGMENT

As of December 31, (in million dollars)	2016	2015	2014	2013	2012
<b>Upstream</b>					
Tangibles	96,697	95,086	92,262	87,548	75,386
Intangibles	13,078	13,132	13,011	16,119	14,742
<b>Refining &amp; Chemicals</b>					
Tangibles	8,661	8,631	8,798	10,991	10,840
Intangibles	632	686	714	1,416	1,327
<b>Marketing &amp; Services</b>					
Tangibles	6,353	5,595	5,580	5,676	5,034
Intangibles	1,547	628	863	765	814
<b>Corporate</b>					
Tangibles	260	206	236	265	217
Intangibles	105	103	94	95	82
<b>Total</b>	<b>127,333</b>	<b>124,067</b>	<b>121,558</b>	<b>122,875</b>	<b>108,442</b>

## PROPERTY, PLANT & EQUIPMENT

As of December 31, (in million dollars)	2016	2015	2014	2013	2012
Proved properties	62,901	58,687	52,968	51,089	39,668
Unproved properties	1,996	2,423	2,153	1,432	302
Work in progress	31,785	33,962	37,124	34,612	34,928
<b>Total Upstream properties</b>	<b>96,682</b>	<b>95,072</b>	<b>92,245</b>	<b>87,133</b>	<b>74,898</b>
Land	1,011	970	1,070	1,264	1,250
Machinery plant and equipment (including transportation equipment)	5,680	5,748	6,092	8,312	7,972
Buildings	2,998	2,637	2,850	3,180	3,057
Construction in progress	2,770	2,577	2,043	1,853	1,920
Other	2,830	2,514	2,576	2,738	2,380
<b>Other</b>	<b>15,289</b>	<b>14,446</b>	<b>14,631</b>	<b>17,347</b>	<b>16,579</b>
<b>Total <sup>(1)</sup></b>	<b>111,971</b>	<b>109,518</b>	<b>106,876</b>	<b>104,480</b>	<b>91,477</b>

(1) As of December 31, 2016 accumulated depreciation, depletion and amortization amounted to 136,996 M\$.

## NON-CURRENT ASSETS BY BUSINESS SEGMENT <sup>(1)</sup>

As of December 31, (in million dollars)	2016	2015	2014	2013	2012
Upstream	133,085	131,014	126,904	125,218	109,004
Refining & Chemicals	13,165	12,985	13,987	17,376	16,332
Marketing & Services	10,816	9,163	9,129	9,468	8,473
Corporate	487	(133)	482	1,140	852
<b>Total</b>	<b>157,553</b>	<b>153,029</b>	<b>150,502</b>	<b>153,202</b>	<b>134,661</b>

(1) Non-current financial assets are not included here.

## NON-CURRENT DEBT ANALYSIS

As of December 31, (in million dollars, except percent)	2016	%	2015	%	2014	%	2013	%	2012	%
<b>Loan repayment schedule<sup>(1)</sup></b>										
2012	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	5,056	19%
2015	-	-	-	-	-	-	4,647	14%	4,572	17%
2016	-	-	-	-	4,793	11%	4,528	14%	2,804	10%
2017	-	-	4,602	11%	4,547	10%	4,159	12%	4,124	15%
2018	4,320	10%	4,420	10%	4,451	10%	4,361	13%	10,691 <sup>(2)</sup>	39%
2019	5,702	14%	5,542	13%	4,765	11%	15,461 <sup>(3)</sup>	47%	-	-
2020	4,952	12%	4,965	11%	25,606 <sup>(4)</sup>	58%	-	-	-	-
2021	3,578	8%	23,716 <sup>(5)</sup>	55%	-	-	-	-	-	-
2022 and beyond	23,607	56%	-	-	-	-	-	-	-	-
<b>Total</b>	<b>42,159</b>	<b>100%</b>	<b>43,245</b>	<b>100%</b>	<b>44,162</b>	<b>100%</b>	<b>33,156</b>	<b>100%</b>	<b>27,247</b>	<b>100%</b>

(in million dollars, except percent)	2016	%	2015	%	2014	%	2013	%	2012	%
<b>Analysis by currency<sup>(1)</sup></b>										
U.S. dollar	39,963	95%	40,337	93%	41,369	94%	27,908	84%	18,060	66%
Euro	977	2%	1,681	4%	2,428	5%	4,885	15%	7,445	27%
Norwegian Kroner	928	2%	907	2%	-	-	-	-	-	-
Other currencies	291	1%	320	1%	365	1%	363	1%	1,742	7%
<b>Total</b>	<b>42,159</b>	<b>100%</b>	<b>43,245</b>	<b>100%</b>	<b>44,162</b>	<b>100%</b>	<b>33,156</b>	<b>100%</b>	<b>27,247</b>	<b>100%</b>

(in million dollars, except percent)	2016	%	2015	%	2014	%	2013	%	2012	%
<b>Analysis by interest rate<sup>(1)</sup></b>										
Fixed rate	11,703	28%	7,666	18%	6,944	16%	6,771	20%	6,710	25%
Floating rates	30,456	72%	35,579	82%	37,218	84%	26,385	80%	20,537	75%
<b>Total</b>	<b>42,159</b>	<b>100%</b>	<b>43,245</b>	<b>100%</b>	<b>44,162</b>	<b>100%</b>	<b>33,156</b>	<b>100%</b>	<b>27,247</b>	<b>100%</b>

(1) These analyses are presented after the impact of interest rate and currency swaps.

(2) 2018 and after.

(3) 2019 and after.

(4) 2020 and after.

(5) 2021 and after.

## CONSOLIDATED STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY – GROUP SHARE

(in million dollars)

	Common shares issued		Paid-in surplus and retained earnings	Cumulative translation adjustments	Treasury shares		Shareholders' equity
	Number	Amount			Number	Amount	
<b>As of January 1, 2012</b>	<b>2,363,767,313</b>	<b>7,447</b>	<b>86,461</b>	<b>(2,884)</b>	<b>(109,554,173)</b>	<b>(4,357)</b>	<b>86,667</b>
Dividend	-	-	(6,728)	-	-	-	(6,728)
Net income 2012	-	-	13,648	-	-	-	13,648
Other comprehensive income	-	-	(987)	1,187	-	-	200
Issuance of common shares	2,165,833	7	34	-	-	-	41
Purchase of treasury shares	-	-	-	-	(1,800,000)	(88)	(88)
Sales of treasury shares <sup>(1)</sup>	-	-	(171)	-	2,962,534	171	-
Share-based payments	-	-	188	-	-	-	188
Share cancellation	-	-	-	-	-	-	-
Translation adjustments	-	-	-	-	-	-	-
Other operations with minority interests	-	-	20	1	-	-	21
Other items	-	-	20	-	-	-	20
<b>As of December 31, 2012</b>	<b>2,365,933,146</b>	<b>7,454</b>	<b>92,485</b>	<b>(1,696)</b>	<b>(108,391,639)</b>	<b>(4,274)</b>	<b>93,969</b>
Dividend	-	-	(7,116)	-	-	-	(7,116)
Net income 2013	-	-	11,228	-	-	-	11,228
Other comprehensive income	-	-	473	492	-	-	965
Issuance of common shares	11,745,014	39	446	-	-	-	485
Purchase of treasury shares	-	-	-	-	(4,414,200)	(238)	(238)
Sales of treasury shares <sup>(1)</sup>	-	-	(209)	-	3,591,391	209	-
Share-based payments	-	-	189	-	-	-	189
Share cancellation	-	-	-	-	-	-	-
Translation adjustments	-	-	-	-	-	-	-
Other operations with minority interests	-	-	749	1	-	-	750
Other items	-	-	9	-	-	-	9
<b>As of December 31, 2013</b>	<b>2,377,678,160</b>	<b>7,493</b>	<b>98,254</b>	<b>(1,203)</b>	<b>(109,214,448)</b>	<b>(4,303)</b>	<b>100,241</b>
Dividend	-	-	(7,378)	-	-	-	(7,378)
Net income 2014	-	-	4,244	-	-	-	4,244
Other comprehensive income	-	-	(907)	(6,275)	-	-	(7,182)
Issuance of common shares	7,589,365	25	395	-	-	-	420
Purchase of treasury shares	-	-	-	-	(4,386,300)	(283)	(283)
Sales of treasury shares <sup>(1)</sup>	-	-	(232)	-	4,239,335	232	-
Share-based payments	-	-	114	-	-	-	114
Share cancellation	-	-	-	-	-	-	-
Translation adjustments	-	-	-	-	-	-	-
Other operations with minority interests	-	-	148	(2)	-	-	146
Other items	-	-	8	-	-	-	8
<b>As of December 31, 2014</b>	<b>2,385,267,525</b>	<b>7,518</b>	<b>94,646</b>	<b>(7,480)</b>	<b>(109,361,413)</b>	<b>(4,354)</b>	<b>90,330</b>
Dividend	-	-	(6,303)	-	-	-	(6,303)
Net income 2015	-	-	5,087	-	-	-	5,087
Other comprehensive income	-	-	185	(4,639)	-	-	(4,454)
Issuance of common shares	54,790,358	152	2,159	-	-	-	2,311
Purchase of treasury shares	-	-	-	-	(4,711,935)	(237)	(237)
Sales of treasury shares <sup>(1)</sup>	-	-	(6)	-	105,590	6	-
Share-based payments	-	-	101	-	-	-	101
Share cancellation	-	-	-	-	-	-	-
Issuance of perpetual subordinated notes	-	-	5,616	-	-	-	5,616
Payments on perpetual subordinated notes	-	-	(114)	-	-	-	(114)
Other operations with minority interests	-	-	23	-	-	-	23
Other items	-	-	134	-	-	-	134
<b>As of December 31, 2015</b>	<b>2,440,057,883</b>	<b>7,670</b>	<b>101,528</b>	<b>(12,119)</b>	<b>(113,967,758)</b>	<b>(4,585)</b>	<b>92,494</b>

(in million dollars)	Common shares issued		Paid-in surplus and retained earnings	Cumulative translation adjustments	Treasury shares		Shareholders' equity
	Number	Amount			Number	Amount	
Dividend	-	-	(6,512)	-	-	-	(6,512)
Net income 2016	-	-	6,196	-	-	-	6,196
Other comprehensive income	-	-	(108)	(1,752)	-	-	(1,860)
Issuance of common shares	90,639,247	251	3,553	-	-	-	3,804
Purchase of treasury shares	-	-	-	-	-	-	-
Sales of treasury shares <sup>(1)</sup>	-	-	(163)	-	3,048,668	163	-
Share-based payments	-	-	112	-	-	-	112
Share cancellation	(100,331,268)	(317)	(3,505)	-	100,331,268	3,822	-
Issuance of perpetual subordinated notes	-	-	4,711	-	-	-	4,711
Payments on perpetual subordinated notes	-	-	(203)	-	-	-	(203)
Other operations with minority interests	-	-	(98)	-	-	-	(98)
Other items	-	-	36	-	-	-	36
<b>As of December 31, 2016</b>	<b>2,430,365,862</b>	<b>7,604</b>	<b>105,547</b>	<b>(13,871)</b>	<b>(10,587,822)</b>	<b>(600)</b>	<b>98,680</b>

(1) Treasury shares related to the restricted stock grants.

## NET-DEBT-TO-EQUITY RATIO

As of December 31, (in million dollars, except percent)	2016	2015	2014	2013	2012
Net financial debt	27,121	26,586	28,754	23,612	20,541
Shareholders' equity	99,993	93,864	91,845	101,471	93,901
<b>Net-debt-to-equity ratio</b>	<b>27.1%</b>	<b>28.3%</b>	<b>31.3%</b>	<b>23.3%</b>	<b>21.9%</b>

## CAPITAL EMPLOYED BASED ON REPLACEMENT COST BY BUSINESS SEGMENT

As of December 31, (in million dollars)	2016	2015	2014	2013	2012
Upstream	108,713	105,580	100,497	95,529	84,260
Refining & Chemicals	11,618	10,407	13,451	19,752	20,783
Marketing & Services	9,701	8,415	8,825	10,051	9,232
Corporate	(2,609)	(3,259)	(2,247)	(2,881)	(3,195)
<b>Total</b>	<b>127,423</b>	<b>121,143</b>	<b>120,526</b>	<b>122,451</b>	<b>111,080</b>

## CAPITAL EMPLOYED

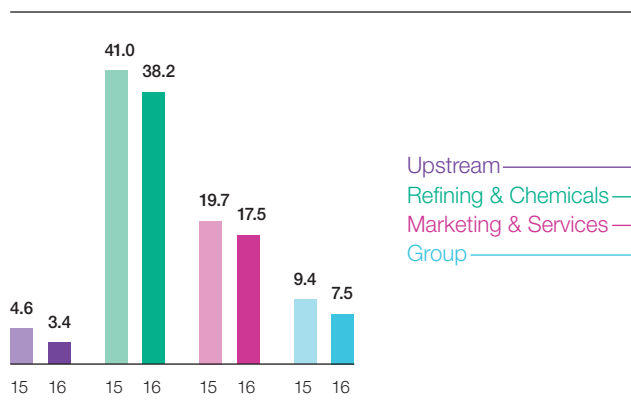
As of December 31, (in million dollars)	2016	2015	2014	2013	2012
Non-current assets	157,553	153,029	150,502	153,202	134,661
Assets and liabilities classified as held for sale	446	826	3,085	2,210	4,047
Working capital	2,348	1,776	5,811	11,181	13,721
Long-term liabilities	(31,652)	(33,636)	(37,113)	(39,602)	(36,230)
<b>Capital employed</b>	<b>128,695</b>	<b>121,995</b>	<b>122,285</b>	<b>126,991</b>	<b>116,199</b>

## ROACE BY BUSINESS SEGMENT

(in million dollars, except percent)	2016	2015	2014	2013	2012
<b>Upstream</b>					
Adjusted net operating income	3,633	4,774	10,504	12,450	14,316
Average capital employed <sup>(1)</sup>	107,147	103,039	98,013	89,895	78,948
<b>ROACE</b>	<b>3.4%</b>	<b>4.6%</b>	<b>10.7%</b>	<b>13.8%</b>	<b>18.1%</b>
<b>Refining &amp; Chemicals</b>					
Adjusted net operating income	4,201	4,889	2,489	1,857	1,768
Average capital employed <sup>(1)</sup>	11,013	11,929	16,602	20,268	20,400
<b>ROACE</b>	<b>38.2%</b>	<b>41.0%</b>	<b>15.0%</b>	<b>9.2%</b>	<b>8.7%</b>
<b>Marketing &amp; Services</b>					
Adjusted net operating income	1,586	1,699	1,254	1,554	1,069
Average capital employed <sup>(1)</sup>	9,058	8,620	9,438	9,642	9,057
<b>ROACE</b>	<b>17.5%</b>	<b>19.7%</b>	<b>13.3%</b>	<b>16.1%</b>	<b>11.8%</b>
<b>Corporate</b>					
Adjusted net operating income	(146)	38	(717)	(631)	(543)
Average capital employed <sup>(1)</sup>	(2,935)	(2,753)	(2,564)	(3,038)	(1,103)
<b>Group</b>					
Adjusted net operating income	9,274	11,400	13,530	15,230	16,610
Average capital employed <sup>(1)</sup>	124,283	120,835	121,489	116,766	107,302
<b>ROACE</b>	<b>7.5%</b>	<b>9.4%</b>	<b>11.1%</b>	<b>13.0%</b>	<b>15.5%</b>

(1) At replacement cost (excluding after-tax inventory effect). Average Capital Employed = (Capital Employed beginning of the year + Capital Employed end of the year)/2.

## ROACE BY BUSINESS SEGMENT (%)



## CONSOLIDATED STATEMENT OF CASH FLOW

(in million dollars)	2016	2015	2014	2013	2012
<b>Cash flow from operating activities</b>					
Consolidated net income	6,206	4,786	4,250	11,521	13,836
Depreciation, depletion, amortization and impairment	14,423	19,334	20,859	13,358	13,466
Non-current liabilities, valuation allowances, and deferred taxes	(1,559)	(2,563)	(1,980)	1,567	1,889
Impact of coverage of pension benefit plans	-	-	-	-	(465)
(Gains) losses on sales of assets	(263)	(2,459)	(1,979)	(80)	(1,715)
Undistributed affiliates' equity earnings	(643)	(311)	29	(775)	272
(Increase) decrease in working capital	(1,119)	1,683	4,480	2,525	1,392
Other changes, net	(524)	(524)	(51)	397	183
<b>Cash flow from operating activities</b>	<b>16,521</b>	<b>19,946</b>	<b>25,608</b>	<b>28,513</b>	<b>28,858</b>
<b>Cash flow used in investing activities</b>					
Intangible assets and property, plant, and equipment additions	(18,106)	(25,132)	(26,320)	(29,748)	(25,574)
Acquisition of subsidiaries, net of cash acquired	(1,123)	(128)	(471)	(21)	(245)
Investments in equity affiliates and other securities	(180)	(513)	(949)	(1,756)	(1,152)
Increase in non-current loans	(1,121)	(2,260)	(2,769)	(2,906)	(2,504)
<b>Total expenditures</b>	<b>(20,530)</b>	<b>(28,033)</b>	<b>(30,509)</b>	<b>(34,431)</b>	<b>(29,475)</b>
Proceeds from disposal of intangible assets, and property, plant and equipment	1,462	2,623	3,442	1,766	1,822
Proceeds from disposal of subsidiaries, net of cash sold	270	2,508	136	2,654	452
Proceeds from disposal of non-current investments	132	837	1,072	330	3,618
Repayment of non-current loans	1,013	1,616	1,540	1,649	1,651
<b>Total divestments</b>	<b>2,877</b>	<b>7,584</b>	<b>6,190</b>	<b>6,399</b>	<b>7,543</b>
<b>Cash flow used in investing activities</b>	<b>(17,653)</b>	<b>(20,449)</b>	<b>(24,319)</b>	<b>(28,032)</b>	<b>(21,932)</b>
<b>Cash flow (from)/used financing activities</b>					
Issuance (repayment) of shares:					
– Parent company shareholders	100	485	420	485	41
– Treasury shares	-	(237)	(289)	(238)	(88)
Cash dividend paid:					
– Parent company's shareholders	(2,661)	(2,845)	(7,308)	(7,128)	(6,660)
– Minority shareholders	(93)	(100)	(154)	(156)	(133)
Issuance of perpetual subordinated notes	4,711	5,616	-	-	-
Payments on perpetual subordinated notes	(133)	-	-	-	-
Non controlling interest	(104)	89	179	2,153	-
Net issuance (repayment) of non-current debt	3,576	4,166	15,786	11,102	6,780
(Increase) decrease in current borrowings	(3,260)	(597)	(2,374)	(9,037)	(3,540)
(Increase) decrease in current financial assets and liabilities	1,396	(5,517)	(351)	1,298	(1,217)
<b>Cash flow used in financing activities</b>	<b>3,532</b>	<b>1,060</b>	<b>5,909</b>	<b>(1,521)</b>	<b>(4,817)</b>
<b>Net increase (decrease) in cash and cash equivalents</b>	<b>2,400</b>	<b>557</b>	<b>7,198</b>	<b>(1,040)</b>	<b>2,109</b>
Effect of exchange rates	(1,072)	(2,469)	(2,217)	831	153
Cash and cash equivalents at the beginning of the period	23,269	25,181	20,200	20,409	18,147
<b>Cash and cash equivalents at the end of the period</b>	<b>24,597</b>	<b>23,269</b>	<b>25,181</b>	<b>20,200</b>	<b>20,409</b>

## CASH FLOW FROM OPERATING ACTIVITIES

(in million dollars)	2016	2015	2014	2013	2012
<b>By business segment</b>					
Upstream	9,675	11,182	16,666	21,857	24,354
Refining & Chemicals	4,587	6,432	6,302	4,260	2,726
Marketing & Services	1,623	2,323	2,721	2,557	1,456
Corporate	636	9	(81)	(161)	322
<b>Total</b>	<b>16,521</b>	<b>19,946</b>	<b>25,608</b>	<b>28,513</b>	<b>28,858</b>

## GROSS INVESTMENTS <sup>(1)</sup>

(in million dollars)	2016	2015	2014	2013	2012
<b>By business segment</b>					
Upstream	16,035	24,270	26,520	29,750	25,200
Refining & Chemicals	1,849	1,843	2,022	2,708	2,502
Marketing & Services	2,506	1,841	1,818	1,814	1,671
Corporate	140	79	149	159	102
<b>Total</b>	<b>20,530</b>	<b>28,033</b>	<b>30,509</b>	<b>34,431</b>	<b>29,475</b>
<b>By geographic area</b>					
France	1,835	980	1,266	1,772	2,041
Rest of Europe	3,842	4,783	5,880	6,289	5,660
North America	2,825	3,493	3,658	4,157	4,045
Africa	6,859	9,154	9,798	10,705	9,346
Rest of world	5,169	9,623	9,907	11,508	8,383
<b>Total</b>	<b>20,530</b>	<b>28,033</b>	<b>30,509</b>	<b>34,431</b>	<b>29,475</b>

(1) Including acquisitions and increases in non-current loans.

## ORGANIC INVESTMENTS <sup>(2)</sup> BY BUSINESS SEGMENT

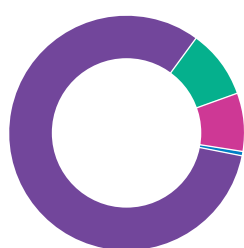
(in million dollars)	2016	2015	2014	2013	2012
Upstream	14,316	20,508	22,959	24,102	20,106
Refining & Chemicals	1,636	827	1,944	2,530	2,094
Marketing & Services	1,432	1,569	1,424	1,579	1,507
Corporate	100	72	104	97	82
<b>Total</b>	<b>17,484</b>	<b>22,976</b>	<b>26,430</b>	<b>28,309</b>	<b>23,789</b>

(2) Organic investments = net investments, excluding acquisitions, divestments and other operations with non-controlling interests.

## DIVESTMENTS BY BUSINESS SEGMENT

(in million dollars)	2016	2015	2014	2013	2012
Upstream	2,331	3,215	5,764	5,786	3,595
Refining & Chemicals	86	3,488	192	365	392
Marketing & Services	446	856	163	186	196
Corporate	14	25	71	62	3,360
<b>Total</b>	<b>2,877</b>	<b>7,584</b>	<b>6,190</b>	<b>6,399</b>	<b>7,543</b>

### 2016 ORGANIC INVESTMENTS BY BUSINESS SEGMENT



Upstream — 81.9%  
 Refining & Chemicals — 9.4%  
 Marketing & Services — 8.2%  
 Corporate — 0.5%

### 2016 GROSS INVESTMENTS BY GEOGRAPHIC AREA

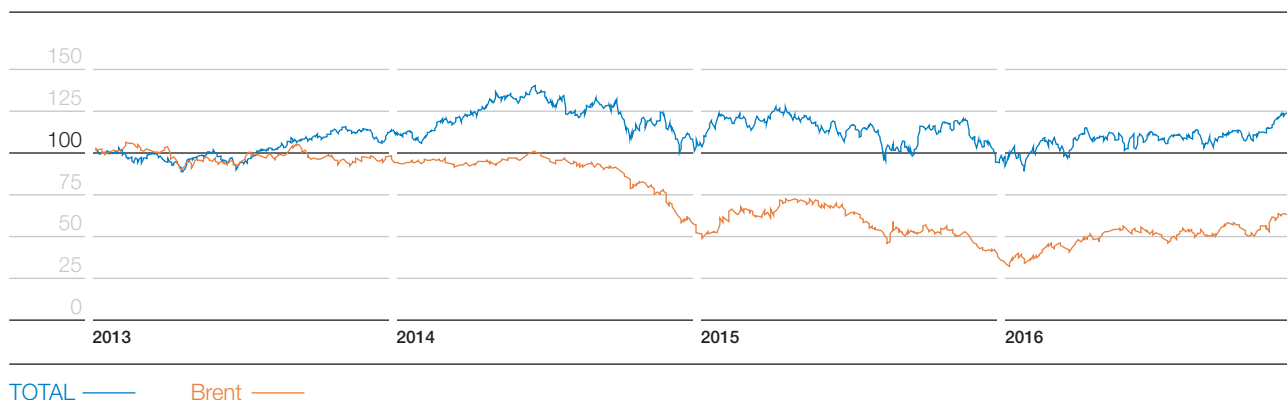


France — 8.9%  
 Africa — 33.4%  
 Rest of world — 25.2%  
 Rest of Europe — 18.7%  
 North America — 13.8%

## SHARE PERFORMANCE VERSUS BRENT

### Total share price versus Brent (2013-2016)

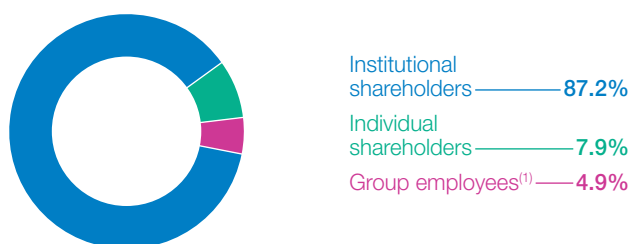
(in euros)



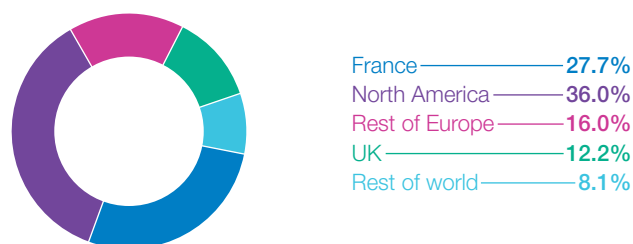
Source: Bloomberg.  
Base 100 in 2013.

## SHAREHOLDING STRUCTURE ESTIMATE AS OF DECEMBER 31, 2016

### Distribution by shareholders by type (excluding treasury shares)



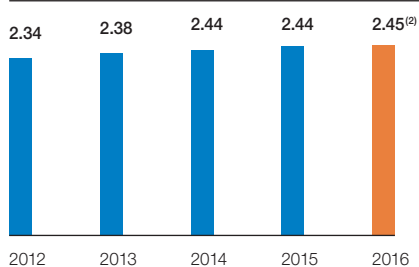
### Distribution by shareholders by geographic area (excluding treasury shares)



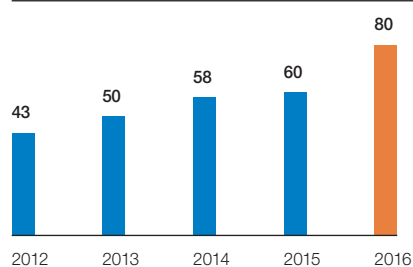
(1) Based on the definition of employees shareholding pursuant to Article L. 225-102 of the French Commercial Code, treasury shares excluded.

## DIVIDEND POLICY

### Dividend per share (in euros)



### Pay-out ratio (%)



(2) The 2016 dividend is subject to approval at the May 26, 2017 Annual Shareholders' meeting.



## SHARE INFORMATION

	2016	2015	2014	2013	2012
Shares outstanding (as of December 31)	2,430,365,862	2,440,057,883	2,385,267,525	2,377,678,160	2,365,933,146
Weighted-average number of fully-diluted shares <sup>(1)</sup>	2,389,713,936	2,304,435,542	2,281,004,151	2,271,543,658	2,266,635,745
Shares on a fully-diluted basis (as of December 31) <sup>(1)</sup>	2,435,713,864	2,336,295,758	2,285,476,721	2,275,897,141	2,270,350,218
Treasury Shares	10,587,822	113,967,758	109,361,413	109,214,448	108,391,639
<b>Price per share (€)</b>					
High	48.89	50.3	54.71	45.67	42.97
Low	35.21	36.92	38.25	35.18	33.42
Year-end	48.72	41.27	42.52	44.53	39.01
<b>Price per ADR (\$)</b>					
High	51.36	55.86	74.22	62.45	57.06
Low	39.05	40.93	48.43	45.93	41.75
Year-end	50.97	44.95	51.20	61.27	52.01
<b>Market capitalization at year-end, computed on shares outstanding</b>					
Billion €	118.4	100.7	101.4	105.9	92.3
Billion \$	123.8	109.7	122.1	145.7	123.1
<b>Trading volume (daily average)</b>					
Euronext Paris	6,508,817	7,412,179	5,519,597	4,439,725	5,622,504
New York Stock Exchange (number of ADRs)	2,109,802	1,853,669	1,277,433	1,371,780	3,291,705
Adjusted fully-diluted earnings per share (\$) <sup>(2)</sup>	3.38	4.51	5.63	6.29	6.96
Dividend per share (€)	2.45 <sup>(3)</sup>	2.44	2.44	2.38	2.34
Dividend per ADR (\$)	2.61 <sup>(3)(4)</sup>	2.67	2.93	3.24	3.05
Pay-out <sup>(5)</sup>	80%	60%	58%	50%	43%
Price-to-earning ratio <sup>(6)</sup>	15.9	10.1	10.1	9.4	7.2
Yield <sup>(7)</sup>	5.03%	5.91%	5.74%	5.34%	6.00%

(1) Excluding shares owned by the Group and cancelled in the Consolidated Balance Sheet under IFRS.

(2) Adjusted results are defined as income at replacement cost, excluding non-recurring items, and excluding the impact of fair value changes.

(3) 2016 dividend subject to approval at the May 26, 2017 Annual Shareholders' Meeting.

(4) 2016 estimated dividend in dollars includes the first quarterly interim ADR dividend of \$0.67 paid in October 2016 and the second quarterly interim ADR dividend of \$0.65 paid in January 2017, as well as the third quarterly interim ADR dividend of \$0.64 payable in April 2017 and the proposed final ADR dividend of \$0.65 payable in June 2017, both converted at a rate of \$1.05/€.

(5) Dividend (€)/adjusted fully-diluted earnings per share.

(6) Share price at year-end (€)/adjusted fully-diluted earnings per share.

(7) Dividend (€)/share price at year-end.

## PAYROLL <sup>(1)</sup>

For the year ended December 31, (in million dollars)	2016	2015	2014	2013	2012
Wages and salaries (including social charges)	8,238	8,088	9,690	9,424	9,167

(1) Personnel expenses and number of employees of fully-consolidated subsidiaries.

## NUMBER OF EMPLOYEES

As of December 31,	2016	2015	2014	2013	2012
<b>Number of employees by region <sup>(1)</sup></b>					
France	31.1%	31.5%	32.5%	33.6%	36.0%
Rest of Europe	25.2%	24.5%	23.9%	23.4%	23.5%
Rest of world	43.7%	44.0%	43.6%	43.0%	40.5%
<b>Total</b>	<b>102,168</b>	<b>96,019</b>	<b>100,307</b>	<b>98,799</b>	<b>97,126</b>

As of December 31,	2016	2015	2014	2013	2012
<b>Number of employees by business segment <sup>(1)</sup></b>					
Upstream	15.8%	17.9%	18.3%	18.2%	18.6%
Refining & Chemicals	50.4%	50.2%	51.5%	52.1%	53.1%
Marketing & Services	31.9%	30.2%	28.6%	28.2%	26.8%
Corporate	1.9%	1.7%	1.6%	1.5%	1.5%
<b>Total</b>	<b>102,168</b>	<b>96,019</b>	<b>100,307</b>	<b>98,799</b>	<b>97,126</b>

(1) Personnel expenses and number of employees of fully-consolidated subsidiaries.

### As of December 31, 2016

Number of employees by business segment <sup>(2)</sup>		
Upstream		
Exploration & Production		13,975
Gas & Power		1,216
Refining & Chemicals		
Refining & Chemicals		49,829
Trading & Shipping		604
Marketing & Services		
Marketing & Services		20,402
New Energies		11,634
Corporate		1,951

(2) Employees present: employees present are employees on the payroll of the consolidated scope, less employees who are not present, i.e., persons who are under suspended contract (sabbatical, business development leave, etc.), absent on long-term sick leave (more than six months), assigned to a company outside the Group, etc.

# UPSTREAM

15.1 B\$  
organic investments<sup>(1)</sup>  
and resource  
acquisition

9.7 B\$  
cash flow  
from  
operations

5  
major  
start-ups  
in 2016

4.5%  
production growth  
in 2016

2.45 Mboe/d  
production

3.6 B\$  
adjusted net  
operating income

>12 years  
proved  
reserve life

15,191  
employees

<sup>(1)</sup> Organic investments – net investments, excluding acquisitions, divestments and other operations with non-controlling interests.

# The Upstream segment comprises...

## Exploration & Production

Presence in more than fifty countries with oil or gas production in approximately thirty countries.

## Gas<sup>(1)</sup>

Conducts downstream activities related to natural gas, Liquefied Natural Gas (LNG) and Liquefied Petroleum Gas (LPG), as well as power generation and trading.

(1) Reported within the new Gas, Renewables & Power segment as of financial year 2017.

## OUTLOOK

12

projects starting up in 2017-18

> 4%

targeted production growth in 2017

Launching of

~10

projects over the next 18 months

Targeting

5.0 \$/boe

operating cost by 2018

## FINANCIAL HIGHLIGHTS <sup>(1)</sup>

(in million dollars)	2016	2015	2014	2013	2012
Adjusted operating income <sup>(1)</sup>	2,737	4,925	17,156	23,700	28,333
Adjusted net operating income <sup>(1)</sup>	3,633	4,774	10,504	12,450	14,316
Gross investments <sup>(2)</sup>	16,035	24,270	26,520	29,750	25,200
Organic investments <sup>(3)</sup>	14,316	20,508	22,959	24,102	20,106
Divestments	2,331	3,215	5,764	5,786	3,595
Cash flow from operations	9,675	11,182	16,666	21,857	24,354

(1) Adjusted results are defined as income at replacement cost, excluding non-recurring items, and excluding the impact of fair value changes.

(2) Including acquisitions and increases in non current-loans.

(3) Organic investments = net investments, excluding acquisitions, divestments and other operations with non-controlling interests.

## PRODUCTION

	2016	2015	2014	2013	2012
Liquids (Kb/d) <sup>(1)</sup>	1,271	1,237	1,034	1,167	1,220
Gas (Mcf/d)	6,447	6,054	6,063	6,184	5,880
<b>Combined production (Kboe/d)</b>	<b>2,452</b>	<b>2,347</b>	<b>2,146</b>	<b>2,299</b>	<b>2,300</b>

(1) Including bitumen.

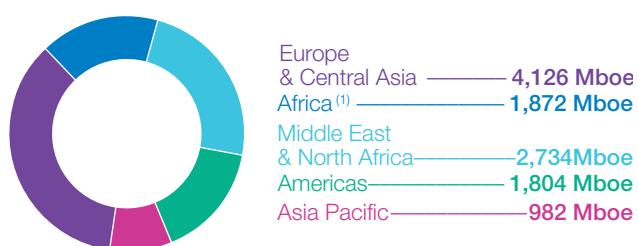
## PROVED RESERVES <sup>(1)</sup>

	2016	2015	2014	2013	2012
Liquids (Mb) <sup>(2)</sup>	5,414	5,605	5,303	5,413	5,686
Gas (Bcf)	32,984	32,206	33,590	33,026	30,877
<b>Total (Mboe)</b>	<b>11,518</b>	<b>11,580</b>	<b>11,523</b>	<b>11,526</b>	<b>11,368</b>

(1) Proved reserves are calculated in accordance with the United States Securities and Exchange Commission regulations.

(2) Including bitumen.

### 2016 PROVED RESERVES BY GEOGRAPHICAL AREA: 11,518 MBOE



(1) Excluding North Africa.

## KEY OPERATING RATIOS ON PROVED RESERVES – GROUP

(three-year average)	2014-2016	2013-2015	2012-2014	2011-2013	2010-2012
Finding costs (\$/boe) <sup>(1)</sup>	3.2	4.2	5.5	7.9	8.1
Reserve replacement costs (\$/boe) <sup>(2)</sup>	20.6	23.2	24.8	21.4	17.9
Reserve replacement rate (%) <sup>(3) (4)</sup>	100	109	104	133	134
Organic reserve replacement rate (%) <sup>(4) (5)</sup>	106	121	107	89	79
(in years)	2016	2015	2014	2013	2012
Reserve life <sup>(6)</sup>	12.8	13.5	14.7	13.7	13.5

(1) (Exploration costs + unproved property acquisition)/(revisions + extensions and discoveries).

(2) Total costs incurred/(revisions + extensions, discoveries + acquisitions)

(3) (Revisions + extensions, discoveries + acquisitions – sales of reserves)/production for the period.

(4) Including the mechanical effect of changes in oil prices at year-end.

(5) (Revisions + extensions, discoveries)/production for the period; excluding acquisitions and sales of reserves.

(6) Reserves at year-end/production of the year.

## KEY OPERATING RATIOS ON PROVED RESERVES – CONSOLIDATED SUBSIDIARIES

(in dollars per barrel of oil equivalent)	2014-2016	2013-2015	2012-2014	2011-2013	2010-2012
Finding costs <sup>(1)</sup>	4.9	6.5	10.3	10.3	8.0
Reserve replacement costs <sup>(2)</sup>	33.3	36.5	47.4	34.3	21.6
(in dollars per barrel of oil equivalent)	2016	2015	2014	2013	2012
Operating costs	5.9	7.4	9.9	8.9	7.9
Exploration costs	1.4	2.4	3.4	3.7	3.0
DD&A	13.1	13.2	15.0	13.5	11.9
Technical costs <sup>(3) (4)</sup>	20.4	23.0	28.3	26.1	22.8

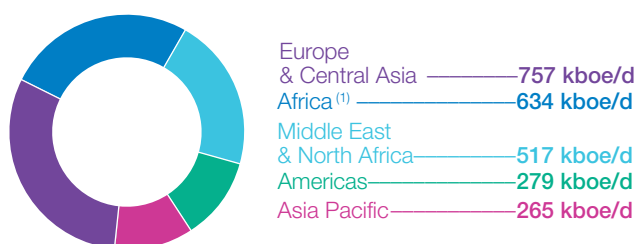
(1) (Exploration costs + unproved property acquisition)/(revisions + extensions, discoveries).

(2) Total costs incurred/(revisions + extensions, discoveries + acquisitions)

(3) Excluding non-recurring items.

(4) (Production costs + exploration expenses + DD&A)/production of the year.

## TOTAL PRODUCTION FOR 2016: 2,452 KBOE/D



(1) Excluding North Africa.

## COMBINED LIQUIDS AND GAS PRODUCTION <sup>(1) (2)</sup>

(in thousands of barrels of oil equivalent per day)	2016	2015	2014	2013	2012
<b>Europe and Central Asia</b>	<b>757</b>	<b>664</b>	<b>613</b>	<b>619</b>	<b>622</b>
Azerbaijan	-	-	14	20	16
France	-	-	2	9	13
Kazakhstan	4	-	-	-	-
Norway	235	239	242	243	275
Netherlands	25	28	31	35	33
United Kingdom	158	107	89	105	106
Russia	335	290	235	207	179
<b>Africa</b>	<b>634</b>	<b>639</b>	<b>610</b>	<b>599</b>	<b>628</b>
Angola	243	248	200	186	179
The Congo, Republic of	90	87	95	93	113
Gabon	58	59	58	59	57
Nigeria	243	245	257	261	279
<b>Middle East and North Africa</b>	<b>517</b>	<b>531</b>	<b>438</b>	<b>607</b>	<b>578</b>
Algeria	23	25	20	21	23
United Arab Emirates	291	287	127	260	246
Iraq	18	18	12	7	6
Libya	14	14	27	50	62
Oman	37	36	36	37	37
Qatar	134	134	132	137	139
Yemen	-	17	84	95	65
<b>Americas</b>	<b>279</b>	<b>255</b>	<b>247</b>	<b>239</b>	<b>251</b>
Argentina	78	72	75	78	83
Bolivia	34	28	30	28	27
Canada <sup>(3)</sup>	34	14	12	13	12
Colombia	-	-	-	-	6
Trinidad & Tobago	-	-	-	12	16
United States	86	89	78	60	57
Venezuela	47	52	52	48	50
<b>Asia Pacific</b>	<b>265</b>	<b>258</b>	<b>238</b>	<b>235</b>	<b>221</b>
Australia	16	4	4	4	5
Brunei	18	15	15	13	12
China	10	11	12	8	1
Indonesia	140	147	130	131	132
Myanmar	21	19	17	16	16
Thailand	60	62	60	63	55
<b>Total production</b>	<b>2,452</b>	<b>2,347</b>	<b>2,146</b>	<b>2,299</b>	<b>2,300</b>
<b>Including share of equity affiliates</b>	<b>600</b>	<b>559</b>	<b>571</b>	<b>687</b>	<b>611</b>
Angola	5	-	2	3	-
United Arab Emirates	123	116	118	253	237
Oman	36	34	34	35	34
Qatar	76	77	77	78	74
Russia	327	280	227	197	171
Venezuela	33	37	38	37	40
Yemen	-	15	75	84	55

(1) The geographical zones are as follows: Europe and Central Asia; Africa (excluding North Africa); Middle East and North Africa; Americas; and Asia-Pacific. 2012-2015 data have been restated accordingly.

(2) Including fuel gas (448 Mcf/d in 2016, 435 Mcf/d in 2015, 426 Mcf/d in 2014, 415 Mcf/d in 2013, 394 Mcf/d in 2012).

(3) The Group's production in Canada consists of bitumen only. All of the Group's bitumen production is in Canada.

## LIQUIDS PRODUCTION <sup>(1)</sup>

(in thousands of barrels per day)

	2016	2015	2014	2013	2012
<b>Europe and Central Asia</b>	<b>249</b>	<b>215</b>	<b>201</b>	<b>200</b>	<b>224</b>
Azerbaijan	-	-	3	5	4
France	-	-	-	1	2
Kazakhstan	3	-	-	-	-
Norway	121	125	135	136	159
Netherlands	-	1	1	1	1
United Kingdom	49	35	29	30	35
Russia	76	54	33	27	23
<b>Africa</b>	<b>509</b>	<b>521</b>	<b>490</b>	<b>476</b>	<b>506</b>
Angola	230	238	191	175	172
The Congo, Republic of	84	81	88	88	107
Gabon	55	55	55	55	54
Nigeria	140	147	156	158	173
<b>Middle East and North Africa</b>	<b>373</b>	<b>372</b>	<b>224</b>	<b>379</b>	<b>379</b>
Algeria	6	7	5	5	6
United Arab Emirates	279	274	115	247	233
Iraq	17	18	12	7	6
Libya	14	14	27	50	62
Oman	26	25	24	24	24
Qatar	31	32	32	36	38
Yemen	-	2	9	10	10
<b>Americas</b>	<b>109</b>	<b>95</b>	<b>89</b>	<b>82</b>	<b>84</b>
Argentina	8	8	9	13	12
Bolivia	4	3	4	4	3
Canada	34	14	12	13	12
Colombia	-	-	-	-	1
Trinidad & Tobago	-	-	-	2	4
United States	31	34	27	15	13
Venezuela	32	36	37	35	39
<b>Asia Pacific</b>	<b>31</b>	<b>34</b>	<b>30</b>	<b>30</b>	<b>27</b>
Brunei	3	3	2	2	2
Indonesia	19	22	18	17	16
Thailand	9	9	10	11	9
<b>Total production</b>	<b>1,271</b>	<b>1,237</b>	<b>1,034</b>	<b>1,167</b>	<b>1,220</b>
<b>Including share of equity affiliates</b>	<b>247</b>	<b>219</b>	<b>200</b>	<b>325</b>	<b>308</b>
Angola	1	-	-	-	-
United Arab Emirates	114	107	109	240	225
Oman	24	24	23	23	23
Qatar	7	7	7	8	7
Russia	69	45	24	19	15
Venezuela	32	36	37	35	38

(1) Liquids consist of crude oil, bitumen, condensates and natural gas liquids (NGL). With respect to bitumen, the Group's production in Canada consists of bitumen only, and all of the Group's bitumen production is in Canada. With respect to NGL, the table above does not set forth separate figures for NGL because they represented less than 7.5% of the Group's total liquids production in each of the years 2012, 2013, 2014, 2015 and 2016.



## GAS PRODUCTION <sup>(1)</sup>

(in millions of cubic feet per day)	2016	2015	2014	2013	2012
<b>Europe and Central Asia</b>	<b>2,737</b>	<b>2,413</b>	<b>2,224</b>	<b>2,277</b>	<b>2,168</b>
Azerbaijan	-	-	59	82	64
France	-	-	9	45	58
Kazakhstan	6	-	-	-	-
Norway	618	614	576	575	622
Netherlands	141	158	171	195	184
United Kingdom	595	389	333	416	395
Russia	1,377	1,252	1,076	964	845
<b>Africa</b>	<b>621</b>	<b>581</b>	<b>614</b>	<b>617</b>	<b>615</b>
Angola	68	49	54	62	44
The Congo, Republic of	29	30	35	28	31
Gabon	15	15	14	16	19
Nigeria	509	487	511	511	521
<b>Middle East and North Africa</b>	<b>795</b>	<b>874</b>	<b>1,163</b>	<b>1,237</b>	<b>1,080</b>
Algeria	90	96	79	82	90
United Arab Emirates	67	66	61	71	70
Iraq	1	1	1	1	-
Oman	62	58	61	66	61
Qatar	575	573	555	558	560
Yemen	-	80	406	459	299
<b>Americas</b>	<b>944</b>	<b>896</b>	<b>884</b>	<b>883</b>	<b>928</b>
Argentina	391	354	367	366	394
Bolivia	160	133	139	129	124
Colombia	-	-	-	-	23
Trinidad & Tobago	-	-	-	52	70
United States	304	308	285	256	246
Venezuela	89	101	93	80	71
<b>Asia Pacific</b>	<b>1,350</b>	<b>1,290</b>	<b>1,178</b>	<b>1,170</b>	<b>1,089</b>
Australia	91	28	23	25	29
Brunei	78	62	66	59	54
China	53	59	63	46	7
Indonesia	657	676	594	605	605
Myanmar	165	153	135	129	127
Thailand	306	312	297	306	267
<b>Total production</b>	<b>6,447</b>	<b>6,054</b>	<b>6,063</b>	<b>6,184</b>	<b>5,880</b>
<b>Including share of equity affiliates</b>	<b>1,894</b>	<b>1,828</b>	<b>1,988</b>	<b>1,955</b>	<b>1,635</b>
Angola	20	-	10	16	-
United Arab Emirates	51	50	51	61	61
Oman	62	58	61	66	60
Qatar	379	383	381	385	364
Russia	1,375	1,250	1,075	962	844
Venezuela	7	7	6	7	7
Yemen	-	80	404	458	299

(1) Including fuel gas (448 Mcf/d in 2016, 435 Mcf/d in 2015, 426 Mcf/d in 2014, 415 Mcf/d in 2013, 394 Mcf/d in 2012).

## CHANGES IN OIL, BITUMEN AND GAS RESERVES

The following tables present, for oil, bitumen and gas reserves, an estimate of the Group's oil, bitumen and gas quantities by geographic areas as of December 31, 2016, 2015, 2014, 2013, and 2012.

Quantities shown concern proved developed and undeveloped reserves together with changes in quantities for 2016, 2015, 2014, 2013 and 2012.

The definitions used for proved, proved developed and proved undeveloped oil and gas reserves are in accordance with the revised Rule 4-10 of SEC Regulation S-X.

All references in the following tables to reserves or production are to the Group's entire share of such reserves or production.

TOTAL's worldwide proved reserves include the proved reserves of its consolidated subsidiaries as well as its proportionate share of the proved reserves of equity affiliates.

Significant changes in proved reserves between 2015 and 2016 are discussed below.

For consolidated subsidiaries, the revisions of +88 Mboe for the year 2016 were due to:

- +496 Mboe due to new information obtained from drilling and production history mainly in the United Arab Emirates and the United States and the rebooking of certain fields onshore in Libya that re-started production;

- -347 Mboe due to economic factors as a result of lower yearly average hydrocarbon prices, including primarily a partial debooking of the Canadian oil sands proved undeveloped reserves, as well as an earlier economic limit on a number of other assets, partly compensated, in particular, by higher entitlement share from production sharing and risked service contracts; and
- -61 Mboe due to other revisions including primarily a reclassification of certain projects out of proved reserves on a number of other assets.

The acquisition in the Americas corresponds to the purchase of Chesapeake's share in the Barnett closed in November 2016.

For equity affiliates, the revisions of +83 Mboe for the year 2016 were due to:

- +58 Mboe mainly due to new information obtained from drilling and production history mainly in Qatar and Russia; and
- +25 Mboe due to economic factors related to a higher entitlement share as a result of lower yearly average hydrocarbon prices.

The extensions in Russia correspond mainly to the booking of the two last gas sales agreements on Yamal LNG.

The acquisition in the zone of Middle East and North Africa corresponds to the entry in the Northern Oil Company operating the Al Shaheen field in Qatar.

### Price impact on proved reserves

(in million barrels of oil equivalent)

Consolidated subsidiaries and equity affiliates

Proved reserves 2016 based on SEC rules (42.82 \$/b) <sup>(a)</sup>	11,518
Price impact	387
Proved reserves 2016 at constant price (54.17 \$/b) <sup>(b)</sup>	11,905

(a) 42.82 \$/b was the average Brent price of the first day of each month of 2016.

(b) 54.17 \$/b was the average Brent price of the first day of each month of 2015.

(in million barrels of oil equivalent)

Consolidated subsidiaries

Proved developed and undeveloped reserves	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>Balance as of December 31, 2011 – Brent at 110.96 \$/b</b>	<b>2,283</b>	<b>24</b>	<b>2,787</b>	<b>676</b>	<b>1,738</b>	<b>1,008</b>	<b>8,516</b>
Revisions of previous estimates	74	6	53	(10)	7	(2)	128
Extensions, discoveries and other	67	3	172	30	110	40	422
Acquisitions of reserves in place	32	-	-	-	-	-	32
Sales of reserves in place	(38)	-	(71)	-	(8)	-	(117)
Production for the year	(162)	(3)	(230)	(65)	(77)	(81)	(618)
<b>Balance as of December 31, 2012 – Brent at 111.13 \$/b</b>	<b>2,256</b>	<b>30</b>	<b>2,711</b>	<b>631</b>	<b>1,770</b>	<b>965</b>	<b>8,363</b>
Revisions of previous estimates	22	-	(100)	15	44	43	24
Extensions, discoveries and other	209	1	20	2	135	29	396
Acquisitions of reserves in place	-	-	-	-	-	132	132
Sales of reserves in place	(51)	-	-	-	(51)	-	(102)
Production for the year	(149)	(3)	(217)	(58)	(74)	(87)	(588)
<b>Balance as of December 31, 2013 – Brent at 108.02 \$/b</b>	<b>2,287</b>	<b>28</b>	<b>2,414</b>	<b>590</b>	<b>1,824</b>	<b>1,082</b>	<b>8,225</b>
Revisions of previous estimates	26	4	42	13	(11)	26	100
Extensions, discoveries and other	21	-	111	3	151	29	315
Acquisitions of reserves in place	1	-	-	-	-	-	1
Sales of reserves in place	(232)	-	(21)	-	-	-	(253)
Production for the year	(138)	(3)	(222)	(49)	(76)	(87)	(575)
<b>Balance as of December 31, 2014 – Brent at 101.27 \$/b</b>	<b>1,965</b>	<b>29</b>	<b>2,324</b>	<b>557</b>	<b>1,888</b>	<b>1,050</b>	<b>7,813</b>
Revisions of previous estimates	1	-	(4)	(7)	144	62	196
Extensions, discoveries and other	11	-	9	864	6	7	897
Acquisitions of reserves in place	-	-	-	-	-	-	-
Sales of reserves in place	(28)	-	(76)	-	(160)	-	(264)
Production for the year	(137)	(4)	(233)	(105)	(79)	(94)	(652)
<b>Balance as of December 31, 2015 – Brent at 54.17 \$/b</b>	<b>1,812</b>	<b>25</b>	<b>2,020</b>	<b>1,309</b>	<b>1,799</b>	<b>1,025</b>	<b>7,990</b>
Revisions of previous estimates	49	1	1	232	(234)	39	88
Extensions, discoveries and other	47	-	11	5	33	15	111
Acquisitions of reserves in place	-	-	-	-	152	-	152
Sales of reserves in place	(27)	(13)	-	-	(21)	-	(61)
Production for the year	(155)	(2)	(230)	(104)	(90)	(97)	(678)
<b>Balance as of December 31, 2016 – Brent at 42.82 \$/b</b>	<b>1,726</b>	<b>11</b>	<b>1,802</b>	<b>1,442</b>	<b>1,639</b>	<b>982</b>	<b>7,602</b>
<b>Minority interest in proved developed and undeveloped reserves as of</b>							
December 31, 2012 – Brent at 111.13 \$/b	-	-	99	-	-	-	99
December 31, 2013 – Brent at 108.02 \$/b	-	-	159	-	-	-	159
December 31, 2014 – Brent at 101.27 \$/b	-	-	146	-	-	-	146
December 31, 2015 – Brent at 54.17 \$/b	-	-	128	-	-	-	128
<b>December 31, 2016 – Brent at 42.82 \$/b</b>	<b>-</b>	<b>-</b>	<b>105</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>105</b>

(in million barrels of oil equivalent)

Equity affiliates

Proved developed and undeveloped reserves	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>Balance as of December 31, 2011 – Brent at 110.96 \$/b</b>	-	744	78	1,629	456	-	2,907
Revisions of previous estimates	-	78	1	6	(39)	-	46
Extensions, discoveries and other	-	158	-	-	-	-	158
Acquisitions of reserves in place	-	118	-	-	-	-	118
Sales of reserves in place	-	-	-	-	-	-	-
Production for the year	-	(63)	-	(146)	(15)	-	(224)
<b>Balance as of December 31, 2012 – Brent at 111.13 \$/b</b>	-	1,035	79	1,489	402	-	3,005
Revisions of previous estimates	-	33	(2)	(4)	(141)	-	(114)
Extensions, discoveries and other	-	622	-	14	-	-	636
Acquisitions of reserves in place	-	117	-	-	-	-	117
Sales of reserves in place	-	(92)	-	-	-	-	(92)
Production for the year	-	(73)	(1)	(164)	(13)	-	(251)
<b>Balance as of December 31, 2013 – Brent at 108.02 \$/b</b>	-	1,642	76	1,335	248	-	3,301
Revisions of previous estimates	-	6	(2)	(8)	2	-	(2)
Extensions, discoveries and other	-	516	-	2	-	-	518
Acquisitions of reserves in place	-	107	-	-	-	-	107
Sales of reserves in place	-	(6)	-	-	-	-	(6)
Production for the year	-	(83)	(1)	(110)	(14)	-	(208)
<b>Balance as of December 31, 2014 – Brent at 101.27 \$/b</b>	-	2,182	73	1,219	236	-	3,710
Revisions of previous estimates	-	96	(2)	(10)	(44)	-	40
Extensions, discoveries and other	-	-	-	-	-	-	-
Acquisitions of reserves in place	-	56	-	-	-	-	56
Sales of reserves in place	-	(12)	-	-	-	-	(12)
Production for the year	-	(102)	-	(88)	(14)	-	(204)
<b>Balance as of December 31, 2015 – Brent at 54.17 \$/b</b>	-	2,220	71	1,121	178	-	3,590
Revisions of previous estimates	-	16	-	68	(1)	-	83
Extensions, discoveries and other	-	331	-	-	-	-	331
Acquisitions of reserves in place	-	-	-	190	-	-	190
Sales of reserves in place	-	(59)	-	-	-	-	(59)
Production for the year	-	(119)	(1)	(87)	(12)	-	(219)
<b>Balance as of December 31, 2016 – Brent at 42.82 \$/b</b>	-	2,389	70	1,292	165	-	3,916

(in million barrels of oil equivalent)

## Consolidated subsidiaries and equity affiliates

	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>As of December 31, 2012 – Brent at 111.13 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>2,256</b>	<b>1,065</b>	<b>2,790</b>	<b>2,120</b>	<b>2,172</b>	<b>965</b>	<b>11,368</b>
Consolidated subsidiaries	2,256	30	2,711	631	1,770	965	8,363
Equity affiliates	-	1,035	79	1,489	402	-	3,005
<b>Proved developed reserves</b>	<b>881</b>	<b>754</b>	<b>1,410</b>	<b>1,891</b>	<b>616</b>	<b>237</b>	<b>5,789</b>
Consolidated subsidiaries	881	23	1,389	522	475	237	3,527
Equity affiliates	-	731	21	1,369	141	-	2,262
<b>Proved undeveloped reserves</b>	<b>1,375</b>	<b>311</b>	<b>1,380</b>	<b>229</b>	<b>1,556</b>	<b>728</b>	<b>5,579</b>
Consolidated subsidiaries	1,375	7	1,322	109	1,295	728	4,836
Equity affiliates	-	304	58	120	261	-	743
<b>As of December 31, 2013 – Brent at 108.02 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>2,287</b>	<b>1,670</b>	<b>2,490</b>	<b>1,925</b>	<b>2,072</b>	<b>1,082</b>	<b>11,526</b>
Consolidated subsidiaries	2,287	28	2,414	590	1,824	1,082	8,225
Equity affiliates	-	1,642	76	1,335	248	-	3,301
<b>Proved developed reserves</b>	<b>1,080</b>	<b>783</b>	<b>1,316</b>	<b>1,730</b>	<b>540</b>	<b>225</b>	<b>5,674</b>
Consolidated subsidiaries	1,080	21	1,298	484	452	225	3,560
Equity affiliates	-	762	18	1,246	88	-	2,114
<b>Proved undeveloped reserves</b>	<b>1,207</b>	<b>887</b>	<b>1,174</b>	<b>195</b>	<b>1,532</b>	<b>857</b>	<b>5,852</b>
Consolidated subsidiaries	1,207	7	1,116	106	1,372	857	4,665
Equity affiliates	-	880	58	89	160	-	1,187

(in million barrels of oil equivalent)

## Consolidated subsidiaries and equity affiliates

	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>As of December 31, 2014 – Brent at 101.27 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>1,965</b>	<b>2,211</b>	<b>2,397</b>	<b>1,776</b>	<b>2,124</b>	<b>1,050</b>	<b>11,523</b>
Consolidated subsidiaries	1,965	29	2,324	557	1,888	1,050	7,813
Equity affiliates	-	2,182	73	1,219	236	-	3,710
<b>Proved developed reserves</b>	<b>991</b>	<b>1,067</b>	<b>1,321</b>	<b>1,593</b>	<b>535</b>	<b>199</b>	<b>5,706</b>
Consolidated subsidiaries	991	18	1,304	467	450	199	3,429
Equity affiliates	-	1,049	17	1,126	85	-	2,277
<b>Proved undeveloped reserves</b>	<b>974</b>	<b>1,144</b>	<b>1,076</b>	<b>183</b>	<b>1,589</b>	<b>851</b>	<b>5,817</b>
Consolidated subsidiaries	974	11	1,020	90	1,438	851	4,384
Equity affiliates	-	1,133	56	93	151	-	1,433
<b>As of December 31, 2015 – Brent at 54.17 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>1,812</b>	<b>2,245</b>	<b>2,091</b>	<b>2,430</b>	<b>1,977</b>	<b>1,025</b>	<b>11,580</b>
Consolidated subsidiaries	1,812	25	2,020	1,309	1,799	1,025	7,990
Equity affiliates	-	2,220	71	1,121	178	-	3,590
<b>Proved developed reserves</b>	<b>1,009</b>	<b>1,070</b>	<b>1,173</b>	<b>2,062</b>	<b>626</b>	<b>246</b>	<b>6,186</b>
Consolidated subsidiaries	1,009	16	1,161	1,070	549	246	4,051
Equity affiliates	-	1,054	12	992	77	-	2,135
<b>Proved undeveloped reserves</b>	<b>803</b>	<b>1,175</b>	<b>918</b>	<b>368</b>	<b>1,351</b>	<b>779</b>	<b>5,394</b>
Consolidated subsidiaries	803	9	859	239	1,250	779	3,939
Equity affiliates	-	1,166	59	129	101	-	1,455
<b>As of December 31, 2016 – Brent at 42.82 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>1,726</b>	<b>2,400</b>	<b>1,872</b>	<b>2,734</b>	<b>1,804</b>	<b>982</b>	<b>11,518</b>
Consolidated subsidiaries	1,726	11	1,802	1,442	1,639	982	7,602
Equity affiliates	-	2,389	70	1,292	165	-	3,916
<b>Proved developed reserves</b>	<b>1,025</b>	<b>1,017</b>	<b>1,141</b>	<b>2,281</b>	<b>979</b>	<b>224</b>	<b>6,667</b>
Consolidated subsidiaries	1,025	7	1,132	1,158	897	224	4,443
Equity affiliates	-	1,010	9	1,123	82	-	2,224
<b>Proved undeveloped reserves</b>	<b>701</b>	<b>1,383</b>	<b>731</b>	<b>453</b>	<b>825</b>	<b>758</b>	<b>4,851</b>
Consolidated subsidiaries	701	4	670	284	742	758	3,159
Equity affiliates	-	1,379	61	169	83	-	1,692

## CHANGES IN OIL RESERVES

Oil reserves include crude oil, condensates and natural gas liquids reserves.

(in millions of barrels)

Consolidated subsidiaries

Proved developed and undeveloped reserves	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>Balance as of December 31, 2011 – Brent at 110.96 \$/b</b>	<b>1,269</b>	<b>20</b>	<b>1,899</b>	<b>377</b>	<b>73</b>	<b>96</b>	<b>3,734</b>
Revisions of previous estimates	17	7	49	14	10	6	103
Extensions, discoveries and other	27	3	148	28	8	3	217
Acquisitions of reserves in place	7	-	-	-	-	-	7
Sales of reserves in place	(32)	-	(45)	-	(2)	-	(79)
Production for the year	(74)	(3)	(185)	(45)	(12)	(10)	(329)
<b>Balance as of December 31, 2012 – Brent at 111.13 \$/b</b>	<b>1,214</b>	<b>27</b>	<b>1,866</b>	<b>374</b>	<b>77</b>	<b>95</b>	<b>3,653</b>
Revisions of previous estimates	3	-	48	9	7	91	158
Extensions, discoveries and other	26	1	18	2	20	1	68
Acquisitions of reserves in place	-	-	-	-	-	34	34
Sales of reserves in place	(49)	-	-	-	(6)	-	(55)
Production for the year	(63)	(3)	(174)	(40)	(12)	(10)	(302)
<b>Balance as of December 31, 2013 – Brent at 108.02 \$/b</b>	<b>1,131</b>	<b>25</b>	<b>1,758</b>	<b>345</b>	<b>86</b>	<b>211</b>	<b>3,556</b>
Revisions of previous estimates	13	4	27	11	3	5	63
Extensions, discoveries and other	3	-	101	3	14	2	123
Acquisitions of reserves in place	-	-	-	-	-	-	-
Sales of reserves in place	(43)	-	(20)	-	-	-	(63)
Production for the year	(61)	(3)	(178)	(32)	(15)	(11)	(300)
<b>Balance as of December 31, 2014 – Brent at 101.27 \$/b</b>	<b>1,043</b>	<b>26</b>	<b>1,688</b>	<b>327</b>	<b>88</b>	<b>207</b>	<b>3,379</b>
Revisions of previous estimates	(9)	-	3	(46)	27	10	(15)
Extensions, discoveries and other	4	-	8	856	2	-	870
Acquisitions of reserves in place	-	-	-	-	-	-	-
Sales of reserves in place	(3)	-	(58)	-	-	-	(61)
Production for the year	(59)	(3)	(191)	(86)	(16)	(12)	(367)
<b>Balance as of December 31, 2015 – Brent at 54.17 \$/b</b>	<b>976</b>	<b>23</b>	<b>1,450</b>	<b>1,051</b>	<b>101</b>	<b>205</b>	<b>3,806</b>
Revisions of previous estimates	22	1	6	239	(9)	6	265
Extensions, discoveries and other	14	-	11	4	11	-	40
Acquisitions of reserves in place	-	-	-	-	-	-	-
Sales of reserves in place	(13)	(11)	-	-	(2)	-	(26)
Production for the year	(63)	(3)	(185)	(84)	(16)	(11)	(362)
<b>Balance as of December 31, 2016 – Brent at 42.82 \$/b</b>	<b>936</b>	<b>10</b>	<b>1,282</b>	<b>1,210</b>	<b>85</b>	<b>200</b>	<b>3,723</b>
<b>Minority interest in proved developed and undeveloped reserves as of</b>							
December 31, 2012 – Brent at 111.13 \$/b	-	-	87	-	-	-	87
December 31, 2013 – Brent at 108.02 \$/b	-	-	140	-	-	-	140
December 31, 2014 – Brent at 101.27 \$/b	-	-	128	-	-	-	128
December 31, 2015 – Brent at 54.17 \$/b	-	-	115	-	-	-	115
<b>December 31, 2016 – Brent at 42.82 \$/b</b>	<b>-</b>	<b>-</b>	<b>95</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>95</b>

(in millions of barrels)

Equity affiliates

Proved developed and undeveloped reserves	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>Balance as of December 31, 2011 – Brent at 110.96 \$/b</b>	-	48	10	565	443	-	1,066
Revisions of previous estimates	-	9	5	5	(40)	-	(21)
Extensions, discoveries and other	-	51	-	-	-	-	51
Acquisitions of reserves in place	-	11	-	-	-	-	11
Sales of reserves in place	-	-	-	-	-	-	-
Production for the year	-	(5)	-	(93)	(15)	-	(113)
<b>Balance as of December 31, 2012 – Brent at 111.13 \$/b</b>	-	114	15	477	388	-	994
Revisions of previous estimates	-	(4)	(3)	(6)	(138)	-	(151)
Extensions, discoveries and other	-	32	-	-	-	-	32
Acquisitions of reserves in place	-	13	-	-	-	-	13
Sales of reserves in place	-	-	-	-	-	-	-
Production for the year	-	(7)	-	(99)	(13)	-	(119)
<b>Balance as of December 31, 2013 – Brent at 108.02 \$/b</b>	-	148	12	372	237	-	769
Revisions of previous estimates	-	(3)	(5)	(3)	2	-	(9)
Extensions, discoveries and other	-	81	-	3	-	-	84
Acquisitions of reserves in place	-	9	-	-	-	-	9
Sales of reserves in place	-	(1)	-	-	-	-	(1)
Production for the year	-	(9)	-	(51)	(13)	-	(73)
<b>Balance as of December 31, 2014 – Brent at 101.27 \$/b</b>	-	225	7	321	226	-	779
Revisions of previous estimates	-	34	6	(11)	(42)	-	(13)
Extensions, discoveries and other	-	-	-	-	-	-	-
Acquisitions of reserves in place	-	6	-	-	-	-	6
Sales of reserves in place	-	(2)	-	-	-	-	(2)
Production for the year	-	(17)	-	(50)	(14)	-	(81)
<b>Balance as of December 31, 2015 – Brent at 54.17 \$/b</b>	-	246	13	260	170	-	689
Revisions of previous estimates	-	42	-	58	(1)	-	99
Extensions, discoveries and other	-	15	-	-	-	-	15
Acquisitions of reserves in place	-	-	-	167	-	-	167
Sales of reserves in place	-	(2)	-	-	-	-	(2)
Production for the year	-	(25)	-	(53)	(12)	-	(90)
<b>Balance as of December 31, 2016 – Brent at 42.82 \$/b</b>	-	276	13	432	157	-	878



(in millions of barrels of oil equivalent)

## Consolidated subsidiaries and equity affiliates

	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>As of December 31, 2012 – Brent at 111.13 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>1,214</b>	<b>141</b>	<b>1,881</b>	<b>851</b>	<b>465</b>	<b>95</b>	<b>4,647</b>
Consolidated subsidiaries	1,214	27	1,866	374	77	95	3,653
Equity affiliates	-	114	15	477	388	-	994
<b>Proved developed reserves</b>	<b>300</b>	<b>76</b>	<b>997</b>	<b>655</b>	<b>179</b>	<b>22</b>	<b>2,229</b>
Consolidated subsidiaries	300	21	991	282	44	22	1,660
Equity affiliates	-	55	6	373	135	-	569
<b>Proved undeveloped reserves</b>	<b>914</b>	<b>65</b>	<b>884</b>	<b>196</b>	<b>286</b>	<b>73</b>	<b>2,418</b>
Consolidated subsidiaries	914	6	875	92	33	73	1,993
Equity affiliates	-	59	9	104	253	-	425
<b>As of December 31, 2013 – Brent at 108.02 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>1,131</b>	<b>173</b>	<b>1,770</b>	<b>717</b>	<b>323</b>	<b>211</b>	<b>4,325</b>
Consolidated subsidiaries	1,131	25	1,758	345	86	211	3,556
Equity affiliates	-	148	12	372	237	-	769
<b>Proved developed reserves</b>	<b>470</b>	<b>88</b>	<b>933</b>	<b>553</b>	<b>128</b>	<b>21</b>	<b>2,193</b>
Consolidated subsidiaries	470	19	929	253	45	21	1,737
Equity affiliates	-	69	4	300	83	-	456
<b>Proved undeveloped reserves</b>	<b>661</b>	<b>85</b>	<b>837</b>	<b>164</b>	<b>195</b>	<b>190</b>	<b>2,132</b>
Consolidated subsidiaries	661	6	829	92	41	190	1,819
Equity affiliates	-	79	8	72	154	-	313

(in millions of barrels of oil equivalent)

## Consolidated subsidiaries and equity affiliates

	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>As of December 31, 2014 – Brent at 101.27 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>1,043</b>	<b>251</b>	<b>1,695</b>	<b>648</b>	<b>314</b>	<b>207</b>	<b>4,158</b>
Consolidated subsidiaries	1,043	26	1,688	327	88	207	3,379
Equity affiliates	-	225	7	321	226	-	779
<b>Proved developed reserves</b>	<b>446</b>	<b>136</b>	<b>934</b>	<b>512</b>	<b>136</b>	<b>17</b>	<b>2,181</b>
Consolidated subsidiaries	446	16	930	252	54	17	1,715
Equity affiliates	-	120	4	260	82	-	466
<b>Proved undeveloped reserves</b>	<b>597</b>	<b>115</b>	<b>761</b>	<b>136</b>	<b>178</b>	<b>190</b>	<b>1,977</b>
Consolidated subsidiaries	597	10	758	75	34	190	1,664
Equity affiliates	-	105	3	61	144	-	313
<b>As of December 31, 2015 – Brent at 54.17 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>976</b>	<b>269</b>	<b>1,463</b>	<b>1,311</b>	<b>271</b>	<b>205</b>	<b>4,495</b>
Consolidated subsidiaries	976	23	1,450	1,051	101	205	3,806
Equity affiliates	-	246	13	260	170	-	689
<b>Proved developed reserves</b>	<b>445</b>	<b>151</b>	<b>836</b>	<b>1,061</b>	<b>145</b>	<b>17</b>	<b>2,655</b>
Consolidated subsidiaries	445	15	833	846	71	17	2,227
Equity affiliates	-	136	3	215	74	-	428
<b>Proved undeveloped reserves</b>	<b>531</b>	<b>118</b>	<b>627</b>	<b>250</b>	<b>126</b>	<b>188</b>	<b>1,840</b>
Consolidated subsidiaries	531	8	617	205	30	188	1,579
Equity affiliates	-	110	10	45	96	-	261
<b>As of December 31, 2016 – Brent at 42.82 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>936</b>	<b>286</b>	<b>1,295</b>	<b>1,642</b>	<b>242</b>	<b>200</b>	<b>4,601</b>
Consolidated subsidiaries	936	10	1,282	1,210	85	200	3,723
Equity affiliates	-	276	13	432	157	-	878
<b>Proved developed reserves</b>	<b>476</b>	<b>152</b>	<b>819</b>	<b>1,309</b>	<b>151</b>	<b>14</b>	<b>2,921</b>
Consolidated subsidiaries	476	7	816	955	73	14	2,341
Equity affiliates	-	145	3	354	78	-	580
<b>Proved undeveloped reserves</b>	<b>460</b>	<b>134</b>	<b>476</b>	<b>333</b>	<b>91</b>	<b>186</b>	<b>1,680</b>
Consolidated subsidiaries	460	3	466	255	12	186	1,382
Equity affiliates	-	131	10	78	79	-	298

## CHANGES IN BITUMEN RESERVES

(in million barrels)

Consolidated subsidiaries

Proved developed and undeveloped reserves	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>Balance as of December 31, 2011 – Brent at 110.96 \$/b</b>	-	-	-	-	984	-	984
Revisions of previous estimates	-	-	-	-	43	-	43
Extensions, discoveries and other	-	-	-	-	15	-	15
Acquisitions of reserves in place	-	-	-	-	-	-	-
Sales of reserves in place	-	-	-	-	-	-	-
Production for the year	-	-	-	-	(4)	-	(4)
<b>Balance as of December 31, 2012 – Brent at 111.13 \$/b</b>	-	-	-	-	1,038	-	1,038
Revisions of previous estimates	-	-	-	-	2	-	2
Extensions, discoveries and other	-	-	-	-	53	-	53
Acquisitions of reserves in place	-	-	-	-	-	-	-
Sales of reserves in place	-	-	-	-	-	-	-
Production for the year	-	-	-	-	(5)	-	(5)
<b>Balance as of December 31, 2013 – Brent at 108.02 \$/b</b>	-	-	-	-	1,088	-	1,088
Revisions of previous estimates	-	-	-	-	(25)	-	(25)
Extensions, discoveries and other	-	-	-	-	87	-	87
Acquisitions of reserves in place	-	-	-	-	-	-	-
Sales of reserves in place	-	-	-	-	-	-	-
Production for the year	-	-	-	-	(5)	-	(5)
<b>Balance as of December 31, 2014 – Brent at 101.27 \$/b</b>	-	-	-	-	1,145	-	1,145
Revisions of previous estimates	-	-	-	-	130	-	130
Extensions, discoveries and other	-	-	-	-	-	-	-
Acquisitions of reserves in place	-	-	-	-	-	-	-
Sales of reserves in place	-	-	-	-	(160)	-	(160)
Production for the year	-	-	-	-	(5)	-	(5)
<b>Balance as of December 31, 2015 – Brent at 54.17 \$/b</b>	-	-	-	-	1,110	-	1,110
Revisions of previous estimates	-	-	-	-	(284)	-	(284)
Extensions, discoveries and other	-	-	-	-	-	-	-
Acquisitions of reserves in place	-	-	-	-	-	-	-
Sales of reserves in place	-	-	-	-	-	-	-
Production for the year	-	-	-	-	(13)	-	(13)
<b>Balance as of December 31, 2016 – Brent at 42.82 \$/b</b>	-	-	-	-	813	-	813
<b>Proved developed reserves as of</b>							
December 31, 2012 – Brent at 111.13 \$/b	-	-	-	-	18	-	18
December 31, 2013 – Brent at 108.02 \$/b	-	-	-	-	15	-	15
December 31, 2014 – Brent at 101.27 \$/b	-	-	-	-	17	-	17
December 31, 2015 – Brent at 54.17 \$/b	-	-	-	-	100	-	100
<b>December 31, 2016 – Brent at 42.82 \$/b</b>	-	-	-	-	160	-	160
<b>Proved undeveloped reserves as of</b>							
December 31, 2012 – Brent at 111.13 \$/b	-	-	-	-	1,020	-	1,020
December 31, 2013 – Brent at 108.02 \$/b	-	-	-	-	1,073	-	1,073
December 31, 2014 – Brent at 101.27 \$/b	-	-	-	-	1,128	-	1,128
December 31, 2015 – Brent at 54.17 \$/b	-	-	-	-	1,010	-	1,010
<b>December 31, 2016 – Brent at 42.82 \$/b</b>	-	-	-	-	653	-	653

There are no bitumen reserves for equity affiliates.

There are no minority interests for bitumen reserves.

## CHANGES IN GAS RESERVES

(in billion cubic feet)

Consolidated subsidiaries

Proved developed and undeveloped reserves	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>Balance as of December 31, 2011 – Brent at 110.96 \$/b</b>	<b>5,507</b>	<b>18</b>	<b>4,632</b>	<b>1,679</b>	<b>3,863</b>	<b>5,076</b>	<b>20,775</b>
Revisions of previous estimates	310	-	30	(131)	(278)	(27)	(96)
Extensions, discoveries and other	216	-	124	8	478	196	1,022
Acquisitions of reserves in place	138	-	-	-	-	-	138
Sales of reserves in place	(31)	-	(172)	-	(35)	-	(238)
Production for the year	(485)	(1)	(224)	(108)	(337)	(409)	(1,564)
<b>Balance as of December 31, 2012 – Brent at 111.13 \$/b</b>	<b>5,655</b>	<b>17</b>	<b>4,390</b>	<b>1,448</b>	<b>3,691</b>	<b>4,836</b>	<b>20,037</b>
Revisions of previous estimates	95	-	(892)	34	199	(287)	(851)
Extensions, discoveries and other	947	-	12	-	336	154	1,449
Acquisitions of reserves in place	1	-	-	-	-	506	507
Sales of reserves in place	(13)	-	-	-	(243)	-	(256)
Production for the year	(480)	(1)	(219)	(97)	(320)	(427)	(1,544)
<b>Balance as of December 31, 2013 – Brent at 108.02 \$/b</b>	<b>6,205</b>	<b>16</b>	<b>3,291</b>	<b>1,385</b>	<b>3,663</b>	<b>4,782</b>	<b>19,342</b>
Revisions of previous estimates	81	-	82	11	54	117	345
Extensions, discoveries and other	99	-	56	1	296	154	606
Acquisitions of reserves in place	6	-	-	-	-	-	6
Sales of reserves in place	(1,038)	-	(6)	-	-	-	(1,044)
Production for the year	(419)	(1)	(220)	(97)	(320)	(431)	(1,488)
<b>Balance as of December 31, 2014 – Brent at 101.27 \$/b</b>	<b>4,934</b>	<b>15</b>	<b>3,203</b>	<b>1,300</b>	<b>3,693</b>	<b>4,622</b>	<b>17,767</b>
Revisions of previous estimates	55	1	(57)	197	(92)	296	400
Extensions, discoveries and other	40	-	7	42	24	38	151
Acquisitions of reserves in place	-	-	-	-	-	-	-
Sales of reserves in place	(135)	-	(93)	-	-	-	(228)
Production for the year	(424)	(1)	(212)	(110)	(324)	(471)	(1,542)
<b>Balance as of December 31, 2015 – Brent at 54.17 \$/b</b>	<b>4,470</b>	<b>15</b>	<b>2,848</b>	<b>1,429</b>	<b>3,301</b>	<b>4,485</b>	<b>16,548</b>
Revisions of previous estimates	143	(2)	(44)	(28)	347	189	605
Extensions, discoveries and other	173	-	-	7	126	85	391
Acquisitions of reserves in place	-	-	-	-	874	-	874
Sales of reserves in place	(80)	(7)	-	-	(101)	-	(188)
Production for the year	(498)	(1)	(220)	(111)	(343)	(494)	(1,667)
<b>Balance as of December 31, 2016 – Brent at 42.82 \$/b</b>	<b>4,208</b>	<b>5</b>	<b>2,584</b>	<b>1,297</b>	<b>4,204</b>	<b>4,265</b>	<b>16,563</b>
<b>Minority interest in proved developed and undeveloped reserves as of</b>							
December 31, 2012 – Brent at 111.13 \$/b	-	-	57	-	-	-	57
December 31, 2013 – Brent at 108.02 \$/b	-	-	87	-	-	-	87
December 31, 2014 – Brent at 101.27 \$/b	-	-	91	-	-	-	91
December 31, 2015 – Brent at 54.17 \$/b	-	-	64	-	-	-	64
<b>December 31, 2016 – Brent at 42.82 \$/b</b>	<b>-</b>	<b>-</b>	<b>48</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>48</b>

(in billion cubic feet)

Equity affiliates

Proved developed and undeveloped reserves	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>Balance as of December 31, 2011 – Brent at 110.96 \$/b</b>	-	<b>3,698</b>	<b>363</b>	<b>5,802</b>	<b>79</b>	-	<b>9,942</b>
Revisions of previous estimates	-	366	(21)	(4)	5	-	346
Extensions, discoveries and other	-	578	-	-	-	-	578
Acquisitions of reserves in place	-	568	-	-	-	-	568
Sales of reserves in place	-	-	-	-	-	-	-
Production for the year	-	(304)	(1)	(287)	(2)	-	(594)
<b>Balance as of December 31, 2012 – Brent at 111.13 \$/b</b>	-	<b>4,906</b>	<b>341</b>	<b>5,511</b>	<b>82</b>	-	<b>10,840</b>
Revisions of previous estimates	-	191	8	16	(18)	-	197
Extensions, discoveries and other	-	3,209	-	77	-	-	3,286
Acquisitions of reserves in place	-	553	-	-	-	-	553
Sales of reserves in place	-	(485)	-	-	-	-	(485)
Production for the year	-	(345)	(6)	(354)	(2)	-	(707)
<b>Balance as of December 31, 2013 – Brent at 108.02 \$/b</b>	-	<b>8,029</b>	<b>343</b>	<b>5,250</b>	<b>62</b>	-	<b>13,684</b>
Revisions of previous estimates	-	50	17	(25)	2	-	44
Extensions, discoveries and other	-	2,328	-	-	-	-	2,328
Acquisitions of reserves in place	-	521	-	-	-	-	521
Sales of reserves in place	-	(28)	-	-	-	-	(28)
Production for the year	-	(392)	(4)	(328)	(2)	-	(726)
<b>Balance as of December 31, 2014 – Brent at 101.27 \$/b</b>	-	<b>10,508</b>	<b>356</b>	<b>4,897</b>	<b>62</b>	-	<b>15,823</b>
Revisions of previous estimates	-	337	(45)	6	(11)	-	287
Extensions, discoveries and other	-	-	-	-	-	-	-
Acquisitions of reserves in place	-	267	-	-	-	-	267
Sales of reserves in place	-	(52)	-	-	-	-	(52)
Production for the year	-	(456)	-	(208)	(3)	-	(667)
<b>Balance as of December 31, 2015 – Brent at 54.17 \$/b</b>	-	<b>10,604</b>	<b>311</b>	<b>4,695</b>	<b>48</b>	-	<b>15,658</b>
Revisions of previous estimates	-	(132)	(3)	51	(1)	-	(85)
Extensions, discoveries and other	-	1,717	-	-	-	-	1,717
Acquisitions of reserves in place	-	-	-	132	-	-	132
Sales of reserves in place	-	(308)	-	-	-	-	(308)
Production for the year	-	(503)	(7)	(181)	(2)	-	(693)
<b>Balance as of December 31, 2016 – Brent at 42.82 \$/b</b>	-	<b>11,378</b>	<b>301</b>	<b>4,697</b>	<b>45</b>	-	<b>16,421</b>

(in billion cubic feet)

## Consolidated subsidiaries and equity affiliates

	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>As of December 31, 2012 – Brent at 111.13 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>5,655</b>	<b>4,923</b>	<b>4,731</b>	<b>6,959</b>	<b>3,773</b>	<b>4,836</b>	<b>30,877</b>
Consolidated subsidiaries	5,655	17	4,390	1,448	3,691	4,836	20,037
Equity affiliates	-	4,906	341	5,511	82	-	10,840
<b>Proved developed reserves</b>	<b>3,156</b>	<b>3,602</b>	<b>2,063</b>	<b>6,785</b>	<b>2,356</b>	<b>1,284</b>	<b>19,246</b>
Consolidated subsidiaries	3,156	13	1,981	1,369	2,316	1,284	10,119
Equity affiliates	-	3,589	82	5,416	40	-	9,127
<b>Proved undeveloped reserves</b>	<b>2,499</b>	<b>1,321</b>	<b>2,668</b>	<b>174</b>	<b>1,417</b>	<b>3,552</b>	<b>11,631</b>
Consolidated subsidiaries	2,499	4	2,409	79	1,375	3,552	9,918
Equity affiliates	-	1,317	259	95	42	-	1,713
<b>As of December 31, 2013 – Brent at 108.02 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>6,205</b>	<b>8,045</b>	<b>3,634</b>	<b>6,635</b>	<b>3,725</b>	<b>4,782</b>	<b>33,026</b>
Consolidated subsidiaries	6,205	16	3,291	1,385	3,663	4,782	19,342
Equity affiliates	-	8,029	343	5,250	62	-	13,684
<b>Proved developed reserves</b>	<b>3,280</b>	<b>3,693</b>	<b>1,905</b>	<b>6,470</b>	<b>2,240</b>	<b>1,228</b>	<b>18,816</b>
Consolidated subsidiaries	3,280	13	1,833	1,314	2,210	1,228	9,878
Equity affiliates	-	3,680	72	5,156	30	-	8,938
<b>Proved undeveloped reserves</b>	<b>2,925</b>	<b>4,352</b>	<b>1,729</b>	<b>165</b>	<b>1,485</b>	<b>3,554</b>	<b>14,210</b>
Consolidated subsidiaries	2,925	3	1,458	71	1,453	3,554	9,464
Equity affiliates	-	4,349	271	94	32	-	4,746

(in billion cubic feet)

## Consolidated subsidiaries and equity affiliates

	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>As of December 31, 2014 – Brent at 101.27 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>4,934</b>	<b>10,523</b>	<b>3,559</b>	<b>6,197</b>	<b>3,755</b>	<b>4,622</b>	<b>33,590</b>
Consolidated subsidiaries	4,934	15	3,203	1,300	3,693	4,622	17,767
Equity affiliates	-	10,508	356	4,897	62	-	15,823
<b>Proved developed reserves</b>	<b>2,914</b>	<b>4,958</b>	<b>1,939</b>	<b>5,946</b>	<b>2,167</b>	<b>1,109</b>	<b>19,033</b>
Consolidated subsidiaries	2,914	9	1,871	1,224	2,145	1,109	9,272
Equity affiliates	-	4,949	68	4,722	22	-	9,761
<b>Proved undeveloped reserves</b>	<b>2,020</b>	<b>5,565</b>	<b>1,620</b>	<b>251</b>	<b>1,588</b>	<b>3,513</b>	<b>14,557</b>
Consolidated subsidiaries	2,020	6	1,332	76	1,548	3,513	8,495
Equity affiliates	-	5,559	288	175	40	-	6,062
<b>As of December 31, 2015 – Brent at 54.17 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>4,470</b>	<b>10,619</b>	<b>3,159</b>	<b>6,124</b>	<b>3,349</b>	<b>4,485</b>	<b>32,206</b>
Consolidated subsidiaries	4,470	15	2,848	1,429	3,301	4,485	16,548
Equity affiliates	-	10,604	311	4,695	48	-	15,658
<b>Proved developed reserves</b>	<b>3,021</b>	<b>4,890</b>	<b>1,657</b>	<b>5,511</b>	<b>2,153</b>	<b>1,378</b>	<b>18,610</b>
Consolidated subsidiaries	3,021	6	1,610	1,277	2,133	1,378	9,425
Equity affiliates	-	4,884	47	4,234	20	-	9,185
<b>Proved undeveloped reserves</b>	<b>1,449</b>	<b>5,729</b>	<b>1,502</b>	<b>613</b>	<b>1,196</b>	<b>3,107</b>	<b>13,596</b>
Consolidated subsidiaries	1,449	9	1,238	152	1,168	3,107	7,123
Equity affiliates	-	5,720	264	461	28	-	6,473
<b>As of December 31, 2016 – Brent at 42.82 \$/b</b>							
<b>Proved developed and undeveloped reserves</b>	<b>4,208</b>	<b>11,383</b>	<b>2,885</b>	<b>5,994</b>	<b>4,249</b>	<b>4,265</b>	<b>32,984</b>
Consolidated subsidiaries	4,208	5	2,584	1,297	4,204	4,265	16,563
Equity affiliates	-	11,378	301	4,697	45	-	16,421
<b>Proved developed reserves</b>	<b>2,912</b>	<b>4,606</b>	<b>1,582</b>	<b>5,356</b>	<b>3,774</b>	<b>1,260</b>	<b>19,490</b>
Consolidated subsidiaries	2,912	3	1,545	1,157	3,751	1,260	10,628
Equity affiliates	-	4,603	37	4,199	23	-	8,862
<b>Proved undeveloped reserves</b>	<b>1,296</b>	<b>6,777</b>	<b>1,303</b>	<b>638</b>	<b>475</b>	<b>3,005</b>	<b>13,494</b>
Consolidated subsidiaries	1,296	2	1,039	140	453	3,005	5,935
Equity affiliates	-	6,775	264	498	22	-	7,559

## RESULTS OF OPERATIONS FOR OIL AND GAS PRODUCING ACTIVITIES

The following tables do not include revenues and expenses related to oil and gas transportation activities and LNG liquefaction and transportation.

(in million dollars)

Consolidated subsidiaries

	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>2012</b>							
Revenues Non-Group sales	2,683	-	3,758	2,809	1,244	4,377	14,871
Revenues Group sales	8,949	265	16,332	2,234	820	610	29,210
<b>Total Revenues</b>	<b>11,632</b>	<b>265</b>	<b>20,090</b>	<b>5,043</b>	<b>2,064</b>	<b>4,987</b>	<b>44,081</b>
Production costs	(1,746)	(39)	(1,787)	(503)	(381)	(416)	(4,872)
Exploration expenses	(629)	(3)	(381)	(111)	(436)	(297)	(1,857)
Depreciation, depletion and amortization and valuation allowances	(2,585)	(75)	(3,170)	(726)	(2,002)	(1,096)	(9,654)
Other expenses <sup>(1)</sup>	(420)	(31)	(1,388)	(558)	(496)	(132)	(3,025)
<b>Pre-tax income from producing activities<sup>(2)</sup></b>	<b>6,251</b>	<b>117</b>	<b>13,365</b>	<b>3,145</b>	<b>(1,251)</b>	<b>3,046</b>	<b>24,673</b>
Income tax	(4,430)	(53)	(7,955)	(2,027)	291	(1,610)	(15,784)
<b>Results of oil and gas producing activities<sup>(2)</sup></b>	<b>1,821</b>	<b>64</b>	<b>5,410</b>	<b>1,118</b>	<b>(960)</b>	<b>1,436</b>	<b>8,889</b>
<b>2013</b>							
Revenues Non-Group sales	2,302	-	3,088	2,566	1,331	4,494	13,781
Revenues Group sales	7,887	268	15,310	1,666	808	601	26,540
<b>Total Revenues</b>	<b>10,189</b>	<b>268</b>	<b>18,398</b>	<b>4,232</b>	<b>2,139</b>	<b>5,095</b>	<b>40,321</b>
Production costs	(1,841)	(39)	(1,925)	(547)	(415)	(467)	(5,234)
Exploration expenses	(509)	(4)	(520)	(228)	(539)	(369)	(2,169)
Depreciation, depletion and amortization and valuation allowances	(1,863)	(85)	(3,321)	(837)	(1,214)	(1,561)	(8,881)
Other expenses <sup>(1)</sup>	(493)	(33)	(1,285)	(399)	(434)	(149)	(2,793)
<b>Pre-tax income from producing activities<sup>(3)</sup></b>	<b>5,483</b>	<b>107</b>	<b>11,347</b>	<b>2,221</b>	<b>(463)</b>	<b>2,549</b>	<b>21,244</b>
Income tax	(3,628)	(46)	(7,075)	(1,626)	56	(1,354)	(13,673)
<b>Results of oil and gas producing activities<sup>(3)</sup></b>	<b>1,855</b>	<b>61</b>	<b>4,272</b>	<b>595</b>	<b>(407)</b>	<b>1,195</b>	<b>7,571</b>
<b>2014</b>							
Revenues Non-Group sales	2,200	-	2,885	1,480	1,195	4,296	12,056
Revenues Group sales	6,064	236	13,010	1,348	971	644	22,273
<b>Total Revenues</b>	<b>8,264</b>	<b>236</b>	<b>15,895</b>	<b>2,828</b>	<b>2,166</b>	<b>4,940</b>	<b>34,329</b>
Production costs	(1,800)	(44)	(2,166)	(559)	(466)	(666)	(5,701)
Exploration expenses	(636)	(9)	(520)	(255)	(183)	(362)	(1,965)
Depreciation, depletion and amortization and valuation allowances	(2,170)	(97)	(4,570)	(724)	(5,717)	(1,877)	(15,155)
Other expenses <sup>(1)</sup>	(419)	(29)	(1,172)	(317)	(402)	(167)	(2,506)
<b>Pre-tax income from producing activities<sup>(4)</sup></b>	<b>3,239</b>	<b>57</b>	<b>7,467</b>	<b>973</b>	<b>(4,602)</b>	<b>1,868</b>	<b>9,002</b>
Income tax	(1,693)	(32)	(5,513)	(887)	882	(1,149)	(8,392)
<b>Results of oil and gas producing activities<sup>(4)</sup></b>	<b>1,546</b>	<b>25</b>	<b>1,954</b>	<b>86</b>	<b>(3,720)</b>	<b>719</b>	<b>610</b>

(1) Included production taxes and accretion expense as provided by IAS 37 (\$502 million in 2012, \$566 million in 2013, \$526 million in 2014).

(2) Including adjustment items applicable to ASC 932 perimeter, amounting to a net charge of \$2,290 million before tax and \$1,476 million after tax, mainly related to asset impairments.

(3) Including adjustment items applicable to ASC 932 perimeter, amounting to a net charge of \$902 million before tax and \$639 million after tax, mainly related to asset impairments.

(4) Including adjustment items applicable to ASC 932 perimeter, amounting to a net charge of \$6,532 million before tax and \$5,364 million after tax, mainly related to asset impairments.



(in million dollars)

## Consolidated subsidiaries

	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>2015</b>							
Revenues Non-Group sales	1,345	-	989	2,340	970	3,013	8,657
Revenues Group sales	3,816	129	7,816	1,858	271	356	14,246
<b>Total Revenues</b>	<b>5,161</b>	<b>129</b>	<b>8,805</b>	<b>4,198</b>	<b>1,241</b>	<b>3,369</b>	<b>22,903</b>
Production costs	(1,521)	(34)	(1,779)	(659)	(497)	(456)	(4,946)
Exploration expenses	(661)	(3)	(615)	(226)	(114)	(372)	(1,991)
Depreciation, depletion and amortization and valuation allowances	(2,415)	(203)	(6,155)	(1,344)	(1,548)	(3,483)	(15,148)
Other expenses <sup>(1)</sup>	(350)	(16)	(722)	(2,756)	(280)	(121)	(4,245)
<b>Pre-tax income from producing activities<sup>(2)</sup></b>	<b>214</b>	<b>(127)</b>	<b>(466)</b>	<b>(787)</b>	<b>(1,198)</b>	<b>(1,063)</b>	<b>(3,427)</b>
Income tax	458	(4)	(220)	(123)	210	(173)	148
<b>Results of oil and gas producing activities<sup>(2)</sup></b>	<b>672</b>	<b>(131)</b>	<b>(686)</b>	<b>(910)</b>	<b>(988)</b>	<b>(1,236)</b>	<b>(3,279)</b>

## 2016

Revenues Non-Group sales	1,075	-	507	613	963	2,113	5,271
Revenues Group sales	3,046	72	6,826	3,033	494	444	13,915
<b>Total Revenues</b>	<b>4,121</b>	<b>72</b>	<b>7,333</b>	<b>3,646</b>	<b>1,457</b>	<b>2,557</b>	<b>19,186</b>
Production costs	(1,083)	(30)	(1,601)	(478)	(488)	(351)	(4,031)
Exploration expenses	(512)	(3)	(108)	(368)	(196)	(77)	(1,264)
Depreciation, depletion and amortization and valuation allowances	(3,421)	(89)	(4,566)	(599)	(603)	(1,191)	(10,469)
Other expenses <sup>(1)</sup>	(339)	(8)	(615)	(2,328)	(224)	(97)	(3,611)
<b>Pre-tax income from producing activities<sup>(3)</sup></b>	<b>(1,234)</b>	<b>(58)</b>	<b>443</b>	<b>(127)</b>	<b>(54)</b>	<b>841</b>	<b>(189)</b>
Income tax	818	14	(143)	(205)	(27)	(184)	273
<b>Results of oil and gas producing activities<sup>(3)</sup></b>	<b>(416)</b>	<b>(44)</b>	<b>300</b>	<b>(332)</b>	<b>(81)</b>	<b>657</b>	<b>84</b>

(1) Included production taxes and accretion expense as provided by IAS 37 (\$497 million in 2015, \$507 million in 2016).

(2) Including adjustment items applicable to ASC 932 perimeter, amounting to a net charge of \$7,104 million before tax and \$5,039 million after tax, mainly related to asset impairments.

(3) Including adjustment items applicable to ASC 932 perimeter, amounting to a net charge of \$1,943 million before tax and \$1,198 million after tax, mainly related to asset impairments.

(in million dollars)

## Equity affiliates

Group's share of results of oil and gas producing activities	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
2012	-	44	-	1,438	299	-	1,781
2013	-	223	-	1,867	105	-	2,195
2014	-	410	(21)	1,838	(69)	-	2,158
2015	-	285	-	699	32	-	1,016
<b>2016</b>							
Revenues Non-Group sales	-	831	-	399	310	-	1,540
Revenues Group sales	-	-	-	2,104	(11)	-	2,093
<b>Total Revenues</b>	<b>-</b>	<b>831</b>	<b>-</b>	<b>2,503</b>	<b>299</b>	<b>-</b>	<b>3,633</b>
Production costs	-	(103)	-	(246)	(42)	-	(391)
Exploration expenses	-	(4)	-	-	-	-	(4)
Depreciation, depletion and amortization and valuation allowances	-	(137)	-	(496)	(94)	-	(727)
Other expenses	-	(109)	-	(1,274)	(116)	-	(1,499)
<b>Pre-tax income from producing activities</b>	<b>-</b>	<b>478</b>	<b>-</b>	<b>487</b>	<b>47</b>	<b>-</b>	<b>1,012</b>
Income tax	-	(80)	-	(107)	55	-	(132)
<b>Results of oil and gas producing activities</b>	<b>-</b>	<b>398</b>	<b>-</b>	<b>380</b>	<b>102</b>	<b>-</b>	<b>880</b>

## COST INCURRED

The following tables set forth the costs incurred in the Group's oil and gas property acquisition, exploration and development activities, including both capitalized and expensed amounts.

They do not include costs incurred related to oil and gas transportation and LNG liquefaction and transportation activities.

(in million dollars)

Consolidated subsidiaries

	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>2012</b>							
Proved property acquisition	275	-	25	10	-	-	310
Unproved property acquisition	82	-	1,747	228	494	3	2,554
Exploration costs	889	3	615	172	734	313	2,726
Development costs <sup>(1)</sup>	5,103	107	5,486	471	2,351	2,324	15,842
<b>Total cost incurred</b>	<b>6,349</b>	<b>110</b>	<b>7,873</b>	<b>881</b>	<b>3,579</b>	<b>2,640</b>	<b>21,432</b>
<b>2013</b>							
Proved property acquisition	20	-	171	7	-	467	665
Unproved property acquisition	50	-	512	85	2,105	52	2,804
Exploration costs	708	4	605	515	585	509	2,926
Development costs <sup>(1)</sup>	6,520	147	8,422	587	3,191	3,114	21,981
<b>Total cost incurred</b>	<b>7,298</b>	<b>151</b>	<b>9,710</b>	<b>1,194</b>	<b>5,881</b>	<b>4,142</b>	<b>28,376</b>
<b>2014</b>							
Proved property acquisition	80	-	17	(1)	-	9	105
Unproved property acquisition	82	-	69	7	544	1	703
Exploration costs	500	9	882	403	375	451	2,620
Development costs <sup>(1)</sup>	5,151	116	8,037	567	3,468	3,024	20,363
<b>Total cost incurred</b>	<b>5,813</b>	<b>125</b>	<b>9,005</b>	<b>976</b>	<b>4,387</b>	<b>3,485</b>	<b>23,791</b>
<b>2015</b>							
Proved property acquisition	57	-	59	1,039	-	10	1,165
Unproved property acquisition	-	4	26	1,205	199	4	1,438
Exploration costs	618	3	287	263	515	261	1,947
Development costs <sup>(1)</sup>	4,735	97	7,582	600	3,143	2,381	18,538
<b>Total cost incurred</b>	<b>5,410</b>	<b>104</b>	<b>7,954</b>	<b>3,107</b>	<b>3,857</b>	<b>2,656</b>	<b>23,088</b>
<b>2016</b>							
Proved property acquisition	102	1	31	10	415	-	559
Unproved property acquisition	5	-	19	1	289	15	329
Exploration costs	594	3	145	93	387	166	1,388
Development costs <sup>(1)</sup>	3,041	30	5,977	729	2,032	898	12,707
<b>Total cost incurred</b>	<b>3,742</b>	<b>34</b>	<b>6,172</b>	<b>833</b>	<b>3,123</b>	<b>1,079</b>	<b>14,983</b>

(in million dollars)

Equity affiliates

Group's share of costs of property acquisition exploration and development	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
2012	-	537	-	488	214	-	1,239
2013	-	734	-	458	170	-	1,362
2014	-	970	-	500	195	-	1,665
2015	-	637	-	406	83	-	1,126
<b>2016</b>							
Proved property acquisition	-	-	-	35	-	-	35
Unproved property acquisition	-	-	-	-	-	-	-
Exploration costs	-	-	-	7	-	-	7
Development costs <sup>(1)</sup>	-	243	-	502	61	-	806
<b>Total cost incurred</b>	<b>-</b>	<b>243</b>	<b>-</b>	<b>544</b>	<b>61</b>	<b>-</b>	<b>848</b>

(1) Including asset retirement costs capitalized during the year and any gains or losses recognized upon settlement of asset retirement obligation during the year.

## CAPITALIZED COST RELATED TO OIL AND GAS PRODUCING ACTIVITIES

Capitalized costs represent the amount of capitalized proved and unproved property costs, including support equipment and facilities, along with the related accumulated depreciation, depletion and amortization.

The following tables do not include capitalized costs related to oil and gas transportation and LNG liquefaction and transportation activities.

(in million dollars)

Consolidated subsidiaries

	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>As of December 31, 2012</b>							
Proved properties	56,264	803	50,706	11,267	13,336	13,852	146,228
Unproved properties	1,064	-	4,047	480	5,706	461	11,758
<b>Total capitalized costs</b>	<b>57,328</b>	<b>803</b>	<b>54,753</b>	<b>11,747</b>	<b>19,042</b>	<b>14,313</b>	<b>157,986</b>
Accumulated depreciation, depletion and amortization	(31,404)	(314)	(25,485)	(7,517)	(4,247)	(7,245)	(76,212)
<b>Net capitalized costs</b>	<b>25,924</b>	<b>489</b>	<b>29,268</b>	<b>4,230</b>	<b>14,795</b>	<b>7,068</b>	<b>81,774</b>
<b>As of December 31, 2013</b>							
Proved properties	61,017	950	58,787	11,882	15,002	17,343	164,981
Unproved properties	1,311	-	4,713	817	7,881	700	15,422
<b>Total capitalized costs</b>	<b>62,328</b>	<b>950</b>	<b>63,500</b>	<b>12,699</b>	<b>22,883</b>	<b>18,043</b>	<b>180,403</b>
Accumulated depreciation, depletion and amortization	(32,441)	(399)	(28,675)	(8,445)	(5,259)	(8,807)	(84,026)
<b>Net capitalized costs</b>	<b>29,887</b>	<b>551</b>	<b>34,825</b>	<b>4,254</b>	<b>17,624</b>	<b>9,236</b>	<b>96,377</b>
<b>As of December 31, 2014</b>							
Proved properties	56,698	1,066	66,173	11,219	17,774	20,368	173,298
Unproved properties	1,148	-	4,790	821	8,309	1,210	16,278
<b>Total capitalized costs</b>	<b>57,846</b>	<b>1,066</b>	<b>70,963</b>	<b>12,040</b>	<b>26,083</b>	<b>21,578</b>	<b>189,576</b>
Accumulated depreciation, depletion and amortization	(28,946)	(496)	(32,725)	(8,017)	(10,657)	(10,807)	(91,648)
<b>Net capitalized costs</b>	<b>28,900</b>	<b>570</b>	<b>38,238</b>	<b>4,023</b>	<b>15,426</b>	<b>10,771</b>	<b>97,928</b>
<b>As of December 31, 2015</b>							
Proved properties	55,050	1,163	73,842	12,816	19,630	22,886	185,387
Unproved properties	1,018	4	4,362	2,058	8,915	997	17,354
<b>Total capitalized costs</b>	<b>56,068</b>	<b>1,167</b>	<b>78,204</b>	<b>14,874</b>	<b>28,545</b>	<b>23,883</b>	<b>202,741</b>
Accumulated depreciation, depletion and amortization	(28,341)	(699)	(39,259)	(9,283)	(11,488)	(13,647)	(102,717)
<b>Net capitalized costs</b>	<b>27,727</b>	<b>468</b>	<b>38,945</b>	<b>5,591</b>	<b>17,057</b>	<b>10,236</b>	<b>100,024</b>
<b>As of December 31, 2016</b>							
Proved properties	54,611	600	78,638	11,275	23,392	23,622	192,138
Unproved properties	1,000	4	4,357	1,657	8,611	1,037	16,666
<b>Total capitalized costs</b>	<b>55,611</b>	<b>604</b>	<b>82,995</b>	<b>12,932</b>	<b>32,003</b>	<b>24,659</b>	<b>208,804</b>
Accumulated depreciation, depletion and amortization	(29,227)	(385)	(42,988)	(7,973)	(12,764)	(14,735)	(108,072)
<b>Net capitalized costs</b>	<b>26,384</b>	<b>219</b>	<b>40,007</b>	<b>4,959</b>	<b>19,239</b>	<b>9,924</b>	<b>100,732</b>

(in million dollars)

Equity affiliates

Group's share of net capitalized costs	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
As of December 31, 2012	-	6,247	-	1,447	1,150	-	8,844
As of December 31, 2013	-	7,096	-	1,418	1,007	-	9,521
As of December 31, 2014	-	4,607	-	1,152	1,101	-	6,860
As of December 31, 2015	-	4,120	-	1,131	1,097	-	6,348
<b>As of December 31, 2016</b>							
Proved properties	-	5,802	-	5,029	1,600	-	12,431
Unproved properties	-	211	-	-	-	-	211
<b>Total capitalized costs</b>	-	<b>6,013</b>	-	<b>5,029</b>	<b>1,600</b>	-	<b>12,642</b>
Accumulated depreciation, depletion and amortization	-	(1,026)	-	(3,850)	(506)	-	(5,382)
<b>Net capitalized costs</b>	-	<b>4,987</b>	-	<b>1,179</b>	<b>1,094</b>	-	<b>7,260</b>

## STANDARDIZED MEASURE OF DISCOUNTED FUTURE NET CASH FLOWS (EXCLUDING TRANSPORTATION)

The standardized measure of discounted future net cash flows relating to proved oil and gas reserve quantities was developed as follows:

1. estimates of proved reserves and the corresponding production profiles are based on current technical and economic conditions;
2. the estimated future cash flows are determined based on prices used in estimating the Group's proved oil and gas reserves;
3. the future cash flows incorporate estimated production costs (including production taxes), future development costs and asset retirement costs. All cost estimates are based on year-end technical and economic conditions;
4. future income taxes are computed by applying the year-end statutory tax rate to future net cash flows after consideration of permanent differences and future income tax credits; and

5. future net cash flows are discounted at a standard discount rate of 10 percent.

These principles applied are those required by ASC 932 and do not reflect the expectations of real revenues from these reserves, nor their present value; hence, they do not constitute criteria for investment decisions.

An estimate of the fair value of reserves should also take into account, among other things, the recovery of reserves not presently classified as proved, anticipated future changes in prices and costs and a discount factor more representative of the time value of money and the risks inherent in reserve estimates.

(in million dollars)

	Consolidated subsidiaries						
	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>As of December 31, 2012</b>							
Future cash inflows	161,952	2,578	207,980	41,873	74,932	47,091	536,406
Future production costs	(34,598)	(1,633)	(47,758)	(9,341)	(33,282)	(9,592)	(136,204)
Future development costs	(35,054)	(613)	(36,644)	(5,504)	(16,689)	(10,013)	(104,517)
Future income taxes	(42,428)	(237)	(76,536)	(14,645)	(5,743)	(8,931)	(148,520)
<b>Future net cash flows, after income taxes</b>	<b>49,872</b>	<b>95</b>	<b>47,042</b>	<b>12,383</b>	<b>19,218</b>	<b>18,555</b>	<b>147,165</b>
Discount at 10%	(28,139)	7	(20,374)	(5,347)	(14,960)	(11,200)	(80,013)
<b>Standardized measure of discounted future net cash flows</b>	<b>21,733</b>	<b>102</b>	<b>26,668</b>	<b>7,036</b>	<b>4,258</b>	<b>7,355</b>	<b>67,152</b>
<b>As of December 31, 2013</b>							
Future cash inflows	152,957	2,332	187,609	37,545	78,813	47,415	506,671
Future production costs	(33,817)	(1,456)	(48,150)	(9,331)	(36,172)	(9,704)	(138,630)
Future development costs	(37,142)	(526)	(33,597)	(5,050)	(18,844)	(9,961)	(105,120)
Future income taxes	(34,210)	(219)	(63,662)	(12,600)	(5,190)	(8,043)	(123,924)
<b>Future net cash flows, after income taxes</b>	<b>47,788</b>	<b>131</b>	<b>42,200</b>	<b>10,564</b>	<b>18,607</b>	<b>19,707</b>	<b>138,997</b>
Discount at 10%	(26,590)	(49)	(17,161)	(4,726)	(15,304)	(11,893)	(75,723)
<b>Standardized measure of discounted future net cash flows</b>	<b>21,198</b>	<b>82</b>	<b>25,039</b>	<b>5,838</b>	<b>3,303</b>	<b>7,814</b>	<b>63,274</b>
<b>As of December 31, 2014</b>							
Future cash inflows	129,535	2,294	168,785	33,404	87,965	44,599	466,582
Future production costs	(30,633)	(1,255)	(47,514)	(8,522)	(38,776)	(9,789)	(136,489)
Future development costs	(32,110)	(780)	(34,965)	(4,253)	(16,728)	(8,595)	(97,431)
Future income taxes	(21,287)	(172)	(50,633)	(11,310)	(5,891)	(7,552)	(96,845)
<b>Future net cash flows, after income taxes</b>	<b>45,505</b>	<b>87</b>	<b>35,673</b>	<b>9,319</b>	<b>26,570</b>	<b>18,663</b>	<b>135,817</b>
Discount at 10%	(26,240)	(5)	(13,955)	(4,244)	(19,489)	(11,110)	(75,043)
<b>Standardized measure of discounted future net cash flows</b>	<b>19,265</b>	<b>82</b>	<b>21,718</b>	<b>5,075</b>	<b>7,081</b>	<b>7,553</b>	<b>60,774</b>

(in million dollars)

## Consolidated subsidiaries

	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
<b>As of December 31, 2015</b>							
Future cash inflows	69,411	1,045	75,060	57,478	40,866	26,904	270,764
Future production costs	(20,263)	(512)	(27,455)	(46,510)	(24,103)	(8,355)	(127,198)
Future development costs	(20,418)	(495)	(24,843)	(5,099)	(11,104)	(6,289)	(68,248)
Future income taxes	(7,516)	(28)	(12,050)	(1,839)	(1,105)	(3,046)	(25,584)
<b>Future net cash flows, after income taxes</b>	<b>21,214</b>	<b>10</b>	<b>10,712</b>	<b>4,030</b>	<b>4,554</b>	<b>9,214</b>	<b>49,734</b>
Discount at 10%	(10,784)	18	(3,450)	(2,194)	(4,014)	(5,299)	(25,723)
<b>Standardized measure of discounted future net cash flows</b>	<b>10,430</b>	<b>28</b>	<b>7,262</b>	<b>1,836</b>	<b>540</b>	<b>3,915</b>	<b>24,011</b>
<b>As of December 31, 2016</b>							
Future cash inflows	46,212	365	51,677	52,891	21,520	19,209	191,874
Future production costs	(15,428)	(179)	(19,519)	(39,108)	(14,267)	(7,495)	(95,996)
Future development costs	(15,334)	(219)	(19,300)	(4,995)	(5,487)	(4,805)	(50,140)
Future income taxes	(2,599)	(1)	(7,480)	(2,517)	(989)	(955)	(14,541)
<b>Future net cash flows, after income taxes</b>	<b>12,851</b>	<b>(34)</b>	<b>5,378</b>	<b>6,271</b>	<b>777</b>	<b>5,954</b>	<b>31,197</b>
Discount at 10%	(5,172)	8	(64)	(2,986)	(815)	(2,666)	(11,695)
<b>Standardized measure of discounted future net cash flows</b>	<b>7,679</b>	<b>(26)</b>	<b>5,314</b>	<b>3,285</b>	<b>(38)</b>	<b>3,288</b>	<b>19,502</b>
<b>Minority interests in future net cash flows as of</b>							
December 31, 2012	-	-	646	-	-	-	646
December 31, 2013	-	-	808	-	-	-	808
December 31, 2014	-	-	1,103	-	-	-	1,103
December 31, 2015	-	-	448	-	-	-	448
<b>December 31, 2016</b>	<b>-</b>	<b>-</b>	<b>253</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>253</b>

(in million dollars)

## Equity affiliates

Group's share of equity affiliates' future net cash flows as of	Europe & Central Asia	Russia	Africa (excluding North Africa)	Middle East & North Africa	Americas	Asia Pacific	Total
December 31, 2012	-	794	676	12,491	1,930	-	15,891
December 31, 2013	-	1,066	215	12,834	1,304	-	15,419
December 31, 2014	-	5,413	361	11,591	1,728	-	19,093
December 31, 2015	-	2,024	(103)	6,952	1,628	-	10,501
<b>December 31, 2016</b>							
Future cash inflows	-	22,393	(248)	30,045	5,815	-	58,005
Future production costs	-	(5,704)	(53)	(15,846)	(2,017)	-	(23,620)
Future development costs	-	(929)	(1)	(2,339)	(392)	-	(3,661)
Future income taxes	-	(1,228)	(20)	(4,661)	-	-	(5,909)
<b>Future net cash flows, after income taxes</b>	<b>-</b>	<b>14,532</b>	<b>(322)</b>	<b>7,199</b>	<b>3,406</b>	<b>-</b>	<b>24,815</b>
Discount at 10%	-	(9,471)	139	(3,869)	(1,697)	-	(14,898)
<b>Standardized measure of discounted future net cash flows</b>	<b>-</b>	<b>5,061</b>	<b>(183)</b>	<b>3,330</b>	<b>1,709</b>	<b>-</b>	<b>9,917</b>

## CHANGES IN THE STANDARDIZED MEASURE OF DISCOUNTED FUTURE NET CASH FLOWS

### Consolidated subsidiaries

(in million dollars)

	2016	2015	2014	2013	2012
<b>Beginning of year</b>	<b>24,011</b>	<b>60,774</b>	<b>63,274</b>	<b>67,152</b>	<b>66,440</b>
Sales and transfers, net of production costs	(12,015)	(14,209)	(26,647)	(32,860)	(36,685)
Net change in sales and transfer prices and in production costs and other expenses	(21,189)	(88,615)	(16,703)	(8,007)	3,532
Extensions, discoveries and improved recovery	156	933	1,912	1,106	1,749
Changes in estimated future development costs	400	4,412	(5,407)	(10,803)	(8,381)
Previously estimated development costs incurred during the year	13,967	19,694	21,484	18,218	15,220
Revisions of previous quantity estimates	5,347	(4,800)	(1,505)	1,511	3,504
Accretion of discount	2,401	6,077	6,327	6,715	6,644
Net change in income taxes	6,304	42,252	20,116	20,178	18,034
Purchases of reserves in place	364	-	26	1,459	385
Sales of reserves in place	(244)	(2,507)	(2,103)	(1,395)	(3,290)
<b>End of year</b>	<b>19,502</b>	<b>24,011</b>	<b>60,774</b>	<b>63,274</b>	<b>67,152</b>

### Equity affiliates

(in million dollars)

	2016	2015	2014	2013
<b>Beginning of year</b>	<b>10,501</b>	<b>19,093</b>	<b>15,419</b>	<b>15,891</b>
Sales and transfers, net of production costs	(1,745)	(1,860)	(3,639)	(3,723)
Net change in sales and transfer prices and in production costs and other expenses	(3,840)	(14,821)	(1,546)	(1,056)
Extensions, discoveries and improved recovery	1,204	-	4,444	4,980
Changes in estimated future development costs	83	1,572	190	540
Previously estimated development costs incurred during the year	971	1,272	1,330	1,101
Revisions of previous quantity estimates	214	315	19	(5,020)
Accretion of discount	1,050	1,909	1,542	1,589
Net change in income taxes	(340)	2,901	834	1,107
Purchases of reserves in place	1,929	186	543	520
Sales of reserves in place	(110)	(66)	(43)	(510)
<b>End of year</b>	<b>9,917</b>	<b>10,501</b>	<b>19,093</b>	<b>15,419</b>

## OIL AND GAS ACREAGE

As of December 31, (in thousands of acres)		2016		2015		2014	
		Undeveloped acreage <sup>(1)</sup>	Developed acreage	Undeveloped acreage <sup>(1)</sup>	Developed acreage	Undeveloped acreage <sup>(1)</sup>	Developed acreage
Europe & Central Asia	Gross	18,416	719	23,346	764	24,369	747
	Net	6,989	154	9,581	158	11,123	152
Russia	Gross	3,584	503	3,659	520	3,419	1,370
	Net	666	93	728	96	1,333	215
Africa (excluding North Africa)	Gross	79,517	806	82,757	817	90,974	810
	Net	46,071	200	45,852	207	50,990	211
Middle East & North Africa	Gross	37,148	2,606	38,582	2,686	65,787	1,710
	Net	9,991	371	10,545	366	38,481	268
Americas	Gross	24,569	992	23,881	984	25,081	962
	Net	13,155	468	9,186	304	11,375	299
Asia Pacific	Gross	44,242	738	38,834	672	36,307	651
	Net	27,373	276	23,285	251	21,004	244
<b>Total</b>	<b>Gross</b>	<b>207,476</b>	<b>6,364</b>	<b>211,059</b>	<b>6,443</b>	<b>245,937</b>	<b>6,250</b>
	<b>Net<sup>(2)</sup></b>	<b>104,245</b>	<b>1,562</b>	<b>99,177</b>	<b>1,382</b>	<b>134,306</b>	<b>1,389</b>

As of December 31, (in thousands of acres)		2013		2012	
		Undeveloped acreage <sup>(1)</sup>	Developed acreage	Undeveloped acreage <sup>(1)</sup>	Developed acreage
Europe & Central Asia	Gross	24,777	784	10,943	731
	Net	11,252	173	7,240	176
Russia	Gross	338	375	4,372	375
	Net	131	66	2,836	61
Africa (excluding North Africa)	Gross	100,030	765	96,824	755
	Net	56,625	201	56,260	198
Middle East & North Africa	Gross	67,370	1,983	71,154	2,397
	Net	34,403	332	35,280	396
Americas	Gross	19,790	960	16,604	1,705
	Net	9,391	286	6,800	330
Asia Pacific	Gross	41,668	627	31,909	573
	Net	23,801	233	14,989	208
<b>Total</b>	<b>Gross</b>	<b>253,973</b>	<b>5,494</b>	<b>231,806</b>	<b>6,536</b>
	<b>Net<sup>(2)</sup></b>	<b>135,603</b>	<b>1,291</b>	<b>123,405</b>	<b>1,369</b>

(1) Undeveloped acreage includes leases and concessions.

(2) Net acreage equals the sum of the Group's equity stakes in gross acreage.



## NUMBER OF PRODUCTIVE WELLS

As of December 31, (number of wells)		2016		2015		2014	
		Gross productive wells	Net productive wells <sup>(1)</sup>	Gross productive wells	Net productive wells <sup>(1)</sup>	Gross productive wells	Net productive wells <sup>(1)</sup>
Europe & Central Asia	Oil	415	106	407	108	391	136
	Gas	259	87	289	88	279	149
Russia	Oil	232	39	207	42	137	31
	Gas	489	80	516	80	410	67
Africa (excluding North Africa)	Oil	2,091	561	2,165	601	1,928	596
	Gas	96	19	98	22	76	21
Middle East & North Africa	Oil	9,385	609	7,992	534	5,909	378
	Gas	161	44	159	44	189	48
Americas	Oil	954	322	1,092	349	961	295
	Gas	3,585	2,230	3,903	795	3,817	782
Asia Pacific	Oil	124	55	119	53	119	22
	Gas	2,802	976	2,363	814	2,063	665
<b>Total</b>	<b>Oil</b>	<b>13,201</b>	<b>1,692</b>	<b>11,982</b>	<b>1,687</b>	<b>9,445</b>	<b>1,458</b>
	<b>Gas</b>	<b>7,392</b>	<b>3,436</b>	<b>7,328</b>	<b>1,843</b>	<b>6,834</b>	<b>1,732</b>

As of December 31, (number of wells)		2013		2012	
		Gross productive wells	Net productive wells <sup>(1)</sup>	Gross productive wells	Net productive wells <sup>(1)</sup>
Europe & Central Asia	Oil	423	109	410	111
	Gas	292	87	335	118
Russia	Oil	80	20	79	18
	Gas	395	44	392	44
Africa (excluding North Africa)	Oil	1,904	593	1,851	570
	Gas	74	20	74	20
Middle East & North Africa	Oil	6,648	463	6,853	485
	Gas	377	65	453	78
Americas	Oil	868	266	898	258
	Gas	3,311	634	2,892	546
Asia Pacific	Oil	129	58	127	57
	Gas	1,905	696	1,515	532
<b>Total</b>	<b>Oil</b>	<b>10,052</b>	<b>1,509</b>	<b>10,218</b>	<b>1,499</b>
	<b>Gas</b>	<b>6,354</b>	<b>1,546</b>	<b>5,661</b>	<b>1,338</b>

(1) Net wells equal the sum of the Group's equity stakes in gross wells.



## WELLS IN THE PROCESS OF BEING DRILLED (INCLUDING WELLS TEMPORARILY SUSPENDED)

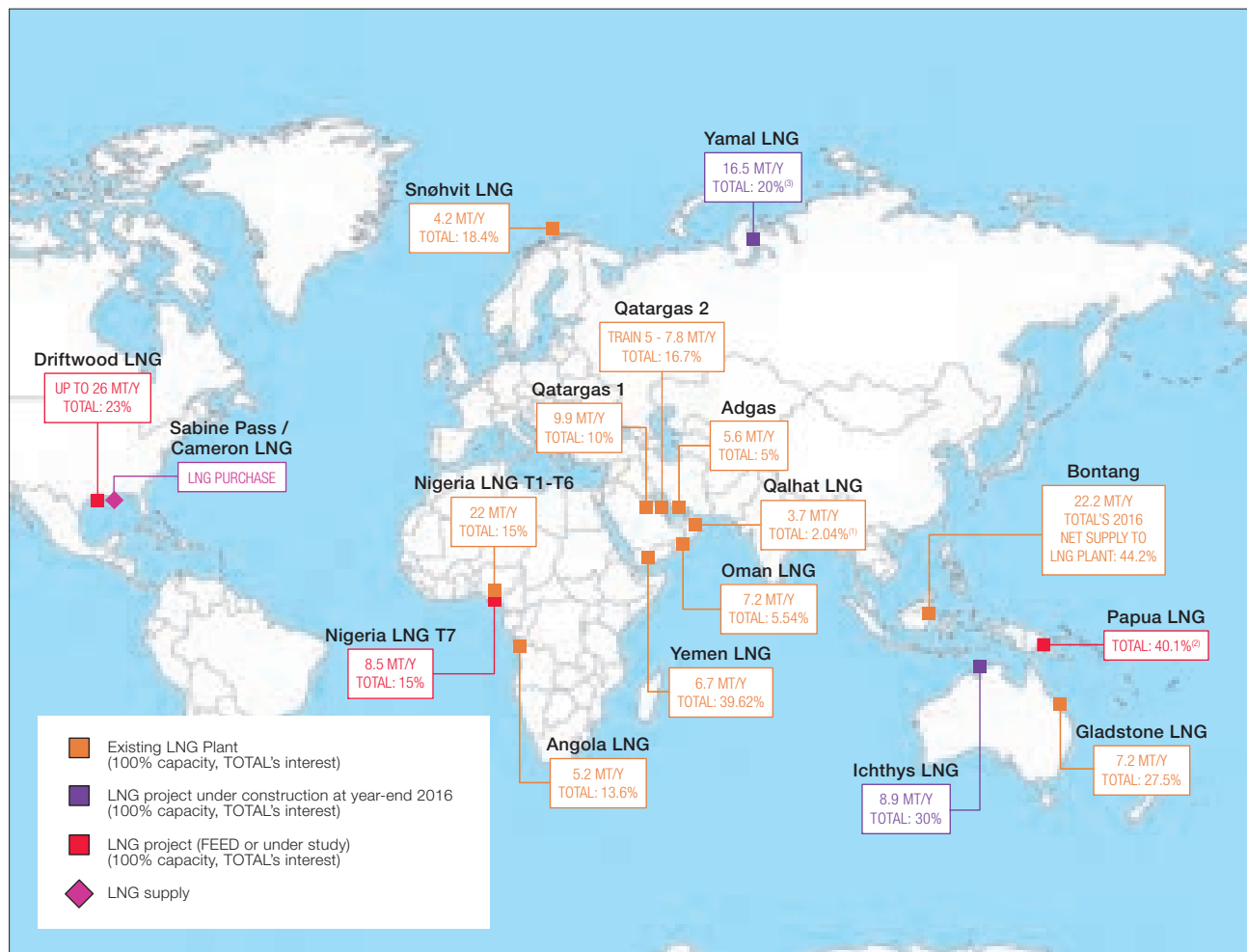
As of December 31, (number of wells)	2016		2015		2014	
	Gross	Net <sup>(1)</sup>	Gross	Net <sup>(1)</sup>	Gross	Net <sup>(1)</sup>
<b>Exploratory</b>						
Europe & Central Asia	4	0.9	9	2.5	11	3.2
Russia	-	-	-	-	-	-
Africa (excluding North Africa)	18	4.6	24	6.6	28	7.3
Middle East & North Africa	2	0.8	9	3.2	17	6.5
Americas	10	3.5	14	4.6	12	4.0
Asia Pacific	5	1.3	7	2.5	7	2.3
<b>Subtotal</b>	<b>39</b>	<b>11.1</b>	<b>63</b>	<b>19.4</b>	<b>75</b>	<b>23.3</b>
<b>Other wells <sup>(2)</sup></b>						
Europe & Central Asia	45	11.8	59	17.2	55	17.1
Russia	111	27.9	113	17.4	203	32.5
Africa (excluding North Africa)	72	21.3	56	14.9	40	12.2
Middle East & North Africa	174	25.2	158	20.5	135	14.4
Americas	46	28.0	63	22.4	370	159.3
Asia Pacific	421	116.7	621	188.1	778	203.2
<b>Subtotal</b>	<b>869</b>	<b>230.9</b>	<b>1,070</b>	<b>280.5</b>	<b>1,581</b>	<b>438.7</b>
<b>Total</b>	<b>908</b>	<b>242.0</b>	<b>1,133</b>	<b>299.9</b>	<b>1,656</b>	<b>462.0</b>

As of December 31, (number of wells)	2013		2012	
	Gross	Net <sup>(1)</sup>	Gross	Net <sup>(1)</sup>
<b>Exploratory</b>				
Europe & Central Asia	9	2.8	1	1.0
Russia	2	0.7	-	-
Africa (excluding North Africa)	28	7.8	4	1.3
Middle East & North Africa	13	5.6	2	1.1
Americas	15	6.7	7	3.4
Asia Pacific	6	3.7	2	1.3
<b>Subtotal</b>	<b>73</b>	<b>27.3</b>	<b>16</b>	<b>8.1</b>
<b>Other wells <sup>(2)</sup></b>				
Europe & Central Asia	60	17.2	26	6.6
Russia	6	2.0	-	-
Africa (excluding North Africa)	24	7.5	25	6.4
Middle East & North Africa	132	16.0	93	6.1
Americas	348	120.7	29	8.2
Asia Pacific	790	240.3	168	48.8
<b>Subtotal</b>	<b>1,360</b>	<b>403.7</b>	<b>341</b>	<b>76.1</b>
<b>Total</b>	<b>1,433</b>	<b>431.0</b>	<b>357</b>	<b>84.2</b>

(1) Net wells equal the sum of the Group's equity stakes in gross wells. From 2013, includes wells for which surface facilities permitting production have not yet been constructed. Such wells are also reported in the table "Number of net productive and dry wells drilled", for the year in which they were drilled.

(2) Other wells are development wells, service wells, stratigraphic wells and extension wells.

## LNG POSITIONS AS OF DECEMBER 31, 2016



(1) TOTAL has an indirect stake via Oman LNG's stake in Qalhat LNG.

(2) The State of Papua New Guinea retains the right to enter the license (when the final investment decision is made) at a maximum level of 22.5%. In this case, TOTAL's stake would be reduced to 31.1%.

(3) Direct stake in the project.

## LIQUEFIED NATURAL GAS (LNG) SALES <sup>(1)</sup>

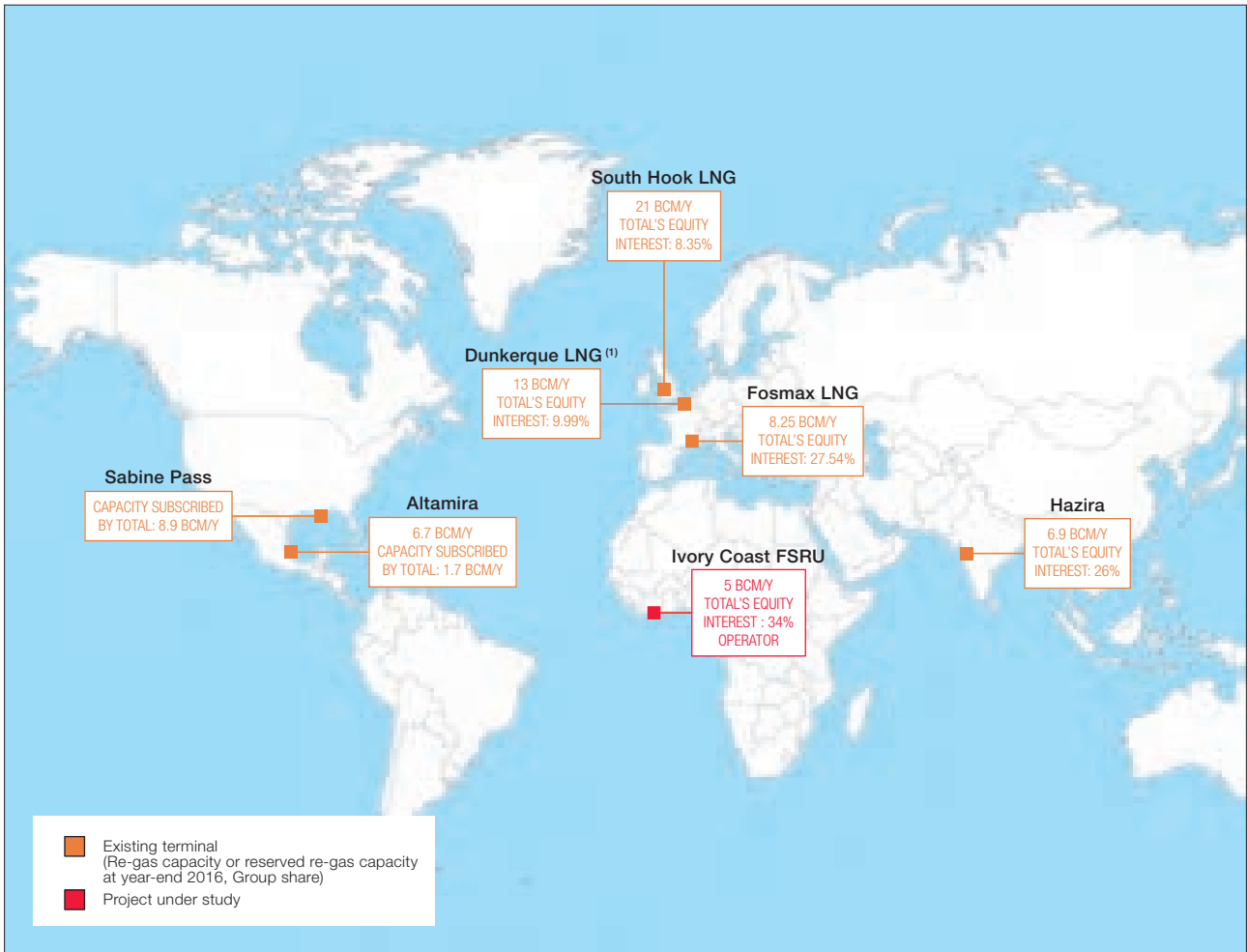
(kt/y)	2016	2015	2014	2013	2012
Nigeria (NLNG)	2,783	3,068	3,105	2,731	3,198
Indonesia (Bontang) <sup>(2)</sup>	3,125	2,990	2,901	3,022	2,975
Qatar (Qatargas II)	1,313	1,237	1,277	1,308	1,168
Qatar (Qatargas I)	887	932	937	952	921
Norway (Snøhvit)	849	731	658	567	631
Yemen LNG	0	529	2,590	2,983	1,900
Oman <sup>(3)</sup>	371	336	344	378	358
Abu Dhabi (Adgas)	294	289	290	272	268
Gladstone LNG	1,274	103	-	-	-
Angola LNG	91	-	44	43	-
<b>Total</b>	<b>10,987</b>	<b>10,216</b>	<b>12,146</b>	<b>12,257</b>	<b>11,418</b>

(1) Group share, excluding Trading.

(2) 2016 data restated to reflect volume estimates for Bontang LNG based on the 2016 SEC coefficient.

(3) Includes both Oman LNG & Qalhat LNG.

RE-GASIFICATION TERMINALS AS OF DECEMBER 31, 2016



(1) In operation since January 1, 2017.



Ichthys LNG (Australia).

**GAS & POWER ACTIVITIES IN EUROPE AS OF DECEMBER 31, 2016**



(1) In operation since January 1, 2017.



Yamal LNG (Russia).

## GAS & POWER ACTIVITIES IN NORTH AND SOUTH AMERICA AS OF DECEMBER 31, 2016



(1) Subject to regulatory approvals.

## INTERESTS IN PIPELINES

The table below sets forth interests of the Group's entities<sup>(1)</sup> in the main oil and gas pipelines.

As of December 31, 2016

Pipeline(s)	Origin	Destination	% interest	Operator	Liquids	Gas
<b>Europe and Central Asia</b>						
<b>Azerbaijan</b>						
BTC	Baku (Azerbaijan)	Ceyhan (Turkey, Mediterranean)	5.00		x	
<b>Norway</b>						
Frostpipe (inhibited)	Lille-Frigg, Froy	Oseberg	36.25		x	
Heimdal to Brae Condensate Line	Heimdal	Brae	16.76		x	
Kvitebjorn pipeline	Kvitebjorn	Mongstad	5.00		x	
Norpipe Oil	Ekofisk Treatment center	Teeside (UK)	34.93		x	
Oseberg Transport System	Oseberg, Brage and Veslefrikk	Sture	12.98		x	
Sleipner East Condensate Pipe	Sleipner East	Karsto	10.00		x	
Troll Oil Pipeline I and II	Troll B and C	Vestprosess (Mongstad Refinery)	3.71		x	
Vestprosess	Kollsnes (Area E)	Vestprosess (Mongstad Refinery)	5.00		x	
Polarled	Asta Hansteen/Linnorm	Nyhamna	5.11			x
<b>The Netherlands</b>						
Nogat pipeline	F3-FB	Den Helder	5.00			x
WGT K13-Den Helder	K13A	Den Helder	4.66			x
WGT K13-Extension	Markham	K13 (via K4/K5)	23.00			x
<b>United Kingdom</b>						
Alwyn Liquid Export Line	Alwyn North	Cormorant	100.00	x	x	
Bruce Liquid Export Line	Bruce	Forties (Unity)	43.25		x	
Central Graben Liquid Export Line (LEP)	Elgin-Franklin	ETAP	15.89		x	
Ninian Pipeline System	Ninian	Sullom Voe	16.00		x	
Shearwater Elgin Area Line (SEAL)	Elgin-Franklin, Shearwater	Bacton	25.73			x
SEAL to Interconnector Link (SILK)	Bacton	Interconnector	54.66	x		x
<b>Africa (excl. North Africa)</b>						
<b>Gabon</b>						
Mandji Pipes	Mandji fields	Cap Lopez Terminal	100.00 <sup>(2)</sup>	x	x	
Rabi Pipes	Rabi fields	Cap Lopez Terminal	100.00 <sup>(2)</sup>	x	x	
<b>Nigeria</b>						
O.U.R	Obite	Rumuji	40.00	x		x
NOPL	Rumuji	Owaza	40.00	x		x
<b>Middle East and North Africa</b>						
<b>Qatar</b>						
Dolphin	North Field (Qatar)	Taweelah-Fujairah-AI Ain (United Arab Emirates)	24.50			x
<b>Americas</b>						
<b>Argentina</b>						
TGM	TGN	Uruguayana (Brazil)	32.68			x
<b>Brazil</b>						
TBG	Bolivia-Brazil border	Porto Alegre via São Paulo	9.67			x
TSB	Argentina-Brazil border (TGM) Porto Alegre	Uruguayana (Brazil) Canoas	25.00			x
<b>Asia-Pacific</b>						
<b>Australia</b>						
Gladstone LNG	Fairview, Roma, Scotia, Arcadia	GLNG (Curtis Island)	27.50			x
<b>Myanmar</b>						
Yadana	Yadana	Ban-I Tong (Thai border)	31.24	x		x

(1) Excluding equity affiliates, except for the Yadana and Dolphin pipelines.

(2) Interest of Total Gabon. The Group has a financial interest of 58.28% in Total Gabon.



## PIPELINE GAS SALES <sup>(1)</sup>

(Mcf/d)	2016	2015	2014	2013	2012
France	-	-	9	37	53
United Kingdom	537	370	313	395	379
Norway	491	469	465	463	491
The Netherlands	134	149	155	186	176
Africa	-1	13	63	56	112
Azerbaijan	-	-	147	81	64
Kazakhstan	3	-	-	-	-
Brunei	78	62	65	58	54
Qatar	181	173	155	154	178
Syria	-	-	-	-	-
China	54	59	63	45	7
Indonesia <sup>(2)</sup>	116	119	94	92	123
Myanmar	162	150	131	126	125
Thailand	296	301	286	296	257
United States	304	306	286	252	239
Argentina	374	341	351	347	375
Colombia	-	-	-	-	14
Bolivia	156	130	136	127	124
Venezuela	82	93	87	73	64
Australia	85	25	21	23	29
Trinidad & Tobago	-	-	-	51	67
<b>Total</b>	<b>3,052</b>	<b>2,760</b>	<b>2,827</b>	<b>2,862</b>	<b>2,931</b>

(1) Consolidated entities.

(2) Domestic sales.

## POWER GENERATION FACILITIES

	Status	Interest	Capacity <sup>(1)</sup>	Technology
<b>Abu Dhabi</b>				
Taweelah A1	In operation	20.00%	1,600 MW	Gas
<b>Brazil</b>				
Termobahia <sup>(2)</sup>	In operation	50.00%	298 MW	Gas

(1) Capacity stated at 100%.

(2) Subject to regulatory approvals.

## EUROPE AND CENTRAL ASIA ACREAGE

In 2016, TOTAL's production in Europe and Central Asia was **757 kboe/d**

Representing **31%** of the Group's overall production



### PRODUCTION

	2016	2015	2014	2013	2012
Liquids production (Kb/d)	249	215	201	200	224
Gas production (Mcf/d)	2,737	2,413	2,224	2,277	2,168
<b>Total (Kboe/d)</b>	<b>757</b>	<b>664</b>	<b>613</b>	<b>619</b>	<b>622</b>

### MAIN START-UPS

Start-up	Projects	Type	Capacity (kboe/d)	Share	Op.	Country
2016	Laggan-Tormore	Deep off.	90	60%	x	UK
2017	Tempa Rossa	Heavy oil	55	50%	x	Italy
	Edradour Glenlivet	Gas/Cond	35	60%	x	UK
2018	Yamal	LNG	450	20% <sup>(1)</sup>		Russia
	Martin Linge	Liq/gas	80	51%	x	UK

(1) Direct stake only.

## TOTAL'S PRODUCING ASSETS AS OF DECEMBER 31, 2016 <sup>(1)</sup>

	Year of entry into the country	Operated (Group share in %)	Non-operated (Group share in %)
<b>Europe and Central Asia</b>			
<b>Kazakhstan</b>	<b>1992</b>		Kashagan (16.81%)
<b>Norway</b>	<b>1965</b>	Atla (40.00%) Skirne (40.00%)	Åsgard (7.68%) Ekofisk (39.90%) Ekofisk South (39.90%) Eldfisk (39.90%) Embla (39.90%) Gimle (4.90%) Heimdal (16.76%) Islay (5.51%) <sup>(2)</sup> Kristin (6.00%) Kvitebjørn (5.00%) Mikkell (7.65%) Oseberg (14.70%) Oseberg East (14.70%) Oseberg South (14.70%) Snøhvit (18.40%) Stjerne (14.70%) Troll I (3.69%) Troll II (3.69%) Tune (10.00%) Tyrihans (23.15%) Visund (7.70%) Visund South (7.70%) Visund North (7.70%)
<b>Russia</b>	<b>1991</b>		Kharyaga (20.00%) Termokarstovoye (49.00%) <sup>(3)</sup> Several fields through the participation in Novatek (18.90%)

(1) The Group's interest in the local entity is approximately 100%.

(2) The field of Islay extends partially in Norway. Total E&P UK holds a 94.49% stake and Total E&P Norge 5.51%.

(3) TOTAL's interest in the joint venture ZAO Terneftegas with Novatek (51.00%).

	Year of entry into the country	Operated (Group share in %)	Non-operated (Group share in %)
<b>The Netherlands</b>	<b>1964</b>	F6a (oil) (65.68%)	
		F15a Jurassic (38.20%)	
		F15a Triassic (32.47%)	
		J3a (30.00%)	
		K1a (40.10%)	
		K3b (56.16%)	
		K4a (50.00%)	
		K4b/K5a (36.31%)	
		K5b (50.00%)	
		K6/L7 (56.16%)	
		L1a (60.00%)	
		L1d (60.00%)	
		L1e (55.66%)	
		L1f (55.66%)	
		L4d (55.66%)	
			E16a (16.92%)
			E17a/E17b (14.10%)
	J3b/J6 (25.00%)		
	K9ab-A (22.46%)		
	Q16a (6.49%)		
<b>United Kingdom</b>	<b>1962</b>	Alwyn North (100.00%)	
		Dunbar (100.00%)	
		Elgin-Franklin (46.17%)	
		Ellon (100.00%)	
		Forvie North (100.00%)	
		Glenelg (58.73%)	
		Grant (100.00%)	
		Islay (94.49%) <sup>(1)</sup>	
		Jura (100.00%)	
		Laggan-Tormore (60.00%)	
		Nuggets (100.00%)	
		West Franklin (46.17%)	
			Bruce (43.25%)
	Markham unitized field (7.35%)		
	Keith (25.00%)		

(1) The field of Islay extends partially in Norway. Total E&P UK holds a 94.49% stake and Total E&P Norge 5.51%.

## RUSSIA

In Russia, where the largest percentage of TOTAL's proved reserves are located (nearly 21% as of December 31, 2016), the Group's production was 335 kboe/d in 2016, compared to 290 kboe/d in 2015 and 235 kboe/d in 2014. This production comes from the Kharyaga and Termokarstovoye fields and TOTAL's stake in PAO Novatek<sup>(1)</sup>. Since 2015, Russia has been the leading contributor to the Group's production.

In addition to the shareholding in Novatek, TOTAL currently participates in the Yamal LNG and Termokarstovoye projects with Novatek via a direct stake:

- Yamal LNG: in 2013, the company OAO Yamal LNG<sup>(2)</sup> launched this project aimed at developing the onshore field of South Tambey ❶ (gas and condensates) located on the Yamal peninsula, and at building a three-train gas liquefaction plant with total LNG capacity of 16.5 Mt/y. The Yamal LNG project's financing was finalized in 2016 in compliance with applicable regulations. At year-end 2016, 75% of the project was completed and over 96% of the LNG volumes have been sold through long-term sale agreements. Production is expected to start by year-end 2017.
- Termokarstovoye ❷ (an onshore gas and condensates field, located in the Yamalo-Nenets region): the development and

production license of Termokarstovoye field is held by ZAO Terneftegas, a joint venture between Novatek (51%) and TOTAL (49%). The field came into production in 2015 (capacity of 65 kboe/d).

In August 2016, TOTAL sold a 20% interest in the Kharyaga ❸ field (thus reducing its stake to 20%) and transferred operatorship of the field to the purchaser, Zarubezhneft.

Since 2014, certain Russian persons and entities, including various entities operating in the energy sector, are subject to international economic sanctions adopted, in particular, by the United States, the European Union. TOTAL complies with sanctions applicable to its activities.



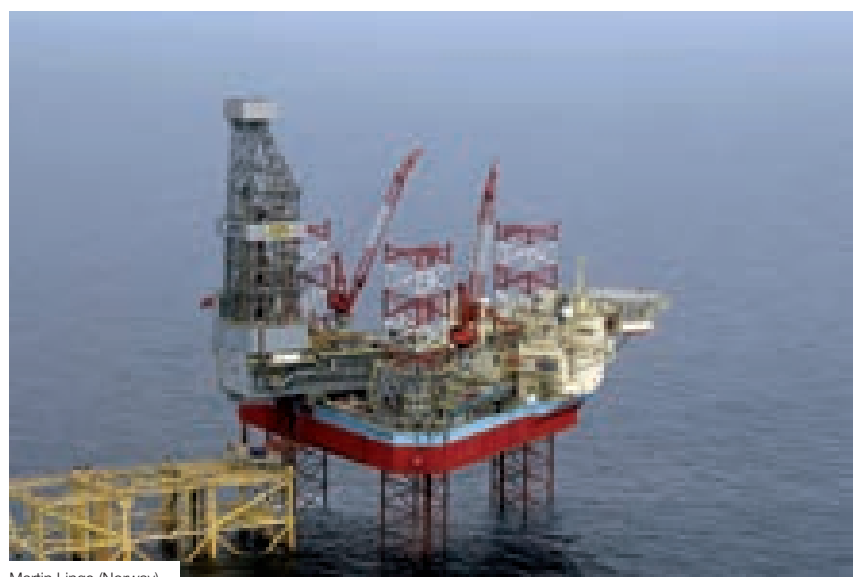
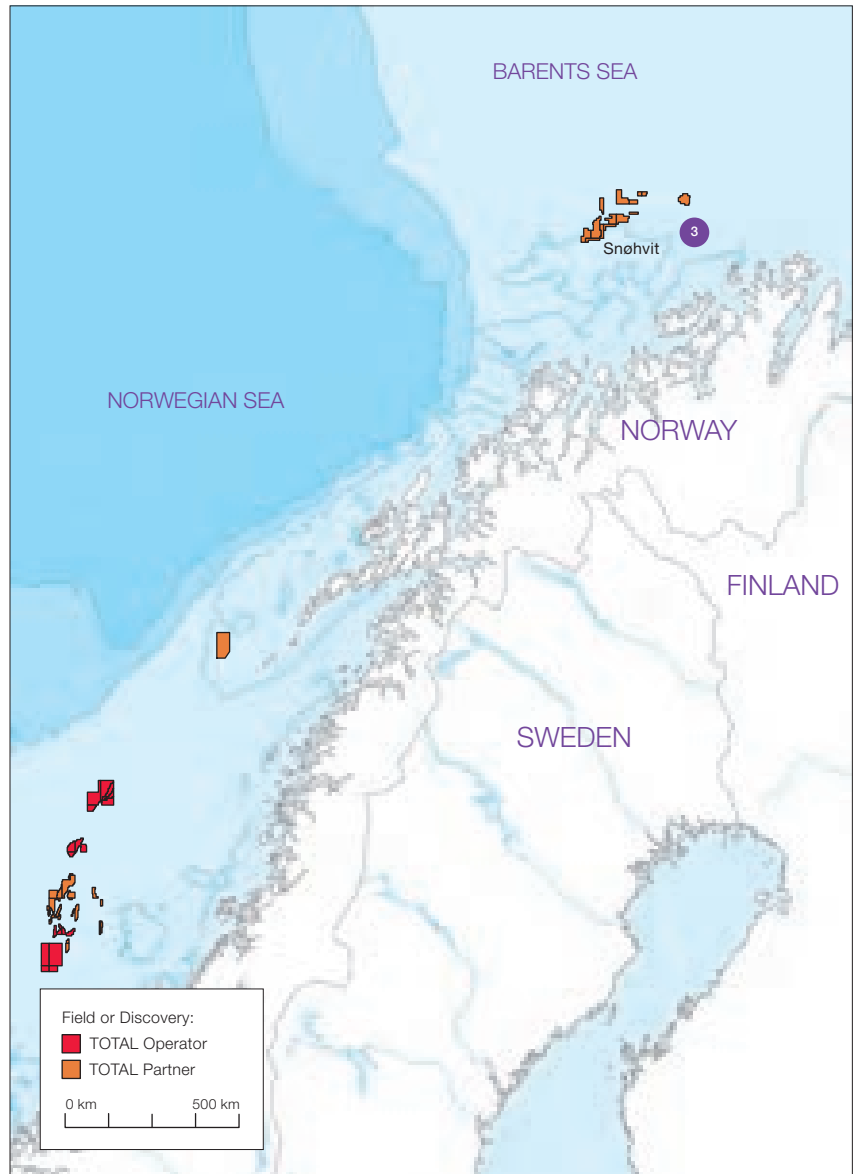
(1) A Russian company listed on the Moscow and London stock exchanges and in which the Group held an interest of 18.9% as of December 31, 2016.

(2) OAO Yamal LNG is held by PAO Novatek (50.1%), Total E&P Yamal (20%), CNODC (20%), a subsidiary of China National Petroleum Corporation, and Silk Road Fund (9.9%).

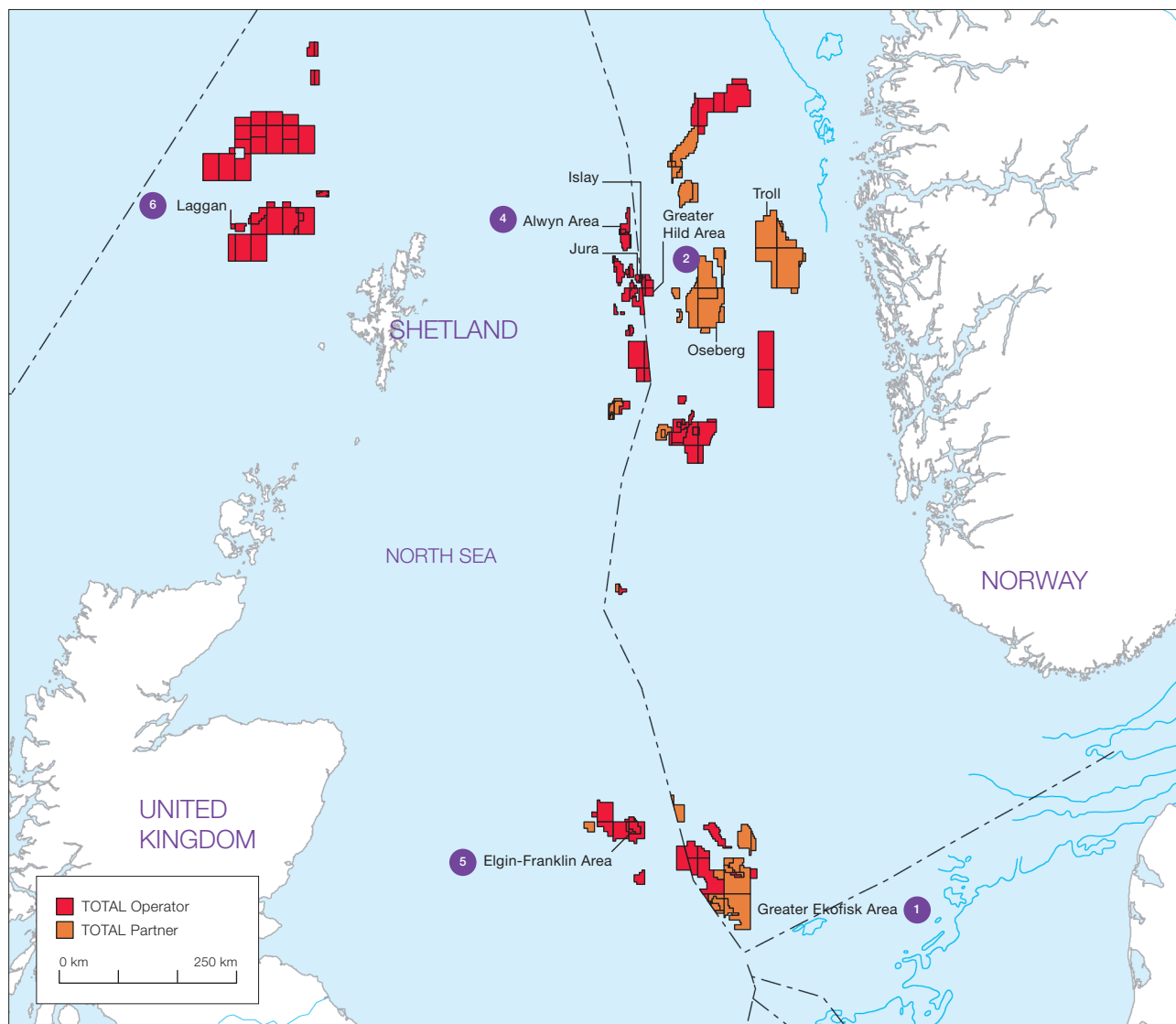
## NORWAY

In Norway, TOTAL has equity stakes in 93 production licenses on the Norwegian maritime continental shelf, 35 of which it operates. The Group's production in 2016 was 235 kboe/d compared to 239 kboe/d in 2015 and 242 kboe/d in 2014.

- In the Greater Ekofisk area ❶ (map page 69), the Group holds a 39.9% stake in the Ekofisk and Eldfisk fields. Production at Ekofisk South started in 2013 and at Eldfisk II in 2015 (capacity of 70 kboe/d each).
- In the Sleipner area, the development of the Gina Krog field located in the north of Sleipner and approved in 2013 is underway. In December 2016, the Group sold a stake of 15% in this field, reducing its participation from 30% to 15%.
- In the Greater Hild area ❷ (map page 69), the development of the Martin Linge field (51%, operator, estimated capacity 80 kboe/d) is underway.
- In the Barents Sea, the Group holds an 18.4% stake in the gas liquefaction plant of Snøhvit ❸ (capacity of 4.2 Mt/y). This plant is supplied with production from the Snøhvit and Albatross gas fields.



Martin Linge (Norway)



## UNITED KINGDOM

In the United Kingdom, the Group's production was 158 kboe/d in 2016 compared to 107 kboe/d in 2015 and 89 kboe/d in 2014. More than 90% of this production comes from operated fields in the three main areas described below.

- In the Alwyn/Dunbar area ④ (100%) in the Northern North Sea, production from the Alwyn and Dunbar fields represents 25% and 18% of production, respectively, of this area. The rest of the production comes from satellites, which are:
  - 1) linked to Alwyn by subsea tieback: the Forvie gas and condensates field joined by the Jura and Islay fields and the Nuggets gas field network; and
  - 2) linked to Dunbar: the Ellon (oil and gas) and the Grant (gas and condensates) fields.

On the Dunbar field (100%), the additional development phase (Dunbar phase IV) was stopped in 2016 for technical and economic reasons.

- In the Elgin/Franklin area ⑤ in the Central Graben, TOTAL holds stakes in the Elgin-Franklin and West Franklin fields (46.17%, operator). Concerning the Elgin redevelopment project (drilling of five wells), two wells were drilled in 2016. The West Franklin Phase II project, comprising the addition of two platforms and the drilling of three wells, was completed in 2016 when the last well was drilled.
- In the West of Shetland area ⑥, the Laggan and Tormore fields (60%, operator) came into production in 2016. Production is expected to start on the Edradour and Glenlivet fields (60%,

operator) in 2017 (total production capacity of 90 kboe/d). TOTAL also operates the P967 license, including the Tobermory gas discovery (30%).

Impairments on gas assets in the United Kingdom were recognized in the 2015 and 2016 Consolidated Financial Statements.

In addition, TOTAL holds five shale gas exploration and production licenses (PEDL 139 and 140, 40%; PEDL 273, 305 and 316, 50%) located in the Gainsborough Trough basin (East Midlands region).

The sale of interests held by Total E&P UK in transport pipelines (FUKA and SIRGE) and the St. Fergus terminal was finalized in March 2016.

### NETHERLANDS

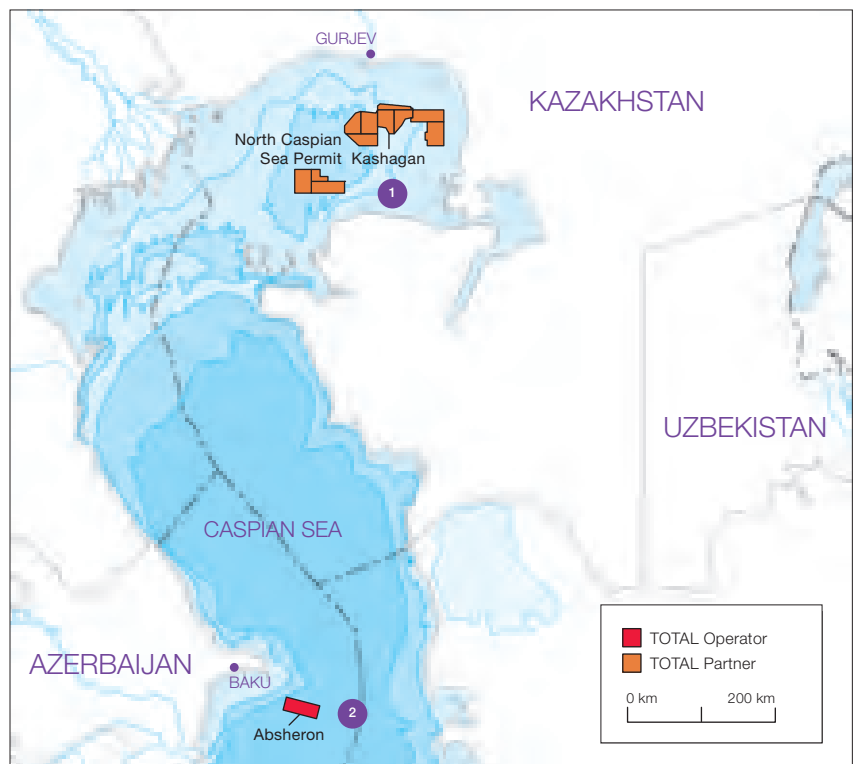
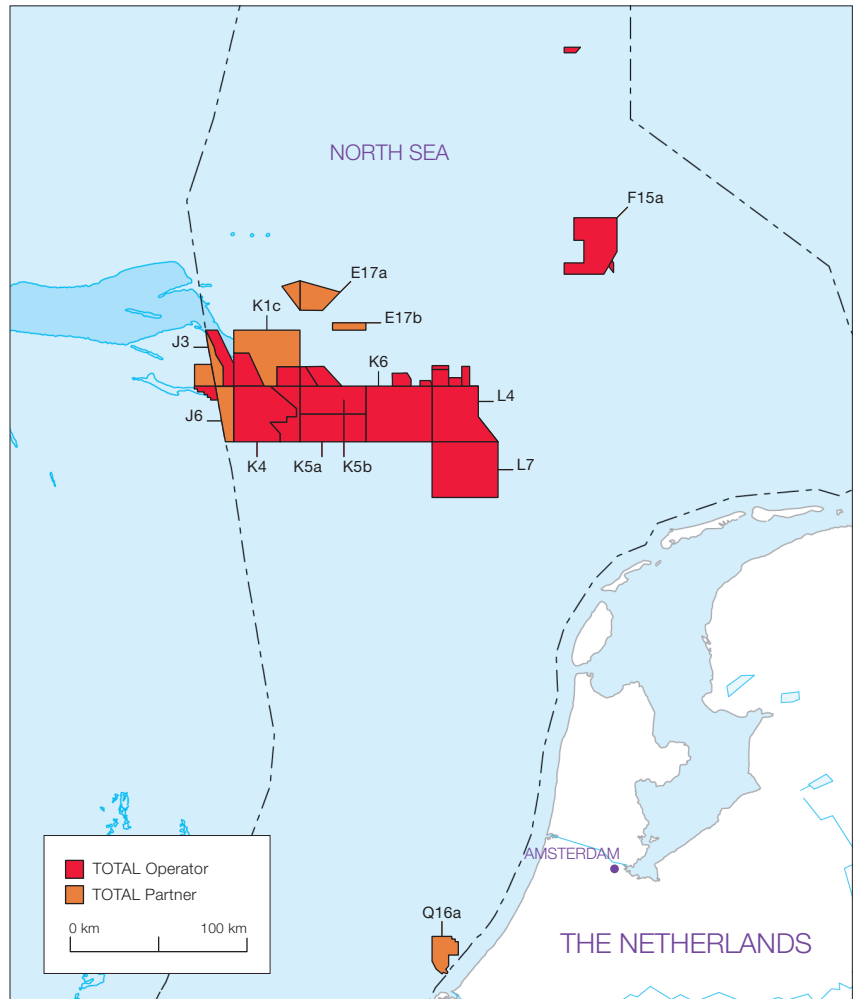
In the Netherlands, the Group's production was 25 kboe/d in 2016 compared to 28 kboe/d in 2015 and 31 kboe/d in 2014. This decrease was due to natural field decline. TOTAL holds interests in 24 offshore production licenses, including 20 that it operates, and an offshore exploration license (K1c, 30%).

### KAZAKHSTAN

In Kazakhstan, TOTAL holds a stake in the North Caspian license (16.81%), which covers the Kashagan field. Production of the first phase of the Kashagan field and the associated processing plant (capacity of 370 kb/d) restarted in October 2016 after pipeline problems had taken it off stream for three years. Replacement of the pipelines by the operator was completed in the summer of 2016. The Group's production was 4 kboe/d in 2016 and is expected to gradually increase between now and the end of 2017. In July 2016, TOTAL withdrew from the Nurmunaï North and South onshore exploration licenses (51.1%, operator) located in the southwest of the country, due to negative results from the two exploration wells drilled in 2015.

### AZERBAIJAN

In Azerbaijan, TOTAL signed an agreement in November 2016 establishing the contractual and commercial conditions for a first phase of production of the Absheron gas and condensate field located in the Caspian Sea and discovered by TOTAL in 2011 (40%, operator). The agreement enabled to define a cost-competitive development scheme by tying the field to existing infrastructure in order to deliver gas at a competitive price. The capacity production from this high pressure field is expected to be approximately 35 kboe/d. The produced gas will supply Azerbaijan's domestic market.





### ITALY

In Italy, TOTAL holds stakes in the Tempa Rossa field (50%, operator), located on the Gorgoglione concession 1 (Basilicate region), and three exploration licenses. The Tempa Rossa development project is underway, with production expected to start at the end of 2017.

### FRANCE

In France, the Group's production ended in 2014 with the sale of the Lacq concessions to Geopetrol. Total E&P France remains the owner of parts of the Lacq industrial site, located in the southwest of France, and is carrying out decommissioning, dismantling and site rehabilitation activities.

### BULGARIA

In Bulgaria, where TOTAL has been present since 2012, the Group drilled a deep offshore exploration well in 2016 on the Han Asparuh block (14,220 km<sup>2</sup>), 100 km offshore in the Black Sea, which revealed the presence of oil in this area for the first time.

### DENMARK

In Denmark, TOTAL relinquished the two shale gas exploration licenses (80%, operator) it acquired in 2010, in July 2015 for the license 2/10 (Nordsjaelland) and in June 2016 for the license 1/10 (Nordjylland).

### REST OF THE EUROPE AND CENTRAL ASIA AREA

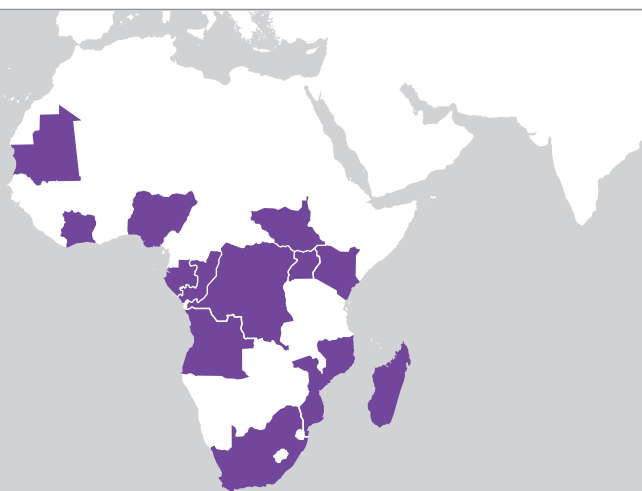
TOTAL also holds interests in an exploration license without activity in Tajikistan.



## AFRICA ACREAGE

In 2016, TOTAL's production in Africa, excl. North Africa, was **634 kboe/d**

Representing **26%** of the Group's overall production



## PRODUCTION

	2016	2015	2014	2013	2012
Liquids production (Kb/d)	509	521	490	476	506
Gas production (Mcf/d)	621	581	614	617	615
<b>Total (Kboe/d)</b>	<b>634</b>	<b>639</b>	<b>610</b>	<b>599</b>	<b>628</b>

## MAIN START-UPS

Start-up	Projects	Type	Capacity (kboe/d)	Share	Op.	Country
2016	Angola LNG	LNG	175	13.60%		Angola
2017	Mafumeira Sul	Liq/gas	205	10%		Angola
	Moho Nord	Deep off.	100	100%	x	Congo
2018+	Kaombo	Deep off.	230	30%	x	Angola
	Kaombo North		115			
	Kaombo South		115			
	Egina	Deep off.	200	24%	x	Nigeria

## TOTAL'S PRODUCING ASSETS AS OF DECEMBER 31, 2016 <sup>(1)</sup>

	Year of entry into the country	Operated (Group share in %)	Non-operated (Group share in %)
<b>Africa (excluding North Africa)</b>			
<b>Angola</b>	<b>1953</b>	Girassol, Jasmim, Rosa, Dalia, Pazflor, CLOV (Block 17) (40.00%)	Cabinda Block 0 (10.00%) Kuito, BBLT, Tombua-Landana (Block 14) (20.00%) <sup>(2)</sup> Lianzi (Block 14K) (10.00%) <sup>(2)</sup> Angola LNG (13.60%)
<b>Gabon</b>	<b>1928</b>	Anguille Marine (100.00%) Anguille Nord Est (100.00%) Atora (40.00%) Avocette (57.50%) Baliste (50.00%) Barbier (100.00%) Baudroie Marine (50.00%) Baudroie Nord Marine (50.00%) Coucal (57.50%) Girelle (100.00%) Gonelle (100.00%) Grand Anguille Marine (100.00%) Grondin (100.00%) Hylia Marine (75.00%) Lopez Nord (100.00%) Mandaros (100.00%) M'Boukou (57.50%) Mérrou Sardine Sud (50.00%) N'Tchengue (100.00%) Port Gentil Océan (100.00%) Torpille (100.00%) Torpille Nord Est (100.00%)	Rabi Kounga (47.50%)
<b>Nigeria</b>	<b>1962</b>	OML 58 (40.00%) OML 99 Amenam-Kpono (30.40%) OML 100 (40.00%) OML 102 (40.00%) OML 130 (24.00%)	OML 102 – Ekanga (40.00%) Shell Petroleum Development Company (SPDC) (10.00%) OML 118 – Bonga (12.50%) OML 138 (20.00%)
<b>The Congo, Republic of</b>	<b>1968</b>	Kombi-Likalala-Libondo (65.00%) Moho Bilondo (including Moho phase 1b) (53.50%) Nkossa (53.50%) Nsoko (53.50%) Sendji (55.25%) Tchendo (65.00%) Tchibeli-Litanzi-Loussima (65.00%) Tchibouela (65.00%) Yanga (55.25%)	Lianzi (26.75%) Loango (42.50%) Zatchi (29.75%)

(1) The Group's interest in the local entity is approximately 100% in all cases except for Total Gabon (58.28%) and Total E&P Congo (85.00%).

(2) Stake in the company Angola Block 14 BV (TOTAL 50.01%).

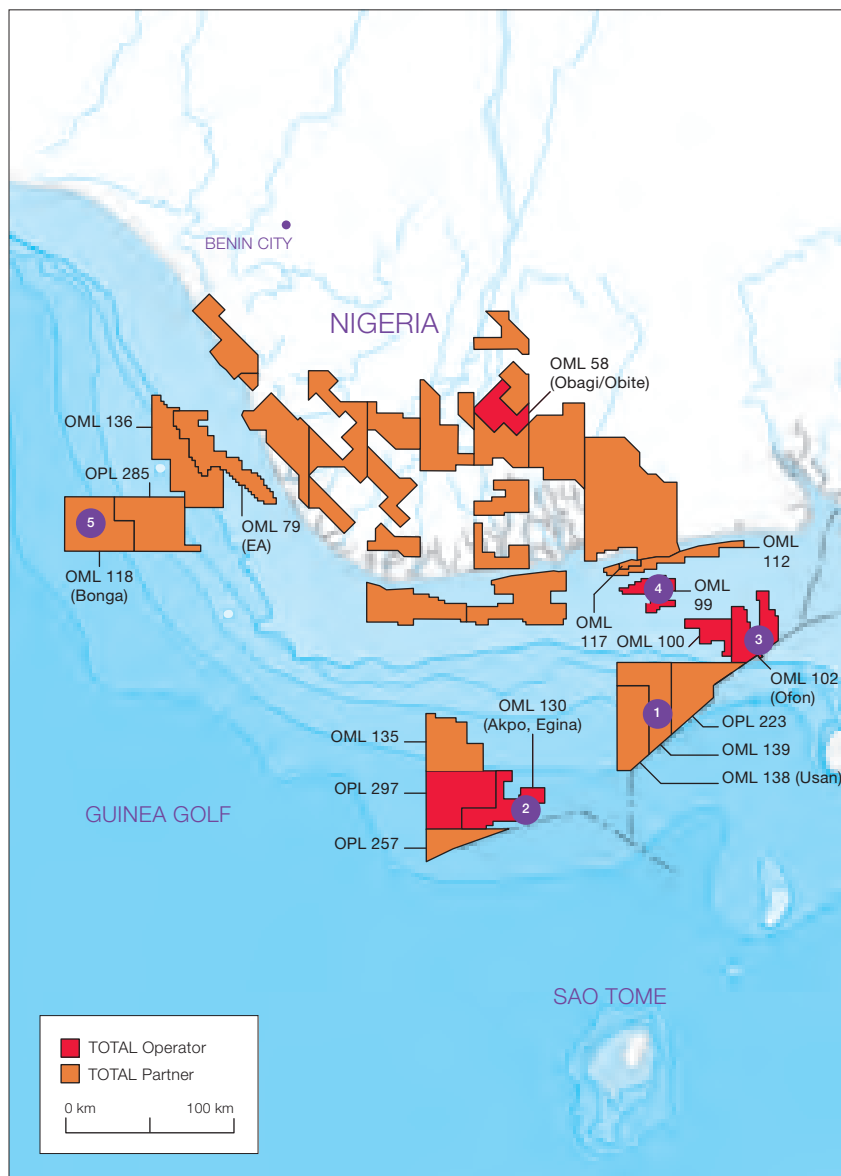
## NIGERIA

In Nigeria, the Group's production, primarily offshore, was 243 kboe/d in 2016, compared to 245 kboe/d in 2015 and 257 kboe/d in 2014. This drop in production was due mainly to the sale of interests in certain licenses of the Shell Petroleum Development Company (SPDC) joint venture as well as to difficult operational security conditions in the Niger delta that had a negative impact on onshore production and, in particular, the oil export of the Forcados terminal operated by Shell.

TOTAL operates 5 of the 35 oil mining leases (OML) in which it has interests and also holds interests in 3 oil prospecting licenses (OPL).

TOTAL has offshore operations (production was 160 kboe/d in 2016) notably on the following leases:

- On OML 139 ① (18%), the Owowo-3 exploration well, drilled in 2016, confirmed the discovery of oil made in 2012 and should enable progress in the preparation of the development plan. The discovery is located near OML 138 (20%), where three oil discoveries were made in 2014 and 2015.
- OML 130 ② (24%, operator): the development of the Egina field (200 kboe/d capacity) launched in 2013 is underway, and production is expected to start in 2018. The assessment of the Preowei field is planned in 2017.
- On OML 102 ③ (40%, operator), in 2014 TOTAL stopped routine flaring on the Ofon field (Ofon phase 2 project). The gas associated with the production of oil is now compressed and sent onshore to the Nigeria LNG plant. All activities of the Ofon 2 project were completed in 2016 and the drilling of 24 additional wells, started in 2015, continues.
- On OML 99 ④ (40%, operator), studies are ongoing for the development of the Ikike field.
- On OML 118 ⑤ (12.5%), the Bonga field contributed 19 kboe/d to the Group's production in 2016. Optimization studies of the Bonga South West Aparo project (10% unitized) are ongoing with an



investment decision target in 2018.

TOTAL has onshore operations (production was 83 kboe/d in 2016), notably:

- On OML 58 (40%, operator), under its joint venture with Nigerian National Petroleum Corporation (NNPC), a gas production capacity of 550 Mcf/d was reached and delivery of gas to the Nigerian domestic market started in 2016.
- In relation to the SPDC joint venture (10%), which includes 20 oil mining leases (of which 17 are located onshore),

the 2016 production was 46 kboe/d (of which 43 kboe/d was onshore).

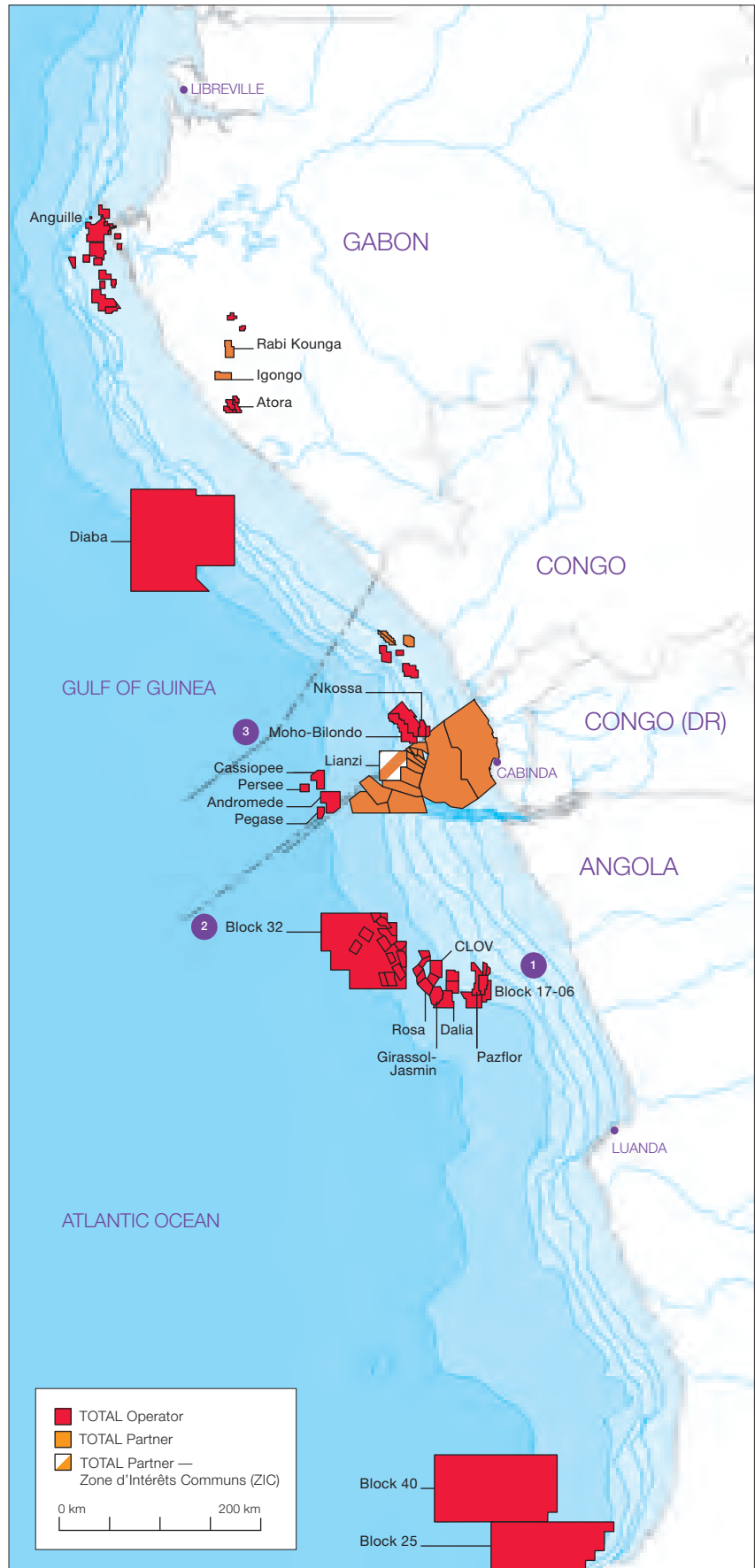
TOTAL sold its 10% interest in OML 24 (in 2014) and OMLs 18 and 29 (in 2015), operated via the SPDC joint venture. In addition, the sale process of OML 25 is underway.

TOTAL is also developing LNG activities with a 15% stake in the Nigeria LNG Ltd company, which owns a liquefaction plant with a 22 Mt/year total capacity. Assessments are ongoing for the installation of an additional capacity of approximately 8.5 Mt/year.

**ANGOLA**

In Angola, where TOTAL is the leading oil operator in the country<sup>(1)</sup>, the Group's production was 243 kboe/d in 2016, compared to 248 kboe/d in 2015 and 200 kboe/d in 2014. This production comes from Blocks 17, 14 and 0, and Angola LNG.

- Deep offshore Block 17 ❶ (40%, operator), TOTAL's main asset in Angola, is composed of four major producing hubs: Girassol, Dalia, Pazflor and CLOV. TOTAL continued to invest in brown field projects in 2016, including in particular Dalia Phase 2A and Girassol M14, which are expected to start production in 2017. In 2015, Dalia Phase 1A went into production and the start of multiphase pumps enabled production to be increased at Girassol. The Zinia phase 2 project, a satellite development of Pazflor, is moving forward.
- On the ultra-deep offshore Block 32 ❷ (30%, operator), the Kaombo project was launched in 2014 to develop the discoveries in the southeast part of the block via two FPSOs (floating production storage and offloading facilities) with a capacity of 115 kb/d each. The drilling campaign of 59 wells began in 2015. In June 2016, a presidential decree was published providing new tax conditions for the project. The center and north parts of the block (outside Kaombo) offer additional exploration potential and are currently being assessed.
- On Block 14 (20%)<sup>(2)</sup>, production comes from the Tombua-Landana and Kuito fields as well as the BBLT project, comprising the Benguela, Belize, Lobito and Tomboco fields.
- Block 14K (36.75%) is the offshore unitization area between Angola (Block 14) and the Republic of the Congo (Haute Mer license). The Lianzi field, which is connected to the existing BBLT platform (Block 14), started production in 2015. TOTAL's interest in the unitized zone is held 10% through Angola Block 14 BV and 26.75% through Total E&P Congo.
- On Block 0 (10%), the second phase of the Mafumeira field development project started production in March 2017.



(1) Company data.  
 (2) Stake held by the company Angola Block 14 BV (TOTAL 50.01%).

TOTAL is also developing its LNG activities through the Angola LNG project (13.6%), which includes a gas liquefaction plant near Soyo supplied by gas associated with production from Blocks 0, 14, 15, 17 and 18. LNG production started in 2013, but various technical incidents required an extended shutdown of the plant. LNG production restarted in May 2016. Taking into account the revised gas price assumptions, an impairment on Angola LNG was recognized in the 2016 Consolidated Financial Statements.

In the Bas-Congo basin, TOTAL is also the operator of exploration Block 17/06 (30%).

In the deep offshore Kwanza basin, TOTAL is the operator of Blocks 25 (35%) and 40 (40%). The Block 39 license (7.5%) expired at the end of December 2016.

## REPUBLIC OF THE CONGO

In the Republic of the Congo, the Group's production, through its subsidiary Total E&P

Congo<sup>(1)</sup>, was 90 kboe/d in 2016, compared to 87 kboe/d in 2015 and 95 kboe/d in 2014.

- On the offshore field Moho Bilondo (map page 75) (53.5%, operator), the Phase 1b project (estimated capacity of 40 kboe/d) started production in 2015. The Moho Nord project (estimated capacity of 100 kboe/d) started production in March 2017.
- Block 14K (36.75%) corresponds to the offshore unitization area between the Republic of the Congo (Haute Mer license) and Angola (Block 14 located in Angola). The Lianzi field started production in 2015. TOTAL's interests in the unitization area are held 26.75% by Total E&P Congo and 10% by Angola Block 14 BV.
- Total E&P Congo is operator of Djéno (63%) the sole oil terminal in the country.
- On December 31, 2016, Total E&P Congo returned its interests in the

Tchibouela, Tchendo, Tchibeli and Litanzi fields (65%) to the Republic of the Congo, as the licenses have expired.

## GABON

In Gabon, the Group's production was 58 kboe/d in 2016 compared to 59 kboe/d in 2015 and 58 kboe/d in 2014. The Group's activities in Gabon are primarily carried out by Total Gabon<sup>(2)</sup>. TOTAL wholly owns and operates the Anguille and Torpille sector offshore fields, the Mandji Island sector onshore fields and the Cap Lopez oil terminal. TOTAL is also the operator of the Baudroie-Mérou offshore fields (50%) and the Diaba deep offshore license (42.5%), where the Diaman gas discovery was made in 2013. In February 2017, TOTAL signed an agreement for the sale of stakes and the transfer of operatorship in various mature assets. The transaction is subject to approval by the authorities.



Moho Nord (Republic of the Congo).

(1) Total E&P Congo is owned by TOTAL (85%) and Qatar Petroleum (15%).

(2) Total Gabon is a company under Gabonese law, the shares of which are listed on Euronext Paris and owned by TOTAL (58.28%), the Republic of Gabon (25%) and the public (16.72%).

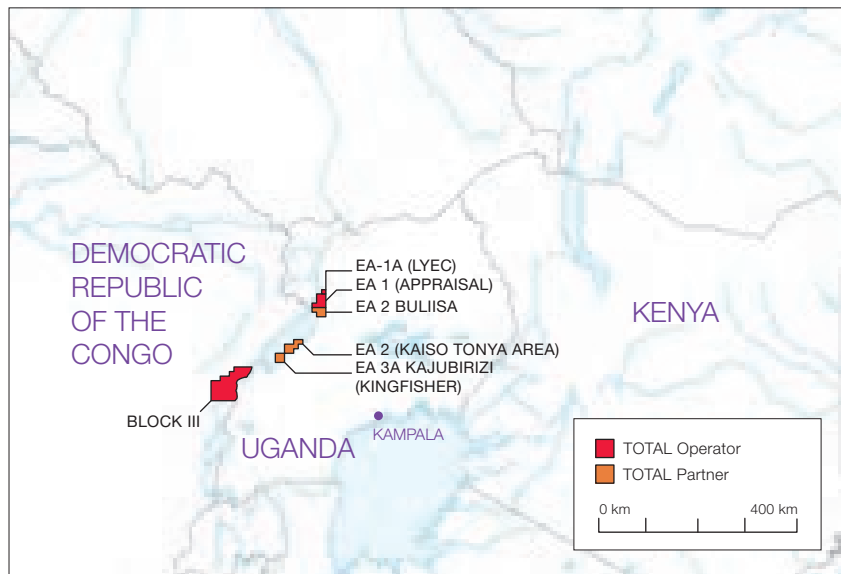
### UGANDA

In Uganda, a growth area for the Group, TOTAL has been present in the Upstream since 2012, and has a 33.33% stake in the licenses EA-1, EA-1A (Lyec), EA-2 (Buliisa and Kaiso Tonya area) and EA-3 (Kingfisher) all located in the Lake Albert region. TOTAL is the operator of licenses EA-1 and EA-1A. In January 2017, TOTAL signed an agreement to acquire 21.57% of the 33.33% interest held by Tullow in the licenses EA-1, EA-1A, EA-2 and EA-3. TOTAL will take over operatorship from Tullow of license EA-2, enabling significant efficiency gains and synergies. CNOOC has exercised its pre-emption rights to acquire 50% of the 21.57% interest being transferred. This agreement remains subject to the approvals of the Ugandan authorities.

In April 2016, the Government of Uganda decided to export the Lake Albert oil through a pipeline (EACOP) via Tanzania to the port of Tanga. In August 2016, the production licenses for EA-1 and EA-2 were formally granted. The partners of the Uganda Joint Venture have launched the FEED (Front End Engineering and Design) phase for the Upstream and the EACOP pipeline.

### REST OF THE ZONE OF AFRICA

TOTAL also holds interests in exploration licenses in South Africa, Côte d'Ivoire, Kenya, Mauritania, Mozambique and the Democratic Republic of the Congo, and is negotiating with the authorities with a view to resuming exploration activities in the Republic of South Sudan. In July 2016, TOTAL withdrew from the Bemolanga license in Madagascar.



Lake Albert (Uganda).

## MIDDLE EAST AND NORTH AFRICA ACREAGE

In 2016, TOTAL's production in Middle East and North Africa was **517 kboe/d**

Representing **21%** of the Group's overall production



### PRODUCTION

	2016	2015	2014	2013	2012
Liquids production (Kb/d)	373	372	224	379	379
Gas production (Mcf/d)	795	874	1,163	1,237	1,080
<b>Total (Kboe/d)</b>	<b>517</b>	<b>531</b>	<b>438</b>	<b>607</b>	<b>578</b>

### MAIN START-UPS

Start-up	Projects	Type	Capacity (kboe/d)	Share	Op. Country
2017	Al-Shaheen	Liq.	300	30%	x Qatar
2018	Timimoun	Tight gas	30	37.75%	Algeria

### TOTAL'S PRODUCING ASSETS AS OF DECEMBER 31, 2016 (1)

	Year of entry into the country	Operated (Group share in %)	Non-operated (Group share in %)
<b>Middle East and North Africa</b>			
<b>Algeria</b>	<b>1952</b>		Tin Fouye Tabankort (35.00%)
<b>U.A.E.</b>	<b>1939</b>	Abu Al Bu Khoosh (75.00%)	ADCO (10.00%) Abu Dhabi offshore (13.33%) <sup>(2)</sup> GASCO (15.00%) ADGAS (5.00%)
<b>Iraq</b>	<b>1920</b>		Halfaya (22.5%) <sup>(3)</sup>
<b>Libya</b>	<b>1959</b>		Zones 15, 16 & 32 (75.00%) <sup>(4)</sup> Zones 129 & 130 (30.00%) <sup>(4)</sup>
<b>Oman</b>	<b>1937</b>		Various fields onshore (Block 6) (4.00%) <sup>(5)</sup> Mukhaizna field (Block 53) (2.00%) <sup>(6)</sup>
<b>Qatar</b>	<b>1936</b>	Al Khalij (40.00%)	North Field-Block NF Dolphin (24.50%) North Field-Qatargas 1 Downstream (10.00%) North Field-Qatargas 1 Upstream (20.00%) North Field-Qatargas 2 Train 5 (16.70%)
<b>Yemen</b>	<b>1987</b>		Various fields onshore (Block 5) (15.00%)

(1) The Group's interest in the local entity is approximately 100% in all cases except certain entities in Abu Dhabi and Oman (see notes (2) through (6) below).

(2) Via Abu Dhabi Marine Areas Limited (equity affiliate), TOTAL holds a 13.33% stake in the Abu Dhabi Marine Areas (ADMA) concession operated by ADMA-OPCO.

(3) TOTAL's interest in the joint venture.

(4) TOTAL's stake in the foreign consortium.

(5) TOTAL's indirect interest (4.00%) in the concession, via its 10% interest in Private Oil Holdings Oman Ltd. TOTAL also has a direct interest (5.54%) in the Oman LNG facility (trains 1 and 2), and an indirect participation (2.04%) through OLNGL in Qalhat LNG (train 3).

(6) TOTAL's direct interest in Block 53.



## UNITED ARAB EMIRATES

In the United Arab Emirates, the Group's production was 291 kboe/d in 2016 compared to 287 kboe/d in 2015 and 127 kboe/d in 2014. The Group holds, since January 1, 2015, a 10% stake in the Abu Dhabi Company for Onshore Petroleum Operations Ltd. (ADCO) concession for a period of 40 years, which follows a previous onshore concession. This concession covers the 15 main onshore fields of Abu Dhabi and represents more than half of the Emirate's production.

TOTAL holds a 75% stake (operator) in the Abu Al Bukhoosh field and a 13.3% stake in the Abu Dhabi Marine (ADMA) concession, which operates two of the main offshore fields in Abu Dhabi (Umm Shaif and Lower Zakum). TOTAL also holds a 15% stake in Abu Dhabi Gas Industries (GASCO), which produces NGL and condensates from the associated gas produced by ADCO. In addition, TOTAL holds 5% of the Abu Dhabi Gas Liquefaction Company (ADGAS), which processes the associated gas produced by ADMA in order to produce LNG, NGL and condensates, and 5% of National Gas Shipping Company (NGSCO), which owns eight LNG tankers and exports the LNG produced by ADGAS.

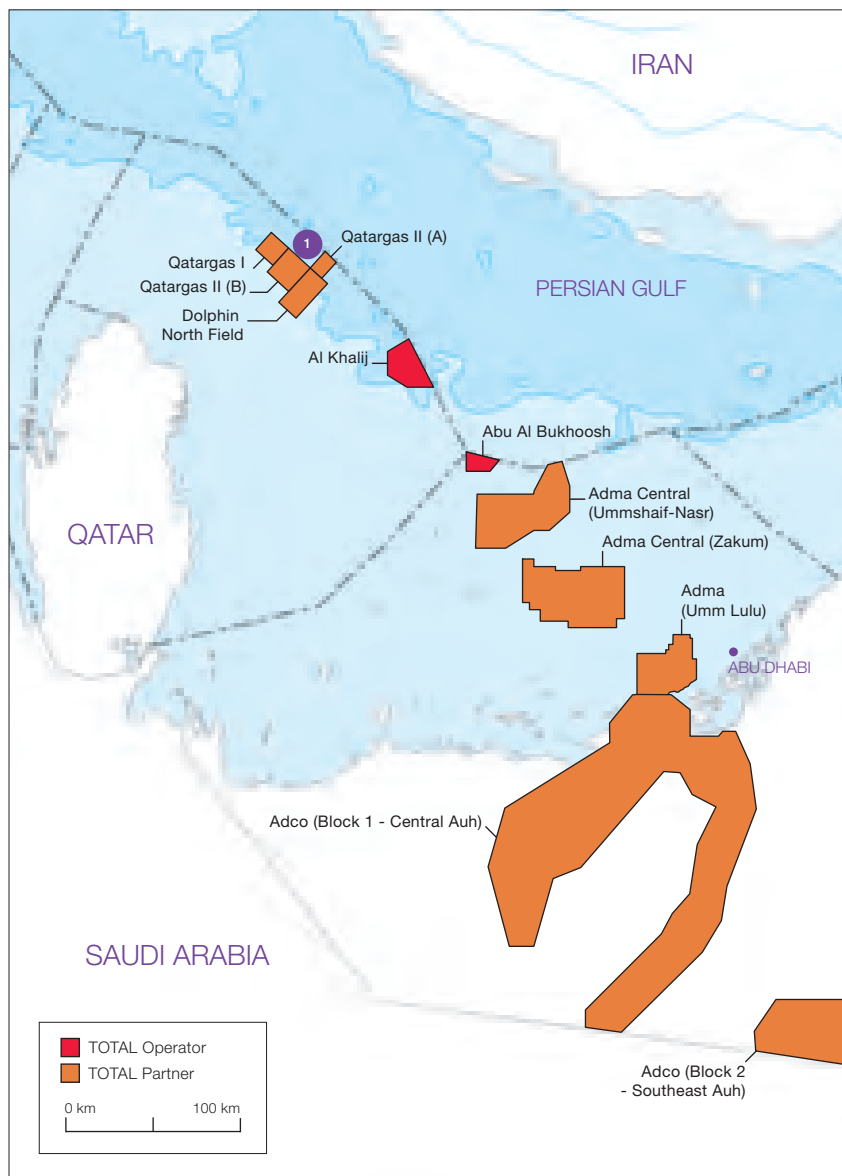
TOTAL holds a 24.5% stake in Dolphin Energy Ltd. in partnership with Mubadala, a company owned by the government of Abu Dhabi, that markets to the United Arab Emirates gas coming from Qatar. In October 2016, a long-term gas sale and purchase agreement was signed with Qatar Petroleum for the supply of an additional 0.3 Bcf/d of gas coming from Qatar to be sold domestically.

The Group also owns 33.33% of Ruwais Fertilizer Industries (FERTIL), which produces urea (production capacity of 2 Mt/year).

## QATAR

In Qatar, the Group's production was 134 kboe/d in 2016 and in 2015, compared to 132 kboe/d in 2014.

In June 2016, TOTAL signed an agreement granting it a 30% stake in the Al-Shaheen offshore oil field concession for a period of 25 years beginning July 14, 2017. The Al-Shaheen field has been producing since 1994 and lies offshore 80 km north of Ras Laffan. Production, which represents



approximately half of Qatar's oil production<sup>(1)</sup>, is provided by 30 platforms and 300 wells. As of July 2017, the Al-Shaheen field will be operated by a new operating company, North Oil Company, held by TOTAL (30%) and Qatar Petroleum (70%).

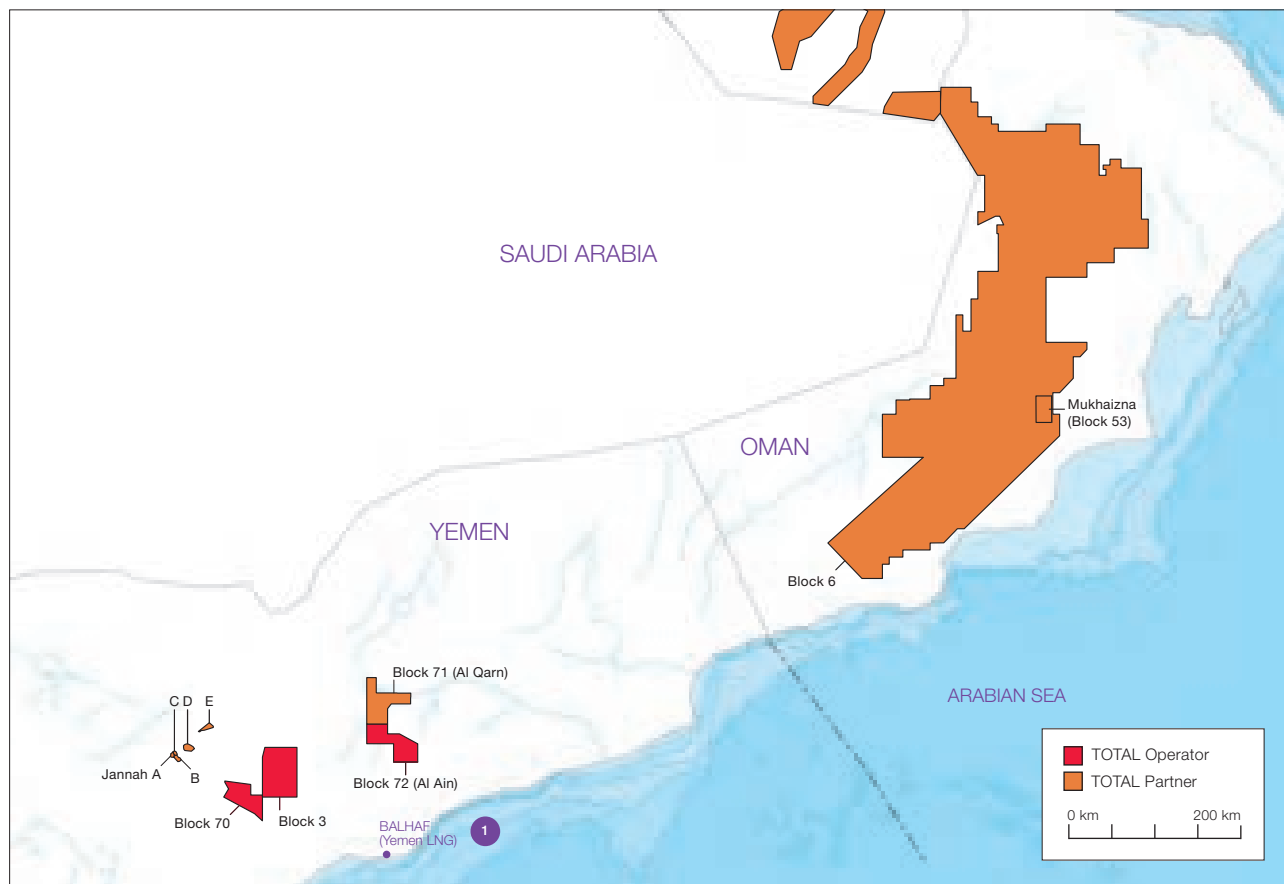
TOTAL operates the Al Khalij field (40%, operator) and participates in the production, processing and exporting of gas from the North Field through its stakes in the Qatargas 1 and Qatargas 2 LNG plants and in Dolphin Energy:

- Qatargas 1: TOTAL holds a 20% stake in the Upstream block of Qatargas 1 supplying the three LNG trains of Qatargas 1 (capacity of 10 Mt/y), in which the Group has a 10% interest.

- Qatargas 2 ①: the Group holds a 16.7% stake in train 5, which has an LNG production capacity of 8 Mt/y. TOTAL offtakes part of the LNG produced under the 2006 contracts that provide for the purchase of 5.2 Mt/y of LNG by the Group.

- Dolphin Energy (24.5%): the contract signed in 2001 with Qatar Petroleum provides for the production and sale of gas and liquids from the Dolphin block located on the North Field. Raw gas is processed at the Dolphin plant in Ras Laffan, where the liquids are extracted. This gas is then routed to the United Arab Emirates by a 360 km gas pipeline in order to be sold (contract of 2 Bcf/d over a 25-year period).

(1) Company data.



## OMAN

In Oman, the Group's production was 37 kboe/d in 2016, compared to 36 kboe/d in 2015 and 2014. TOTAL participates in the production of oil principally in Block 6 (4%)<sup>(1)</sup>, but also in Block 53 (2%). The Group also produces LNG through its investments in the Oman LNG (5.54%)/Qalhat LNG (2.04%)<sup>(2)</sup> liquefaction complex, with an overall capacity of 10.5 Mt/y.

## ALGERIA

In Algeria, TOTAL's production was 23 kboe/d in 2016 compared to 25 kboe/d in 2015 and 20 kboe/d in 2014. All of the Group's production in Algeria comes from the Tin Fouyé Tabankort (TFT) field (35%)<sup>(1)</sup> (map page 81). In addition, the development of the Timimoun gas field

(37.75%) continued in 2016 with engineering activities, activities related to the construction of the plant and drilling.

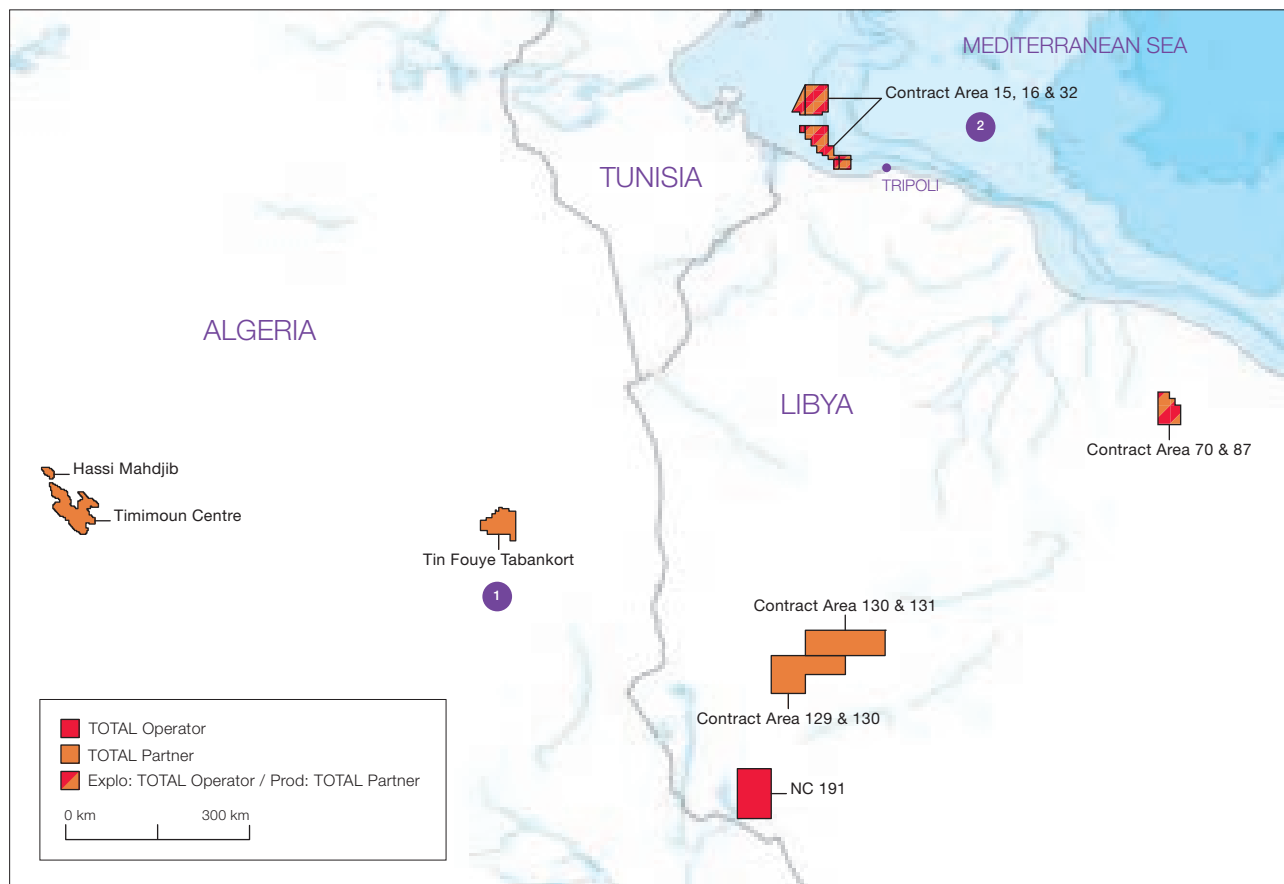
## IRAQ

In Iraq, the Group's production was 18 kboe/d in 2016, stable compared to 2015, and 12 kboe/d in 2014. TOTAL holds a 22.5% stake in the development and production contract for the Halfaya field, located in Missan province. In 2016, the development of phase 3 of the project (to increase production to 400 kb/d) was the subject of additional studies. In Iraqi Kurdistan, TOTAL relinquished four exploration blocks that expired in 2016. An impairment on the assets in Iraqi Kurdistan was recognized in the 2016 Consolidated Financial Statements.

## LIBYA

In Libya, where security conditions remain unstable, the Group's production was 14 kboe/d in 2016 and in 2015, compared to 27 kboe/d in 2014. This production comes from blocks located on offshore areas 15, 16 and 32<sup>(1)</sup> (map page 81) (Al Jurf, 75%<sup>(3)</sup>), which have not been affected by security issues. Since the fourth quarter of 2014, production as well as exploration activities have been stopped on Mabruk – onshore areas 70 and 87 (75%<sup>(3)</sup>) – and on the fields of El Sharara – onshore area 130 and 131 (24%<sup>(3)</sup>). The production on the fields of El Sharara – onshore area 129 and 130 (30%<sup>(3)</sup>) – resumed at the end of December 2016. Taking into account the uncertain context in Libya, an impairment on the onshore assets was recognized in the 2015 Consolidated Financial Statements.

(1) TOTAL holds an indirect 4% stake in Petroleum Development Oman LLC, operator of Block 6, via its 10% stake in Private Oil Holdings Oman Ltd.  
(2) TOTAL's indirect stake via Oman LNG's stake in Qalhat LNG.  
(3) TOTAL's stake in the foreign consortium.



## YEMEN

In Yemen, the Group had no production in 2016, compared to 17 kboe/d in 2015 and 84 kboe/d in 2014. Due to the security conditions in the vicinity of Balhaf, Yemen LNG 1 (map page 80), in which the Group holds a stake of 39.62%, stopped its commercial production and export of LNG in April 2015, when Yemen LNG declared *force majeure* to its various stakeholders. The plant is in a preservation mode.

TOTAL is a partner in Block 5 (Marib basin, Jannah license, 15%) and holds various stakes in four onshore exploration licenses.

## IRAN

In Iran, TOTAL signed a heads of agreement in November 2016 to develop phase 11 of the giant South Pars gas field (expected production capacity of 370 kboe/d), pursuant to which TOTAL is

expected to operate South Pars 11 with a 50.1% interest alongside Petropars (19.9%), a wholly-owned subsidiary of the National Iranian Oil Company (“NIOC”), and the Chinese state-owned company CNPC (30%). The produced gas is expected to supply the Iranian domestic market. Two development phases are planned: the first for the construction of two platforms, 30 wells and two connecting lines to existing onshore treatment facilities, and the second for the installation of offshore compression facilities. This project fits with TOTAL’s strategy of expanding its presence in the Middle East and growing its gas portfolio by adding a low unit cost, long plateau gas asset.

## SYRIA

In Syria, TOTAL has had no production and no activity since December 2011. The Group has a 100% stake in the Deir Ez

Zor license, which was operated by the joint venture company DEZPC, in which TOTAL and the state-owned company SPC each have a 50% share. Additionally, TOTAL is holder of the Tabiyeh contract which came into effect in 2009.

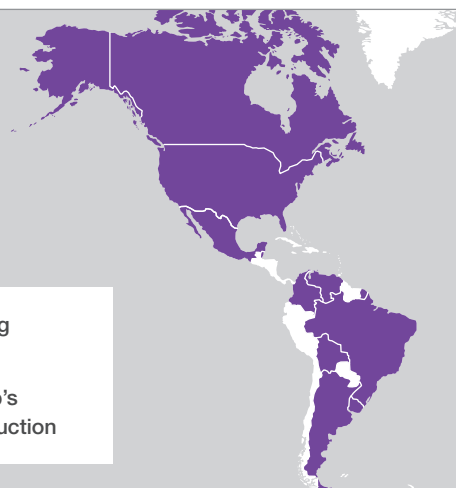
## REST OF THE ZONE OF THE MIDDLE EAST AND NORTH AFRICA

TOTAL also holds interests in exploration licenses in Cyprus and Egypt.

## AMERICAS ACREAGE

In 2016, TOTAL's production in Americas was **279 kboe/d**

Representing **11%** of the Group's overall production



## PRODUCTION

	2016	2015	2014	2013	2012
Liquids production (Kb/d)	109	95	89	82	84
Gas production (Mcf/d)	944	896	884	883	928
<b>Total (Kboe/d)</b>	<b>279</b>	<b>255</b>	<b>247</b>	<b>239</b>	<b>251</b>

## MAIN START-UPS

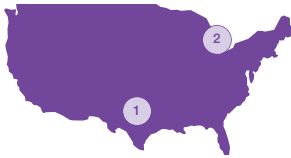
Start-up	Projects	Type	Capacity (kboe/d)	Share	Op.	Country
2016	Vega Pleyade	Gas	70	37.50%	x	Argentina
	Incahuasi	Gas	50	50%	x	Bolivia
2017	Libra EWT	Deep off.	50	20%		Brazil
	Fort Hills	Oil Sands	180	29.2%		Canada

## TOTAL'S PRODUCING ASSETS AS OF DECEMBER 31, 2016<sup>(1)</sup>

	Year of entry into the country	Operated (Group share in %)	Non-operated (Group share in %)
<b>Americas</b>			
<b>Argentina</b>	<b>1978</b>	Aguada Pichana (27.27%) Aguada San Roque (24.71%) Aries (37.50%) Cañadon Alfa Complex (37.50%) Carina (37.50%) Hidra (37.50%) Kaus (37.50%) La Escalonada (45.00%) Rincón la Ceniza (45.00%) Vega Pleyade (37.50%)	Rincón de Aranda (45.00%) Sierra Chata (2.51%)
<b>Bolivia</b>	<b>1995</b>	Incahuasi (50.00%)	San Alberto (15.00%) San Antonio (15.00%) Itaú (41.00%)
<b>Canada</b>	<b>1999</b>		Surmont (50.00%)
<b>United States</b>	<b>1957</b>		Several assets in the Barnett Shale area (100.00%) Several assets in the Utica Shale area (25.00%) <sup>(2)</sup> Chinook (33.33%) Tahiti (17.00%)
<b>Venezuela</b>	<b>1980</b>		PetroCedeño (30.32%) Yucal Placer (69.50%)

(1) The Group's interest in the local entity is approximately 100%.

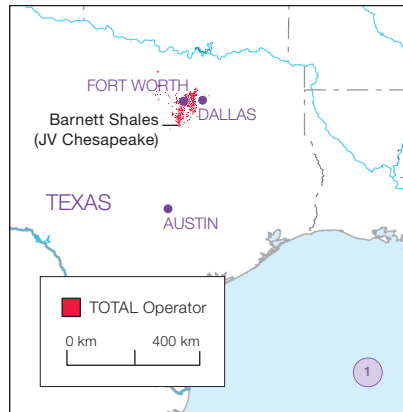
(2) TOTAL's interest in the joint venture with Chesapeake.



**UNITED STATES**

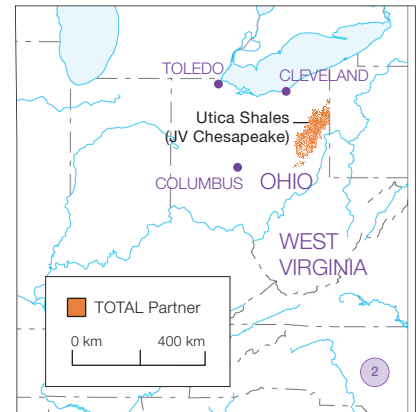
In the United States, the Group's production was 86 kboe/d in 2016, compared to 89 kboe/d in 2015 and 78 kboe/d in 2014.

Following the exercise of its preemption right, TOTAL acquired in November 2016 the 75% stake held by Chesapeake in the Barnett shale gas assets area located in North Texas, in which the Group had already a 25% interest since 2009. This transaction provides for the restructuring of the gas gathering and transportation contracts with respect to the acquired stake. The planned work relates to well intervention and well restarts. No wells were drilled in 2016 compared to 4 in 2015 and 40 in 2014.



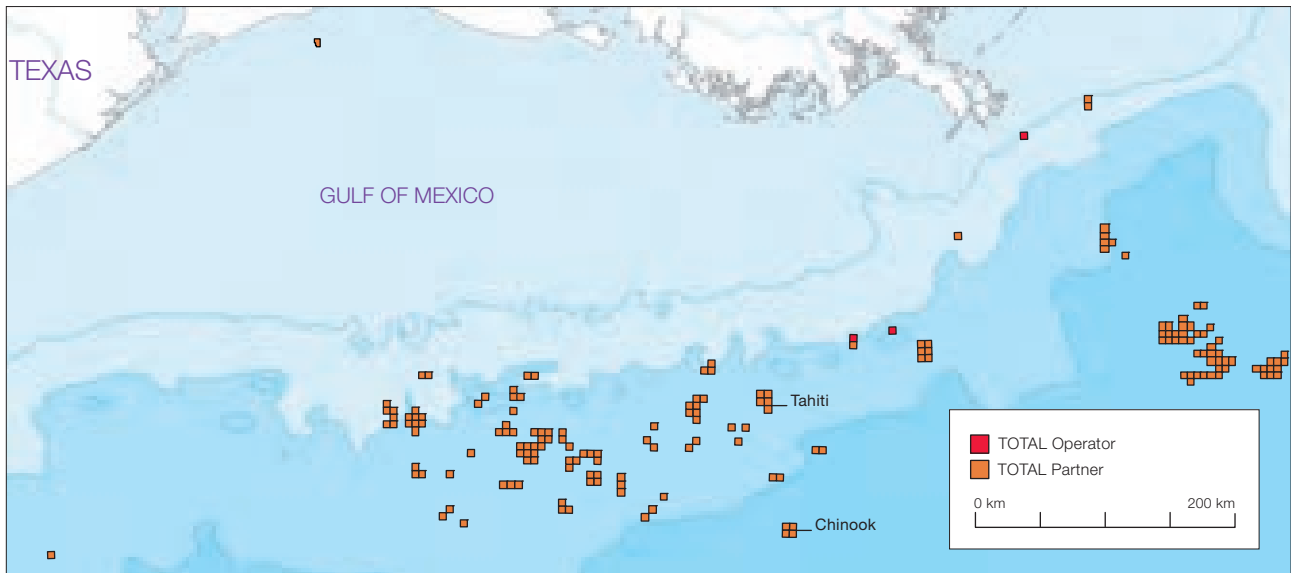
TOTAL also has a 25% stake in a joint venture operated by Chesapeake in the Utica basin (on an acreage mainly located in Ohio) that produces shale gas. TOTAL was not involved in the drilling of any wells in 2016 compared to 8 in 2015 and approximately 170 in 2014.

Following successive decreases in gas prices in the United States, impairments on shale gas assets were recognized in the 2014 and 2015 Consolidated Financial Statements.



In the Gulf of Mexico, TOTAL holds interests in the deep offshore fields Tahiti (17%) and Chinook (33.33%). In Tahiti, the Tahiti Vertical Expansion (TVEX) project was launched in 2016 in order to extend the production level of the field.

The TOTAL (40%) – Cobalt (60%, operator) alliance, formed in 2009 for exploration in the Gulf of Mexico, continued its work to delineate the North Platte discovery.



**ARGENTINA**

In Argentina, TOTAL operated approximately 30%<sup>(1)</sup> of the country's gas production in 2016. The Group's production was 78 kboe/d in 2016 compared to 72 kboe/d in 2015 and 75 kboe/d in 2014.

- In Tierra del Fuego, the Group operates the Carina and Aries offshore fields (37.5%). The drilling of two additional wells off the existing platform was completed in 2015. The Vega Pleyade field ❶ (37.5%, operator), where development work was launched in 2013 (with a production capacity of 350 Mcf/d), started production in February 2016.
- In the Neuquén basin, two pilot projects were launched following positive initial results of the exploration campaign on its mining licenses in order to assess its gas and shale oil potential: the first on the Aguada Pichana Block ❷ (27.27%, operator), where production started mid-2015, and the second on the Rincón la Ceniza ❸ (45%, operator) and La Escalonada (45%, operator) Blocks, where production started in July 2016.

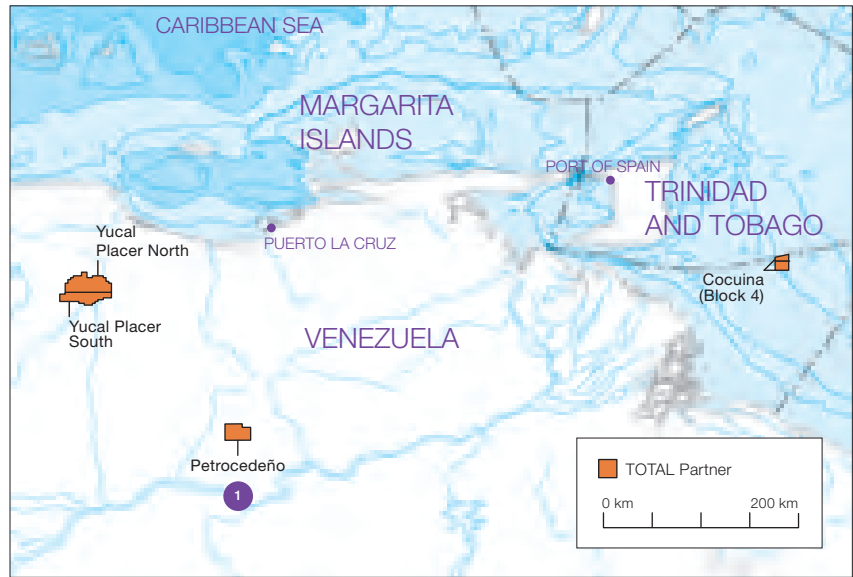
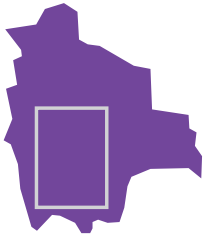


(1) Source: Department of Federal Planning, Public Investment and Services, Energy Secretariat.

**VENEZUELA**

In Venezuela, the Group's production was 47 kboe/d in 2016 compared to 52 kboe/d in 2015 and 2014. TOTAL has stakes in PetroCedeño (30.32%) and Yucal Placer (69.5%) as well as the offshore exploration Block 4 of Plataforma Deltana (49%).

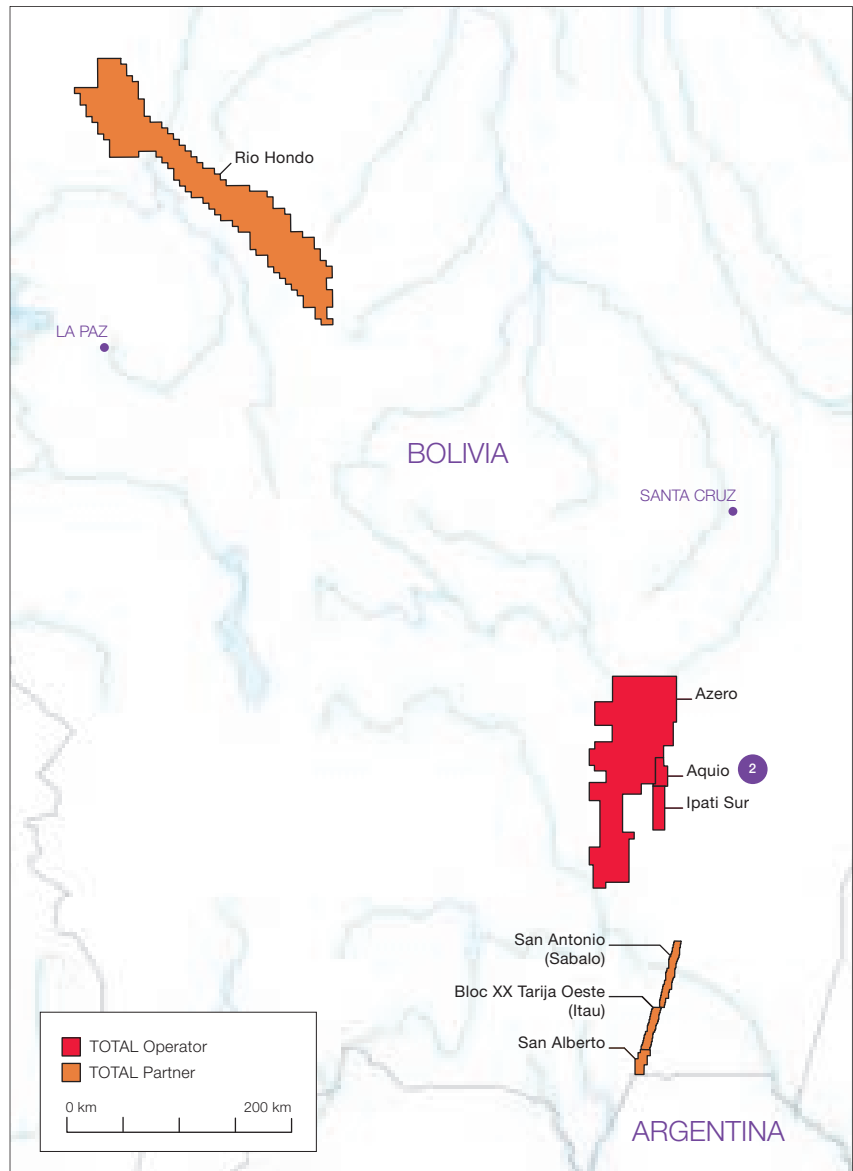
Development of the extra heavy oil field of PetroCedeño ❶ continues (39 production wells were drilled in 2016 compared to 47 in 2015 and 86 in 2014), as well as the debottlenecking project for the water separation and treatment facilities.



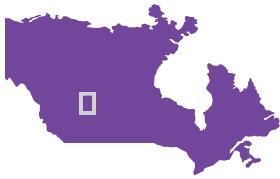
**BOLIVIA**

In Bolivia, the Group's production, mainly gas, was 34 kboe/d in 2016, compared to 28 kboe/d in 2015 and 30 kboe/d in 2014. TOTAL is active on seven licenses: three production licenses at San Alberto (15%), San Antonio (15%) and Block XX Tarija Oeste (41%); two licenses in development phase, Aquio and Ipati (50%<sup>(1)</sup>, operator); and two exploration phase licenses, Rio Hondo (50%) and Azero (50%, operator of the exploration phase).

- The Incahuasi gas field ❷, located in the Aquio and Ipati Blocks, started production in August 2016. A second development phase, which would involve the drilling of three additional wells, is under consideration.
- TOTAL holds a 50% stake in the Azero exploration license located in the Andean foothills, which extends over an area of more than 7,800 km<sup>2</sup>. The exploration period began in 2014. A geophysical data acquisition campaign was started in the fourth quarter of 2016 and is expected to be followed by the drilling of a well in 2018.



(1) In 2016, TOTAL reduced its stake in Aquio and Ipati from 60% to 50%.



**CANADA**

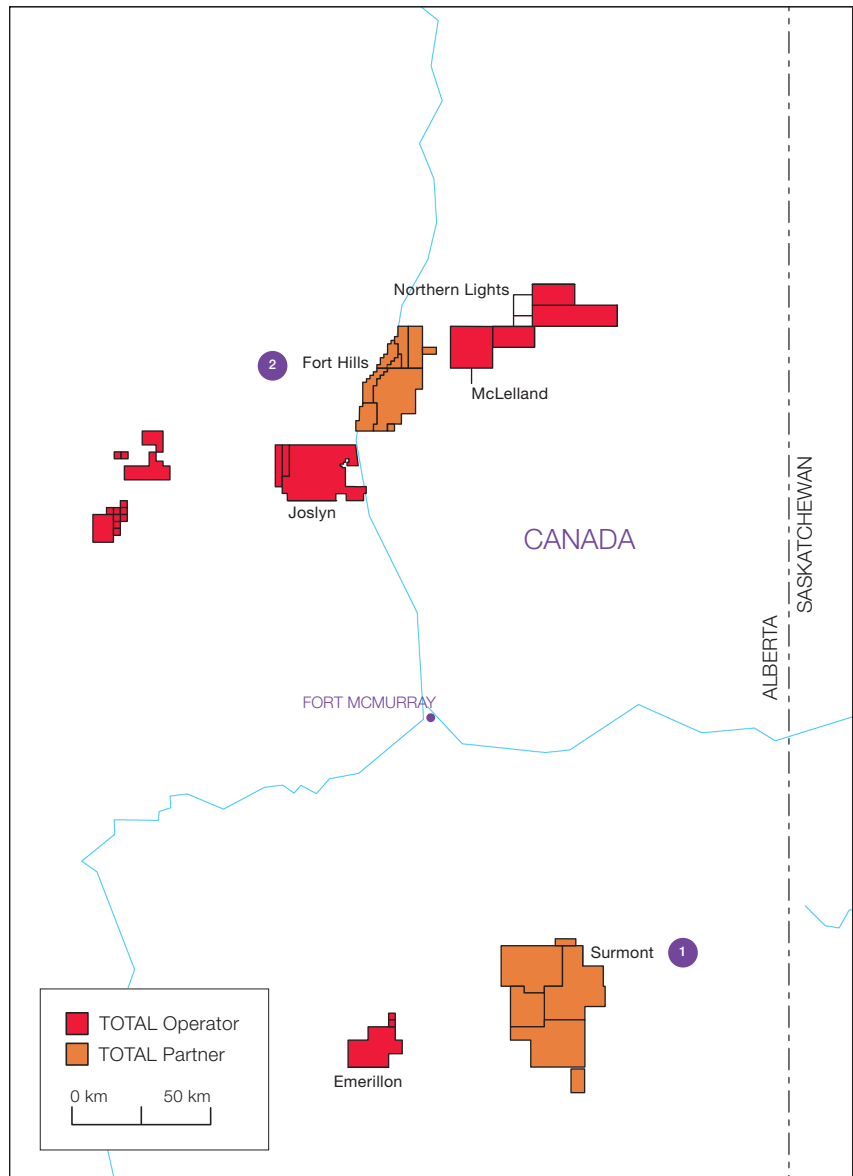
In Canada, the Group's production was 34 kboe/d in 2016 compared to 14 kboe/d in 2015 and 12 kboe/d in 2014. The Group's activities were not significantly affected by the wildfires that struck Alberta in May and June 2016. The Group's production comes entirely from the Surmont ❶ (50%) project developed by SAGD<sup>(1)</sup>, the second phase of which was commissioned in 2015. Following the ramp-up of this phase in 2016 and 2017, the project is expected to produce a total of approximately 150 kb/d (75 kb/d Group share).

Construction of the Fort Hills ❷ oil sands mining project was more than 80% complete at year-end 2016, and the operator expects to start production at the end of 2017.

As a result of a full comparative analysis of its global asset portfolio in the context of lower oil prices, the Group decided in 2015 to decrease its exposure to Canadian oil sands and reduced its stake in Fort Hills from 39.2% to 29.2%. An impairment on the part of the asset sold was recognized in the 2015 Consolidated Financial Statements.

On the Joslyn (38.25%, operator) and Northern Lights (50% operator) licenses, the projects were suspended in 2014 and works have been strictly limited to legal and contractual obligations, and maintaining safety.

An impairment on the oil sands assets was recognized in the 2014 Consolidated Financial Statements.



(1) Steam Assisted Gravity Drainage, production by injection of steam produced with recycled water.



## AMERICAS ACREAGE

United States  
Argentina  
Venezuela

Bolivia  
Canada  
Brazil

Mexico  
Rest of the zone  
of the Americas



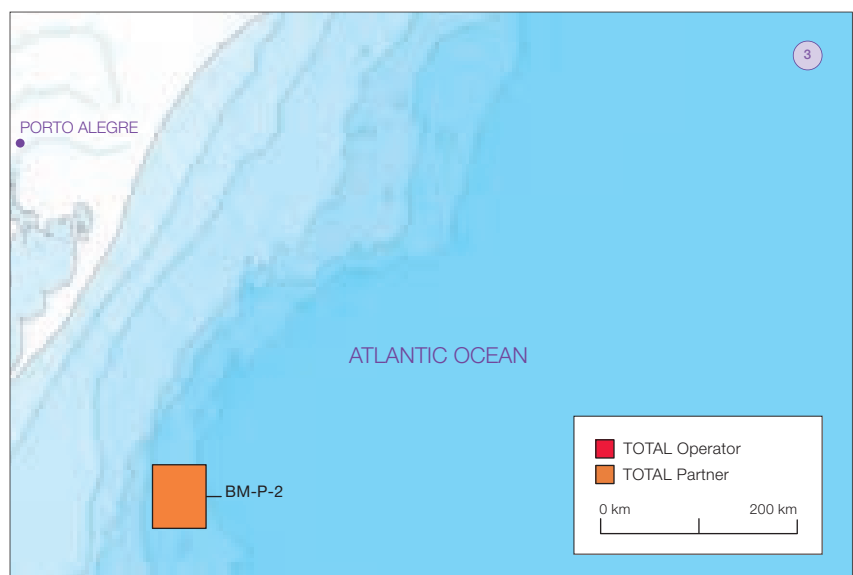
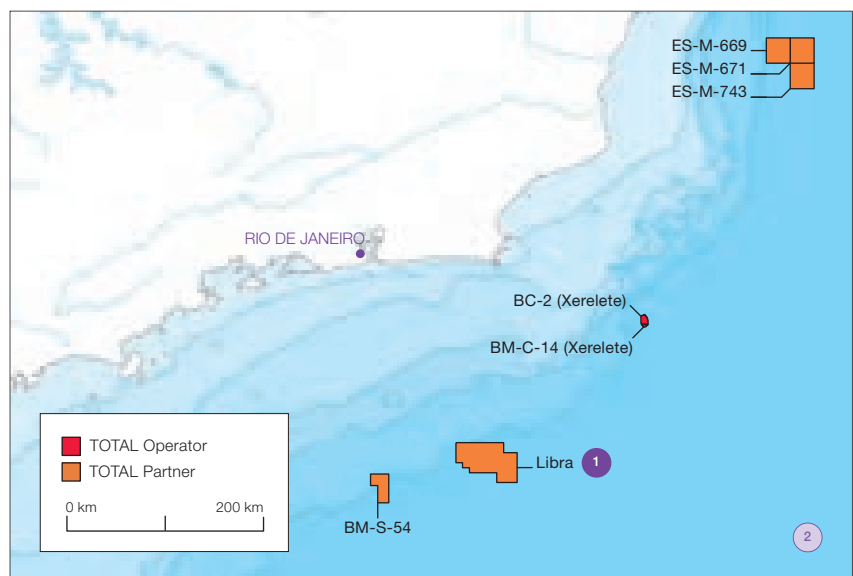
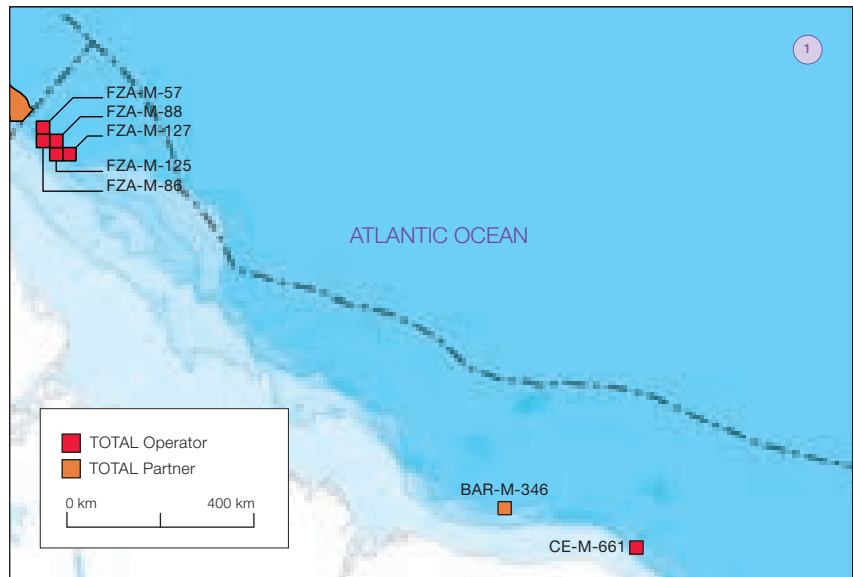
### BRAZIL

In Brazil, a growth area for the Group, TOTAL acquired in 2013 a 20% stake in the Libra field, located in the Santos basin.

The Libra field ❶ is located in the ultra-deep offshore (2,000 m) approximately 170 km off the coast of Rio de Janeiro, and covers an area of 1,550 km<sup>2</sup>. In 2014, construction started on a 50 kb/d capacity FPSO for long-term production testing. At year-end 2016, in addition to the discovery well, eight wells have been drilled in the field. Development phase 1 (17 wells connected to an FPSO with a capacity of 150 kb/d) is expected to start in 2017.

In addition, the Group holds 17 exploration licenses located in the Foz do Amazonas, Barreirinhas, Ceará, Espírito Santo and Pelotas basins. An initial exploration well is expected to be drilled by year-end 2017 in the Foz do Amazonas basin.

In February 2017, TOTAL and Petrobras signed definitive contracts in relation to a package of upstream and downstream gas and electricity assets in Brazil and other international opportunities contemplated by their strategic alliance agreed in December 2016. As part of this strategic alliance, TOTAL will hold a 22.5% interest in the concession area named Lara, located in Block BM-S-11, which is currently under development, as well as a 35% interest and the operatorship in the Lapa field concession area, located in Block BM-S-9. The Lapa field entered into production in December 2016. Petrobras will have the option of taking a 20% stake in the deepwater exploration Block 2 (Perdido Belt) recently obtained during the bid round in Mexico. Finally, technical cooperation between the two companies will be strongly reinforced, in particular by the joint assessment of the exploration potential of promising areas in Brazil and by the development of new technologies, in particular in deepwater. The deal is subject to regulatory approvals, the potential exercise of preemptive rights by current partners on the Lara concession and other conditions precedent.

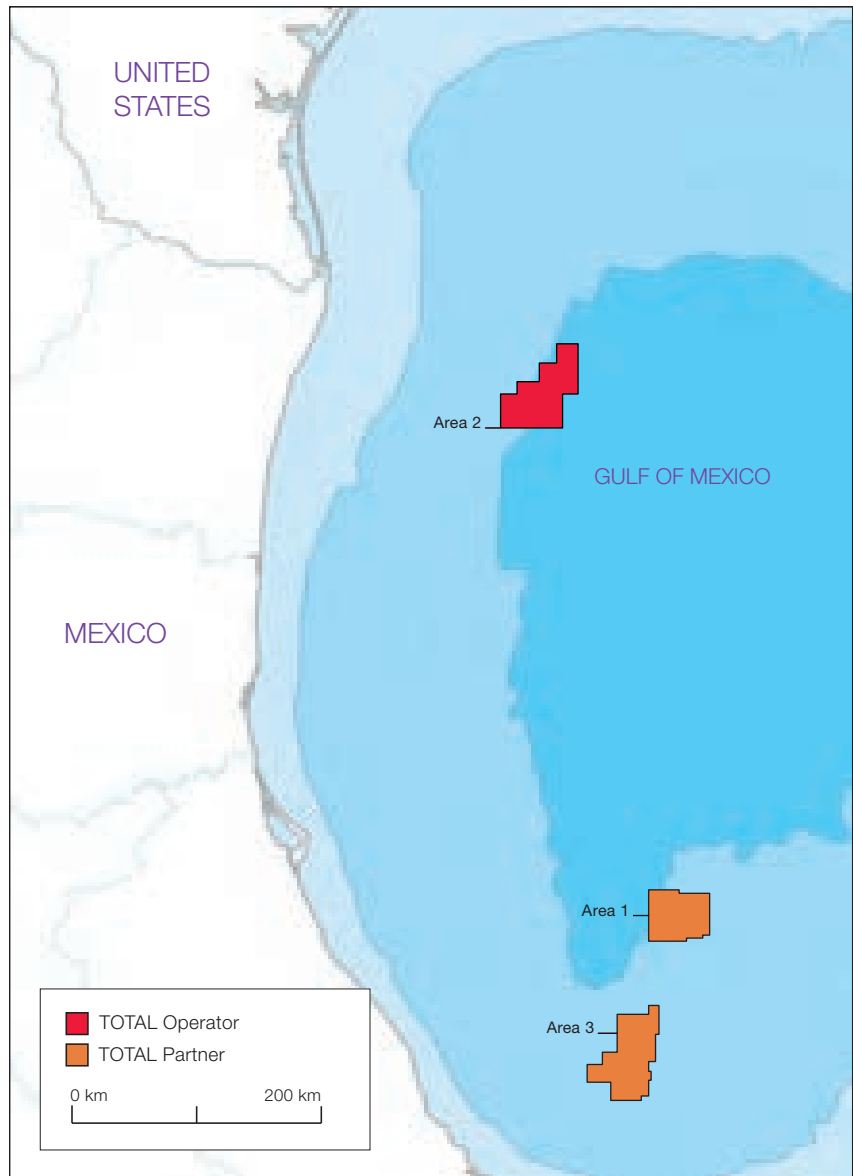


**MEXICO**

In Mexico, TOTAL was awarded in December 2016 exploration licenses on three blocks in offshore Mexico, following the country's first competitive deep water bid round resulting from the reform of the energy sector. Located in the Perdido basin, Block 2 (50%, operator) covers a surface area of 2,977 km<sup>2</sup> at water depths ranging from 2,300 m to 3,600 m. Block 1 (33.3%) and Block 3 (33.3%) are located in the Salina basin and cover a surface area of 2,381 km<sup>2</sup> and 3,287 km<sup>2</sup>, respectively.

**REST OF THE ZONE OF THE AMERICAS**

TOTAL also owns interests in exploration licenses in Aruba, Colombia, French Guyana and Uruguay.



## ASIA-PACIFIC ACREAGE

In 2016, TOTAL's production in Asia-Pacific was **265 kboe/d**

Representing **11%** of the Group's overall production

## PRODUCTION

	2016	2015	2014	2013	2012
Liquids production (Kb/d)	31	34	30	30	27
Gas production (Mcf/d)	1,350	1,290	1,178	1,170	1,089
<b>Total (Kboe/d)</b>	<b>265</b>	<b>258</b>	<b>238</b>	<b>235</b>	<b>221</b>

## MAIN START-UPS

Start-up	Projects	Type	Capacity (kboe/d)	Share	Op. Country
2017	Ichthys	LNG	340	30%	Australia

## TOTAL'S PRODUCING ASSETS AS OF DECEMBER 31, 2016 <sup>(1)</sup>

	Year of entry into the country	Operated (Group share in %)	Non-operated (Group share in %)
<b>Asia-Pacific</b>			
<b>Australia</b>	2005		Various fields in UJV GLNG (27.50%) <sup>(2)</sup>
<b>Brunei</b>	1986	Maharaja Lela Jamalulalam (37.50%)	
<b>China</b>	2006		South Sulige (49.00%)
<b>Indonesia</b>	1968	Bekapai (50.00%) Handil (50.00%) Peciko (50.00%) Sisi-Nubi (47.90%) South Mahakam (50.00%) Tambora (50.00%) Tunu (50.00%)	Badak (1.05%) Nilam-gas and condensates (9.29%) Nilam-oil (10.58%) Ruby-gas and condensates (15.00%)
<b>Myanmar</b>	1992	Blocks M5/M6 (Yadana, Sein) (31.24%)	
<b>Thailand</b>	1990		Bongkot (33.33%)

(1) The Group's interest in the local entity is approximately 100%.  
(2) TOTAL's interest in the unincorporated joint venture.

**INDONESIA**

In Indonesia, the Group's production was 140 kboe/d in 2016 compared to 147 kboe/d in 2015 and 130 kboe/d in 2014.

TOTAL's operations in Indonesia are primarily concentrated on the Mahakam license (50%, operator), which in particular includes the Peciko and Tunu gas fields. The Group also has a stake in the Sisi-Nubi gas field (47.9%, operator). The Mahakam license expires in December 2017. The Indonesian government has decided to allocate 100% of the participating interest to Pertamina (operator) from January 1, 2018 onwards, while giving Pertamina the possibility to farm out some interests to TOTAL and its current partner, INPEX. The Group delivers most of its natural gas production to the Bontang LNG plant. These volumes of gas represented more than 80% of the Bontang plant's supply in 2016. To this gas production was added the operated production of oil and condensates from the Handil and Bekapai fields.

- On the Mahakam license, the works aimed at maintaining production on the Tunu, Peciko, South Mahakam, Sisi-Nubi and Bekapai fields continued.
- On the Sebuku license (15%), production from the Ruby gas field is routed by pipeline for processing and separation at the Senipah terminal (operated by TOTAL).
- TOTAL also holds stakes in two exploration blocks: Mentawai (80%, operator) and Telen (100%).

In addition, the Group holds stakes in blocks with no activity and for which a relinquishment process is underway: South Mandar (49.3%), South Sageri (100%), South West Bird's Head (90%, operator) and South East Mahakam (50%, operator).



Mahakam (Indonesia).

**THAILAND**

In Thailand, the Group's production was 60 kboe/d in 2016 compared to 62 kboe/d in 2015 and 60 kboe/d in 2014. This production comes from the offshore gas and condensate field of Bongkot (33.33%). PTT (the Thai state-owned company) purchases all of the natural gas and condensate production. New investments are underway for maintaining the plateau and responding to gas demand.

**MYANMAR**

In Myanmar, the Group's production was 21 kboe/d in 2016, compared to 19 kboe/d in 2015 and 17 kboe/d in 2014.

The Yadana field (31.24%, operator), located on the offshore Blocks M5 and M6, primarily produces gas for delivery to PTT for use in Thai power plants. The Yadana field also supplies the domestic market via an offshore pipeline built and operated by MOGE, a Myanmar state-owned company. The LCP-Badamyar project, which includes the installation of the Badamyar field compression and development platform connected to the Yadana facilities, was launched in 2014. Drilling at Badamyar began in November 2016.

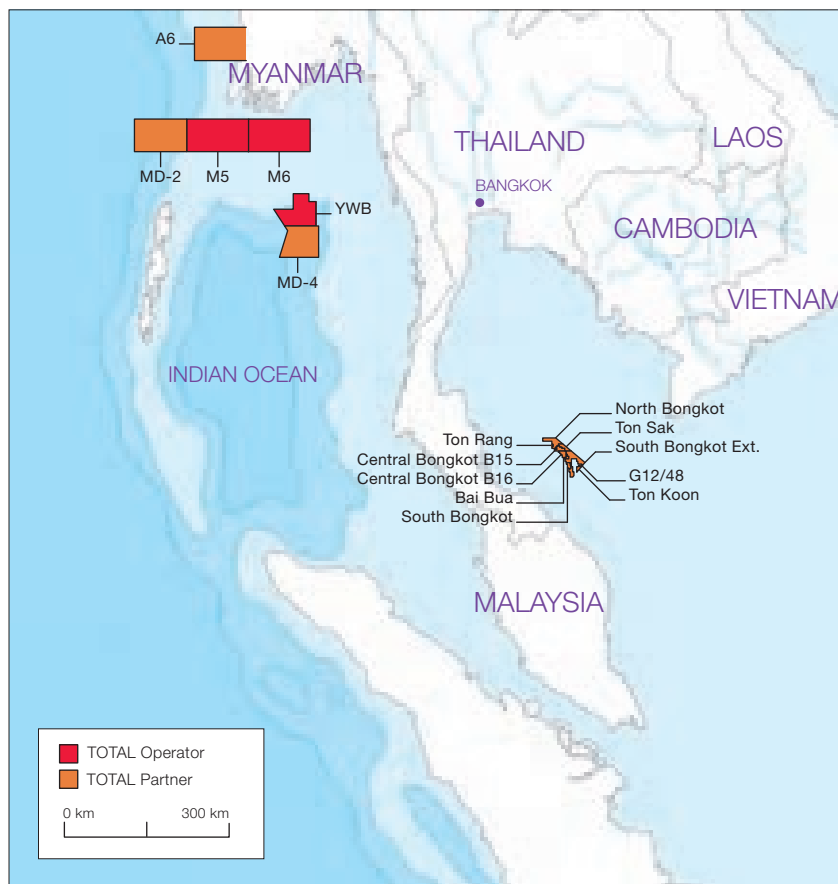
In 2014, TOTAL was awarded the deep offshore Block YWB (100%, operator) during the offshore round launched by the local authorities. The PSC was signed in 2015.

In 2015, the Group sold its stake in the offshore Block M11 (47.06%) and entered exploration license A6 (40%) located in the deep offshore area west of Myanmar. A first well was drilled in 2015 on which a natural gas discovery has been made and which requires further evaluation work.

In 2016, TOTAL signed farm-in agreements on the deep offshore licenses MD-02 (40%), MD-04 (40%) and MD-07 (50%).

**BRUNEI**

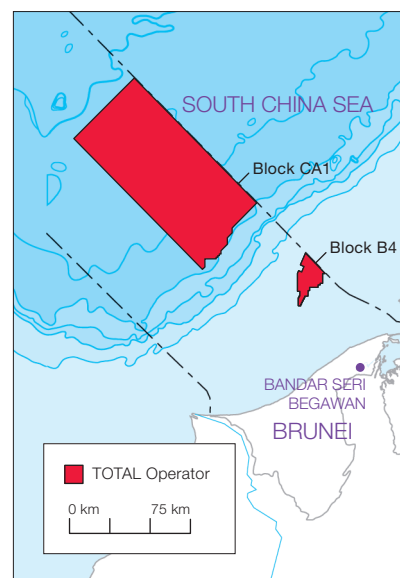
In Brunei, TOTAL operates the Maharaja Lela Jamalulalam offshore gas and condensate field on Block B (37.5%). The Group's production was 18 kboe/d in 2016 compared to 15 kboe/d in 2015 and 2014. The gas is delivered to the Brunei LNG liquefaction plant. Discussions are



underway regarding the terms of the unitization of the northern part of the Maharaja Lela Jamalulalam field with the Malaysian part of the field.

On the Maharaja Lela South project, a first debottlenecking phase for the production processing plant was completed in 2015, increasing production capacity by 20% (from 165 Mcf/d to 200 Mcf/d). Offshore, the installation of a third platform was completed at the end of 2015 and the drilling campaign is ongoing. Three wells started production in 2016.

Studies are currently being conducted to reassess the potential of the deep offshore exploration Block CA1 (86.9%, operator), which includes the Jagus East discovery. A well was drilled in 2015, and has confirmed the connection of the Jagus East field with the Gumusut-Kakap reservoirs in Malaysia. Discussions regarding the terms of the unitization of these two reservoirs are underway. They aim to ensure unified governance of the fields while setting out the distribution of costs and production between the parties.

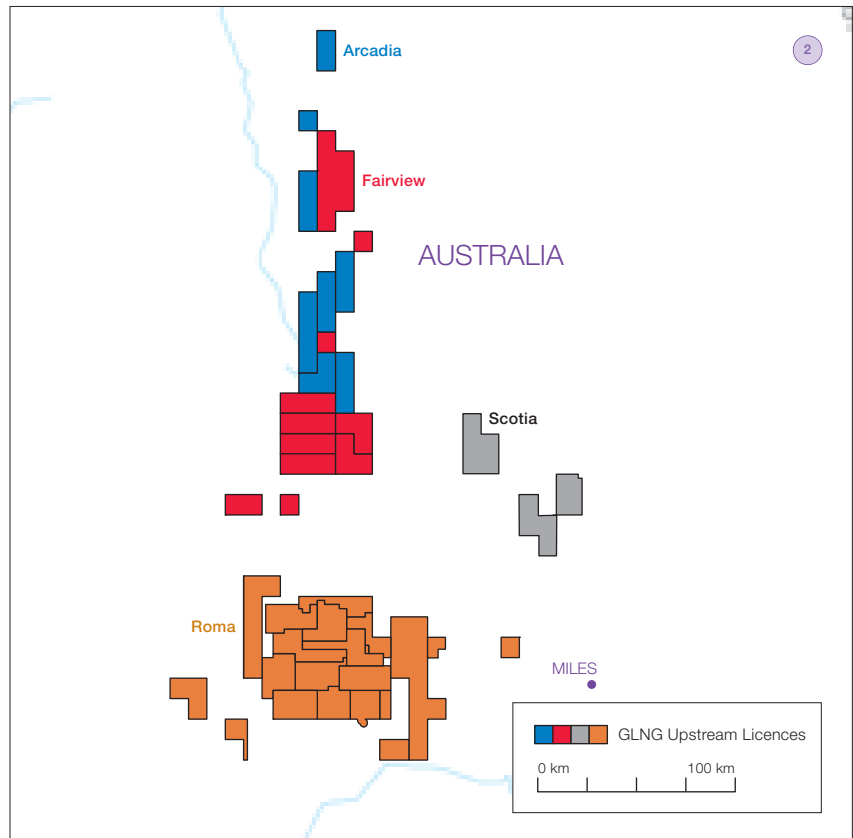
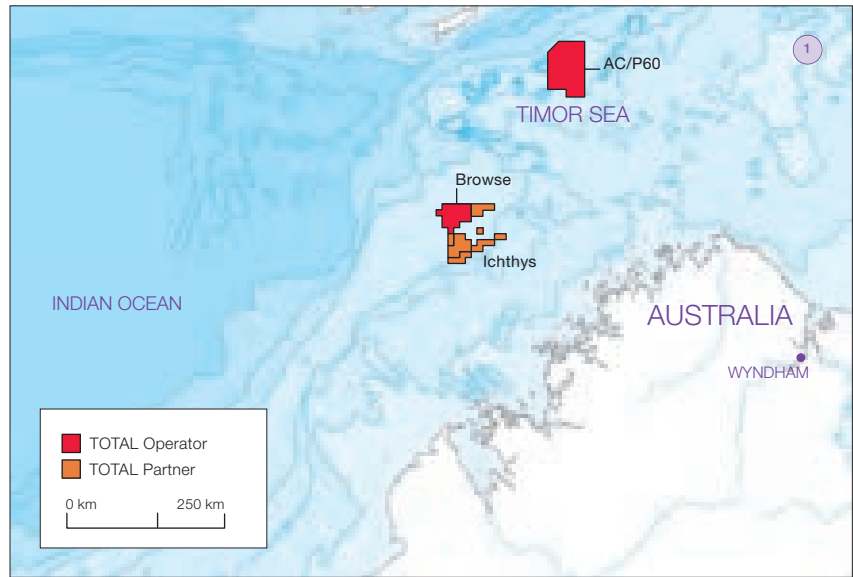


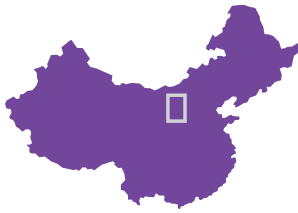


**AUSTRALIA**

In Australia, where TOTAL has had mining rights since 2005, the Group's production was 16 kboe/d in 2016, compared to 4 kboe/d in 2015 and 2014.

- The Ichthys project (30%) involves the development of a gas and condensate field located in the Browse Basin. This development will include a floating platform designed for the production, processing and export of gas, an FPSO (with condensate processing capacity of 100 kb/d) to stabilize and export the condensate, an 889 km gas pipeline and an onshore liquefaction plant (with 8.9 Mt/y LNG and 1.6 Mt/y LPG capacities) at Darwin. The LNG has already been sold, mainly to Asian buyers, under long-term contracts. As per the information provided by the operator, production is expected to start before the end of 2017.
- Gladstone LNG (GLNG) (27.5%) is an integrated gas production, transportation and liquefaction project with a capacity of 7.8 Mt/y from the Fairview, Roma, Scotia and Arcadia fields. Train 1 of the plant started production in 2015 and train 2 in May 2016. An impairment was recognized in the 2015 and 2016 Consolidated Financial Statements.





**CHINA**

In China, where TOTAL has been operating since 2006, the Group's production was 10 kboe/d in 2016 compared to 11 kboe/d in 2015 and 12 kboe/d in 2014. This production comes from the South Sulige Block (49%) in the Ordos Basin of Inner Mongolia, where the drilling of tight gas development wells is ongoing.



**REST OF THE ZONE OF ASIA-PACIFIC**

TOTAL also holds interests in exploration licenses in Malaysia and the Philippines. In Cambodia, TOTAL is working to implement an agreement entered into in 2009 with the Cambodian government for the exploration of Block 3 located in an area of the Gulf of Thailand disputed by the governments of Cambodia and Thailand. This agreement remains conditioned on the establishment by both countries of an appropriate contractual framework.

**PAPUA NEW GUINEA**

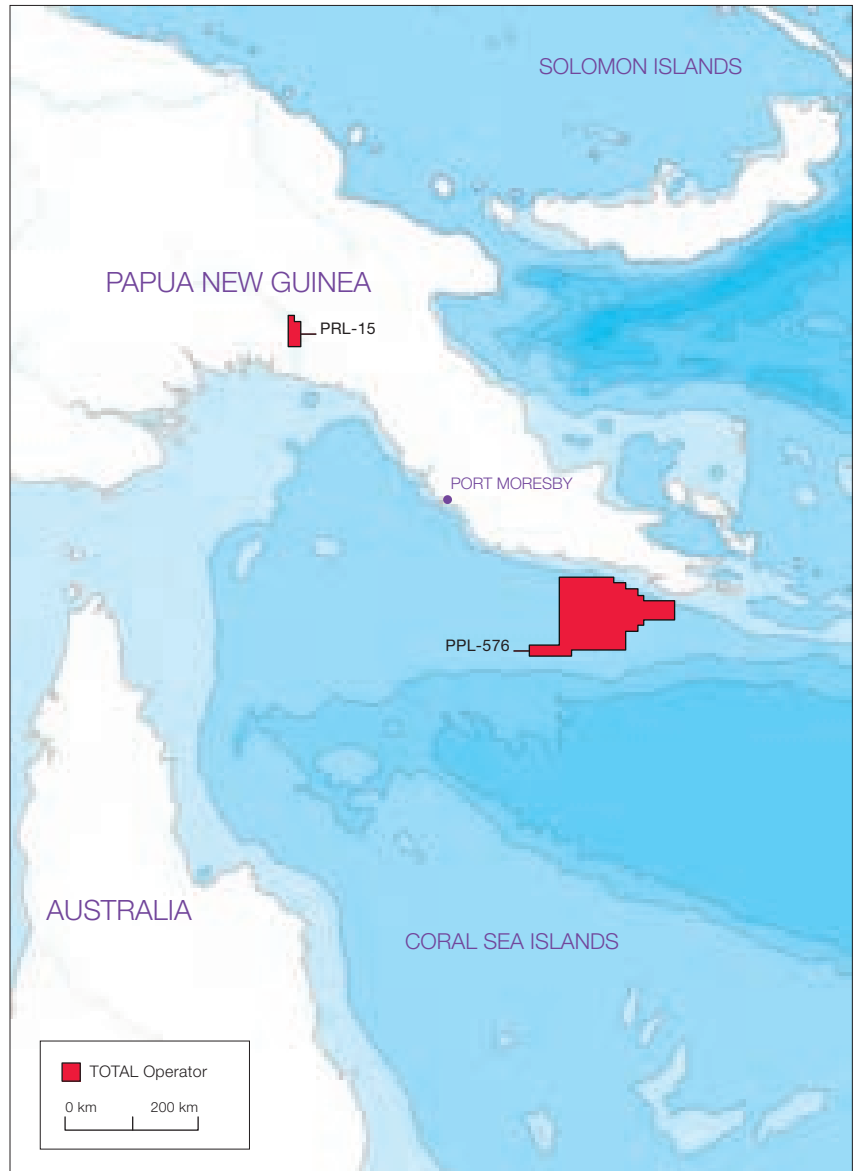
In Papua New Guinea, where TOTAL has been active since 2012, the Group owns a stake in Block PRL-15 (40.1%, operator since 2015). The State of Papua New Guinea retains the right to take a stake in the license (when the final investment decision is made) at a maximum level of 22.5%. In this case, TOTAL's stake would be reduced to 31.1%.

Block PRL-15 includes the two discoveries Elk and Antelope, growth areas for the Group. A delineation program of these discoveries is underway. The results of the first wells drilled have confirmed the level of resources in the Elk and Antelope fields. In

2015, the location of the various production sites was announced to the authorities. In 2016, work on the development studies continued and the Group carried out the environmental and societal baseline studies in the country that are necessary for the granting of authorization to start production in the fields.

In 2016, TOTAL signed an agreement to obtain a 35% stake in exploration license PPL339, located in Gulf Province.

In 2016, the authorities awarded TOTAL (100%) deep offshore exploration license PPL576 in the Coral Sea. A multi-client seismic survey was performed on the block during the fourth quarter of 2016.



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## REFINING & CHEMICALS

Among  
the world's  
**10**  
largest integrated  
producers<sup>(1)</sup>

**4.6 B\$**  
cash flow  
from  
operations

**2.0 MB/D**  
refining  
capacity at  
year-end 2016

**1.6 B\$**  
organic  
investments<sup>(2)</sup>

**4.2 B\$**  
adjusted net  
operating income

**50,433**  
employees

**38%**  
ROACE  
(business  
segment)

One of the leading  
traders of oil and  
refined products  
worldwide

<sup>(1)</sup> Based on publicly available information, production capacities at year-end 2015.

<sup>(2)</sup> Organic investments – net investments, excluding acquisitions, divestments and other operations with non-controlling interests.

# The Refining & Chemicals segment comprises...

## Refining, Petrochemicals and Hutchinson

Total's petrochemical operations are integrated with its refining operations. Hutchinson is a leader in elastomer processing.

Oil trading and shipping activities

## 2017 OUTLOOK

### HARVESTING THE BENEFITS OF RESTRUCTURING:

- 20% capacity reduction in Europe from 2011-2016: > 300 kb/d refining capacity eliminated
- modernizing Antwerp

### FOCUSING ON MAJOR INTEGRATED PLATFORMS:

Antwerp, Daesan, Normandy, Port Arthur, Qatar, SATORP

### ENHANCING EFFICIENCY:

- targeting > 94% availability
- delivering \$600m opex reductions as planned

### EXPANDING PETROCHEMICALS:

- building a new 1 Mt/y ethane steam cracker in the US
- high return projects in Saudi Arabia, Qatar and Korea

## FINANCIAL HIGHLIGHTS

(in million dollars)	2016	2015	2014	2013	2012
Adjusted operating income <sup>(1)</sup>	4,373	5,649	2,739	1,766	1,873
Adjusted net operating income <sup>(1)</sup>	4,201	4,889	2,489	1,857	1,768
Contribution of Specialty Chemicals	581	496	629	583	491
Gross investments <sup>(2)</sup>	1,849	1,843	2,022	2,708	2,502
Organic investments <sup>(3)</sup>	1,636	827	1,944	2,530	2,094
Divestments	86	3,488	192	365	392
Cash flow from operations	4,587	6,432	6,302	4,260	2,726

(1) Adjusted results are defined as income at replacement cost, excluding non-recurring items, and excluding the impact of fair value changes.

(2) Including acquisitions and increases in non-current loans.

(3) Organic investments = net investments, excluding acquisitions, divestments and other operations with non-controlling interests.

## OPERATIONAL HIGHLIGHTS<sup>(1) (3)</sup>

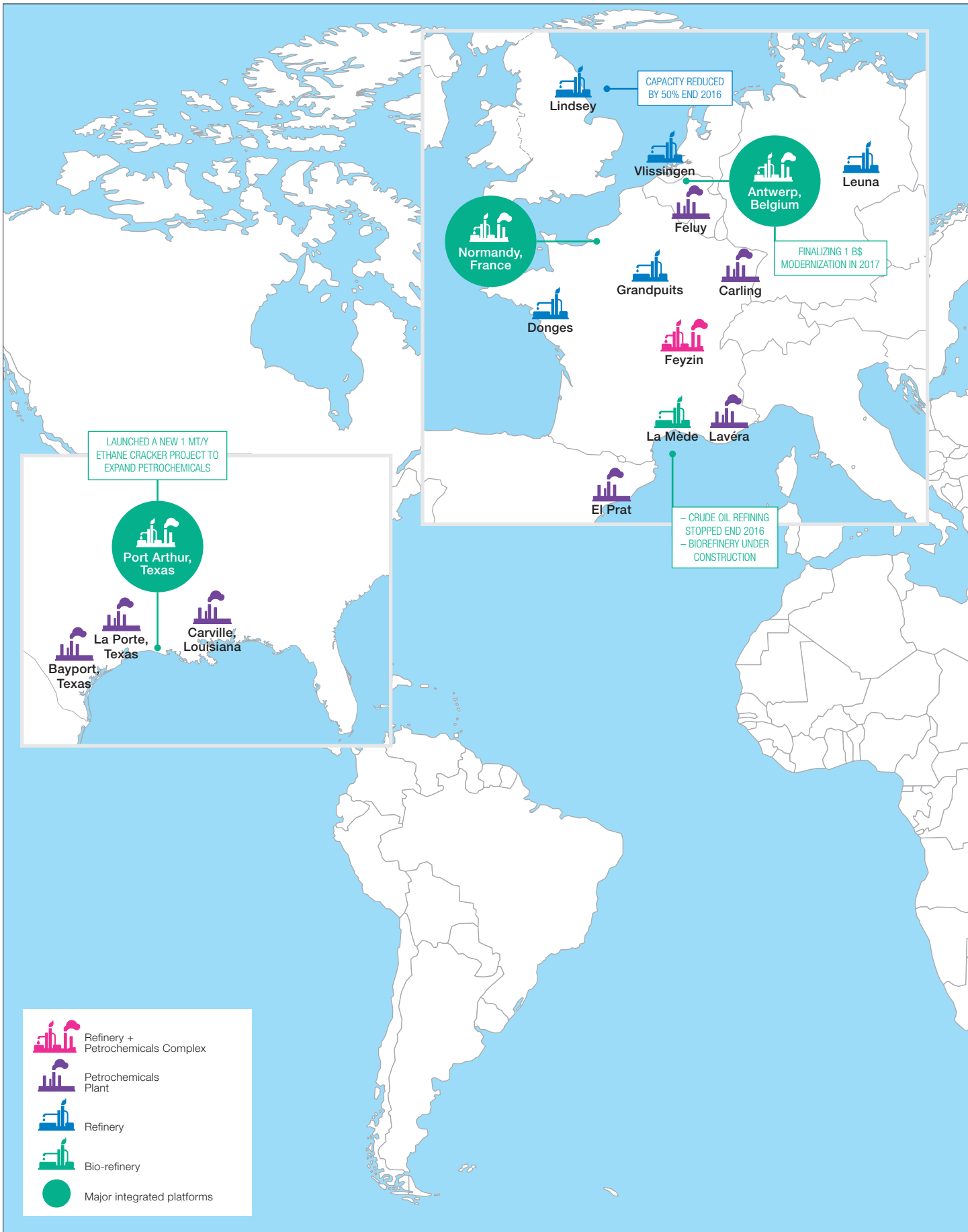
(in kb/d)	2016	2015	2014	2013	2012
Distillation capacity Group share at year-end <sup>(2)</sup>	2,011	2,247	2,187	2,042	2,048
Refinery throughput	1,965	2,023	1,775	1,719	1,786

(1) Includes share of TotalErg, as well as refineries in Africa and the French Antilles that are reported in the Marketing & Services segment.

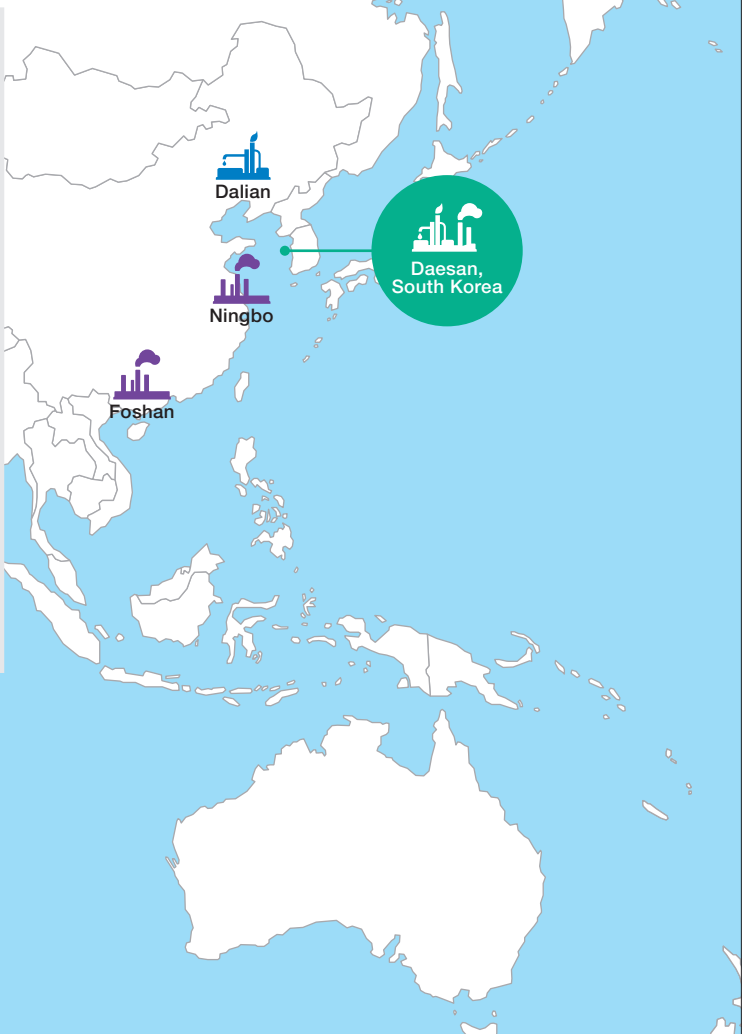
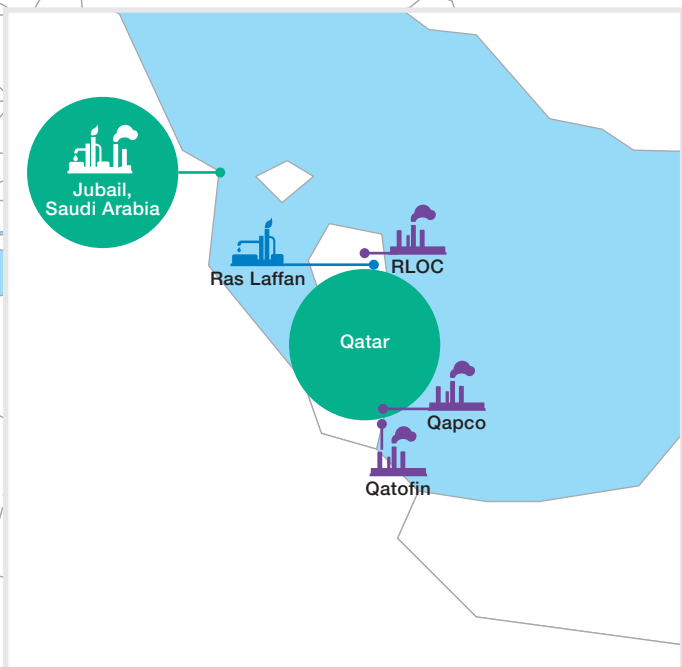
(2) Capacity data based on refinery process unit stream-day capacities under normal operating conditions, less the impact of shutdown for regular repair and maintenance activities averaged over an extended period of time.

(3) Since 2015, Port Arthur and Daesan condensate splitters are integrated in the Group's refining capacity and the 2015 data have been restated.

MAIN REFINING & CHEMICALS PLANTS AS OF DECEMBER 31, 2016



# 2.0 Mb/d of refining capacity at year-end 2016 <sup>(1)</sup>



And worldwide chemicals positions



Atotech sale completed in January 2017

(1) 250 kb/d capacity reductions in 2016: Lindsey: 100 kb/d, La Mède: 150 kb/d.

## FOCUS



## REFINING & CHEMICALS



### Sustainable contribution from Refining & Chemicals

#### Safety – a core value in our organisation

#### Relentlessly enhancing competitiveness

##### -20% capacity 2011-2016

TOTAL's target to reduce European capacity by 20% was achieved by the end of 2016, one year ahead of schedule: In La Mède refinery, crude treatment ended and in Lindsey refinery distillation capacity was reduced by 50%.

#### Modernizing Antwerp

The upgrade of the Antwerp integrated platform is planned to be effective in 2017: This project consists of two parts: (i) the construction of new conversion units in response to the shift in demand towards lighter oil products with a very low sulfur content, and (ii) the construction of a new unit to convert part of the combustible gases recovered from the refining process into raw materials for petrochemical units.

#### Expanding petrochemicals from advantaged feedstock

Focusing on projects to add up to 20% of ethylene capacity by 2020 from advantaged feedstock and managing synergies:

- Launched a new 1 Mt/y ethane steam cracker in Port Arthur scheduled to start up in 2020 and expanding Polyethylene production capacity in cooperation with Borealis and Nova.
- Leveraging of world-class Asia and Middle East platforms with ongoing expansion projects in Qatar, Korea and Saudi Arabia to increase capacity.

#### Innovation in low carbon solutions

- Biofuel:
  - Building the first and largest French bio-refinery In La Mède to meet the growing demand for biofuel;
  - Expected launch of a gasification test program in Dunkirk for the conversion of biomass into fungible, sulfur-free fuels in 2017.
- Biopolymers: signature of a cooperation agreement with Corbion in 2016 to create a joint venture for construction of a PLA (polylactic acid polymer) production site in Thailand.
- Development of materials and solutions aiding energy efficiency for customers.

## REFINERY CAPACITY (GROUP SHARE)

As of December 31, 2016 (kb/d)

Major upgrading plant capacity at 100% <sup>(1)</sup>

	Total Distillation Capacity	Group Interest	Group Capacity	Cat Crack	Cat Reform	Hydro-Cracking	Resid. Hydro-Treat	Dist. Hydro-Treat	Alky	Isom	Vis	Coker
<b>France</b>												
Normandy, Gonfreville	253	100%	253	-	37	64	-	220	-	-	22	-
Provence, La Mède	-	100%	-	-	-	-	-	-	-	-	-	-
Donges	219	100%	219	51	23	-	-	126	7	-	26	-
Feyzin	109	100%	109	29	11	-	-	72	5	-	15	-
Grandpuits	101	100%	101	31	14	-	-	77	4	-	13	-
<b>Total France</b>	<b>682</b>		<b>682</b>	<b>111</b>	<b>85</b>	<b>64</b>	<b>-</b>	<b>495</b>	<b>16</b>	<b>-</b>	<b>76</b>	<b>-</b>
<b>Rest of Europe</b>												
United Kingdom, Immingham/Lindsey	109	100%	109	50	16	-	-	102	7	-	20	-
Netherlands, Vlissingen	148	55%	81	-	26	74	-	65	-	-	-	-
Belgium, Antwerp	338	100%	338	95	56	51	50	253	9	-	-	-
Germany, Leuna	227	100%	227	59	25	-	-	238	10	-	25	-
Italy, Treccate (TotalErg) <sup>(2)</sup>	131	13%	17	35	-	-	-	-	-	-	-	-
<b>Total rest of Europe</b>	<b>953</b>		<b>772</b>	<b>239</b>	<b>123</b>	<b>125</b>	<b>50</b>	<b>658</b>	<b>26</b>	<b>-</b>	<b>45</b>	<b>-</b>
<b>United States</b>												
Texas, Port Arthur (Refinery)	178	100%	178	75	38	-	-	241	6	8	-	54
Texas, Port Arthur (Condensate Splitter) <sup>(3)</sup>	60	40%	24	-	-	-	-	-	-	-	-	-
<b>Total United States</b>	<b>238</b>		<b>202</b>	<b>75</b>	<b>38</b>	<b>-</b>	<b>-</b>	<b>241</b>	<b>6</b>	<b>8</b>	<b>-</b>	<b>54</b>
<b>Africa</b>												
Cameroon, Limbe	42	20%	8	-	8	-	-	27	-	-	-	-
Côte d'Ivoire, Abidjan	76	25%	19	-	14	17	-	33	-	-	-	-
Senegal, Dakar	24	20%	5	-	3	-	-	5	-	-	-	-
South Africa, Sasolburg	110	18%	20	25	18	12	15	44	5	-	-	-
<b>Total Africa</b>	<b>252</b>		<b>52</b>	<b>25</b>	<b>43</b>	<b>29</b>	<b>15</b>	<b>109</b>	<b>5</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Asia &amp; Middle East</b>												
China, Dalian	219	22%	49	55	15	29	41	119	-	-	-	-
Korea, Daesan <sup>(4)</sup>	158	50%	79	-	-	-	-	-	-	-	-	-
Qatar, Ras Laffan	300	10%	30	-	-	-	-	308	-	-	-	-
Saudi Arabia Jubail	386	38%	145	31	61	111	-	272	12	-	-	99
<b>Total Asia</b>	<b>1,062</b>		<b>303</b>	<b>86</b>	<b>76</b>	<b>140</b>	<b>41</b>	<b>699</b>	<b>12</b>	<b>-</b>	<b>-</b>	<b>99</b>
<b>Worldwide crude distillation</b>	<b>3,187</b>		<b>2,011</b>	<b>536</b>	<b>365</b>	<b>358</b>	<b>106</b>	<b>2,202</b>	<b>65</b>	<b>8</b>	<b>121</b>	<b>153</b>

(1) Cat Crack: Catalytic Cracking; Cat Reform: Catalytic Reforming; Resid Hydrotreat: Residual Hydrotreating; Dist Hydrotreat: Distillate Hydrotreating; Alky: Alkylation; Isom: C5/C6 Isomerization; Vis: Visbreaker.

(2) In October 2010, TOTAL Italy merged with Erg to create the new company TotalErg – TOTAL holds 49% of TotalErg.

(3) Condensates Splitter held by the joint venture BFLP (40% TOTAL, 60% BASF and TOTAL operator) and included in the refining capacities from December 31, 2015.

(4) Condensates Splitter held by the joint venture HTC (50% TOTAL, 50% Hanwha and HTC operator) and included in the refining capacities from December 31, 2015.

## DISTILLATION CAPACITY (GROUP SHARE) <sup>(1)</sup>

Capacity, throughput and production data include equity share of refineries in which the Group holds a direct or indirect interest:

As of December 31, (kb/d)	2016	2015	2014	2013	2012
France	682	829	829	829	829
Rest of Europe	772	870	907	907	913
United States and French West Indies <sup>(2)</sup>	202	198	178	178	178
Asia & Middle East <sup>(3)</sup>	303	288	209	64	64
Africa	52	62	64	64	64
<b>Total</b>	<b>2,011</b>	<b>2,247</b>	<b>2,187</b>	<b>2,042</b>	<b>2,048</b>

(1) Capacity at the end of the year includes share of TotalErg. Results for refineries in Africa, French Antilles and Italy are reported in the Marketing & Services segment.

(2) Including TOTAL share (40%) in BTP Condensate Splitter in the United States from December 31, 2015.

(3) Including TOTAL share (50%) in HTC Condensate Splitter in Korea from December 31, 2015.

## REFINERY THROUGHPUT (GROUP SHARE) <sup>(1)</sup>

Capacity, throughput and production data include equity share of refineries in which the Group holds a direct or indirect interest:

(kb/d)	2016	2015	2014	2013	2012
France	669	674	639	647	657
Rest of Europe	802	849	794	797	866
United States and French West Indies <sup>(2)</sup>	193	218	188	178	182
Asia & Middle East <sup>(3)</sup>	249	230	105	48	33
Africa	53	54	49	50	48
<b>Total</b>	<b>1,965</b>	<b>2,023</b>	<b>1,775</b>	<b>1,719</b>	<b>1,786</b>

(1) Includes share of TotalErg. Results for refineries in Africa, French Antilles and Italy are reported in the Marketing & Services segment.

(2) Including from 2015 TOTAL share in BTP Condensate Splitter (40%) in United States. 2015 data have been restated.

(3) Including TOTAL share (50%) in HTC Condensate Splitter in Korea from 2015. 2015 data have been restated.

## UTILIZATION RATE (BASED ON CRUDE AND OTHER FEEDSTOCKS) <sup>(1)(2)</sup>

(%)	2016	2015	2014	2013	2012
France	81	81	77	78	82
Rest of Europe <sup>(3)</sup>	92	94	88	87	88
Americas <sup>(4)</sup>	97	111	106	100	99
Asia & Middle East <sup>(5)</sup>	86	80	50	75	67
Africa	85	84	77	78	75
<b>Average</b>	<b>87</b>	<b>88</b>	<b>81</b>	<b>84</b>	<b>86</b>

(1) Including equity share of refineries in which the Group has a stake.

(2) (Crude + crackers' feedstock)/distillation capacity at the beginning of the year (2014: SATORP refinery's capacity considered as from January 1).

(3) Including TotalErg.

(4) Including from 2015 TOTAL share in BTP Condensate Splitter (40%) in United States. 2015 data have been restated.

(5) Including TOTAL share (50%) in HTC Condensate Splitter in Korea from 2015. 2015 data have been restated.

## UTILIZATION RATE (BASED ON CRUDE ONLY) <sup>(1)(2)</sup>

(%)	2016	2015	2014	2013	2012
<b>Average</b>	<b>85</b>	<b>86</b>	<b>77</b>	<b>80</b>	<b>82</b>

(1) Including equity share of refineries in which the Group has a stake.

(2) Crude/distillation capacity at the beginning of the year (2014: SATORP refinery's capacity considered as from January 1).

## PRODUCTION LEVELS (GROUP SHARE) <sup>(1)</sup>

The table below sets forth by product category TOTAL's net share of refined quantities produced at the Group's refineries <sup>(1)(2)</sup>.

(kb/d)	2016	2015	2014	2013	2012
LPG	60	61	51	52	51
Motor gasoline	324	346	344	340	351
Avgas, jet fuel and kerosene	182	190	148	146	153
Diesel fuel and heating oils	795	825	787	739	734
Fuel oils	140	131	134	133	160
Lubricants	12	17	20	18	11
Bitumen	34	31	29	33	30
Other products	324	330	229	219	246
<b>Total</b>	<b>1,871</b>	<b>1,931</b>	<b>1,742</b>	<b>1,680</b>	<b>1,736</b>

(1) For refineries not 100% owned by TOTAL the production shown is TOTAL's equity share of the site's overall production.

(2) Since 2015, Port Arthur and Daesan condensate splitters are integrated in the Group's refining capacity and the 2015 data have been restated.



## MAIN PETROCHEMICALS PRODUCT GROUPS AND THEIR MAJOR APPLICATIONS

Main product groups	Major applications
<b>Base Petrochemicals</b>	
Olefins	
Ethylene	Production of polyethylene, vinyl chloride monomer, styrene, functional polymers and copolymers, ethylene oxide, glycols and vinyl acetate monomer.
Propylene	Production of polypropylene, acrylic acid, oxo-alcohols, propylene oxide, glycols, cumene and acrylonitrile.
Butadiene	Production of rubber, polybutadiene, elastomers, latex and ABS.
Aromatics	
Benzene	Production of styrene, cyclohexane, chlorobenzenes, cumene, aniline, alkylbenzenes and maleic anhydride.
Styrene	Production of polystyrene, expanded polystyrene, ABS, emulsions, resins, latex and rubbers.
Toluene	Production of chemical intermediates and solvents.
Xylenes	Production of phthalic anhydride, terephthalic acid (PTA) and solvents.
<b>Polymers</b>	
Polyethylene	Flexible and rigid packaging, cables, pipes and tubes, molded bottles, fuel tanks artificial grass and caps and closures.
Polypropylene	Flexible and rigid packaging, containers, automotive parts, household and sanitary goods, fibers, medical, pipes and caps and closures.
Polystyrene	Food packaging, refrigeration appliances, insulation boards and television sets.

## MAIN PRODUCTION CAPACITIES AT YEAR-END <sup>(1)</sup>

(in thousands of tons)				2016	2015	2014	2013	2012
	Europe	North America	Asia and Middle East <sup>(2)</sup>	World	World	World	World	World
Olefins <sup>(3)</sup>	4,373	1,525	1,571	7,468	7,433	7,791	7,654	8,039
Aromatics <sup>(4)</sup>	2,903	1,512	2,429	6,844	6,783	6,773	5,635	5,795
Polyethylene	1,120	445	773	2,338	2,338	2,338	2,289	2,239
Polypropylene	1,350	1,200	400	2,950	2,950	2,950	2,895	2,875
Polystyrene	637	700	408	1,745	1,745	1,805	1,530	1,595
Others <sup>(5)</sup>	0	0	63	63	63	63	63	358
<b>Total</b>	<b>10,383</b>	<b>5,382</b>	<b>5,643</b>	<b>21,407</b>	<b>21,312</b>	<b>21,720</b>	<b>20,065</b>	<b>20,900</b>

(1) Excluding inter-segment sales.

(2) Including interests in Qatar, 50% of Hanwha Total Petrochemicals Co. Ltd and 37.5% of SATORP in Saudi Arabia.

(3) Ethylene + Propylene + Butadiene.

(4) Including monomer styrene.

(5) Mainly Monoethylene Glycol (MEG) and Cyclohexane.

## SALES BY GEOGRAPHIC AREA <sup>(1)</sup>

(%)	2016	2015	2014	2013	2012
France	12%	13%	15%	18%	21%
Rest of Europe	41%	41%	39%	40%	45%
North America	30%	34%	33%	28%	22%
Rest of world	16%	12%	13%	14%	12%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

(1) Excluding inter-segment sales and sales by equity affiliates and including fertilizers sales.

## MAIN SPECIALTY CHEMICALS PRODUCT GROUPS AND THEIR MAJOR APPLICATIONS

Main product groups	Major applications
Elastomer processing	Elastomer parts for the automotive, transportation and aerospace industries: transmission systems, antivibration systems, fluid transfer parts, body sealings, precision sealing (Hutchinson).
Electroplating	General metal finishing, electronics materials and semiconductors, green technologies chemistry and systems (Atotech) <sup>(1)</sup> .

(1) Atotech sale completed in January 2017.

## SALES BY ACTIVITY – SPECIALITY CHEMICALS PRODUCTS

(in million dollars)	2016	2015	2014	2013	2012
Hutchinson	4,471	4,256	4,599	4,351	4,066
Bostik <sup>(1)</sup>	-	155	2,043	1,999	1,990
Atotech <sup>(2)</sup>	1,102	1,093	1,261	1,175	1,240

(1) Bostik sale to Arkema completed on February 2, 2015.

(2) Atotech sale completed in January 2017.

## SALES BY GEOGRAPHIC AREA – SPECIALITY CHEMICALS PRODUCTS<sup>(1)</sup>

(%)	2016	2015	2014	2013	2012
France	15%	14%	14%	15%	16%
Rest of Europe	35%	35%	35%	34%	33%
North America	25%	26%	24%	24%	24%
Rest of world	25%	25%	27%	27%	27%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

(1) Excluding inter-segment sales.

## SALES BY ACTIVITY – SPECIALITY CHEMICALS PRODUCTS<sup>(1)</sup>

(%)	2016	2015	2014	2013	2012
Elastomer processing	80%	77%	58%	58%	56%
Adhesives <sup>(2)</sup>	-	3%	26%	27%	27%
Electroplating <sup>(3)</sup>	20%	20%	16%	16%	17%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

(1) Excluding inter-segment sales.

(2) Bostik sale to Arkema completed on February 2, 2015.

(3) Atotech sale completed in January 2017.

## MARKETING & SERVICES

# TOTAL

MONT-SAINT-JEAN

N°1  
marketer  
in Africa<sup>(1)</sup>

Repositioned  
portfolio  
in key regions

1.6 B\$  
cash flow  
from operations

1.4 B\$<sup>(2)</sup>  
organic  
investments

Present  
in more than  
150  
countries<sup>(3)</sup>

1.6 B\$  
adjusted net  
operating income

32,036  
employees

16,461  
branded  
service-stations<sup>(4)</sup>

1,793 kb/d  
of refined  
products sales<sup>(5)</sup>

(1) FPC Energy and Company data 2015. (2) Organic investments – net investments, excluding acquisitions, divestments and other operations with non-controlling interests.  
(3) Including via national distributors. (4) Total, Total Access, Elf, Elan and AS24, including service stations owned by third parties. (5) Excludes Trading and bulk Refining sales, includes share of TotalErg.

# The Marketing & Services segment comprises...

## Marketing & Services

The Marketing & Services (M&S) business segment is dedicated to the development of TOTAL's petroleum products distribution activities and related services throughout the world. M&S conveys TOTAL's brand image to its customers, both individual and professional, through a large retail network and the distribution of a wide range of products. M&S is committed to ensure proximity to clients and be the partner of reference for business customers. The Group intends to grow this non-cyclical business.

## New Energies

TOTAL focuses on two main development axes: solar energy<sup>(1)</sup> along the entire solar photovoltaic value chain with SunPower and Total Solar and the transformation of biomass<sup>(2)</sup> through biotechnology to develop new biosources product solutions for transportation and Chemicals. The 2016 acquisition of Saft Groupe, a leader in energy storage solutions, is fully in line with TOTAL's goal to develop in the renewable energies and electricity businesses.

(1) Reported within the new Gas, Renewables & Power segment as of financial year 2017.

(2) Reported within the Refining & Chemicals segment as of financial year 2017.

## 2017 OUTLOOK

### EXPANDING

retail network:  
+4% growth 2015-2016

### DEVELOPING

high return lubricants worldwide:  
+4% growth 2015-2016

### STRENGTHENING

our position as the partner of  
choice and proximity

### INNOVATING

in products and services

## FINANCIAL HIGHLIGHTS

(in million dollars)	2016	2015	2014	2013	2012
Adjusted operating income <sup>(1)</sup>	1,818	2,098	1,709	2,152	1,740
Adjusted net operating income <sup>(1)</sup>	1,586	1,699	1,254	1,554	1,069
Gross investments <sup>(2)</sup>	2,506	1,841	1,818	1,814	1,671
Organic investments <sup>(3)</sup>	1,432	1,569	1,424	1,579	1,507
Divestments	446	856	163	186	196
Cash flow from operations	1,623	2,323	2,721	2,557	1,456

(1) Adjusted results are defined as income at replacement cost, excluding non-recurring items, and excluding the impact of fair value changes.

(2) Including acquisitions and increases in non current loans.

(3) Organic investments = net investments, excluding acquisitions, divestments and other operations with non-controlling interests.

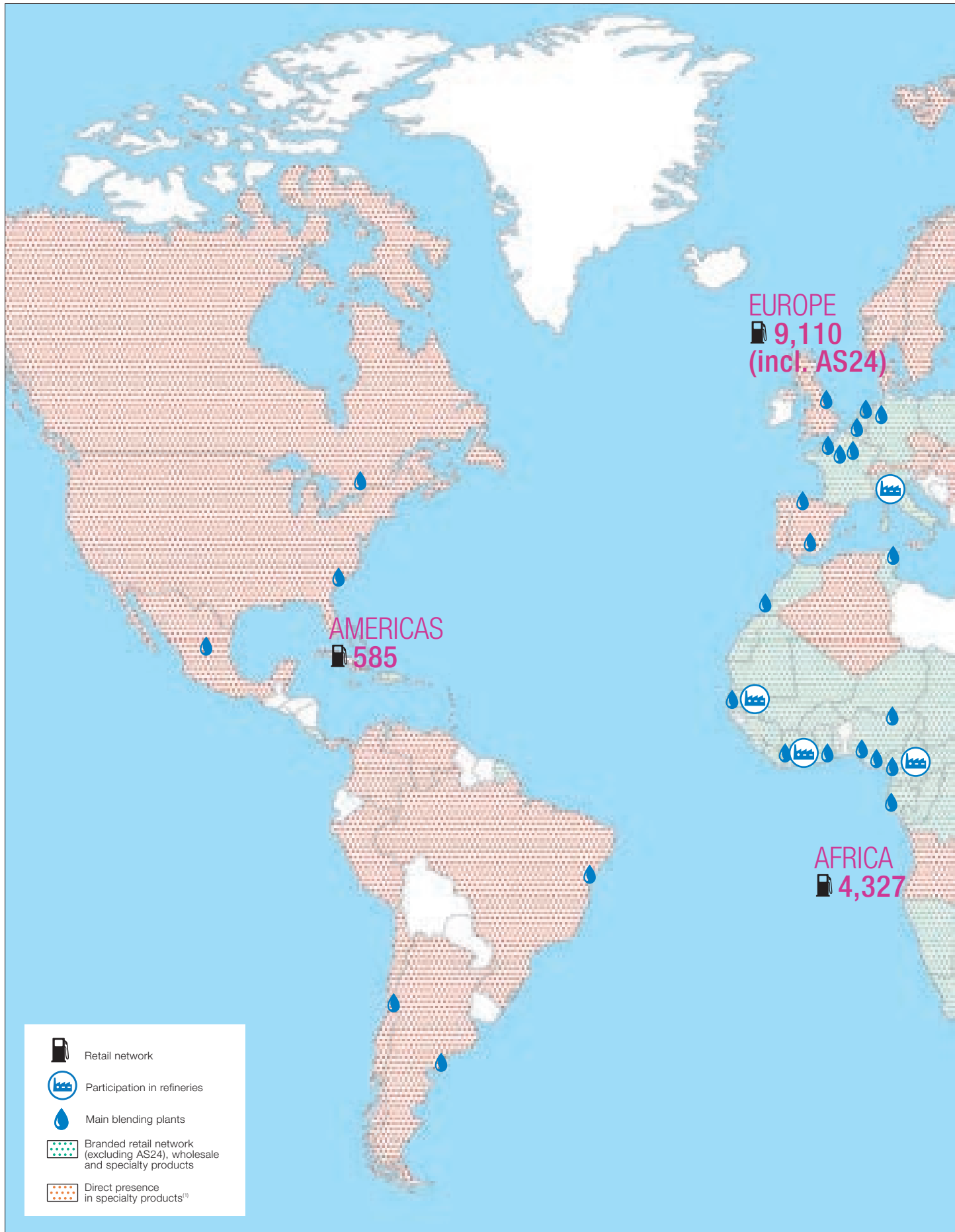
## OPERATIONAL HIGHLIGHTS

(in kb/d)	2016	2015	2014	2013	2012
<b>Refined product sales excluding Trading and bulk sales</b>	<b>1,793</b>	<b>1,818</b>	<b>1,769</b>	<b>1,749</b>	<b>1,710</b>
Trading sales <sup>(1)</sup>	1,690	1,538	1,385	1,155	1,161
Bulk sales <sup>(2)</sup>	700	649	615	617	690
<b>Refined product sales including Trading and bulk sales</b>	<b>4,183</b>	<b>4,005</b>	<b>3,769</b>	<b>3,521</b>	<b>3,561</b>

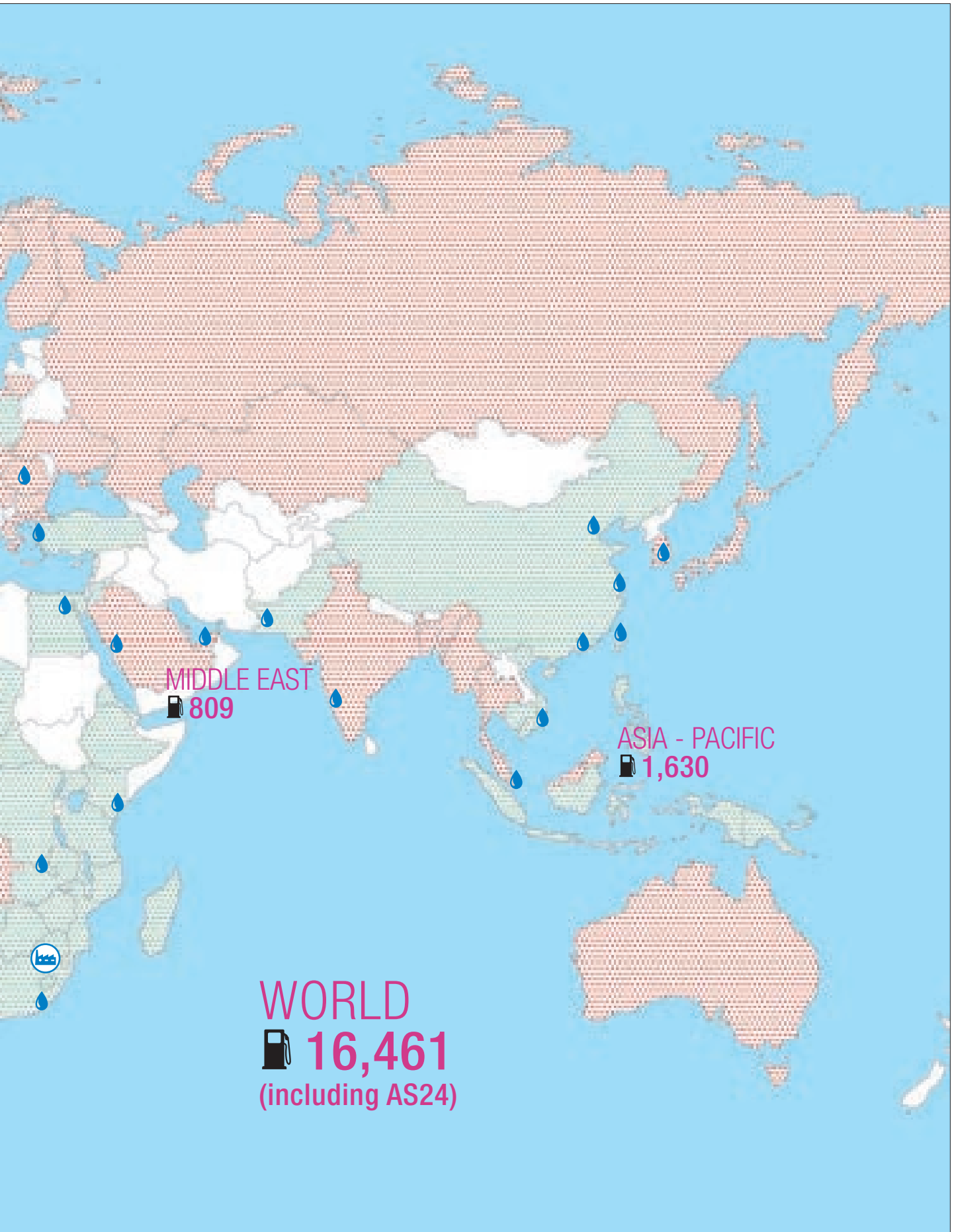
(1) Results of Trading and bulk sales are reported in the Refining & Chemicals segment.

(2) Data for UK procurement/exchange reprocessed for 2012 and 2013.

MARKETING & SERVICES POSITIONS AS OF DECEMBER 31, 2016



(1) Lubricants - LPG - jet fuel - special fluids - bitumen - heavy fuels - marine fuels - additives and special fuels.





## MARKETING & SERVICES



### Expanding a highly profitable business with a customer-centric approach

#### Retail

M&S has a large footprint in retail with over 16,000 service-stations across over 60 countries. In Africa, Total is the market leader with over 18% market share. Its network is also one of the largest in Western Europe, with presence in key markets (France, Germany).

M&S manages its portfolio to consolidate market share in key regions:

- In the Philippines, retail market share has doubled to 6% following a strategic merger with local partner Filoil.
- Acquisition of 70% of the fuel market leader in the Dominican Republic.
- Commercial sales license obtained in China.
- In East Africa, the acquisition of assets in Kenya, Uganda and Tanzania will strengthen M&S' supply and logistic system in the region and expand the retail footprint.
- M&S also finalized the disposal of the retail network in Turkey, while retaining the brand in the country

With customer service a key focus, M&S is transforming TOTAL service-stations into One Stop Shops, delivering innovative products and services:

- Over 200,000 front-line staff.
- Renovation of over 50% of Total stations complete.
- Diverse range of additional services, including food shopping, car washing and maintenance.
- Total Excellium, TOTAL's premium fuel, now available in 31 countries.
- Alternative fuels, with the deployment of electric charging points on major routes in Europe and hydrogen stations in Germany.
- Optimised payment systems adopting the latest technologies.
- Installation of solar panels in retail sites.

#### Lubricants

Despite a growth slow-down in global lubricants demand, Total's range of recognized quality-lubricants and its customer-centric approach enabled M&S to pursue sales growth and rank 4<sup>th</sup> worldwide<sup>(1)</sup>. This can be attributed to:

- Strong cooperation with OEMs: ongoing partnerships including PSA Group, Kia, Mazda or Aston Martin.
- Development of auto care activities with over 1,400 Rapid Oil Change centers worldwide. Total has also further deployed the Motozone concept for two-wheelers, notably in Asia.
- Producing in customer proximity. Total launched the construction of a new blending site in Russia, the 5<sup>th</sup> largest world market.
- Leveraging the state-of-the-art blending site in Singapore and the new grease unit in Tianjin (China) to expand in the fast-growing Asian markets.

#### Business-to-Business

M&S develops and delivers bespoke, innovative solutions to its business customers with an eco-friendly approach:

- Bayport plant opening in the United States to produce high purity special fluids, including bio-degradable and clean drilling fluids.
- Bitumen: eco-efficient label granted to three products.
- Hybrid solutions offering Total's wide range of energies (gas, solar) in addition to traditional fuels and energy efficiency solutions.
- Bunkering activity transformed into Marine Fuel Global Services to offer clients a range of solutions, including Liquefied Natural Gas (LNG), to take into account the International Maritime Organisation's new regulations.

(1) Based on IHS data.



## PETROLEUM PRODUCT SALES (EXCLUDING TRADING AND BULK SALES)

### By geographic area

(in kb/d)	2016	2015	2014	2013	2012
<b>Europe</b>					
France <sup>(1)</sup>	541	541	547	575	566
United Kingdom	27	27	26	27	26
Benelux	216	214	214	211	226
Germany	192	192	195	205	207
Italy	79	81	76	77	89
Spain	1	1	1	1	1
Portugal		-	-	-	-
Rest of Europe	37	36	41	43	45
<b>Total Europe</b>	<b>1,093</b>	<b>1,092</b>	<b>1,100</b>	<b>1,139</b>	<b>1,160</b>
<b>Africa</b>					
Northern Africa	119	118	108	56	56
Western Africa	88	85	82	78	76
Eastern Africa	84	89	72	69	56
Southern Africa	87	87	73	69	66
Central Africa	31	31	30	33	32
Other*	10	13	15	21	21
<b>Total Africa</b>	<b>419</b>	<b>423</b>	<b>380</b>	<b>326</b>	<b>307</b>
<b>Americas</b>					
United States	27	28	29	37	3
Caribbean Islands <sup>(1)(2)</sup>	42	35	42	41	42
Latin America	7	7	7	8	8
<b>Total Americas</b>	<b>76</b>	<b>70</b>	<b>78</b>	<b>86</b>	<b>53</b>
<b>Middle East<sup>(3)</sup></b>					
Jordan, Lebanon, Turkey and others	55	85	77	54	55
<b>Total Middle East</b>	<b>55</b>	<b>85</b>	<b>77</b>	<b>54</b>	<b>55</b>
<b>Asia-Pacific</b>					
East Asia <sup>(4)</sup>	125	124	107	118	108
Pacific	10	9	12	10	10
Indian Ocean islands	15	15	15	17	17
<b>Total Asia-Pacific</b>	<b>150</b>	<b>148</b>	<b>134</b>	<b>144</b>	<b>135</b>
<b>Total Worldwide</b>	<b>1,793</b>	<b>1,818</b>	<b>1,769</b>	<b>1,749</b>	<b>1,710</b>

\* Represents supply to African non consolidated group companies and third parties.

(1) Sales of Totalgaz France and SARA refinery during the 2<sup>nd</sup> quarter of 2015.

(2) Including the acquisition of service-stations in Dominican Republic in January 2016.

(3) Including the sales of 455 service-stations in Turkey in March 2016.

(4) Including the acquisition of service-stations in Philippines in July 2016.

### By main products

(in kb/d)	2016	2015	2014	2013	2012
LPG	53	70	86	88	91
Motor gasoline	330	332	312	277	275
Avgas and jet fuel	282	243	228	246	215
Diesel fuel and heating oils	977	1,018	995	980	956
Fuel oils	37	42	39	45	65
Lubricants	38	39	37	37	38
Solvents	13	14	15	15	15
Bitumen	45	45	40	45	43
Other products	18	15	17	16	12
<b>Total</b>	<b>1,793</b>	<b>1,818</b>	<b>1,769</b>	<b>1,749</b>	<b>1,710</b>

## SERVICE-STATIONS <sup>(1)</sup>

As of December 31,	2016	2015	2014	2013	2012
<b>Europe</b>					
France	3,593	3,667	3,727	3,813	3,911
Benelux	925	928	922	923	931
Germany	1,188	1,178	1,157	1,122	1,108
Italy	2,585	2,608	2,749	3,017	3,161
Eastern Europe (Poland)	18	10	2	-	-
AS24 Stations	801	763	740	731	700
<b>Total Europe</b>	<b>9,110</b>	<b>9,154</b>	<b>9,297</b>	<b>9,606</b>	<b>9,811</b>
<b>Africa</b>					
Northern Africa	687	673	653	585	490
Western Africa	1,572	1,509	1,502	1,379	1,336
Eastern Africa	901	882	866	845	841
Southern Africa	585	592	587	578	588
Central Africa	422	402	383	339	346
<b>Total Africa</b>	<b>4,167</b>	<b>4,058</b>	<b>3,991</b>	<b>3,726</b>	<b>3,601</b>
<b>Americas</b>					
Caribbean Islands <sup>(1)</sup>	585	464	452	438	415
<b>Total Americas</b>	<b>585</b>	<b>464</b>	<b>452</b>	<b>438</b>	<b>415</b>
<b>Middle East</b>					
Jordan, Lebanon, Turkey <sup>(2)</sup>	809	816	796	770	637
<b>Total Middle East</b>	<b>809</b>	<b>816</b>	<b>796</b>	<b>770</b>	<b>637</b>
<b>Asia-Pacific</b>					
East Asia <sup>(3)</sup>	1,530	1,276	734	716	669
Pacific	100	96	91	90	88
Indian Ocean islands	160	159	208	205	204
<b>Total Asia-Pacific</b>	<b>1,790</b>	<b>1,531</b>	<b>1,033</b>	<b>1,011</b>	<b>961</b>
<b>Total excluding AS24</b>	<b>15,210</b>	<b>15,257</b>	<b>14,829</b>	<b>14,820</b>	<b>14,725</b>
<b>Total Worldwide</b>	<b>16,461</b>	<b>16,023</b>	<b>15,569</b>	<b>15,551</b>	<b>15,425</b>

(1) Including the acquisition of service-stations in Dominican Republic in January 2016.

(2) Including a status change for 450 service-stations in Turkey in March 2016.

(3) Including the acquisition of service-stations in Philippines in July 2016.

## FOCUS



## New Energies: Diversifying our energy mix

### New Energies: Diversifying our energy mix

As a top-tier energy player, Total views fast growing New Energies as a business opportunity and an industrial responsibility. In order to diversify its global energy mix, the Group is investing in renewables, with a strategic focus on solar energy. Total is active along the entire solar photovoltaic value chain, from manufacturing cells to developing utility-scale solar plants to installing solar systems on home and commercial rooftops, notably through its affiliate SunPower.

### Developing in Downstream solar

- Expanding in solar farms

In 2016, SunPower, Total's solar affiliate, completed the construction of Boulder Solar 1 (100 MW) and Henrietta (102 MW) in the United States. In August, Total and SunPower also completed the construction of Prieska **1**, a 86 MW solar power plant located in South Africa's Northern Cape province. The plant will power approximately 75,000 homes. Total and SunPower also announced the El Pelicano project (100 MW), which is expected to be operational by the end of 2017. This utility-scale solar plant will produce electricity to power the subway system in Santiago, Chile.

- Growing in residential solutions

Distributed solar for residential and commercial rooftops **2** is an attractive business segment in which SunPower is one of the leaders in the US with around 12% market share. In 2016, SunPower deployed approximately 400 MW worldwide.

### Pursuing integration along the electricity chain

In the power generation sector, Total aims to pursue its integration along the electricity chain to include distribution to end-users. Electricity storage is a key component for the future growth of renewable energies produced from intermittent sources such as wind and solar. As part of this strategy, in 2016 Total acquired Saft **3**, which designs, produces and sells high-tech batteries. This will allow the Group to offer customers comprehensive energy solutions, including storage.

### INSTALLING SOLAR PANELS IN 5,000 SERVICE STATIONS

In November 2016, Total launched a program to install solar power in 5,000 of its service stations worldwide, within five years. In this context, SunPower will provide 200 MW of solar panels, equivalent to the amount of electricity used to power a city of 200,000 people. This project, which represents an investment of \$300 million, is expected to reduce carbon emissions by 100,000 tons.



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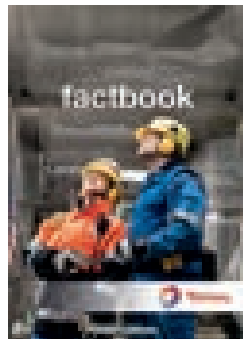
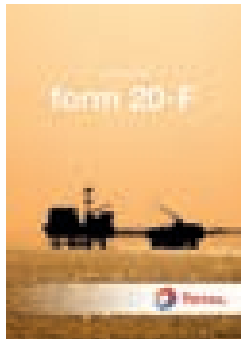
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