



Statoil

Energy Perspectives 2015

Long-term macro and market outlook

June 2015

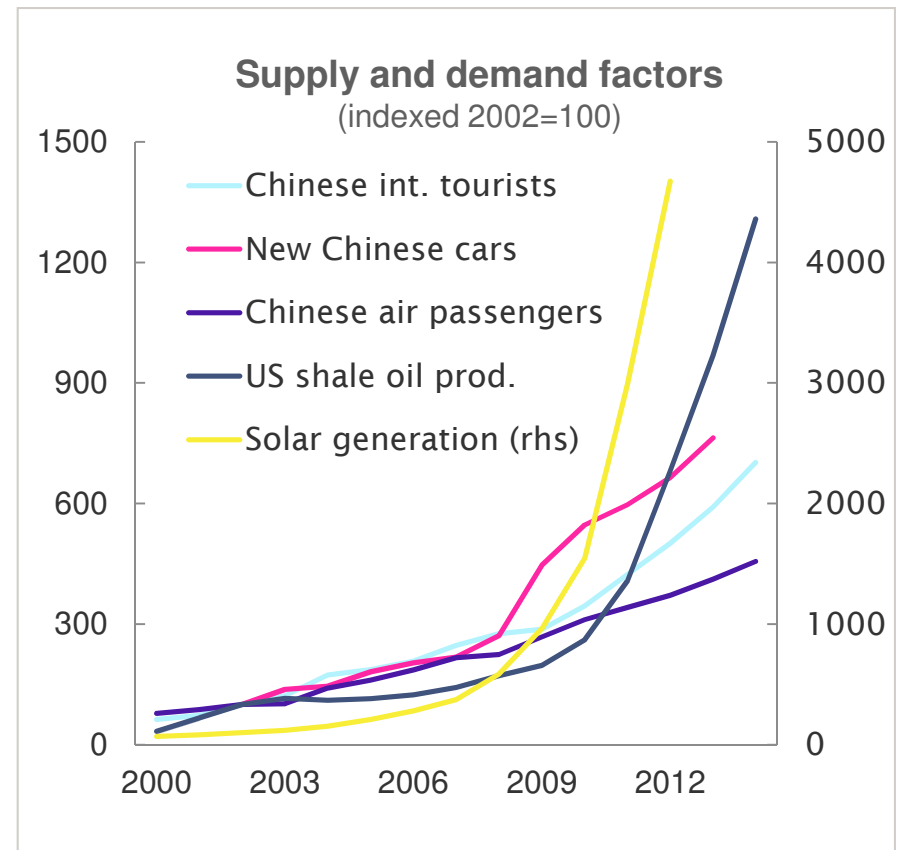
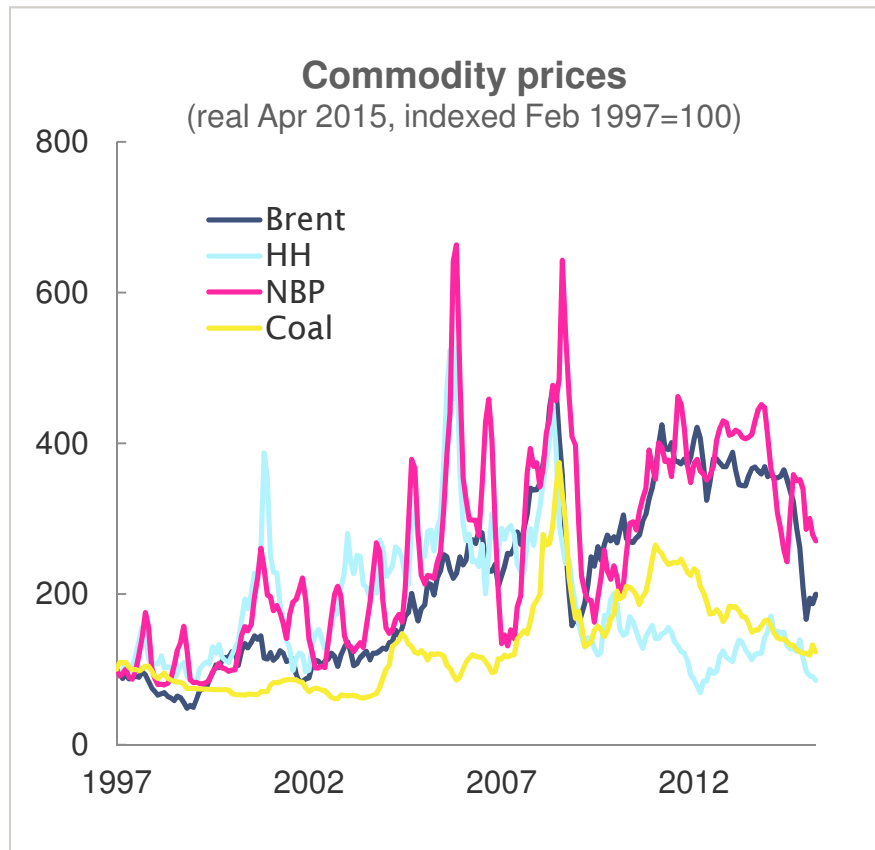
Eirik Wærness, Chief economist

Classification: Internal

2015-04-28

A world of volatility and change

Hope to be vaguely right, not precisely wrong...



Sources: Thomson Reuters Datastream, DOE, CEIC, IEA

Long-term forecasts are uncertain

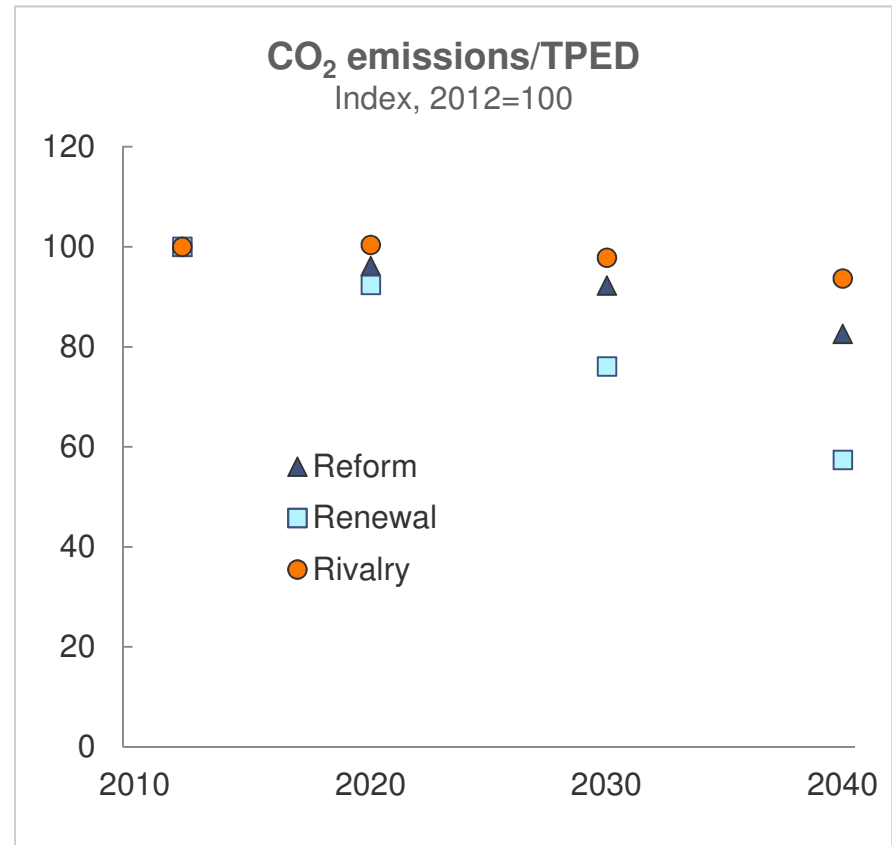
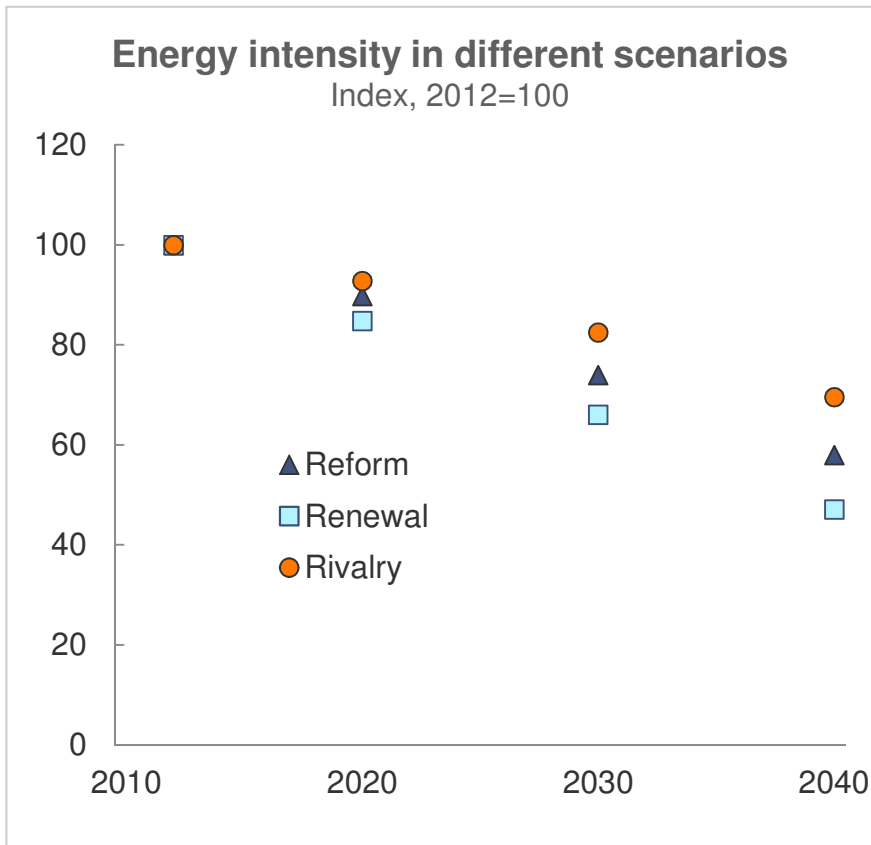
Climate change, policy, technology, consumers and economy will decide



Sources: The Economist, Google, UN, Statoil, McKinsey & Company, National Geographic, twistedstifer.com

Several futures are possible

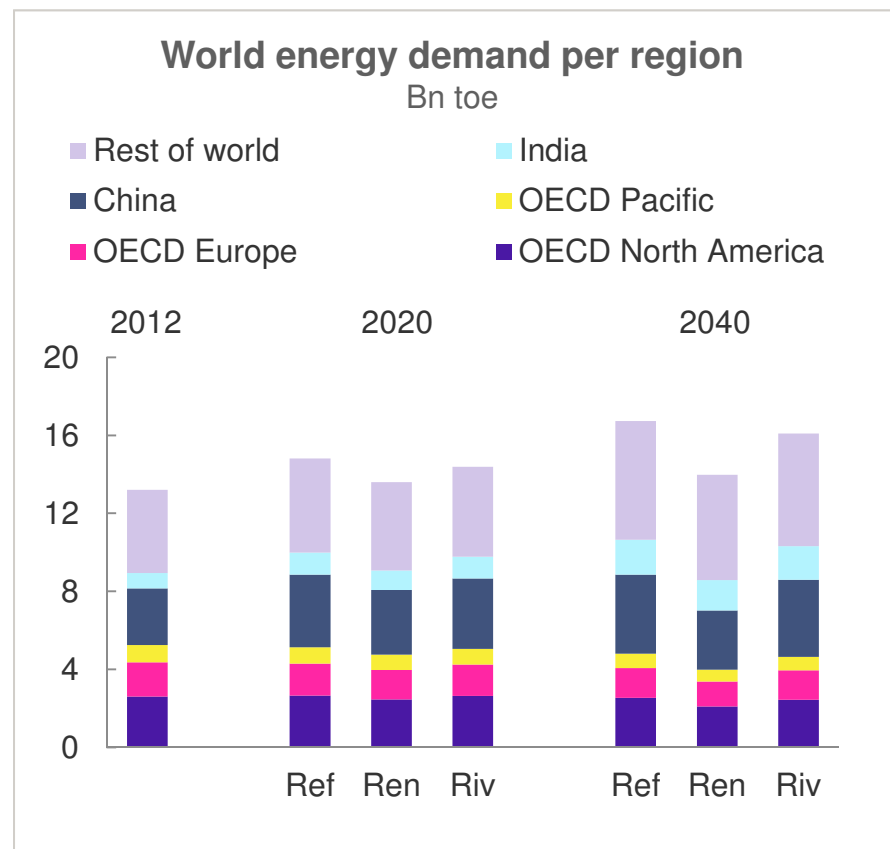
Three scenarios – stories about the future – have been established



Source: IEA (history), Statoil (projections)

A strong trend affecting economics and energy

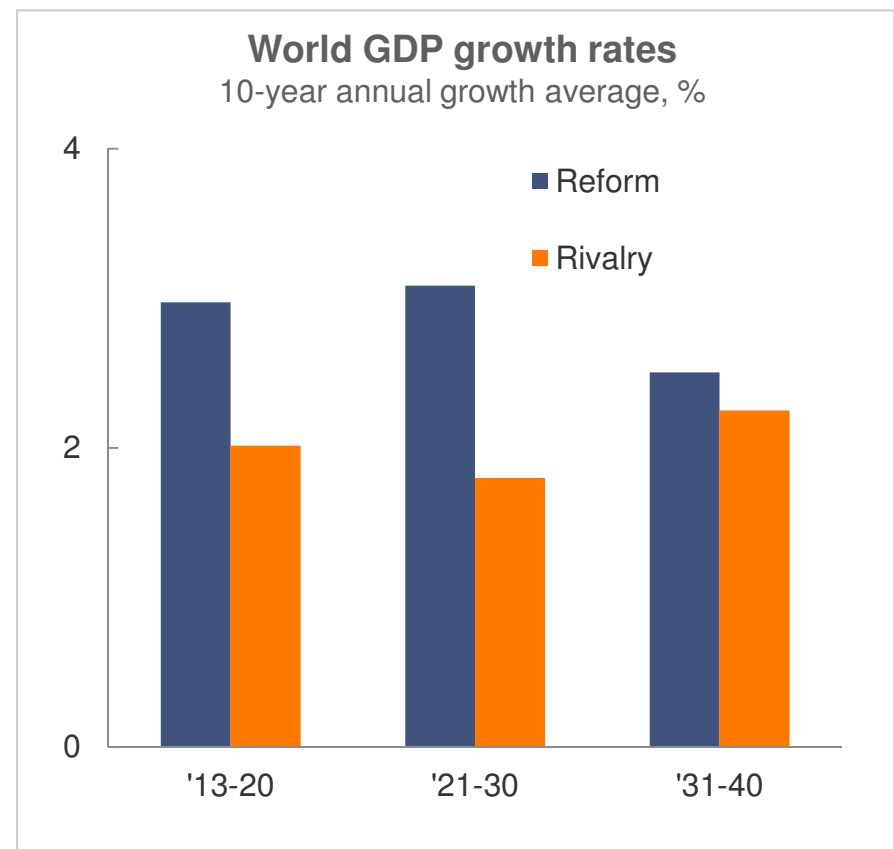
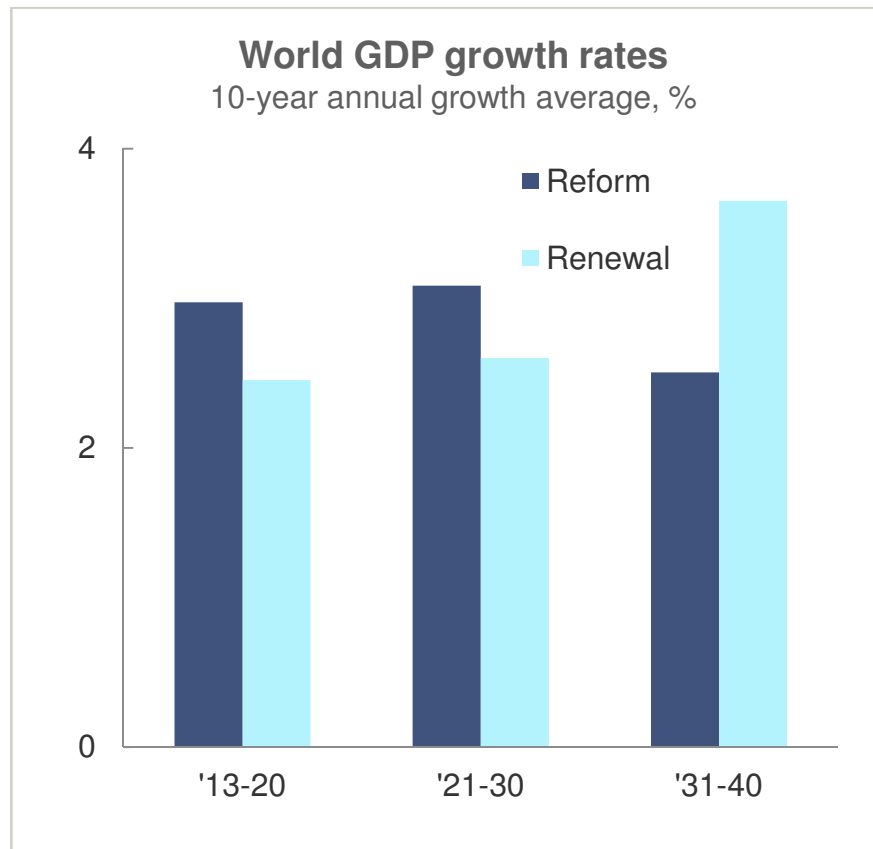
Economic gravity moves (back) to the east, and so does energy demand



Source: Imgur, IEA, Statoil (projections)

Growth is a key driver for energy demand...

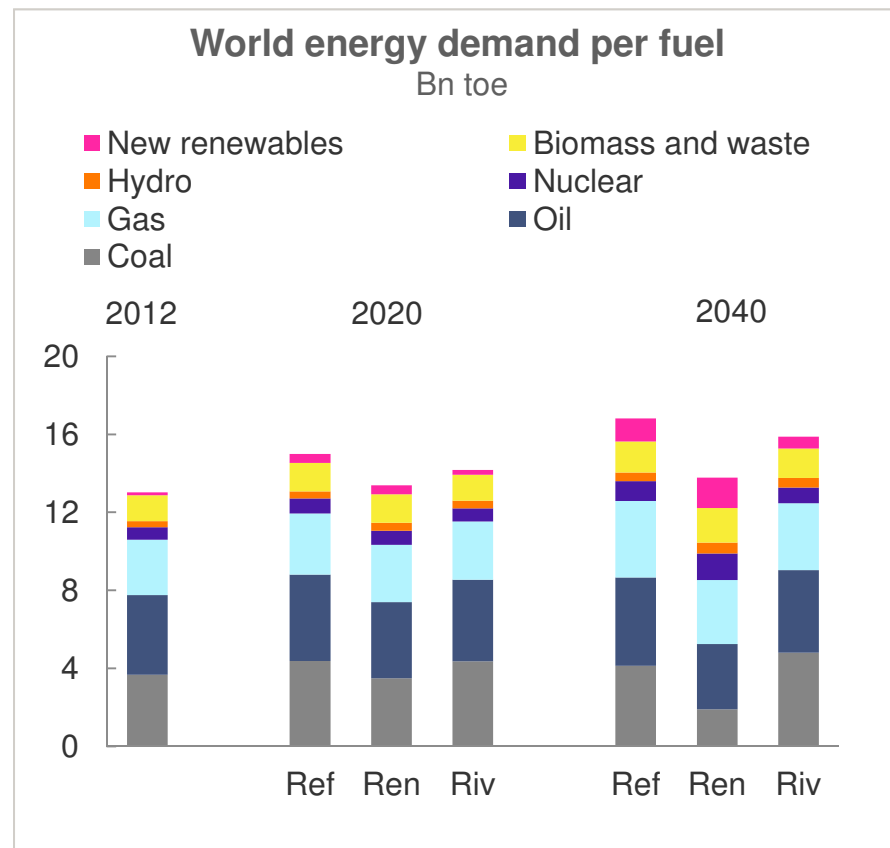
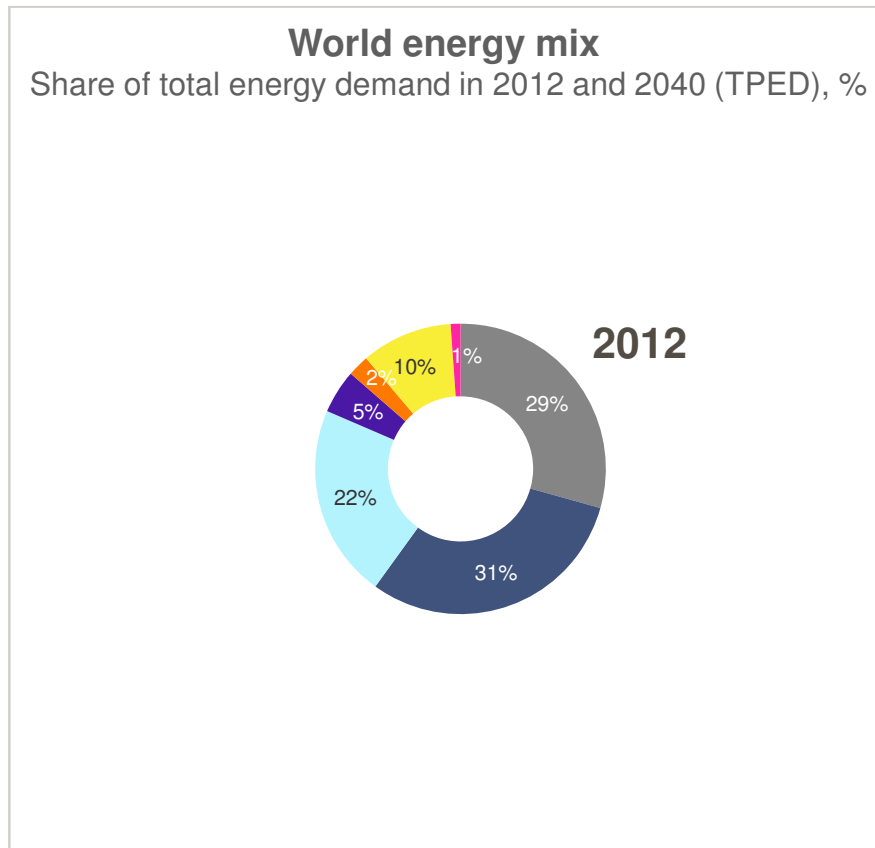
... and is different in alternative scenarios



Source: IEA (history), Statoil (projections)

Energy demand and energy mix differ

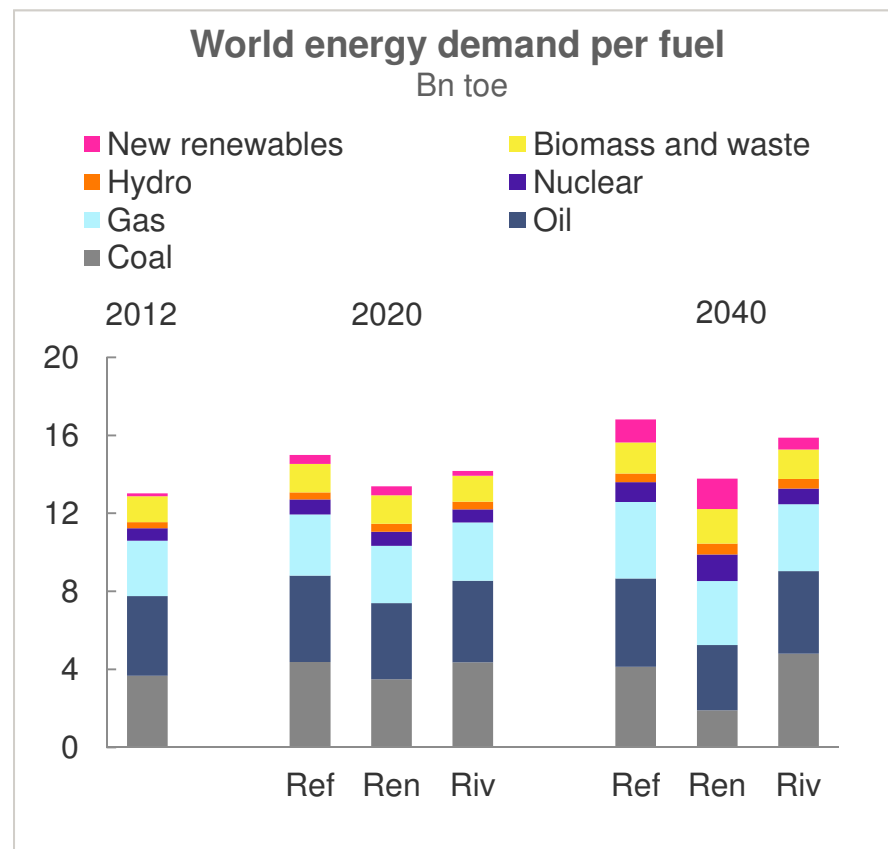
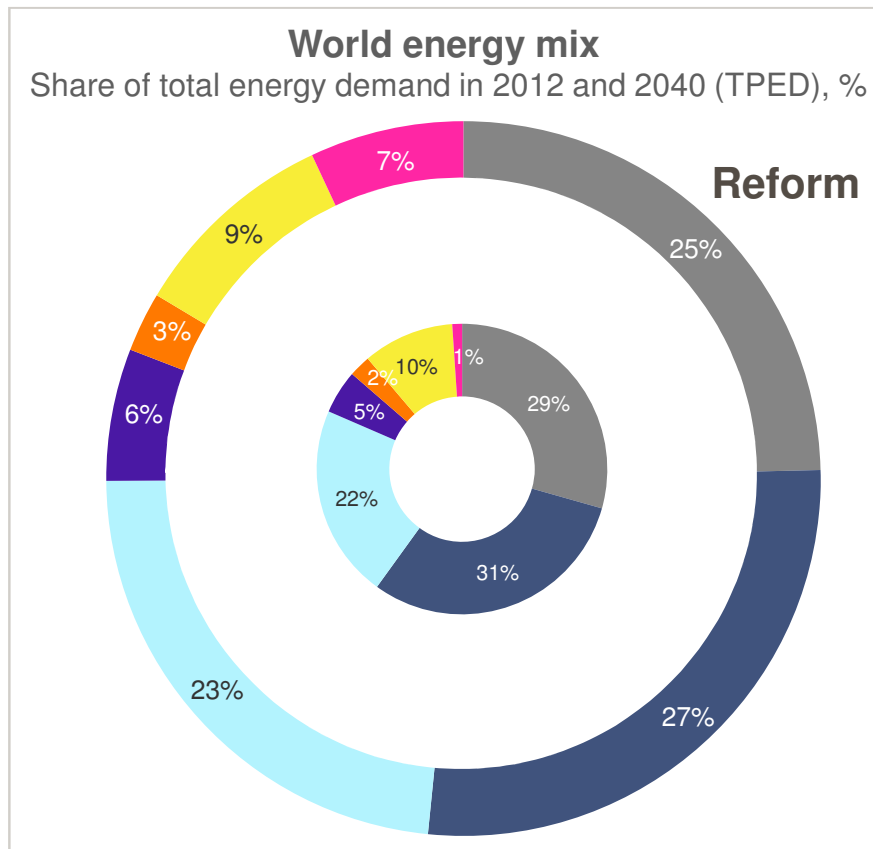
... depending on growth, efficiency, technology and policies



Source: IEA (history), Statoil (projections)

Energy demand and energy mix differ

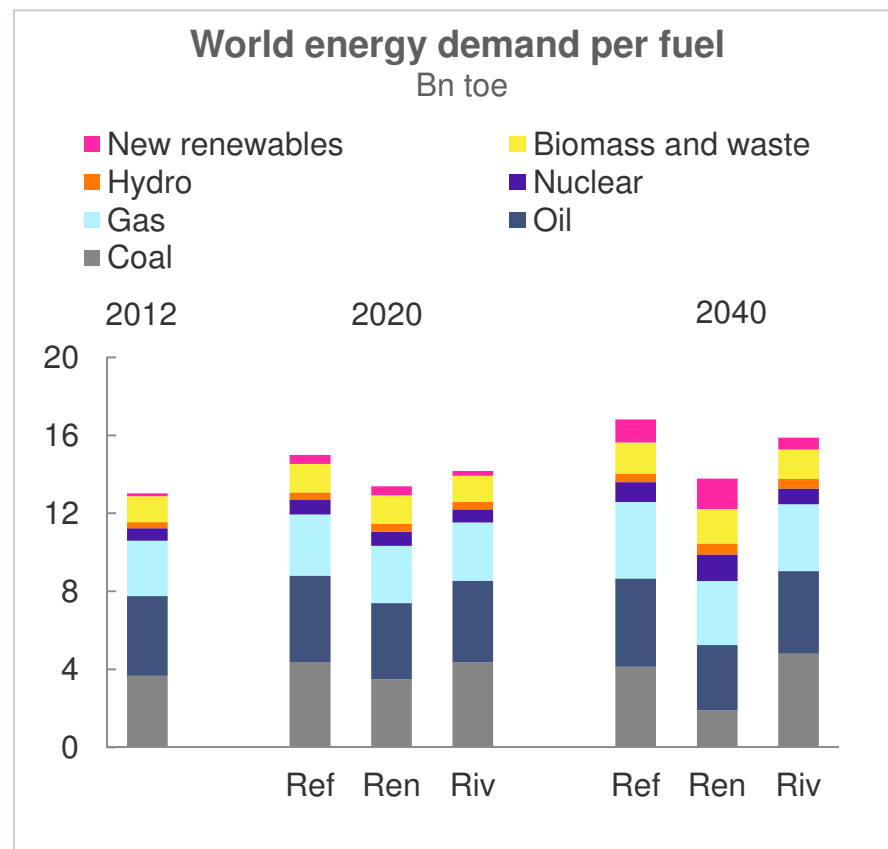
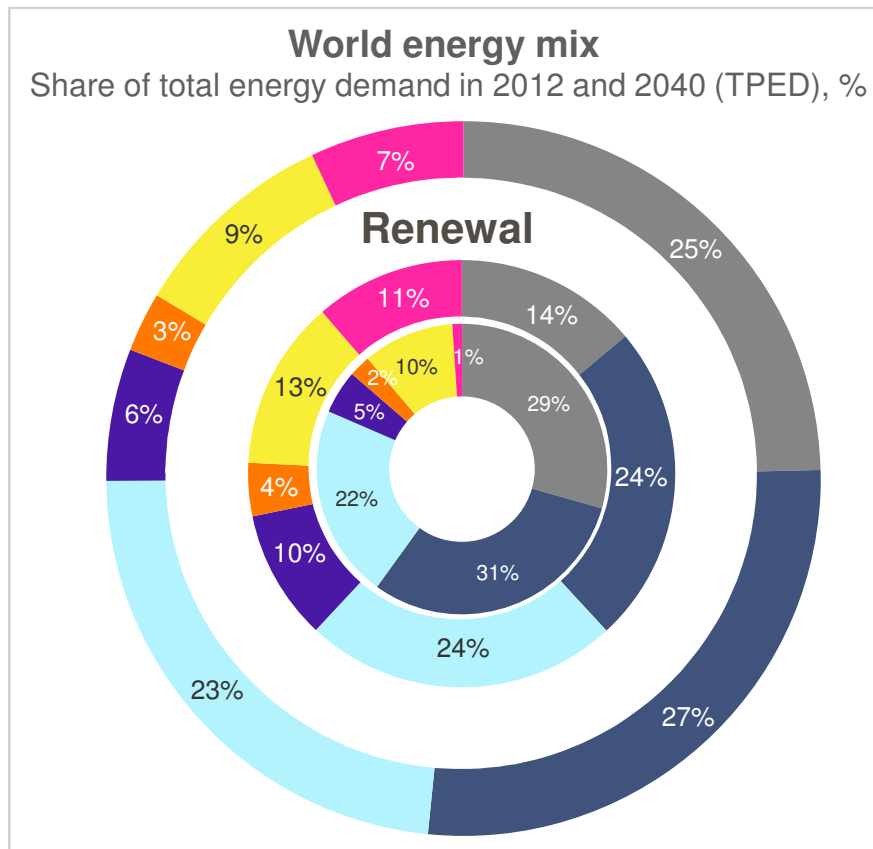
... depending on growth, efficiency, technology and policies



Source: IEA (history), Statoil (projections)

Energy demand and energy mix differ

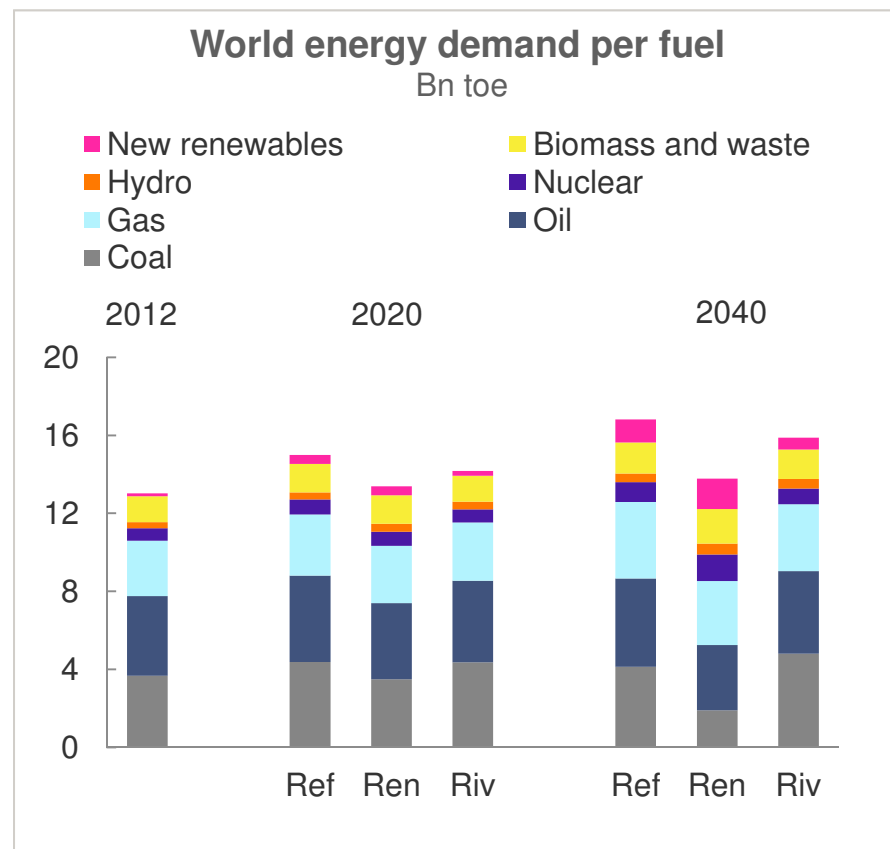
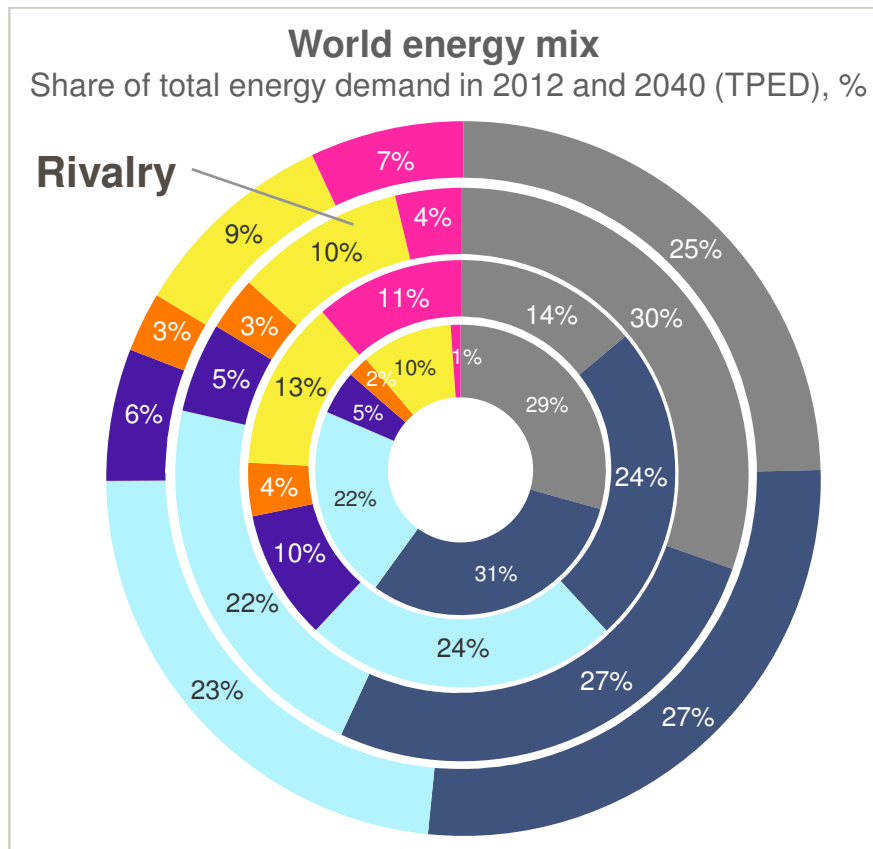
... depending on growth, efficiency, technology and policies



Source: IEA (history), Statoil (projections)

Energy demand and energy mix differ

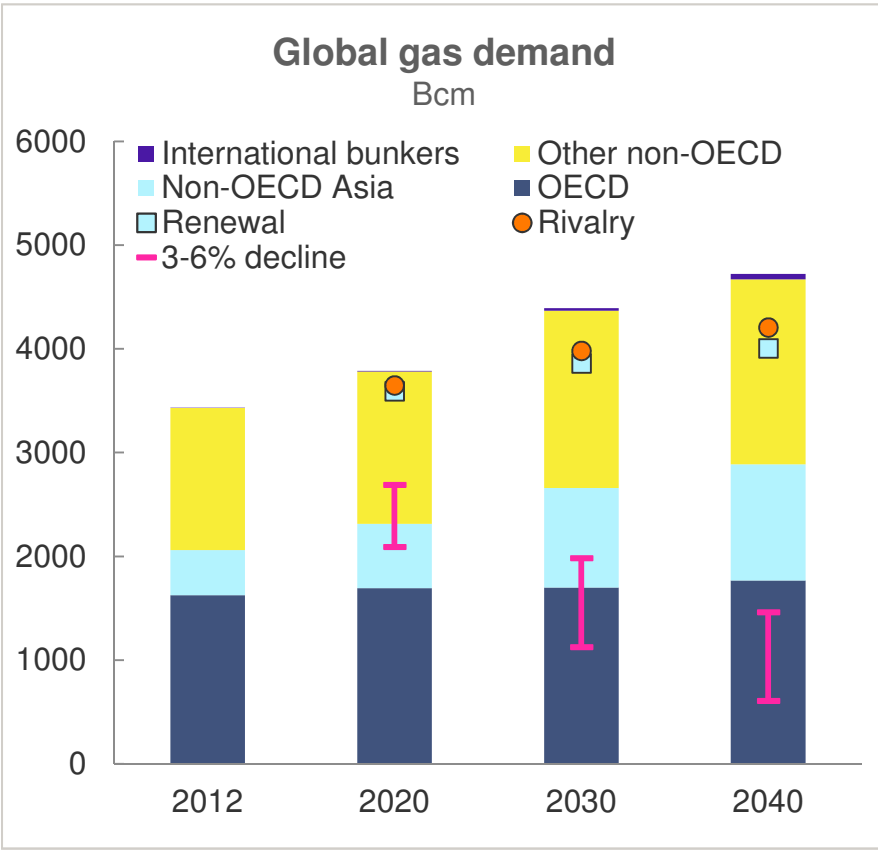
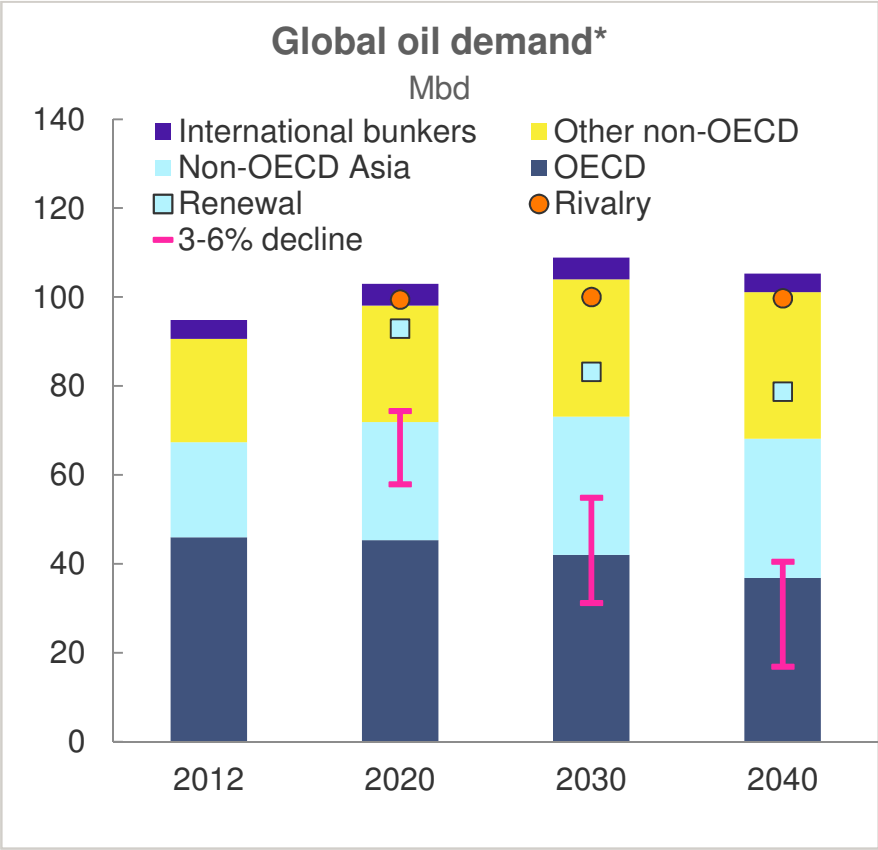
... depending on growth, efficiency, technology and policies



Source: IEA (history), Statoil (projections)

Oil and gas are here to stay

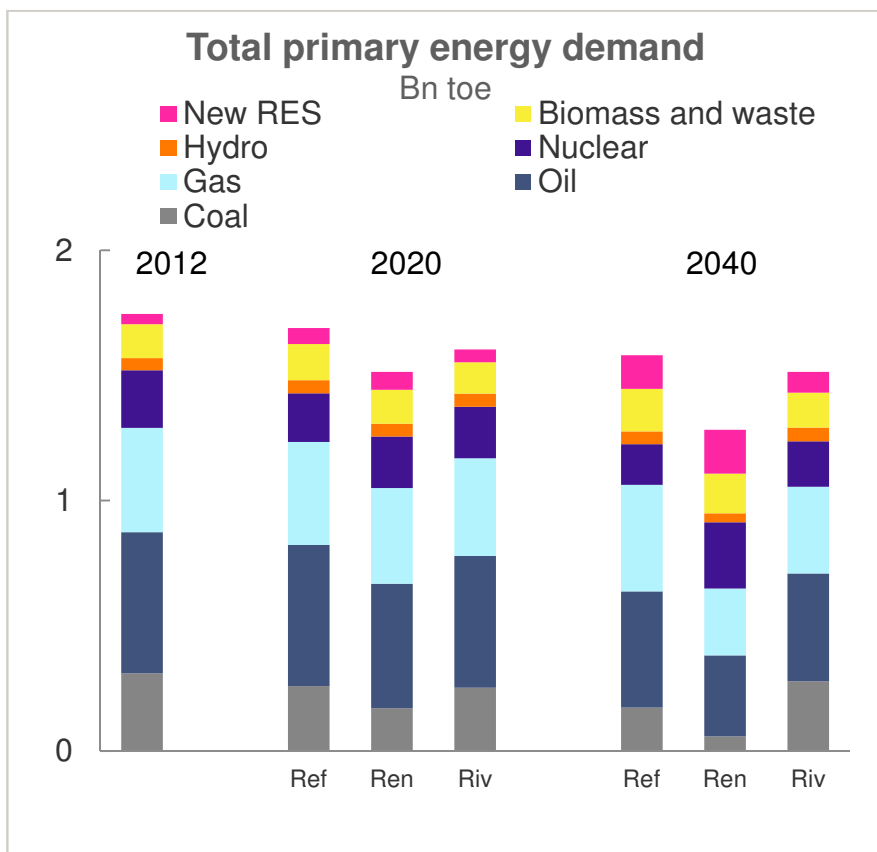
Considerable need for new investments, irrespective of scenario



* Excl. Bio-fuels
Source: IEA (history), Statoil (projections)

Decoupling TPED from GDP in Europe

Very large changes in fuel mix, especially in *Renewal*



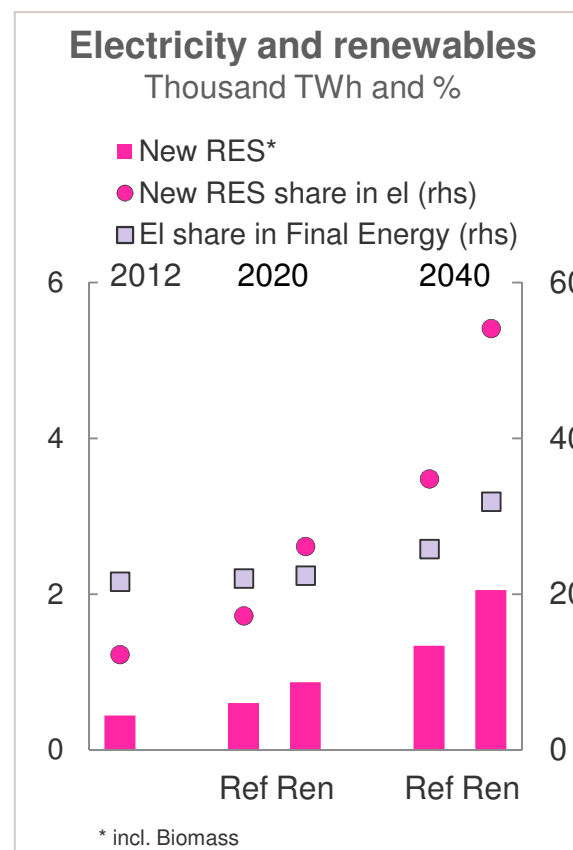
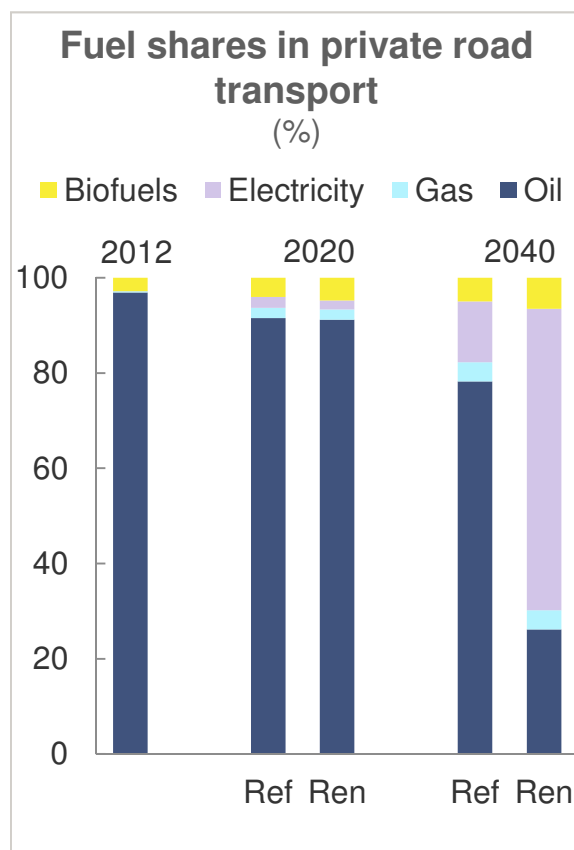
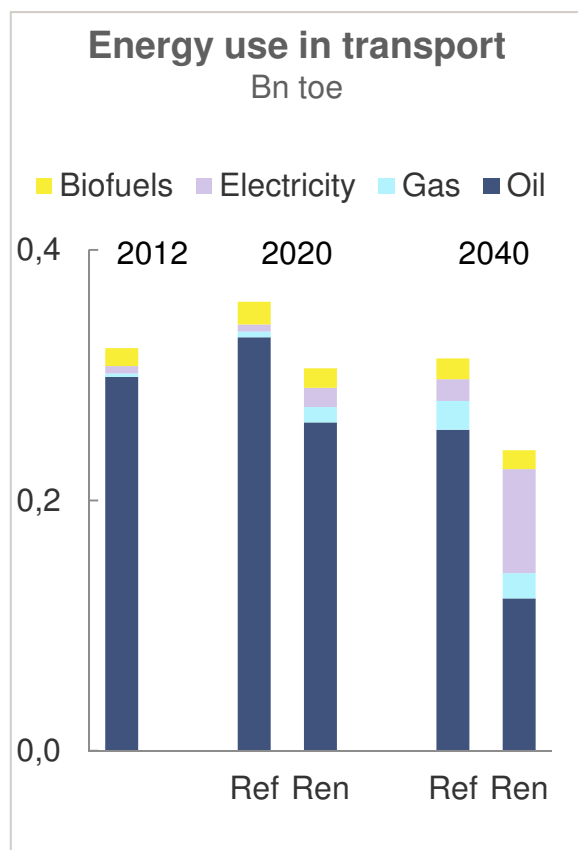
Changes in energy demand and emissions
2012-2040, %

	Reform	Renewal	Rivalry
Total demand	-9	-26	-13
Coal	-44	-81	-11
Oil	-17	-43	-23
Gas	+2	-36	-16
Nuclear	-29	+15	-21
Hydro	+6	-26	+14
Biomass	+24	+16	+2
New RES	+235	+340	+109
CO ₂ emissions	-30	-62	-20

Source: IEA (history), Statoil (projections)

Renewal - enormous changes in OECD Europe

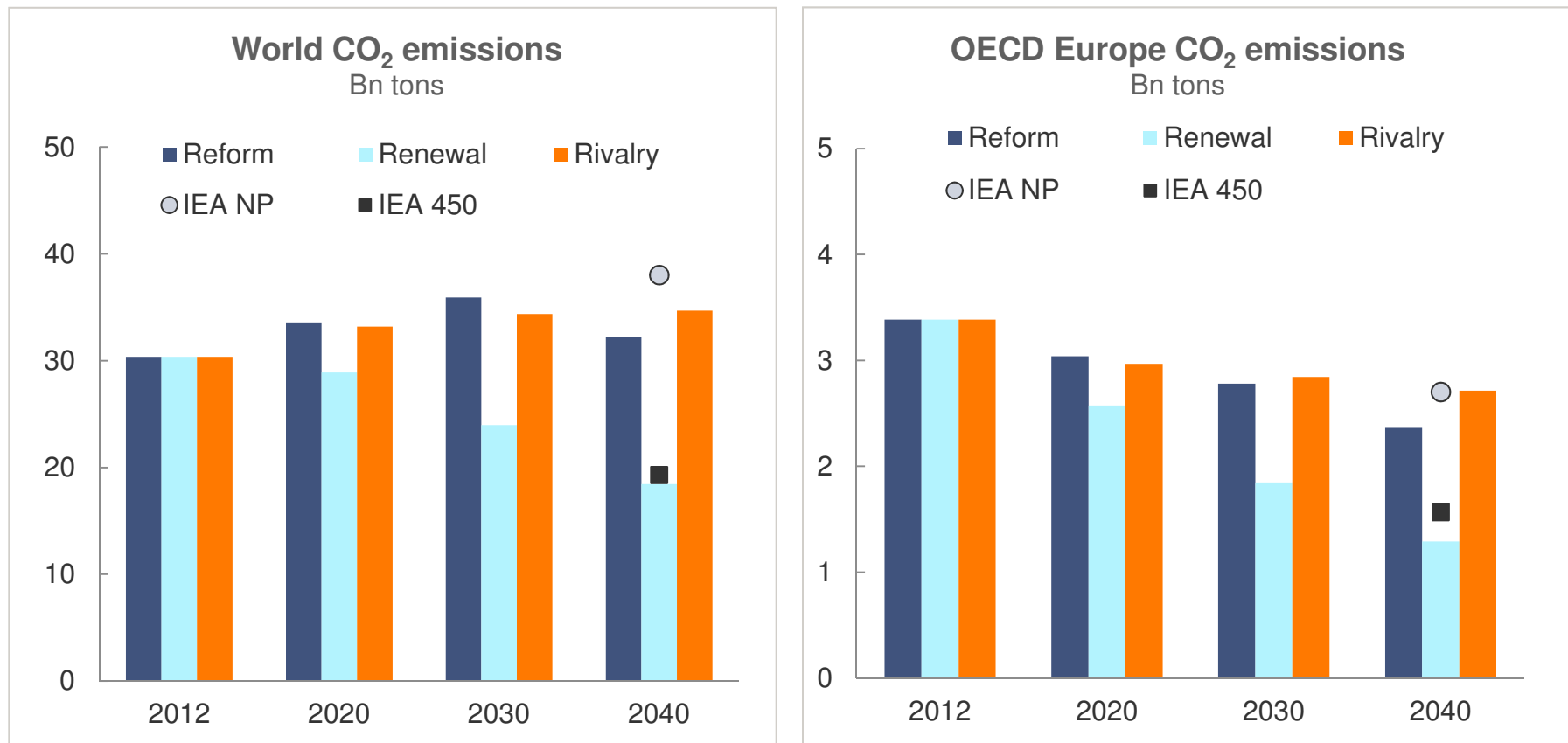
Efficiency improvements, electrification, decarbonisation



Source: IHS Global Insight and International Energy Agency (history), Statoil (projections)

Renewal consistent with 2 °C-target

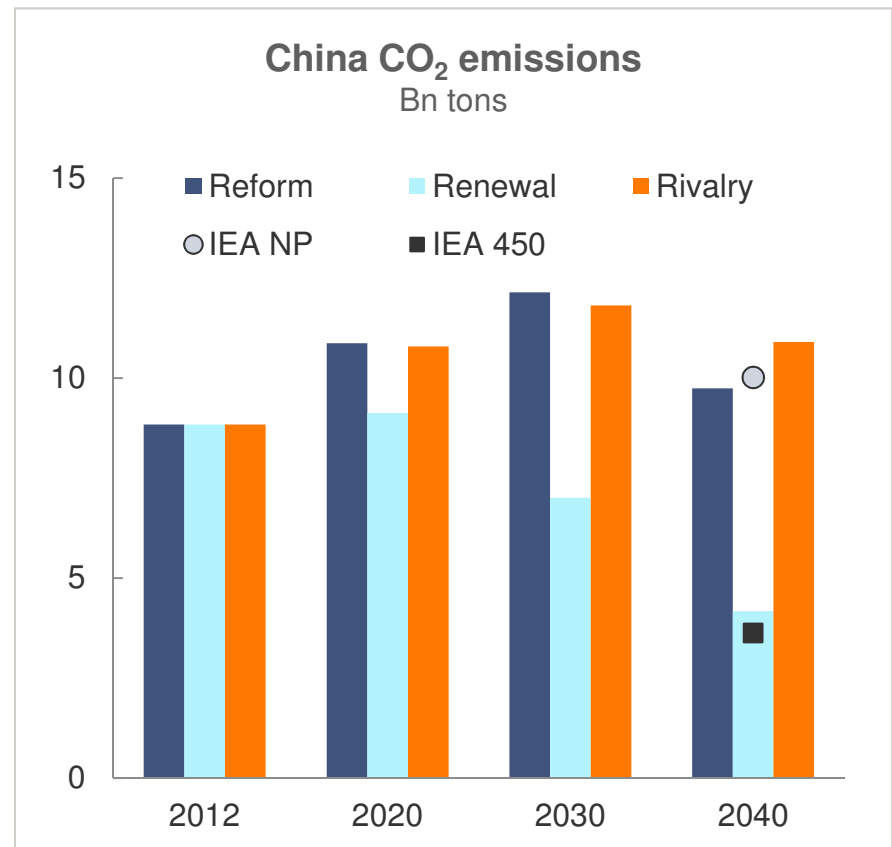
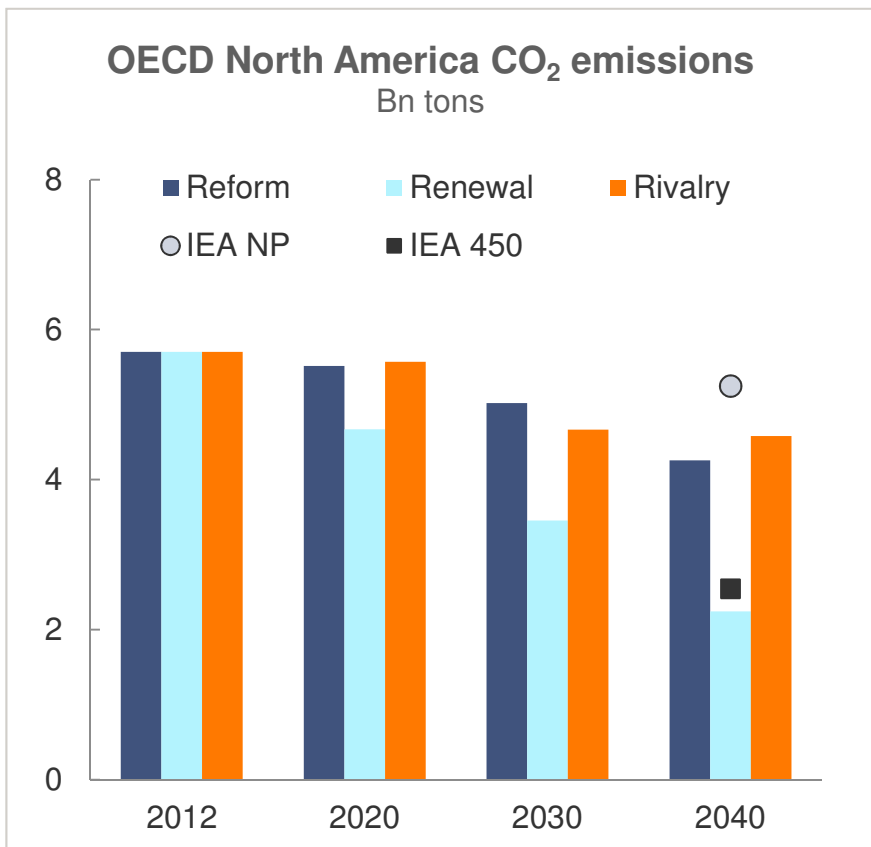
... CO₂ emissions vary, driven by energy intensities, fuel mix and CCS



Source: Statoil, IEA WEO 2014

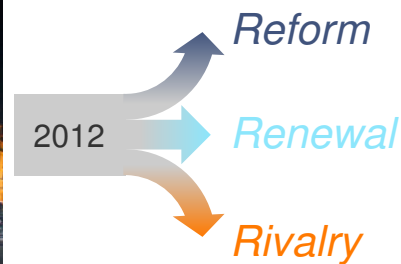
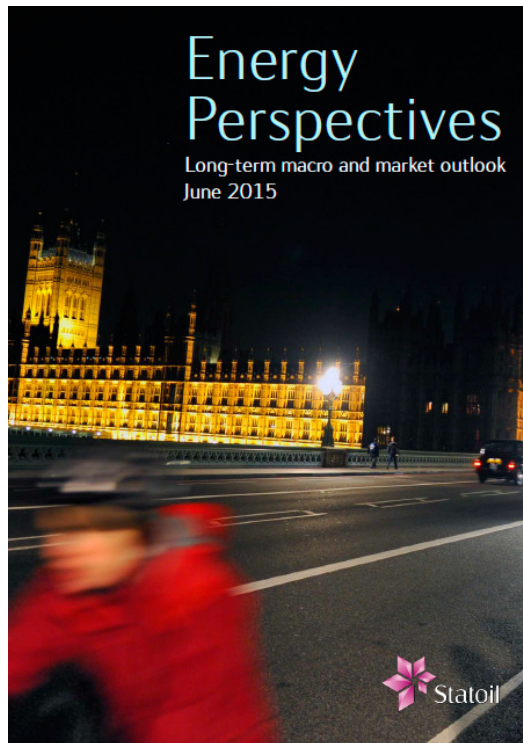
Renewal consistent with 2 °C-target

... CO₂ emissions vary, driven by energy intensities, fuel mix and CCS



Source: Statoil, IEA WEO 2014

So, in summary ...



- The future is uncertain
- Three very different scenarios developed
- *Renewal* delivers on sustainability in several dimensions
 - VERY challenging
 - 2-degree target achieved
 - Radical assumptions – but oil and gas are here to stay, for decades
 - Oil and gas demand in 2040 ~ today's level
- *Reform* and *Rivalry* imply higher oil and gas demand, but an unsustainable development

There's never been a better
time for good ideas

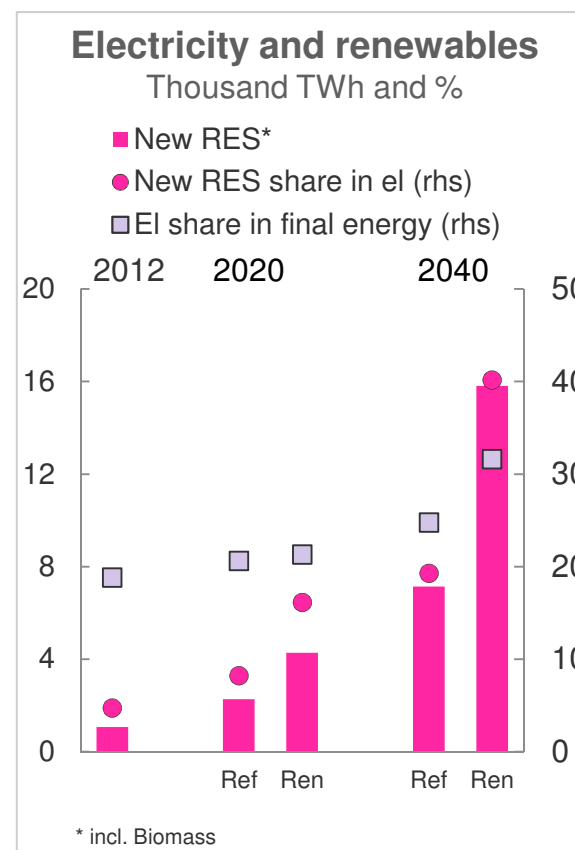
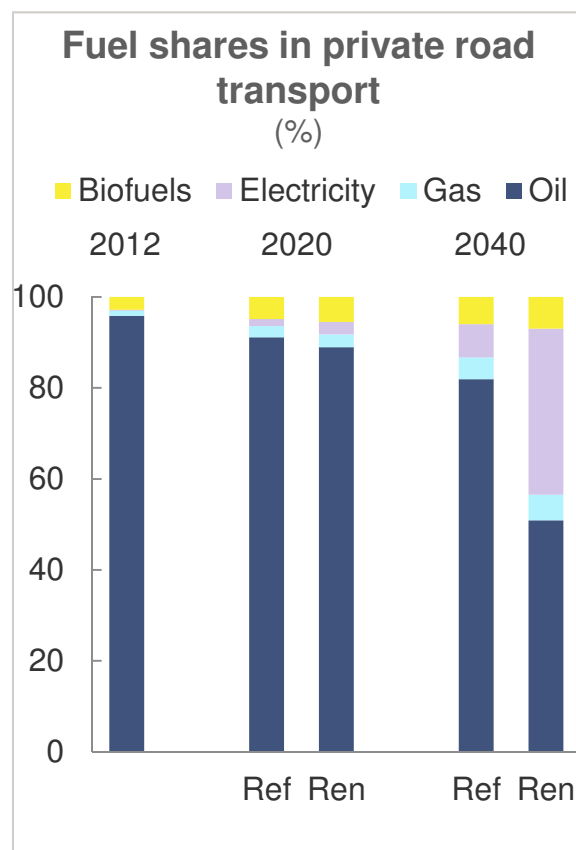
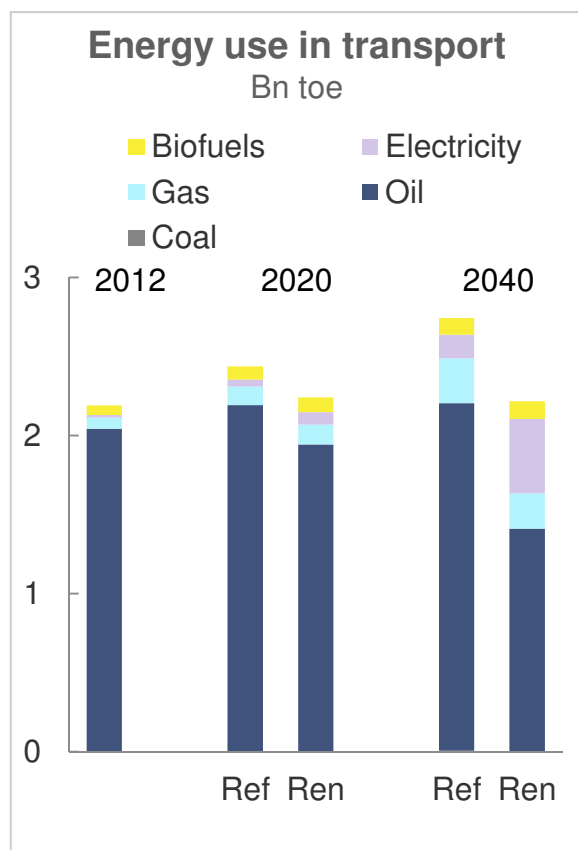
Thank you!

www.statoil.com/energyperspectives



Renewal requires large changes

... in particular in transport and power



Source: IHS Global Insight and International Energy Agency (history), Statoil (projections)