The mobility revolution
Energy mix revolution in transport

Global energy demand in transport
Mboe/d

2018
2030
2050

- Electrification, biofuels and gases key to decarbonize transport

Accelerated energy mix change

Strong growth of traffic: increase in final energy demand offset by gains in vehicle efficiency

Oil demand drastic reduction by 2050:

- Electrification and switch to biofuels, gas and hydrogen for road transportation
- Increase of Sustainable Liquid Fuels for aviation
- Switch to gases for shipping

* Scenarios Total Energy Outlook (Sep. 2020)
A worldwide ambition in biofuels
Growing contribution of biofuels to decarbonize transport

Biofuels world consumption*
Mboe/d

2019 | 2030 | 2050
---|---|---
8 | 4 | Rupture scenario
4 | | Momentum scenario

Biofuels demand growing 2x by 2030, up to 4x by 2050 depending on scenarios

Biofuels reduce CO₂ emissions more than 50% vs. fossil fuels

Growth driven by States CO₂ emission reduction targets

* Reference: Total Energy Outlook 2020
Developing leading positions in biofuels

Renewable diesel producer

Biofuels retailer
Growing biofuels in our sales mix

Biofuel sales
kboe/d

- Biofuels representing 10 to 15% of fuel sales by 2030

- Largest biofuel retailer in Europe
- Actively promoting E85 in France
- Expanding biofuels retail in Brazil
Attractive renewable diesel market

Biofuels world consumption*
Mboe/d

2019 2025 2030

- **Renewable diesel (HVO)**
- **Biodiesel (FAME)**
- **Biogasoline**

**Biogasoline/biodiesel** are low margin markets
- Technical cap limiting incorporation potential
- Low entry barrier (Capex, technology)
- Oversupply

**Renewable diesel** is the fastest growing biofuel market > 10%/y
- Drop-in solution: no limit for incorporation
- Certified as aviation fuel

*Total Energy Outlook Momentum case*
Decarbonizing air transport offers new opportunities for sustainable liquid fuels

Airlines are making commitments to CO₂ emission reduction

Liquid fuels hard to substitute for long haul flights

Renewable diesel is the only available solution to reduce CO₂ emissions

First regulatory mandates in Europe:
- Norway 0.5% in 2020
- France 2% in 2025, 5% in 2030
- Europe to come

1 Gt CO₂ emissions in 2019
50% voluntary CO₂ emissions reduction by 2050¹
x2 fleet in operations over next 20 years

¹ Source IATA, vs. 2005
Anticipating tight renewable diesel market

Supply growth constrained
- Refinery retrofit (3-4 years)
- Limited greenfield projects

Limited number of projects in Europe

Strong call for increasing capacities
## Becoming a leader in renewable diesel
Capturing synergies with existing assets

### Converting existing assets
- **La Mède**: 500 kt/y
- **Zero oil platform, 400 kt/y bio-refinery in Grandpuits, start-up 2024**
- 600-750 $/t Capex

### Co-processing
- **300 kt/y in Europe, starting-up over 2022-24**
- Evaluating project in **Port Arthur refinery in US**
- ~500 $/t Capex

### Developing on existing platforms
- Evaluating **500 kt/y project on Daesan integrated platform in South Korea**
- ~750 $/t Capex

### Low Capex vs. greenfield development (> 1,000 $/t)
Designing assets to allow feedstock flexibility

### Renewable diesel production
**Mt/y**

<table>
<thead>
<tr>
<th>Year</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mt/y</td>
<td>2.5</td>
<td>5.0</td>
<td></td>
</tr>
</tbody>
</table>

**CFFO 2019-20 : 350 $/t**
## Securing feedstock access

<table>
<thead>
<tr>
<th>1G – Vegetable Oils</th>
<th>Waste and Residue</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palm, rapeseed, soybean, sunflower</td>
<td>Animal fat, UCO*, TCO*, tall oil</td>
<td>Lignocellulosics, Municipal solid waste</td>
</tr>
</tbody>
</table>

- **1G – Vegetable Oils**
  - Largely available
  - Biofuels share ~15%
  - Palm oil phase-out in EU
  - ~180 Mt

- **Waste and Residue**
  - Collection rate to increase
  - Biofuels share ~45%
  - Growing demand
  - Bio-jet, specific tax incentives
  - ~25 Mt

- **Advanced**
  - Scattered with no organized collection and supply chain
  - Technologies at pilot stage
  - Post-2030

### 8 different feedstocks processed at La Mède

- **Only processing sustainable feedstocks** (ISCC certified)

### Production units designed to process all types of feedstocks
- **Pre-treatment**
- **Logistics**

### Leveraging trading expertise

---

**Growing share of waste and residue**

* UCO: Used Cooking Oil, TCO: Technical Corn Oil
La Mède: a first step, up and running

Renewable diesel Capex $/t – Total La Mède vs peers greenfield*

First 500 kt/y bio-refinery in France

Retrofit of loss-making refinery enabling competitive Capex (600 $/t) vs greenfield projects

Designed to process all types of feedstocks (vegetable oils, waste and residue)

Ramp-up phase: ~300 kt in 2020

2020 CFFO > 350 $/t

* Neste Singapore and Rotterdam greenfields and expansions, Valero Saint Charles
Grandpuits refinery transitioning to zero oil platform

**Renewable diesel**
- Bio-refinery processing 400 kt/y
  - 70% waste & residue of which half secured
  - ~200 kt/y biojet
  - Capex 750 $/t
- Starting up in 2024

**Biopolymers**
- 100 kt/y bioplastic unit
  - Expanding partnership with Corbion (JV 50/50) after first plant in Thailand in 2018
- Starting up in 2024

**Plastic recycling**
- 1st chemical recycling unit in France: 15 kt/y capacity
  - JV 60/40 Total - Plastic Energy
  - Upscaling proven pyrolysis technology
- Starting up in 2023

**Renewables**
- Solar farms ~50 MW
- Starting up in 2022

Investing > 500 M$ in low carbon businesses, IRR > 15%
Total ambition in biofuels: a leading producer and marketer

Renewable diesel production

Biofuel sales
kboe/d

Mt/y

kboe/d

2.5

100

50

300

150

Biogasoline
Biodiesel (FAME)
Renewable Diesel (HVO)

CFFO 2019-20: 350 $/t

10 to 15% of fuel sales by 2030
Engaging in the electric mobility revolution
Electric mobility: the future of mobility on the rise

Electric-vehicle share in worldwide fleet

%  

Electric-vehicle adoption in Western Europe\(^1\)

Million vehicles

Source: Total Energy Outlook 2020 - Momentum and Rupture Scenarios

1 E5: France, Germany, Belgium, Netherlands and Luxemburg
Source: Total Energy Outlook 2020 - Momentum Scenario
EV market drivers

Low emission regulations
- EU/China/US: CO₂ emission reduction targets
- Countries: Internal Combustion Engine bans
- Cities: Zero & Ultra Low Emission Zones in major cities

Car manufacturers investing massively in EV
- PSA
- TESLA
- DAIMLER
- RENAULT NISSAN MITSUBISHI

Increased performance and lower cost battery solutions

Battery pack cost evolution
$/kWh

Source: Transport and Environment May 2020 report

Strong acceleration of the EV sector

60 B$ E-mobility investments announced in 2019 by car-makers in Europe.

Source: SAFT
Developing top tier positions in Electric mobility value chain

Battery manufacturing

EV charging
Growing e-mobility business in China

SAFT (40%) - TIANNENG (60%) Joint Venture

- Created in 2019 with Tianneng, leading lead acid battery manufacturer in China
  - Saft contributing Li-ion batteries technology
  - Tianneng contributing highly-competitive mass production capacity

- China leader for batteries for 2-wheel e-mobility

- Production capacity to increase to 5.5 GWh by 2025

Increasing our footprint in the Chinese Li-ion market, representing over 40% of global demand by 2025
Engaging in the electric mobility revolution

ACC (Automotive Cells Company)

**Total/Saft (50%) and Groupe PSA/Opel (50%)**
- Saft contributing cutting-edge R&D
- PSA/Opel contributing mass manufacturing experience

**Phased project**
- Pilot plant in SAFT factory starting in 2020
- FID for first Gigafactory end-2021
- Industrial production in two Gigafactories (France and Germany)

**5 B€ project Capex over 10 years with project financing**
- Total equity injection: 500 M€, ~10% equity IRR
- 1.3 B€ subsidies from France and Germany approved as IPCEI by European institutions

**48 GWh capacity (1 M EVs) in 2030**

~10% European market
EV challenge: market shift toward multi-channel distribution model

Electromobility in Europe

Service Stations

Fuels

Reinventing customer relationship

@ Home
@ Work
@ Public
@ Service Stations

100%

~40%
~40%
~15%
~5%
Selectively capturing value along the chain

Energy Producer

Energy supply

Charge Point Operator
B2B/B2G/Retail

Energy sale & Charging Services

CP Hardware

Installation

Operation & Maintenance

Mobility Service Provider

Access to other 3rd party Charge Points

7/7 * 24/24

Engaging in the electric mobility revolution
Unlocking the EV rise in Western Europe
> 1.2 M B2G/B2B charge points expected by 2025

E-mobility key urban nodes and corridors in Europe

Strategy in Western Europe

Priority to urban markets
• Taking positions for public concessions in large cities
• Installing fast-chargers in major urban areas in > 200 service-stations

Main corridors
• Paving main road-corridors with super-fast chargers in 300 service-stations

Source: Trans-European Transport Network (TEN-T) guidelines, Total analysis
B2G: trusted partner of major cities
> 12,000 charge points in operation at end-2020

**Amsterdam (MRA)**
- 5,000 operated charge points over 4 concessions (last award in 2019). Up to 20,000 by 2024
- Dense urban area with limited individual parking: high utilization rate
- Equity IRR > 15%

**London**
- Acquisition of BluePoint London, leader of EV charge in London area (~50% market share)
- 1,600 operated charge points. Up to 4,000 by 2025
- Long-term contracts with 23 boroughs

Building on recent successes to reach 50,000 operated charge points by 2025
Targeting ride hailing & taxi
Dedicated charging hubs to address B2B needs
200 additional sites in Western Europe by 2025

Stations and hubs covering major cities in Western Europe

Targeting 1,500 fast and super-fast chargers in 500 sites by 2025
Investing 200 M$ with ~10% Equity IRR

100 km autonomy in 6 min charge
High level of convenience services at our service stations
300 HPC sites in Western Europe by 2022

One HPC every 150 km in Western Europe
Serving our 1M B2B clients in their transition to cleaner mobility
Priority to corporate customers holding 3M TotalFleet cards

**Fleet**
- Enedis
  - ~1,250 charge points
  - 155 sites

**Host**
- PSA industrial sites
  - 175 charge points
  - 14 sites in 6 countries

**OEMs**
- OEM dealers (Europe)
  - 500 dealer sites
  - 2,500 installed charge points

B2B fleet conversion to EV supported by:
- National legislation alignment with Paris agreement
- Corporate Net Zero ambitions
- Low emission zones in urban areas

1 M charge points potential in Europe by 2025

Targeting > 100,000 charge points by 2025
Becoming a major E-mobility player in Europe
Preparing the future with a capital light model

Operated charge points

Over 2020-25
• ~300 M$ capital investments
• ~300 M$ assets under leasing

500 GWh delivered through 150,000 operated charge points by 2025

Targeting ~10% market share in B2G/B2B in Western Europe

Additional CFFO ~50 M$/y by 2025, growing to ~100 M$/y by 2030 with higher utilization rate
And more to come in China
Although they may have occurred within prior years or are likely to occur again within the coming years, certain transactions qualified as ‘special items’ may be considered to be representative of the normal course of business, may be qualified as special items, or similar terminology. Such forward-looking statements include data as on economic, competitive and regulatory environment and considered to be reasonable by the Group as of the date of this document.

These forward-looking statements are not historical data and should not be interpreted as assurances that the perspectives, objectives or goals announced will be achieved. They may prove to be inaccurate in the future, and may evolve or be modified with a significant difference between the actual results and those initially estimated, due to the uncertainties notably related to the economic, financial, competitive and regulatory environment, or due to the occurrence of risk factors, such as, notably, the price fluctuations in crude oil and natural gas, the evolution of the demand and price of petroleum products, the changes in production results and reserves estimates, the ability to achieve cost reductions and operating efficiencies without unduly disrupting business operations, changes in laws and regulations including those related to the environment and climate, currency fluctuations, as well as economic and political developments, changes in market conditions, loss of market share and changes in consumer preferences including those due to epidemics such as Covid-19. Additionally, certain financial information is based on estimates particularly in the assessment of the recoverable value of assets and potential impairments of assets relating thereto.

Neither TOTAL nor any of its subsidiaries assumes any obligation to update publicly any forward-looking information or statement, objectives or trends contained in this document whether as a result of new information, future events or otherwise. Further information on factors, risks and uncertainties that could affect the Group’s business, financial condition, including its operating income and cash flow, reputation or outlook is provided in the most recent version of the Universal Registration Document which TOTAL filed with the French Autorité des Marchés Financiers and the annual report on Form 20-F/A filed with the United States Securities and Exchange Commission (“SEC”).

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. In addition to IFRS measures, certain alternative performance indicators are presented, such as performance indicators excluding the adjustment items described below (adjusted operating income, adjusted net operating income, adjusted net income), return on equity (ROE), return on average capital employed (ROACE), gearing ratio and operating cash flow before working capital changes. These indicators are meant to facilitate the analysis of the financial performance of TOTAL and the comparison of income between periods. They allow investors to track the measures used internally to manage and measure the performance of the Group. These adjustment items include:

(i) 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 using either 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.

(ii) 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.

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

Furthermore, TOTAL enters into derivative instruments to risk manage certain operational contracts or assets. Under IFRS, these derivatives are recorded at fair value while the underlying operational transactions are recorded as they occur. Internal indicators defer the fair value on derivatives to match with the transaction occurrence.

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.

Euro amounts presented herein represent dollar amounts converted at the average euro-dollar (€/$) exchange rate for the applicable period and are not the result of financial statements prepared in euros.

This document also contains extra-financial performance indicators, including a carbon intensity indicator for energy products used by TOTAL customers, that measures the average greenhouse gas emissions of those products, from their production to their end use, per unit of energy. This indicator covers the direct GHG emissions of production and processing facilities (scope 1) and their indirect emissions associated with energy purchase (scope 2), as well as the emissions associated with the use of products by the customers of the Group (scope 3) which TOTAL does not control (for the definitions of scopes 1, 2 and 3, refer to TOTAL’s Universal Registration Document).

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 “potential reserves” or “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/A, File N° 1-10888, available from us at 2 place Jean Millier – Arche Nord Coupole/Régnault – 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.