

CSR
in Total's business model

Expanding our portfolio in new energies

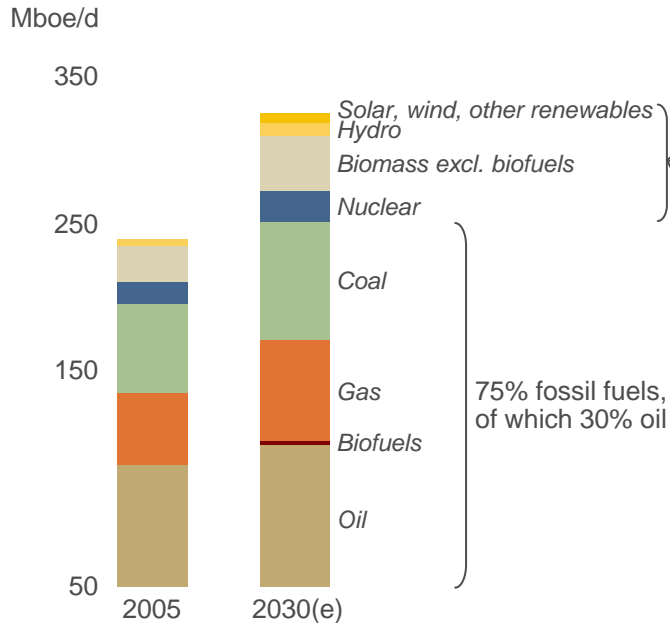
Philippe Boisseau
President Gas & Power

Investor Relations, London, November 19th, 2009



Developing low CO₂ energies to meet the energy challenge

Global energy supply mix by 2030(e)*



Main axes selected by Total to develop low CO₂ energies

Solar

- > Differentiating technology
- > Reducing cost
- > Integrating along the PV** chain



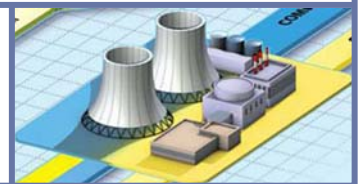
Biomass

- > Strong R&D commitment for advanced biofuels



Nuclear

- > Learning via Penly EPR
- > Developing new projects in producing countries



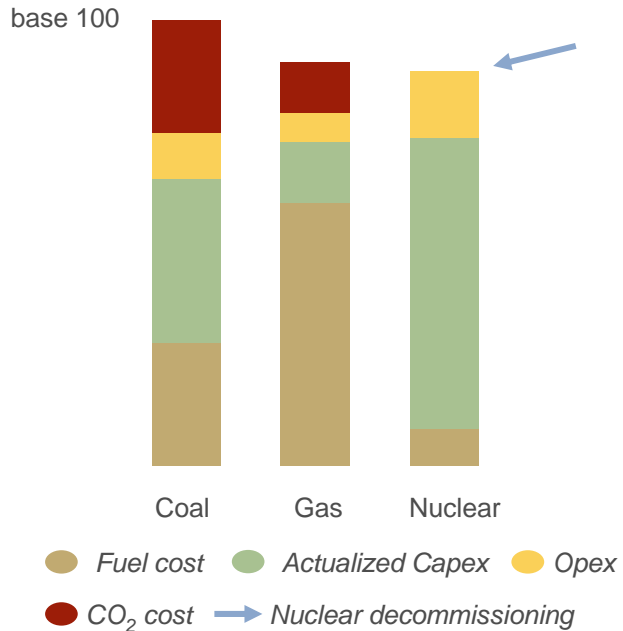
Capitalizing on industrial assets and R&D to develop solar, nuclear and biomass
Participating in the energy diversification of oil and gas producing countries

* Total estimates

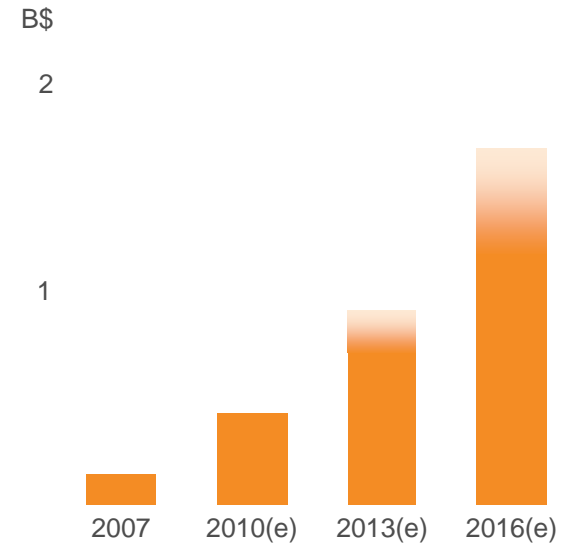
** PV : photovoltaic

New energies require profitability

Cost of electricity by energy source*
Continental Europe



Total's capital employed in new energies



R&D, capital discipline and cost management
Developing solar as key growth segment
Looking at long-term cash generation of nuclear projects

* Total estimates

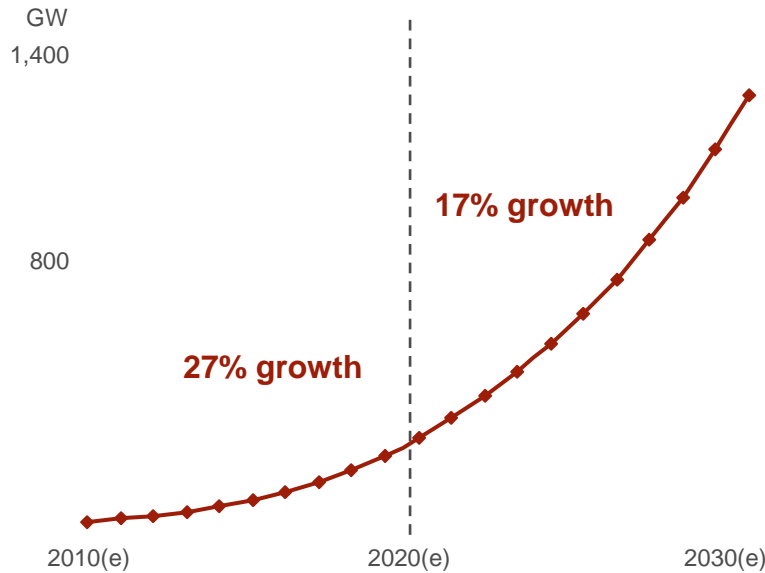
Building a stronger position in solar business



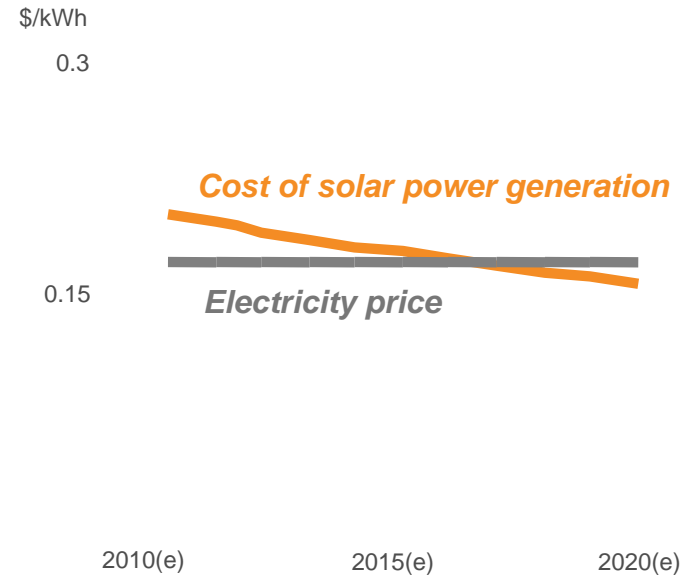
TOTAL

Capturing growth through strong potential of solar business

Estimated growth of worldwide solar photovoltaic cumulative capacity*



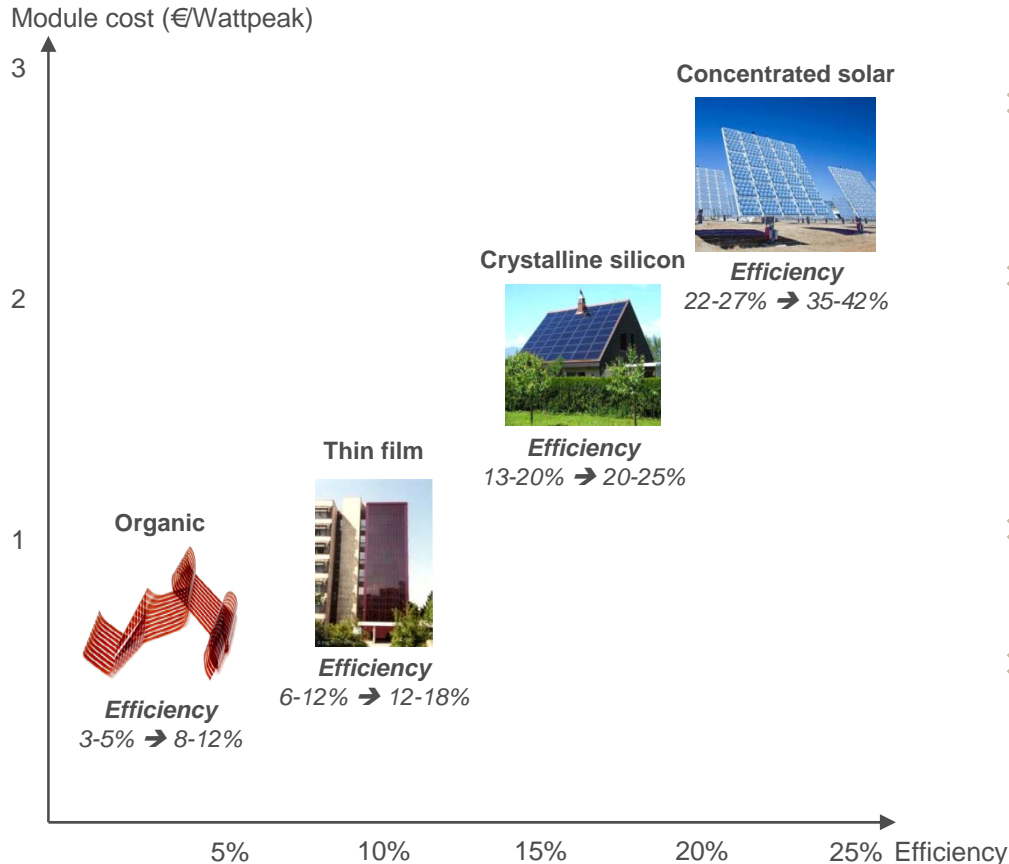
California grid parity*



***Requires technology diversification,
cost competitiveness and vertical integration
Only 4% of global power generation by 2030(e)***

* Total estimates

R&D to improve equipment efficiency and reduce costs



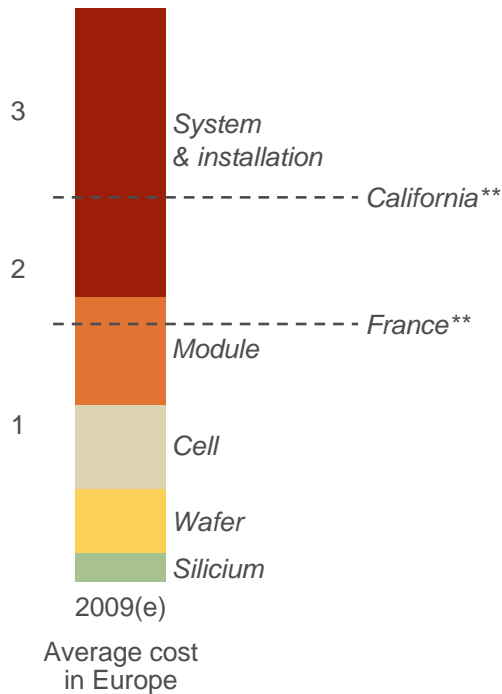
- > Capitalizing on existing research teams at Total and on synergies with specialty chemicals business
- > Recent research partnerships (Oct. 2009)
 - Industrial program with IMEC on crystalline silicon PV
 - Joint research team on thin film nano PV with CNRS and Ecole Polytechnique
 - 5-year research program on stationary batteries with MIT
- > Project under study for a research center dedicated to photovoltaic
- > Konarka : 20% equity share in organic PV technologies start-up

Several technologies, today at different stages, will ultimately co-exist
Developing expertise on all fronts

Competitiveness with grid required to develop solar business

Average cost of installed crystalline system*

(€/Wattpeak)



Cost optimization

- Critical mass
- Technological process and design
- Integration of wafers, cells and modules
- Cost of materials
- Proper localization of the different segments

Reducing costs to make solar energy profitable without subsidies

* Total estimates for residential
** targeted cost to reach grid parity

Vertical integration to capture value along the chain

Silicon

Wafers

Cells

Systems



Wafer production project

- › Permitting underway
- › FID expected beginning of 2010(e)
- › 80 MWp capacity in 2010(e)



- › Founded in 2001
- › Partnership with GDF SUEZ and Total (50/50)
- › Production of multi-crystalline silicon photovoltaic cells
- › Capacity : 80 MWp in 2009; 260 MWp in 2012(e)



- › Founded in 1983
- › Partnership with EDF and Total (50/50)
- › Module producer and solar service provider (engineering, procurement and design)
- › Capacity : 110 MWp in 2009; 150 MWp in 2011(e)

Capitalizing on recognized expertise and technical excellence of existing assets

Concentrated thermal solar project in Abu Dhabi

- › Total and Abengoa are participating to a bid launched by Abu Dhabi Future Energy Company (ADFEC) for a concentrated thermal solar project in Abu Dhabi
- › Capacity : 100 MW on a 2.5 km² plant
- › Technology : parabolic trough reflecting direct solar radiation onto a receiver
- › Project completion expected by 2011(e)

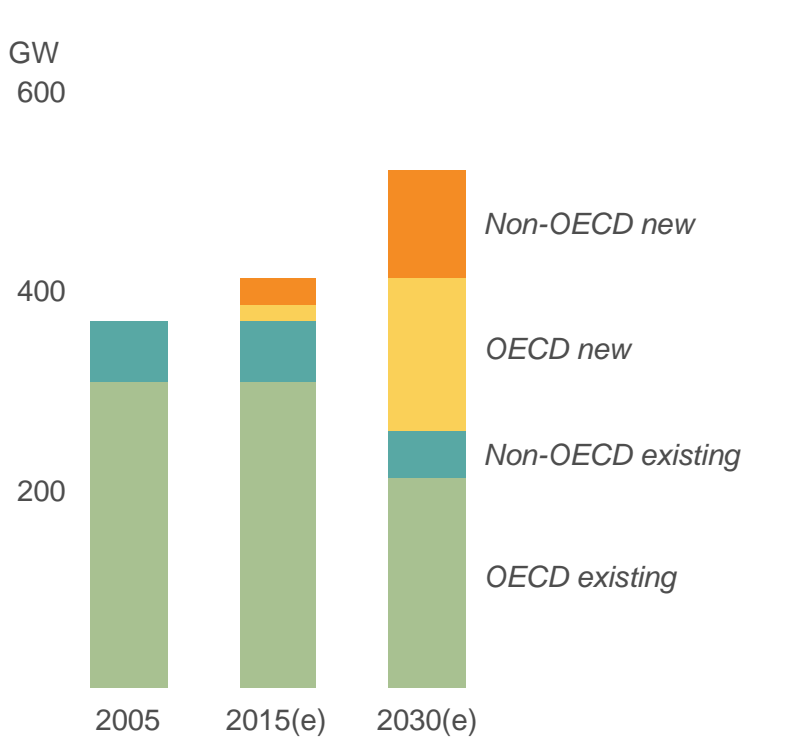


Strengthening our partnership with Abu Dhabi

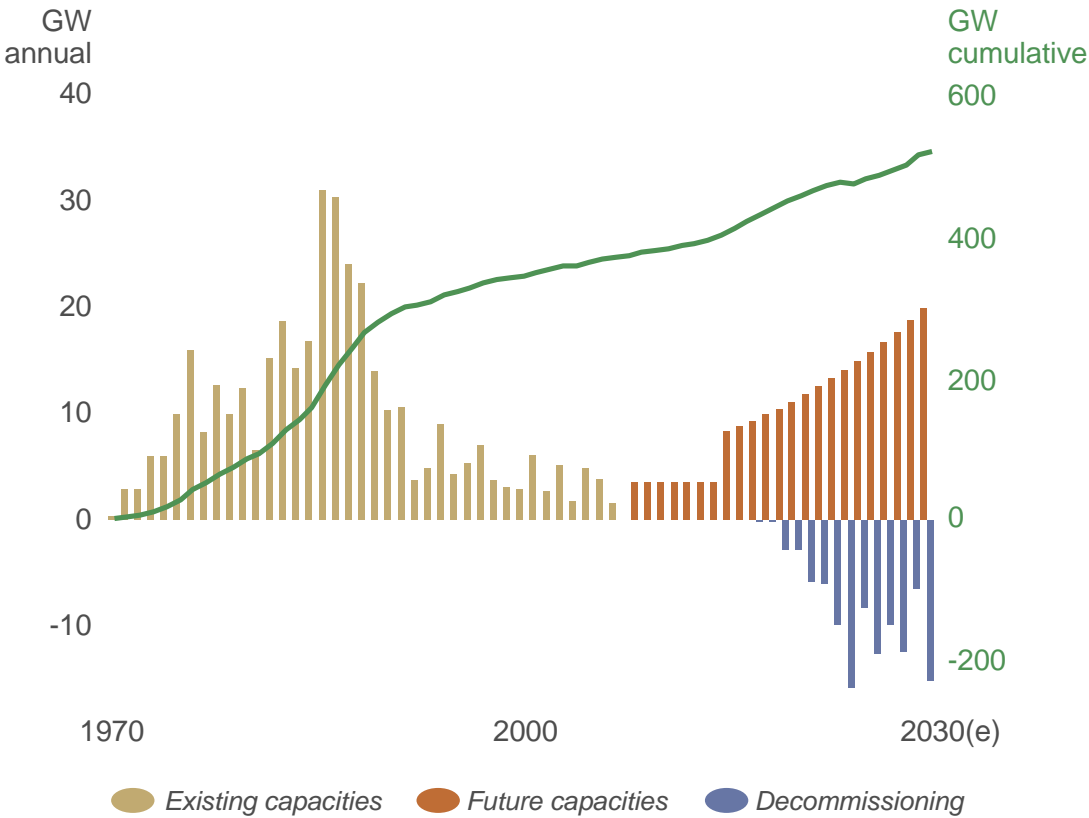
Building expertise in nuclear

Critical need to replace existing and add new nuclear capacities

Worldwide production capacities*



Net additional capacities*



Nuclear capacity to grow by 30% by 2030(e)
13% of worldwide electricity generation and 7% of primary energy by 2030(e)
Net growth is limited since major investments are needed to replace aging plants

* Total estimates, based on 50-year average lifetime of existing plants



Total plans to join and operate new nuclear projects

Strengths

- Experience to manage technically challenging industrial projects in complex environment
- Ability to manage long-term, capital intensive projects
- Strong relationships with oil and gas producing countries
- Learning from world-class nuclear power producers

Projects

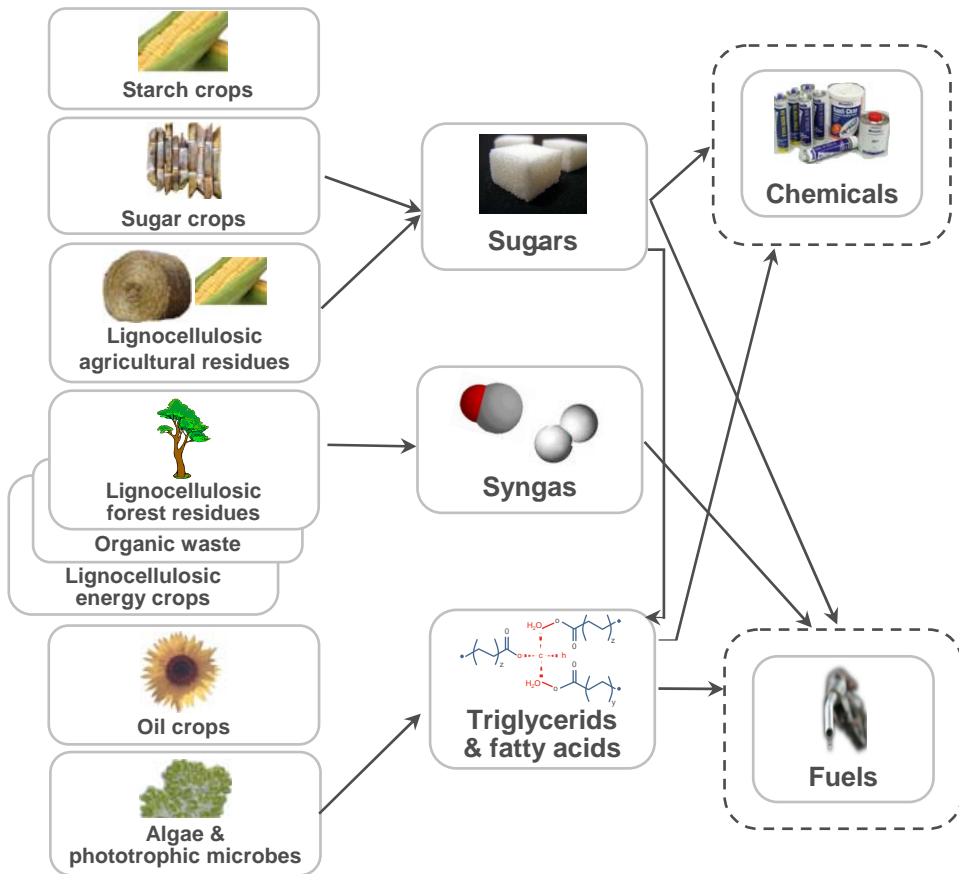
- EPR in Penly (France) under study : Total 8.3%, EDF 50%, GDF SUEZ 25% plus additional investors
 - Commissioning expected in 2017(e)
- Abu Dhabi : partnership with Areva, GDF SUEZ and EDF to submit an offer to the bid organized by Abu Dhabi

Adapting our energy portfolio to tomorrow's needs
Strong cash generation over 40-50 years

R&D on biomass

Developing next generation of molecules from biomass

Total's preferred production routes for biofuels and biochemicals



Existing R&D partnerships

- > **BioTfuel** : pilot project on thermochemical transformation of lignocellulosic and fossil feedstocks to liquid fuels
- > **Futurol** : integrated project to scale-up bioethanol production from lignocellulosic biomass
- > **Futero** : JV with Galactic to produce bioplastics from beet sugar or wheat starch
- > **BioDME European project** : demonstration project to validate supply chain from black liquor to DME
- > **Gevo** : equity participation in a startup company specialized in the conversion of sugars to higher alcohols

Strong R&D commitment to the development of sustainable and competitive advanced biofuels routes