



DGEP

The Prominent Role of Technology

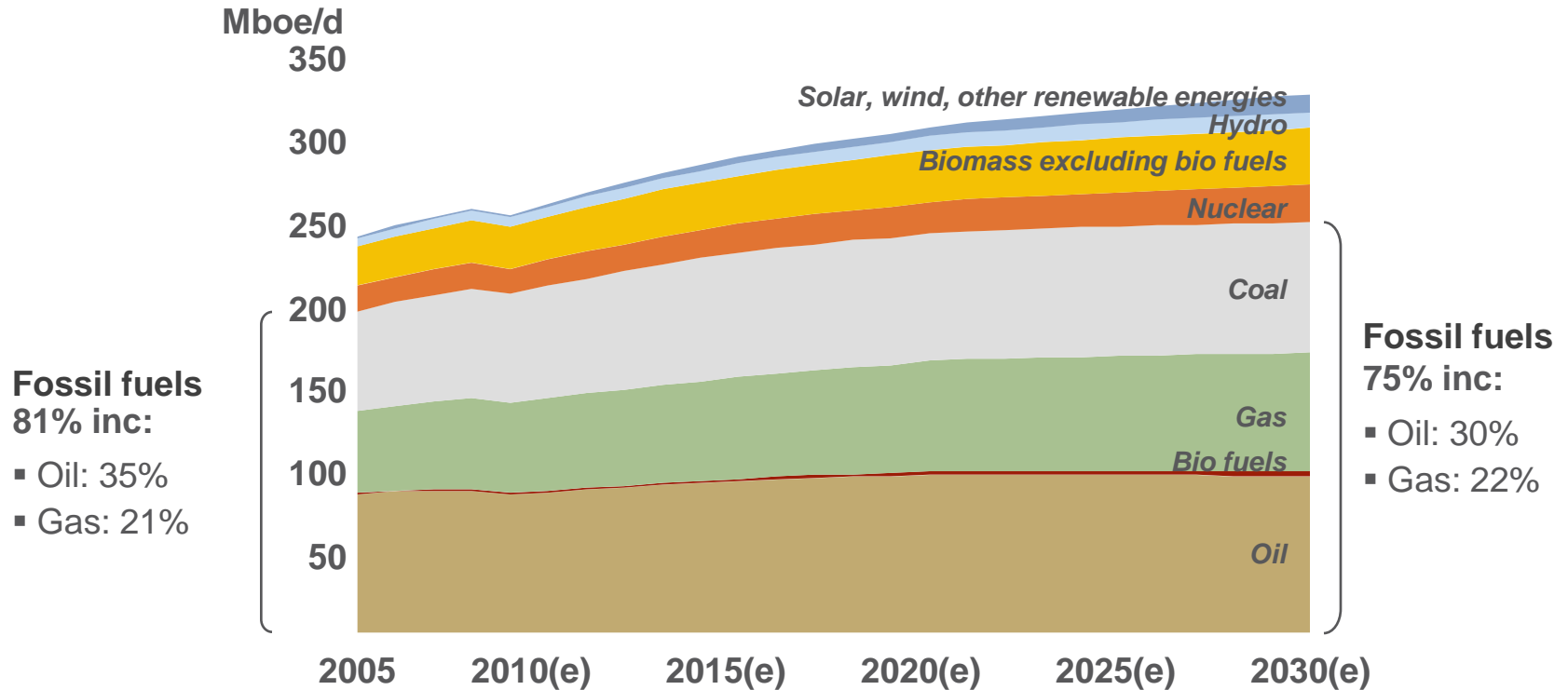
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Outlook - Fossil fuels are 75% of energy supply in 2030

World energy supply



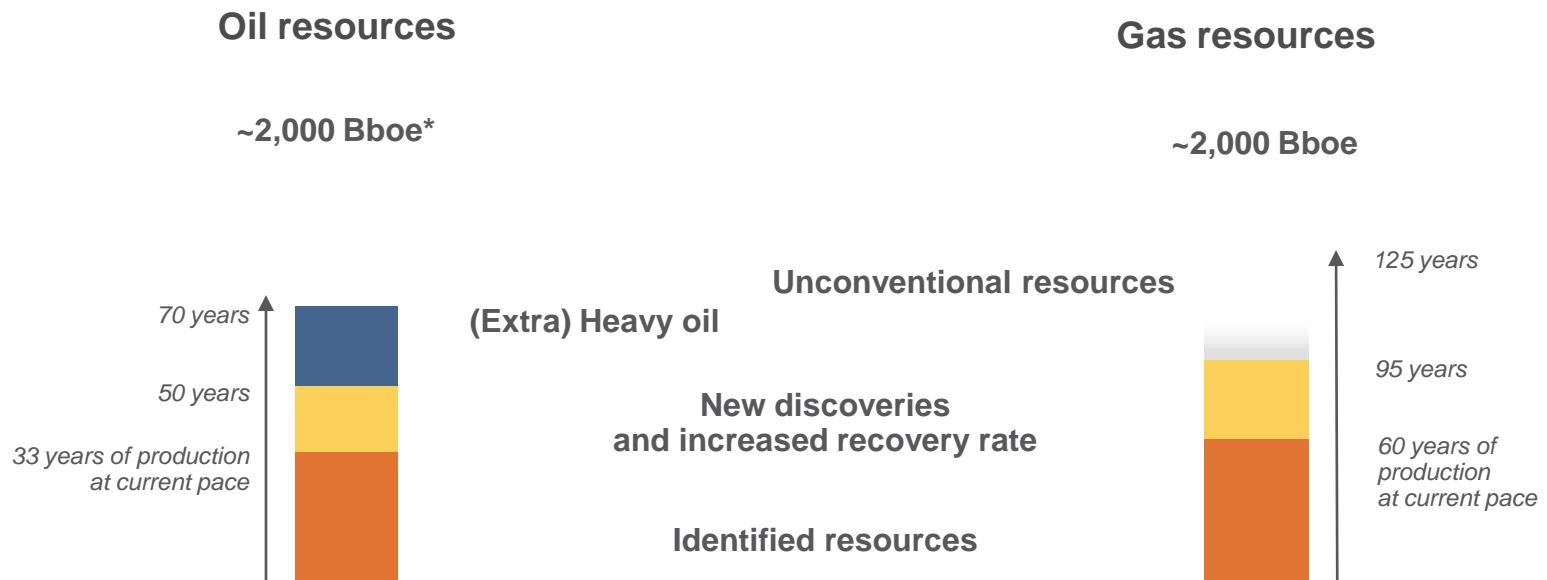
Diversification of energy supply required
Long term perspectives for Oil and Gas
Limiting CO₂ emissions is necessary to
increase coal and hydrocarbon production

source: Total estimates

Significant (unconventional) resources yet to be produced

Hydrocarbons of tomorrow will not be the same as yesterday

Unconventional resources are abundant: shale gas, coal bed methane, tight gas, oil shale



* Plus probably 1000 Bboe of oil shales corresponding to 30 years of production

Oil and gas resources require increasing technological proficiency and higher CAPEX in order to be brought onstream

Total's Exploration & Production strategy

Objective: profitable growth among the best of the majors

► Ways to stimulate growth

- Maximise production from **existing assets**
- Bring on stream our large portfolio of **new projects**, on schedule and at the lowest cost
- Focus on **reserves replacement**

► Focusing on high-potential segments

- **Deep Offshore**: technology, integrated project management
- **LNG**: technology, integrated project management and upstream-downstream marketing integration
- **Heavy oil**: technology, integration with refining, human resources, stewardship of natural resources (water, air, energy,...)
- **Unconventional gas** (tight gas, shale gas, coal bed methane): technology
- **Oil shales** for the longer term

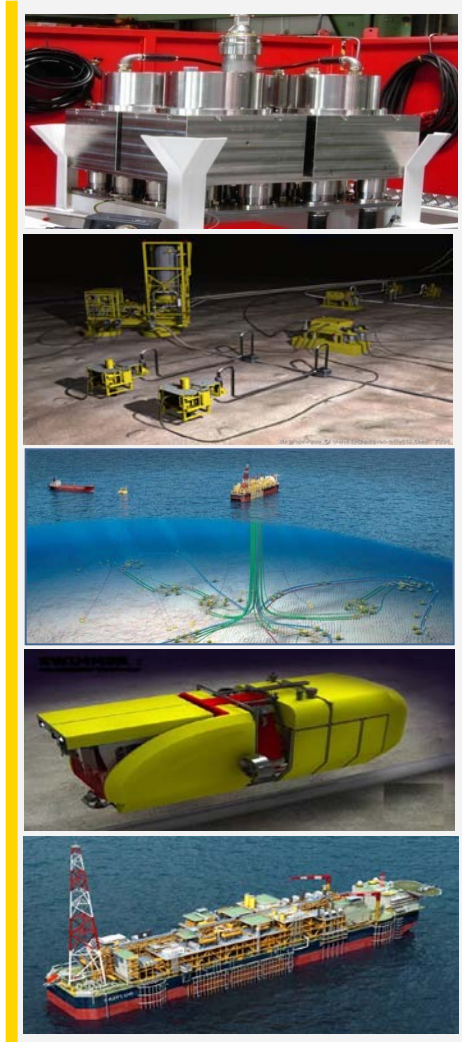


Combining our technological know-how and culture

Deep offshore: a culture of constant innovation

Technology and Integrated Project Management

- ▶ Subsea processing
 - “All-electric” systems: world’s first test in 2008 on K5F in the North Sea
 - A world first for Pazflor: gas/liquids separation and pumping modules installed on the sea floor
- ▶ Optimising recovery rate
 - Dalia: polymer injection
- ▶ Managing the maturity of facilities
 - Swimmer: a new Hybrid AUV/ROV for Inspection, Maintenance and Repair
- ▶ FPSO, gigantic production units
 - From Girassol to Pazflor (Angola: *Dalia*, *Rosa*,...; Congo: *Moho-Bilondo*; Nigeria: *Akpo*,...)



Significant R&D investments to resolve technological barriers

Advanced technologies to meet energy demand

International oil companies rely on technology to produce new fields in extreme conditions and to enhance recovery rates from existing fields

Gas



- ▶ Sour gas, CO₂ and H₂S treatment
- ▶ Unconventional gas
- ▶ LNG, FLNG
- ▶ GTL, CTL
- ▶ ...

HP/HT



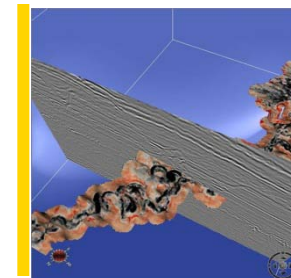
- ▶ Reservoir quality prediction
- ▶ HP/HT operations: pushing the limits
- ▶ Deeply Buried reservoirs
- ▶ ...

CCS



- ▶ Pilot project in Lacq (France)
- ▶ ...

Seismic Technology



- ▶ Sub-salt seismic imaging
- ▶ Seismic reservoir characterization
- ▶ 4D seismics

Extra-heavy oil



- ▶ SAGD
- ▶ Upgrading
- ▶ Process Integration
- ▶ Energy and CO₂

Strengthening partnerships: a win-win approach

Close ties with host countries and Corporate Social Responsibility (CSR) ensuring long-term success and sustainability

- ▶ Participating with host countries to supply energy needs
- ▶ Innovative partnerships
- ▶ Training and staff internationalization
- ▶ Safety awareness
- ▶ Technology transfer
- ▶ Local content
- ▶ Supporting local communities: development, health, education...
- ▶ Minimizing environmental footprint and preserving biodiversity
- ▶ Improving energy efficiency and reducing CO2 emissions



Acceptability is the key

Conclusion: a solid business model

- ▶ A long term view which allows us to prepare for the future
- ▶ Technology : a culture of innovation, with high-level technologies integrated in our projects
- ▶ Recognized into all management capabilities for very large integrated projects
- ▶ A proven capacity to develop innovative partnerships
- ▶ A clear commitment to sustainable development: societal, environmental...

***Shared IOC-NOC responsibility:
providing a sustainable hydrocarbon supply to our customers***

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Business segment information is presented in accordance with the Group internal reporting system used by the Chief operating decision maker to measure performance and allocate resources internally. Due to their particular nature or 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, certain 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 in previous years or are likely to recur in following years.

The adjusted results of the Downstream and Chemical segments are also presented according to the replacement cost method. This method is used to assess the segments' performance and ensure the comparability of the segments' results with those of the Group's main competitors, notably from North America.

In the replacement cost method, which approximates the LIFO (Last-In, First-Out) method, the variation of inventory values in the income statement is determined by the average price of the period rather than the historical value. The inventory valuation effect is the difference between the results according to FIFO (First-In, First-Out) and replacement cost.

In this framework, performance measures such as adjusted operating income, adjusted net operating income and adjusted net income are defined as incomes using replacement cost, adjusted for special items and excluding Total's equity share of the amortisation of intangibles related to the Sanofi-Aventis merger. They are intended to facilitate the analysis of the financial performance and the comparison of income between periods.

Dollar amounts presented herein represent euro amounts converted at the average euro-dollar exchange rate for the applicable period and are not the result of financial statements prepared in dollars.

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