Oil product demand

Ladislas Paszkiewicz
SVP Strategy & Climate
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Financial information by business segment is reported in accordance with the internal reporting system and shows internal segment information that is used to manage and measure the performance of TOTAL. Performance indicators excluding the adjustment items, such as adjusted operating income, adjusted net operating income, and adjusted net income are meant to facilitate the analysis of the financial performance and the comparison of income between periods. These adjustment items include:

(i) Special items
Due to their unusual nature or particular significance, certain transactions qualified as "special items" are excluded from the business segment figures. In general, special items relate to transactions that are significant, infrequent or unusual. However, in certain instances, transactions such as restructuring costs or asset disposals, which are not considered to be representative of the normal course of business, may be qualified as special items although they may have occurred within prior years or are likely to occur again within the coming years.

(ii) Inventory valuation effect
The adjusted results of the Refining & Chemicals and Marketing & Services segments are presented according to the replacement cost method. This method is used to assess the segments’ performance and facilitate the comparability of the segments’ performance with those of its competitors.

In the replacement cost method, which approximates the LIFO (Last-In, First-Out) method, the variation of inventory values in the statement of income is, depending on the nature of the inventory, determined either using the month-end price differentials between one period and another or the average prices of the period rather than the historical value. The inventory valuation effect is the difference between the results according to the FIFO (First-In, First-Out) and the replacement cost.

(iii) Effect of changes in fair value
The effect of changes in fair value presented as an adjustment item reflects for some transactions differences between internal measures of performance used by TOTAL’s management and the accounting for these transactions under IFRS.

IFRS requires that trading inventories be recorded at their fair value using period-end spot prices. In order to best reflect the management of economic exposure through derivative transactions, internal indicators used to measure performance include valuations of trading inventories based on forward prices.

Furthermore, TOTAL, in its trading activities, enters into storage contracts, which future effects are recorded at fair value in Group’s internal economic performance. IFRS precludes recognition of this fair value effect.

The adjusted results (adjusted operating income, adjusted net operating income, adjusted net income) are defined as replacement cost results, adjusted for special items, excluding the effect of changes in fair value.

Cautionary Note to U.S. Investors – The SEC permits oil and gas companies, in their filings with the SEC, to separately disclose proved, probable and possible reserves that a company has determined in accordance with SEC rules. We may use certain terms in this presentation, such as resources, that the SEC’s guidelines strictly prohibit us from including in filings with the SEC. U.S. investors are urged to consider closely the disclosure in our Form 20-F, File N° 1-10888, available from us at 2, Place Jean Millier – Arche Nord Coupole/Regnault - 92078 Paris-La Défense Cedex, France, or at our website: total.com. You can also obtain this form from the SEC by calling 1-800-SEC-0330 or on the SEC’s website: sec.gov.
Oil demand dominated by transport and petrochemicals
Emerging markets underpinning rising demand

2015 world oil demand by use

- Light duty vehicle: 26%
- Heavy duty vehicle: 18%
- Transport: 18%
- Marine: 6%
- Aviation: 5%
- Petrochemicals: 11%
- Power gen.: 6%
- Buildings: 8%
- Industry: 7%
- Other uses, including refinery consumption: 12%

Total demand: 92.5 Mb/d
Oil demand since 2000
Growth dominated by transportation

World oil demand by sector
Mb/d

- Transportation
- Petrochemicals
- Industry, agriculture & non-energy
- Buildings
- Power gen

2000 | 2007 | 2014 | 2017

- +1.6% per year
- +0.8% per year
- +1.7% per year

Rapid non-OECD economic development

Clear elasticity of oil demand to price: acceleration since 2014 after oil price drop

Growth concentrated in transportation, but also petrochemical feedstock and industry
More driving boosts passenger transport fuel demand

Efficiency improvements mitigate increased driving

**Demand for passenger transport:**
*High growth in emerging countries*
- 2000-15 average: +3.6%/y km driven
- Assumption: km driven to grow 3.5%/y
- 2 & 3 wheelers continue rapid growth

**Regulation drives faster efficiency gains**
- New car fuel efficiency +3%/y
- By 2040, new car consumption: 3-4 l/100 km

**EV penetration** by 2040
- Case considers aggressive penetration: 50% of sales, 32% of fleet
- EVs drive fewer km/y (mainly urban users)

* Light Duty Vehicles (LDV) + 2&3 Wheelers + Buses
Growing road freight oil demand
Continuous increase in freight transport

Road freight transportation fuel demand
Mb/d

2015
25

2040

Growth dominated by long-haul freight
- 2000-15 average: +3.4%/y tonne-km
- Assumption: tonne-km to grow at same pace

Faster efficiency gains expected
- New truck fuel efficiency +1.5%/y
- Big-Data tools help boost load factor

Growing natural gas penetration

EV technology less suitable for heavy loads and long distances
Increasing demand for aviation and marine fuels

Oil demand for marine fuels
Mb/d

2015

2040

More tonne-kilometres
Efficiency gains
LNG

Load factor

+1 Mb/d 2015-40

Global cap stimulating **LNG substitution**

**Low fleet turnover** slowing efficiency gains

Aviation fuel demand
Mb/d

2015

2040

More tonne-kilometres
Efficiency gains
Biojet

Load factor

+4 Mb/d 2015-40

**Little alternative to jet fuel**

Strong traffic growth for **cargo and people**

2017 Field Trip
Growing oil demand for petrochemicals
Sustained demand for polymers

Oil demand for petrochemicals
Mb/d

2015

2040

Market growth & new uses
Recycling & bioplastics
CTO/MTO
Gasoil
Ethane
LPG
Naphtha

+3 Mb/d
2015-40

+0.6 Mb/d oil, +2.3 Mb/d ethane and LPG in 2040
Declining oil use in buildings and power generation
Oil displaced by natural gas

**Oil demand for buildings**
Mb/d

<table>
<thead>
<tr>
<th>Year</th>
<th>Nat. gas</th>
<th>Other energies</th>
<th>Efficiency gains</th>
<th>Growth*</th>
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</thead>
<tbody>
<tr>
<td>2015</td>
<td></td>
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<tr>
<td>2040</td>
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</tbody>
</table>

Declining use of oil for *residential heating*

* Growth applied to oil

**Oil demand for power generation**
Mb/d

<table>
<thead>
<tr>
<th>Year</th>
<th>Nat. gas</th>
<th>More generation*</th>
<th>Other sources of electricity</th>
<th>-3 Mb/d 2015-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
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Oil use persists in some regions and for *back up and peak power*

* Growth applied to oil
Industry, agriculture, and non-energy uses

Little alternative to oil in some sectors (e.g. feedstocks)

Oil demand for industry and other uses
Mb/d

- 15 Mb/d
- Efficiency gains
- Other energies
- Nat. gas

2015

2040

* Growth applied to oil
Regional weights in oil demand are shifting rapidly

Estimated oil demand by region

2015

100%

2040

Developing markets are driving growth
OECD falls from half to about 30% of oil demand
Sustained oil demand
Despite EVs, efficiency gains, and substitution

Demand for mobility remains strong in emerging countries

Natural gas is the main alternative to oil
• 15 Mb/d of oil displaced by gas

Aggressive case for EV penetration

Stronger disruptions needed
to meet the IEA 450 ppm scenario
Oil demand sensitivities in 2040

- **Passenger vehicles**: +/- 0.5% per year growth
- **Freight**: +/- 0.5% per year growth
- **Marine**: +/- 0.5% per year growth
- **Aviation**: +/- 0.5% per year growth

- **Efficiency gains in transportation**: +/- 33%
- **EV penetration**: 30% of sales in 2040
  - 70% of sales in 2040

**2040 Oil Demand (Mb/d)**

- Passenger vehicles: -7 (4 Mb/d)
- Freight: -3 (3 Mb/d)
- Marine: -1 (1 Mb/d)
- Aviation: -5 (6 Mb/d)
- EV penetration: -3 (2 Mb/d)