



INTERNATIONAL ENERGY AGENCY

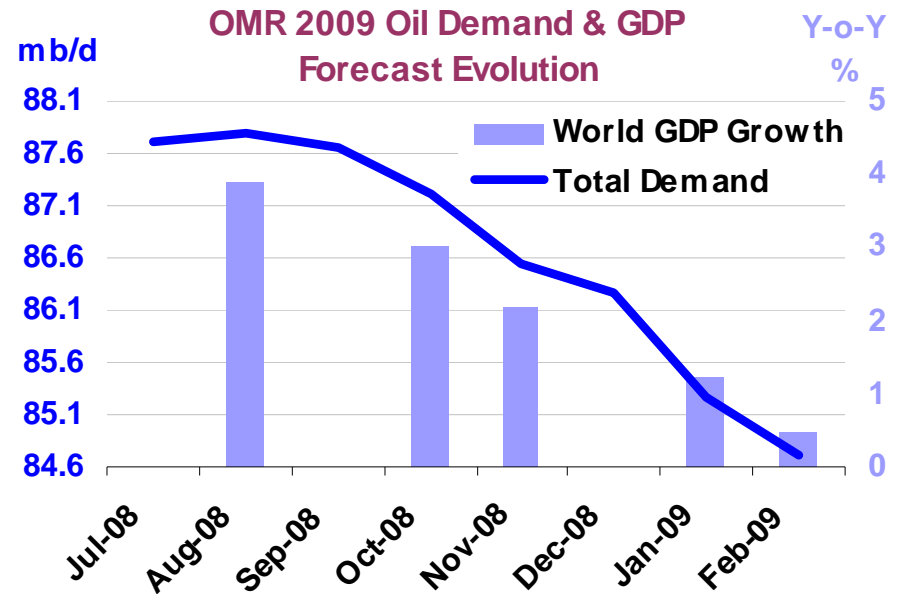
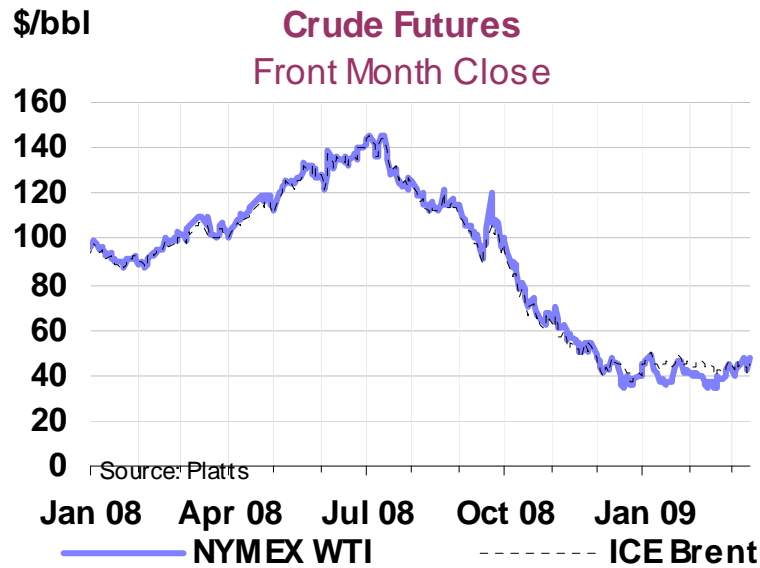
The future of the energy industry

Perspectives on the oil industry

Nobuo Tanaka
Executive Director
International Energy Agency

10th International Oil Summit
Paris, 2 April 2009

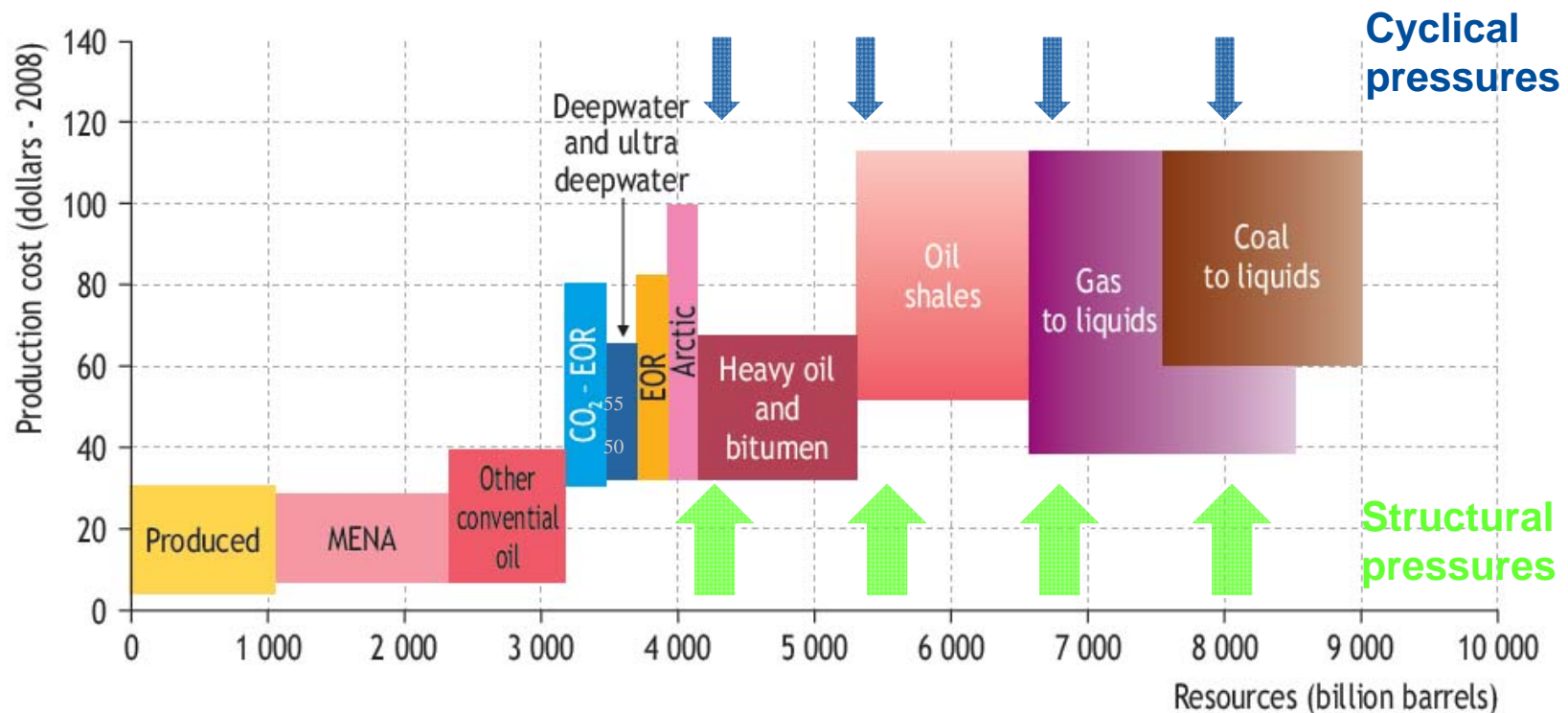
Worsening economic outlook underpins market weakening



- *Two year demand contraction in 08/09 first since early 1980s*
- *OECD hit hard, but clear signs that non-OECD is slowing now too*

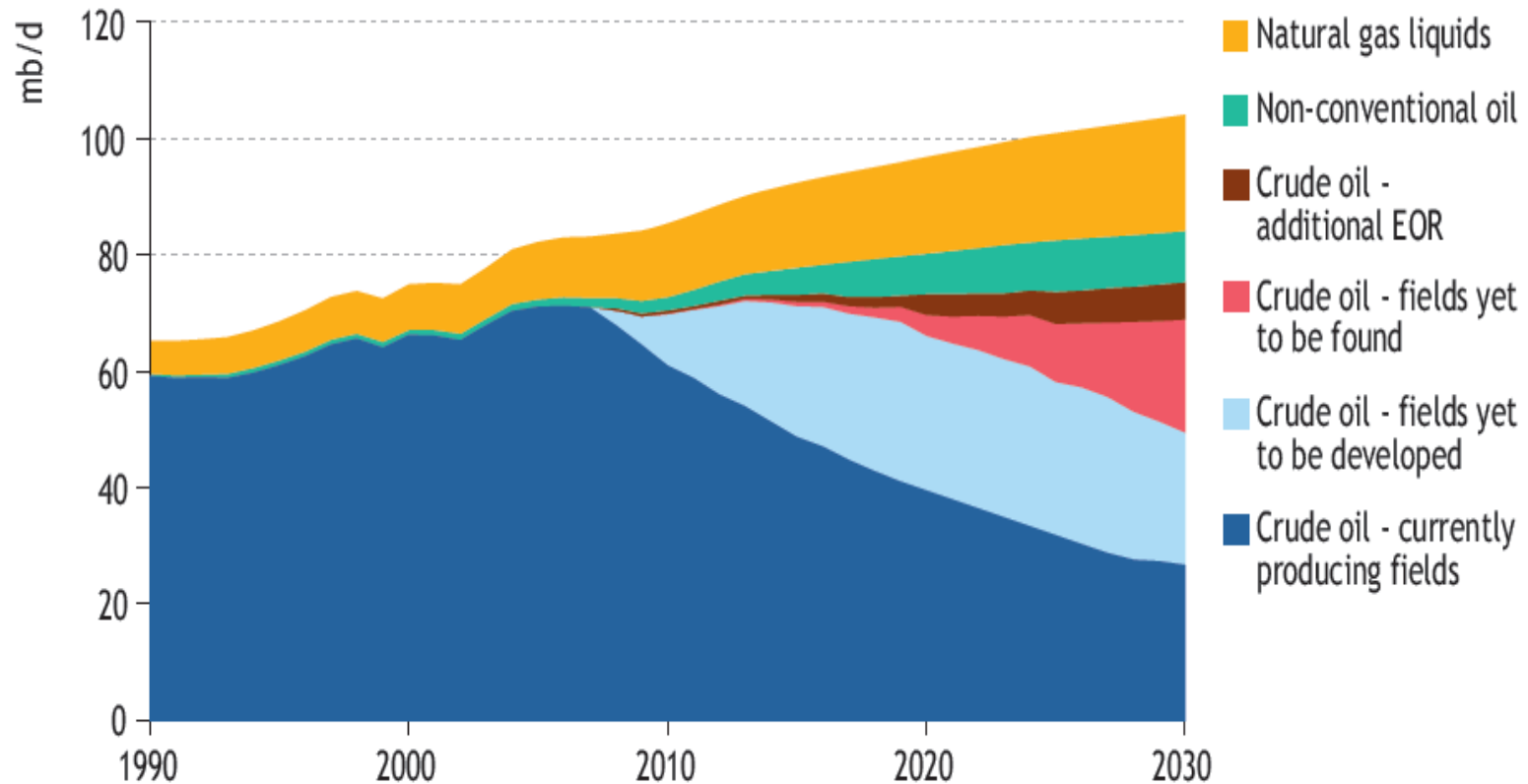
Structural shift to more difficult oil (access constraints) ...but cyclical element to costs too

Figure 9.10 • Long-term oil-supply cost curve



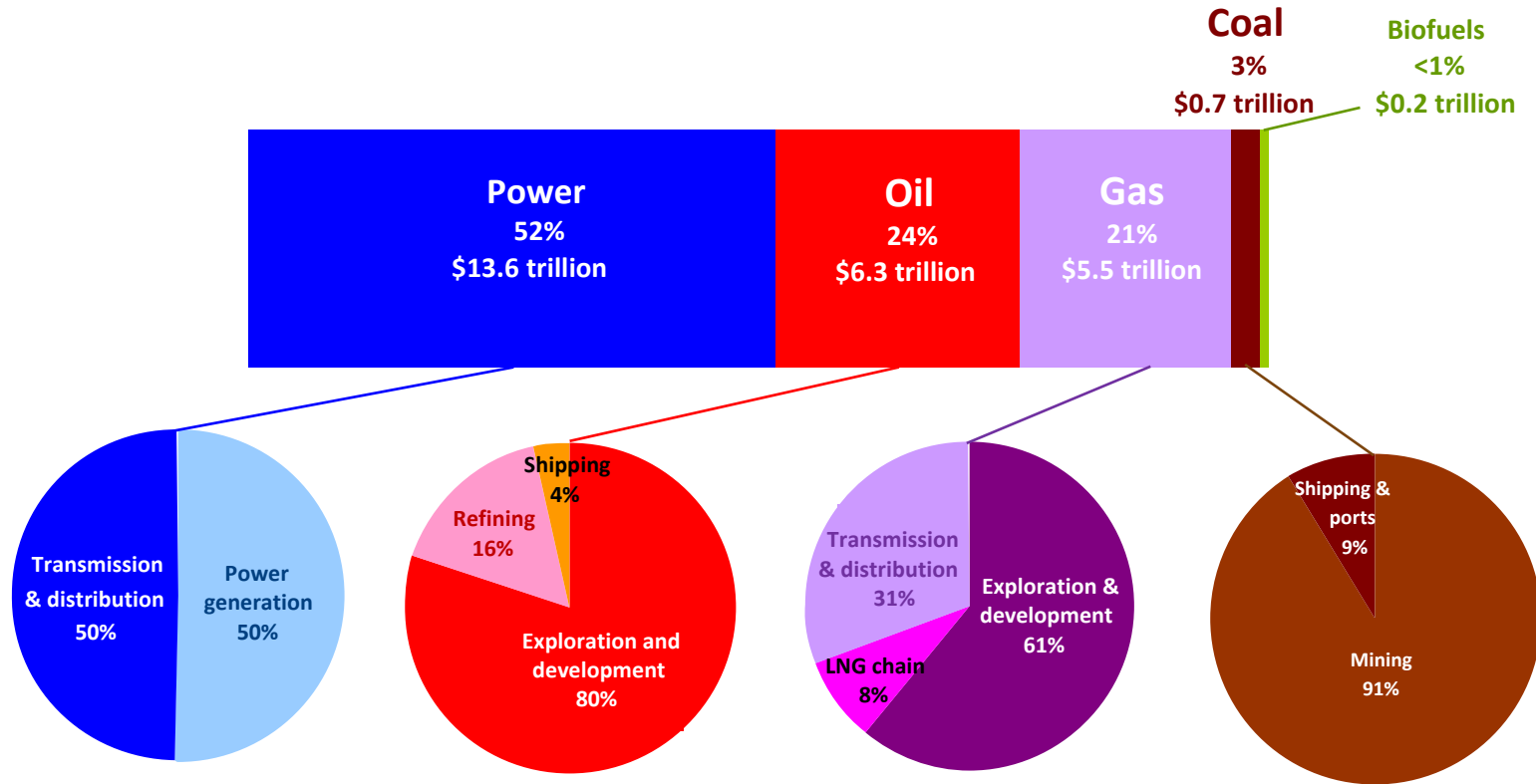
- *Cost curves have moved higher, \$60-80/bbl for some oil sands projects*
- *Deep water not far behind*
- *But some cyclical easing of earlier cost inflation also now evident*
- *So picking an arbitrary 'ideal' price makes little sense*

World oil production by source in the Reference Scenario



64 mb/d of gross capacity needs to be installed between 2007 & 2030 – five times the current capacity of Saudi Arabia – to meet demand growth & offset decline

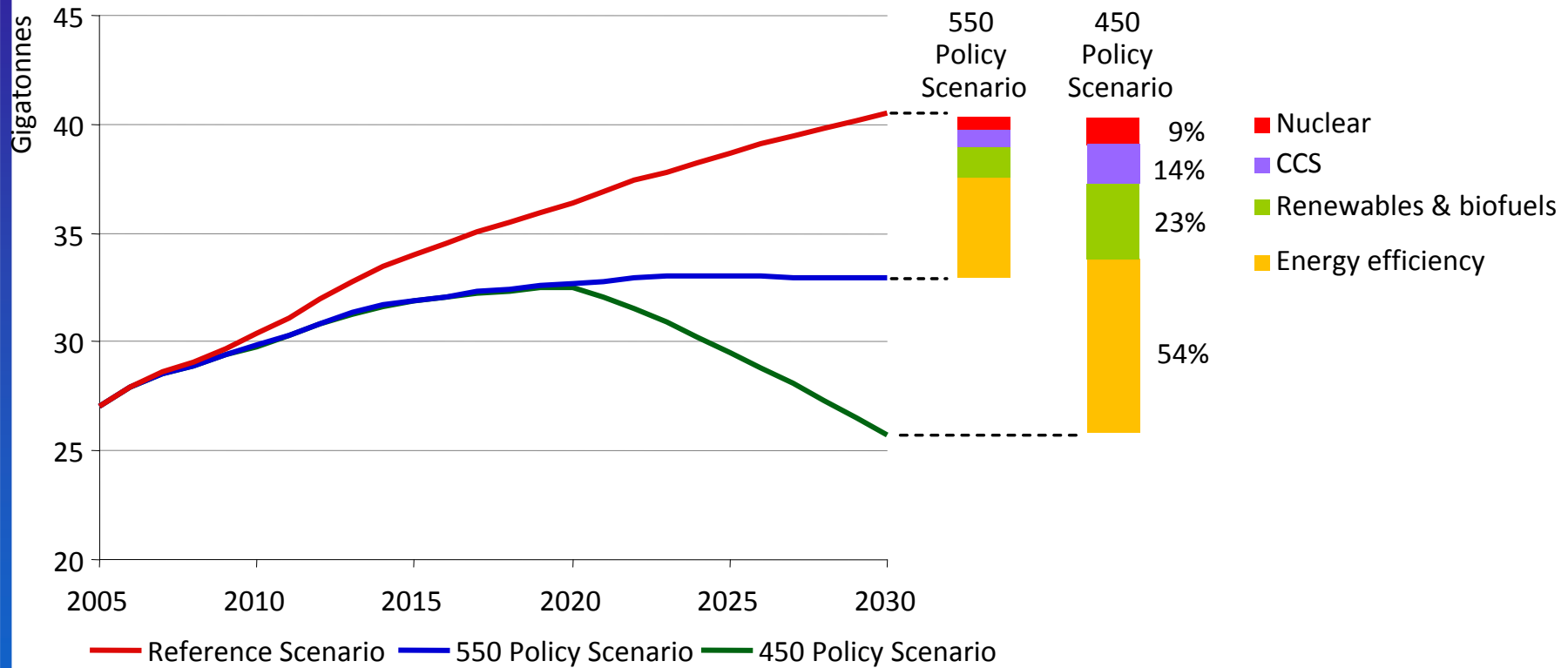
Cumulative energy supply investment in the Reference Scenario, 2007-2030



Investment of \$26 trillion, or over \$1 trillion/year, is needed, but the credit squeeze could delay spending, potentially setting up a supply-crunch once the economy recovers

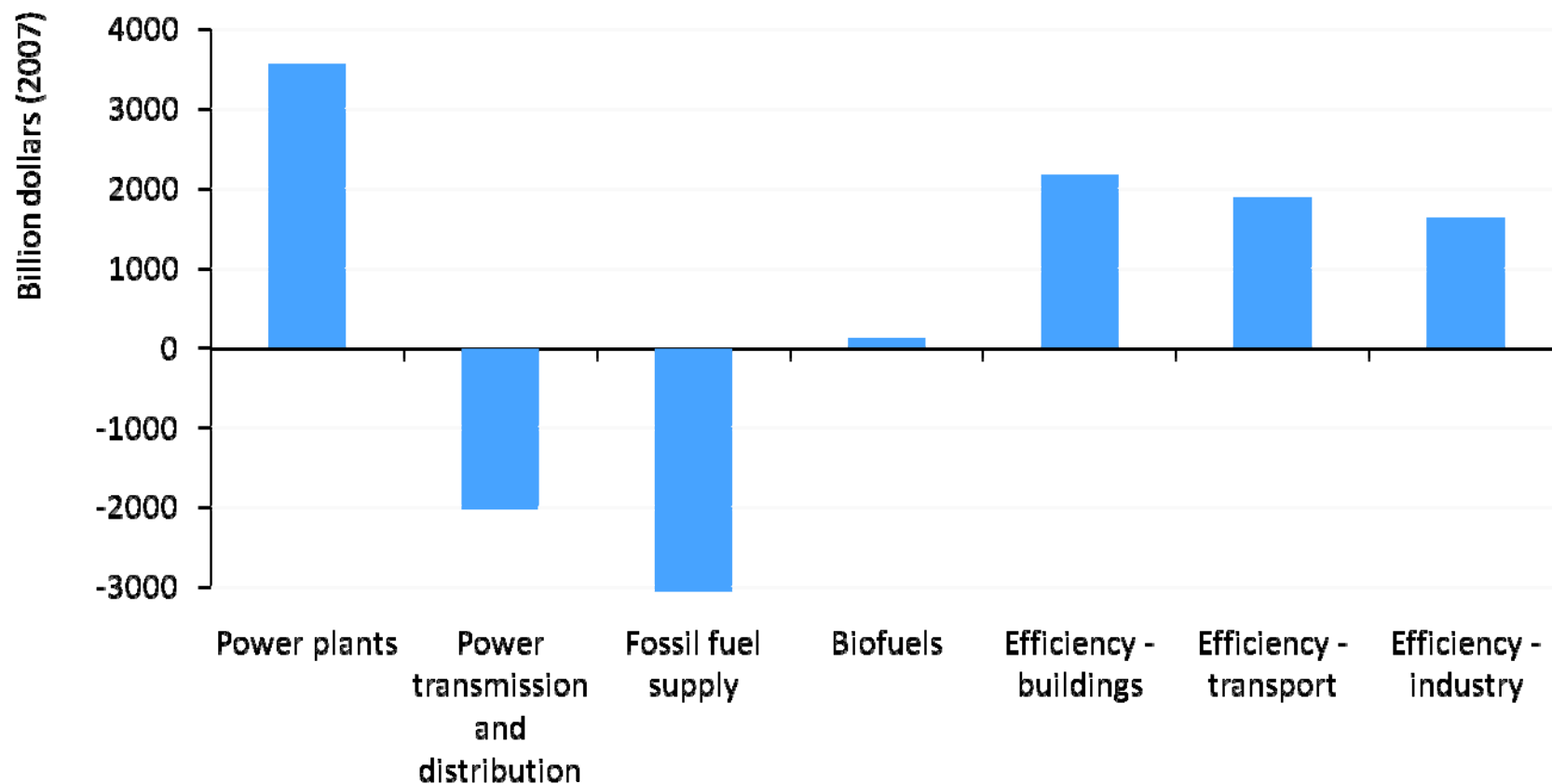


Reductions in energy-related CO₂ emissions in the climate-policy scenarios



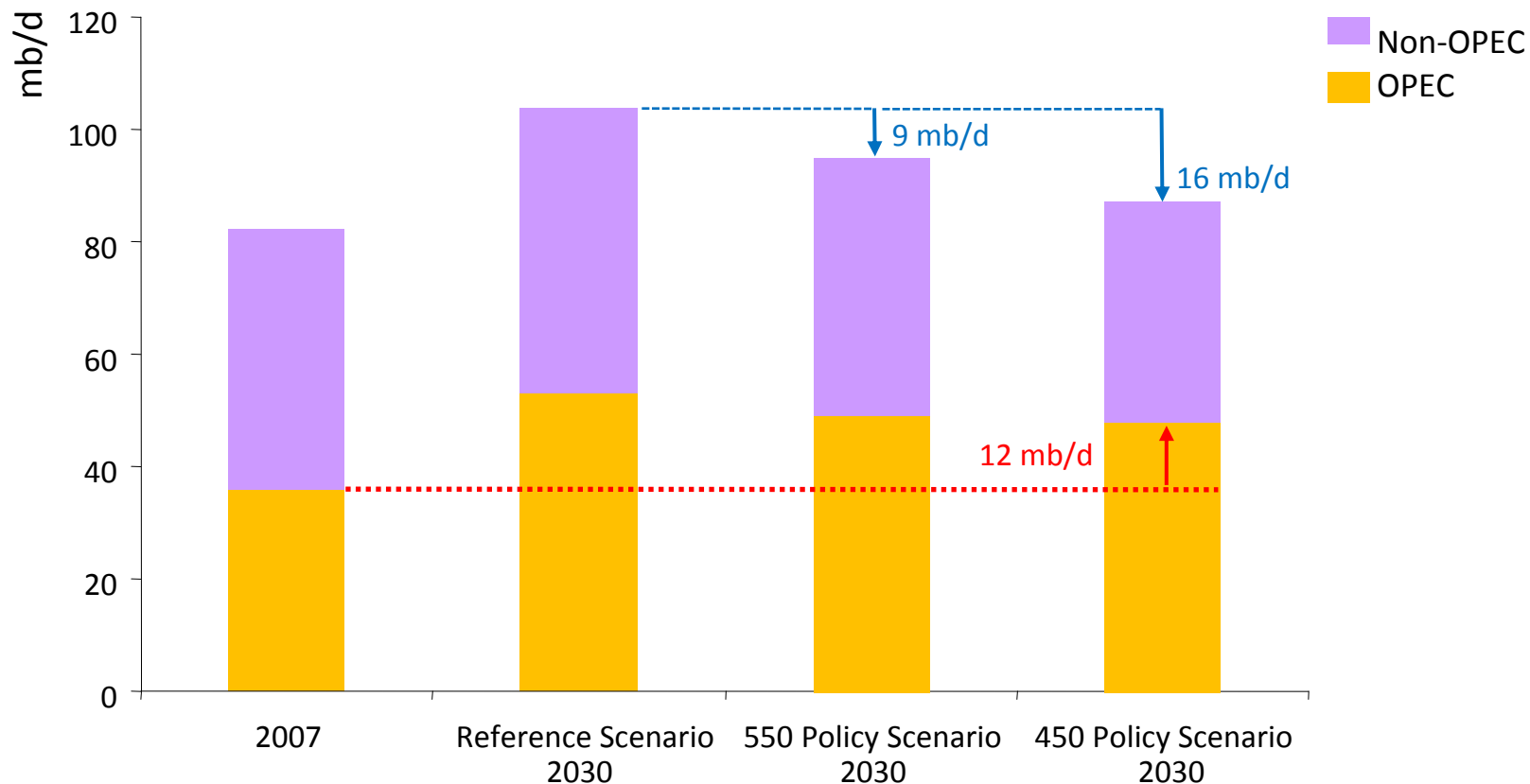
While technological progress is needed to achieve some emissions reductions, efficiency gains and deployment of existing low-carbon energy accounts for most of the savings.

Change in world energy investment in the 450 Policy relative to the Reference Scenario, 2010-2030



Huge investment in power plants and energy efficiency is required to shift the world onto a 450-ppm trajectory

Total oil production in 2030 by scenario



Curbing CO₂ emissions would improve energy security by cutting demand for fossil fuels, but even in the 450 Policy Scenario, OPEC production increases by 12 mb/d from now to 2030

Summary

- ❑ There is a need for **continued investment on supply side** to meet demand and declining production in mature fields
- ❑ We must also invest in a **cleaner energy future** to mitigate climate change
- ❑ Measures to mitigate climate change **enhance energy security**
- ❑ Economic crisis is an opportunity to place a **Clean Energy New Deal** at the heart of economic stimulus packages everywhere