



Energy markets – the short and the long term

Christof Rühl, Chief Economist, BP



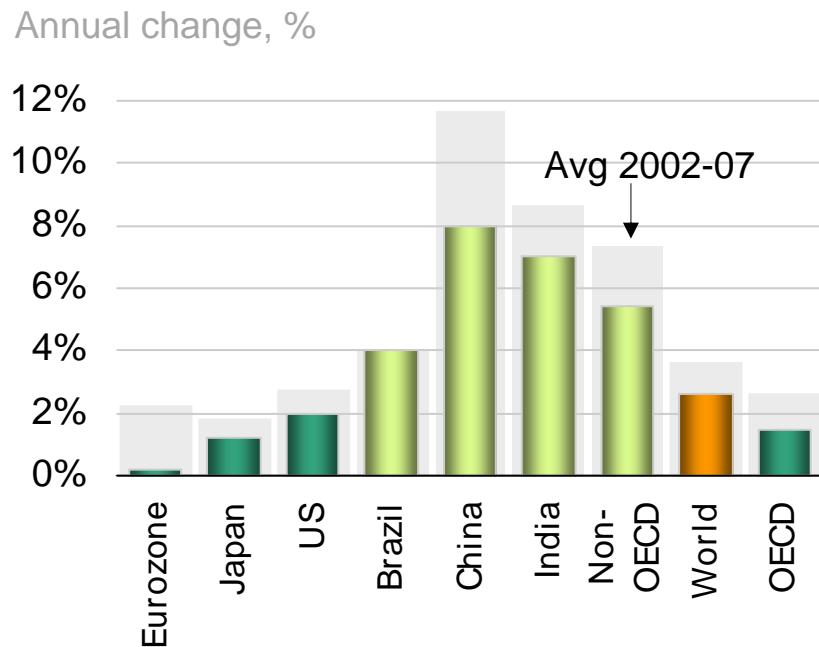
Outline

- The economy
 - A year of disruptions
 - Long term implications
 - Conclusion
-



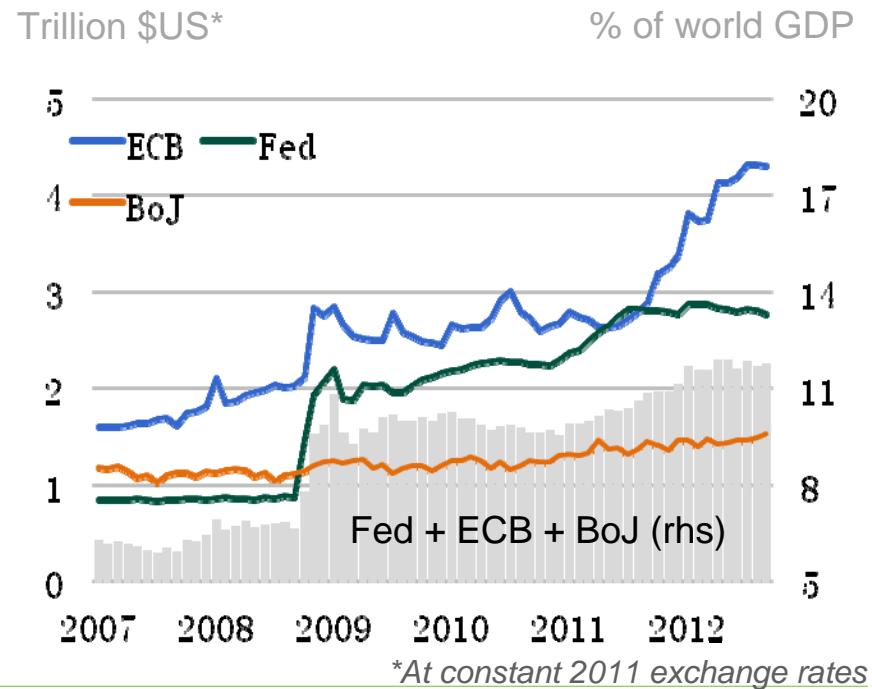
Global growth: slow and on life support

2013 GDP and the good old days



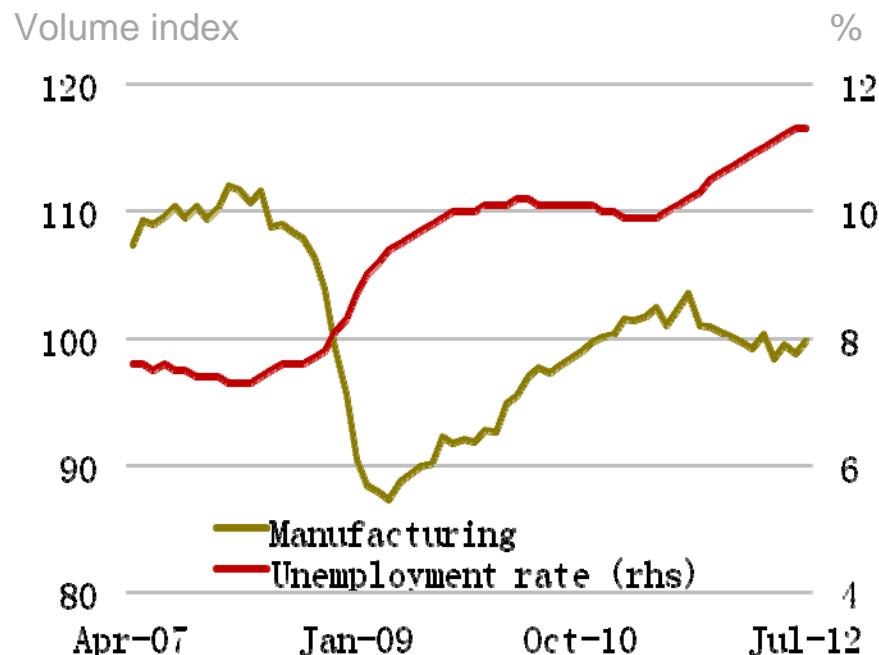
Source: includes data from Thomson Reuters Datastream

Central Bank liquidity

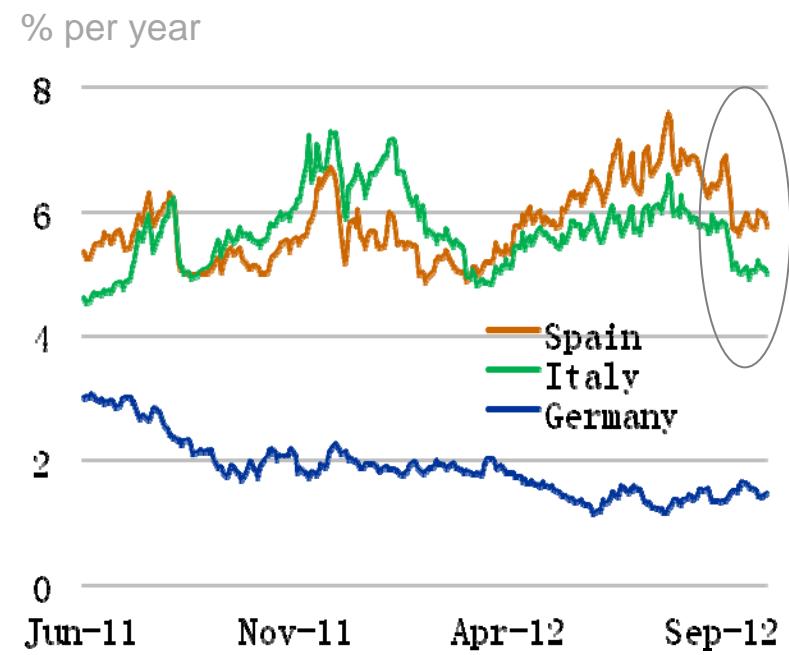


Europe struggles into recession

Eurozone indicators

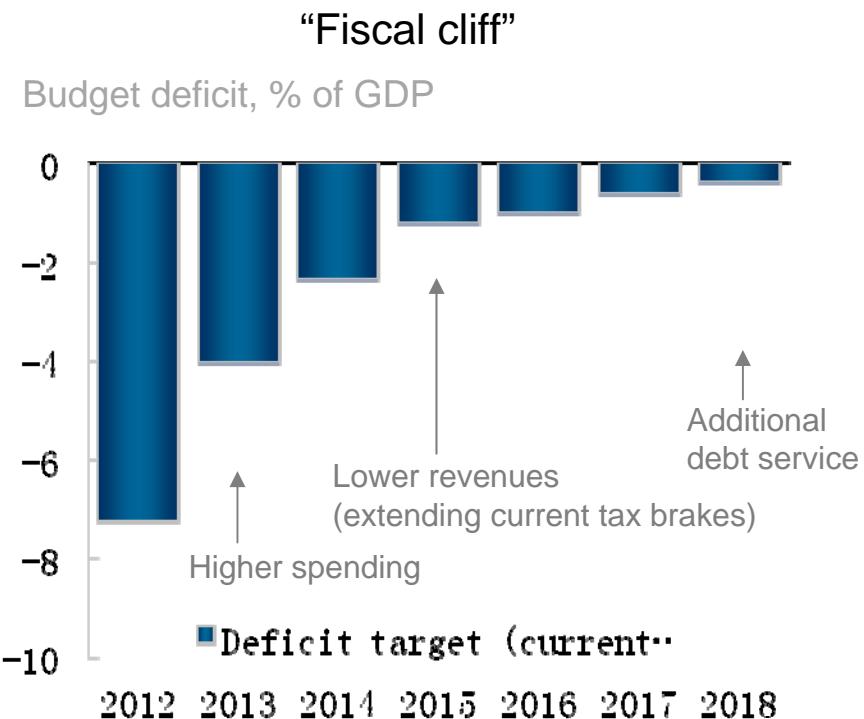
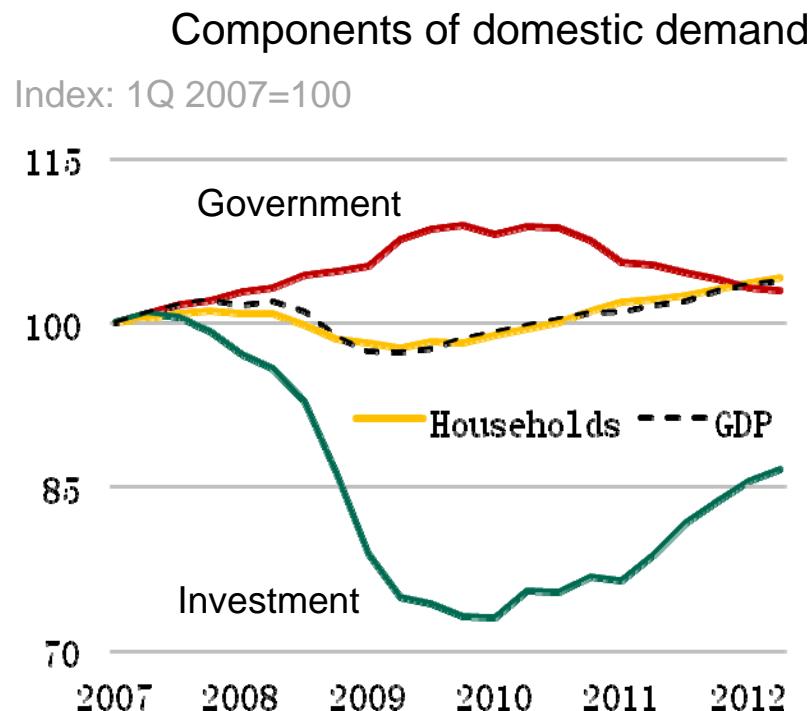


10-year benchmark bond yields



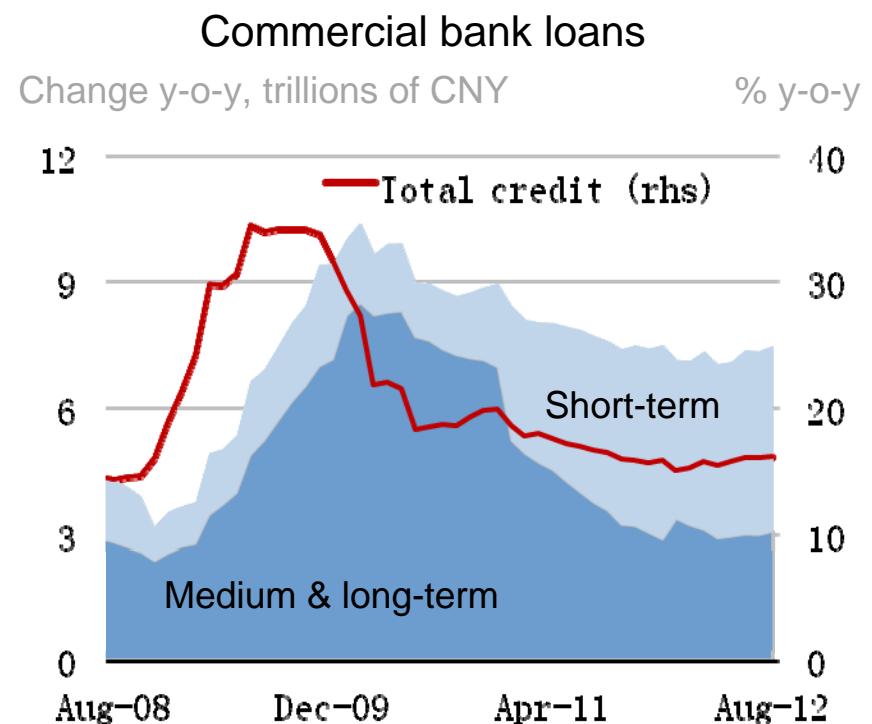
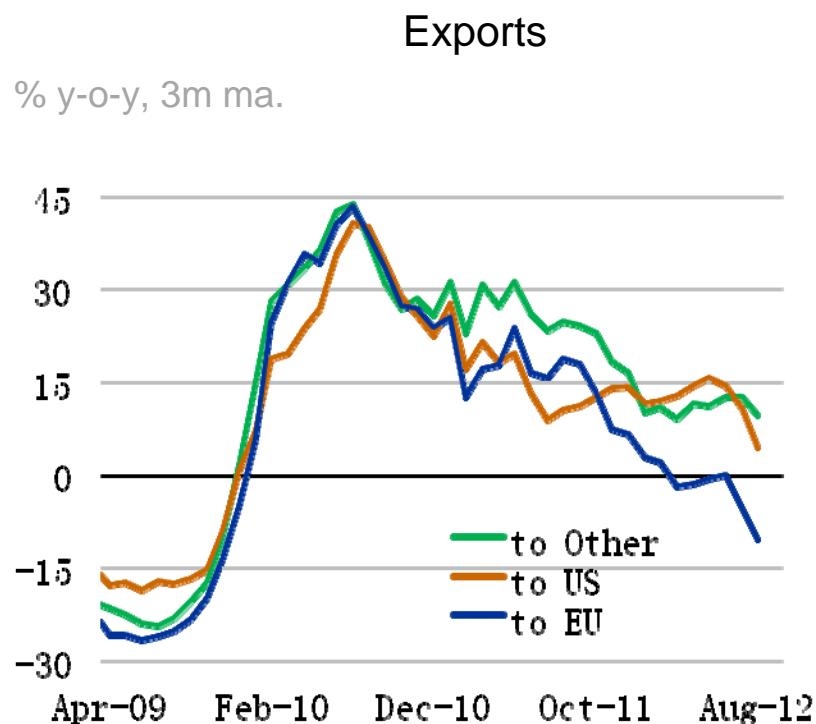
Source: includes data from Thomson Reuters Datastream

The US grows slowly



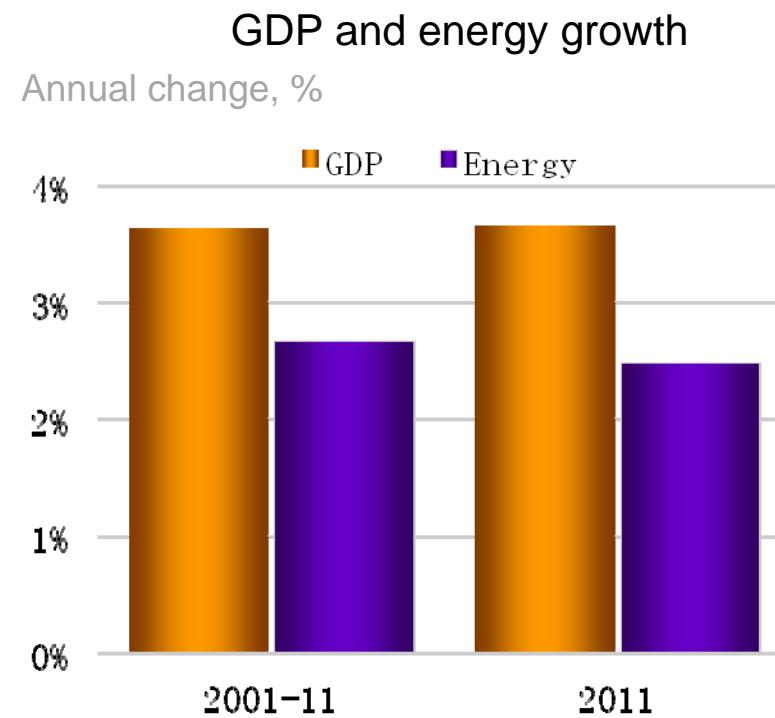
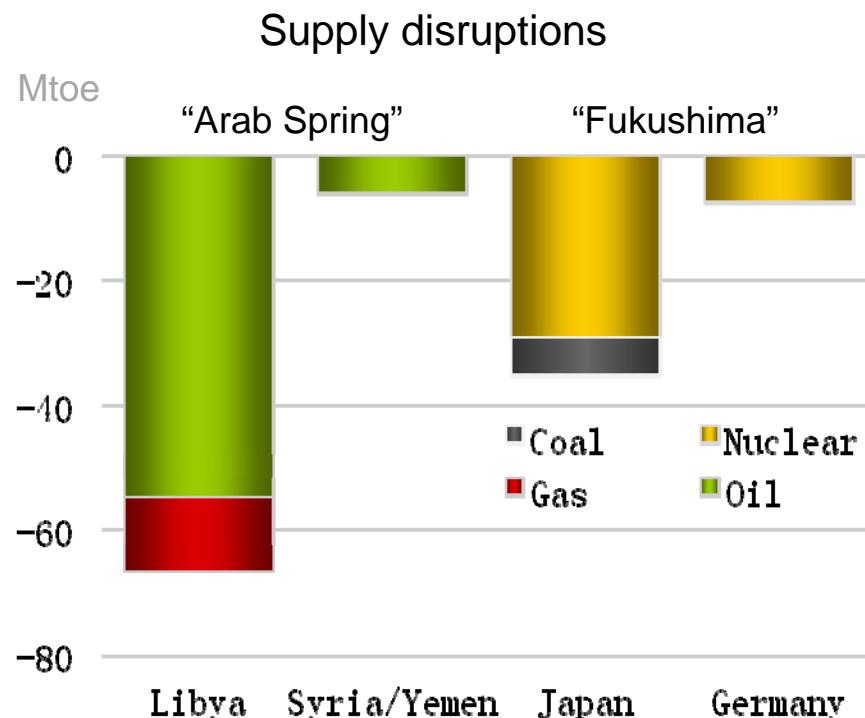
Source: includes data from CBO August 2012 forecast and Thomson Reuters Datastream

The Chinese economy slows

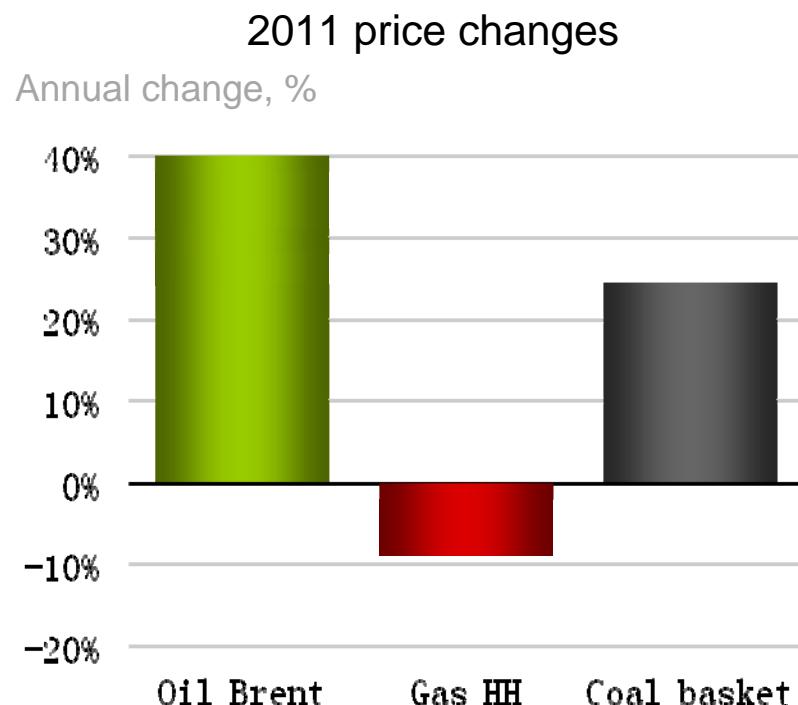
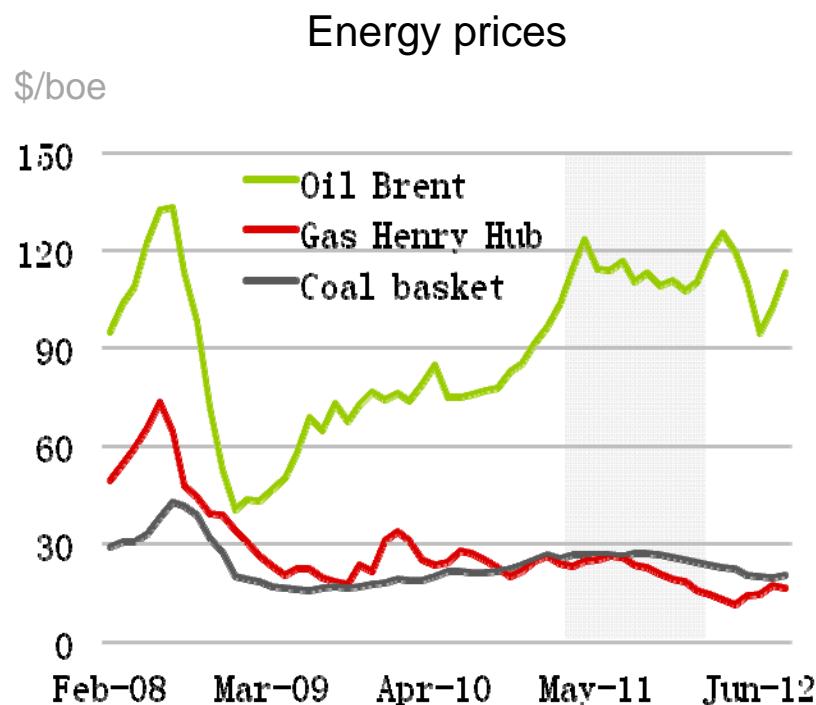


Source: includes data from Thomson Reuters Datastream

Energy in 2011 – disruptions and continuity



Energy prices



Source: includes data from Platts and McCloskey

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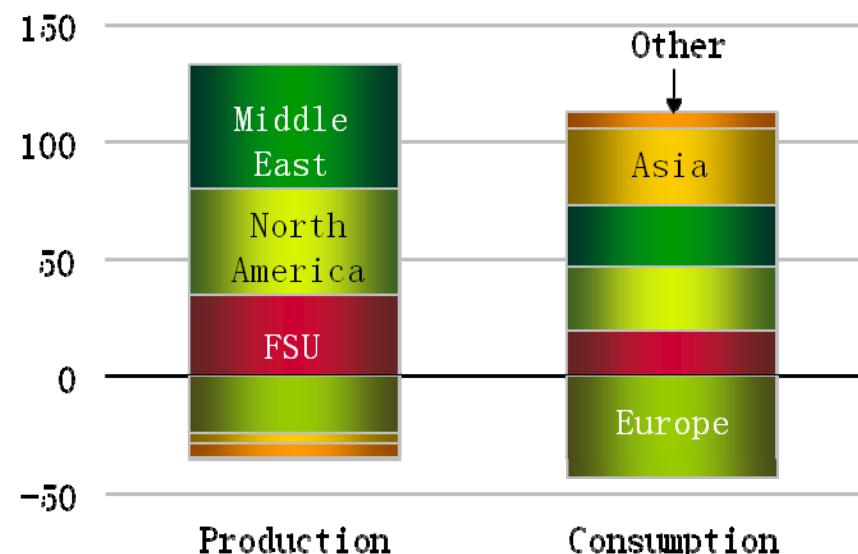
The Fukushima Adjustment



Natural gas markets in 2011

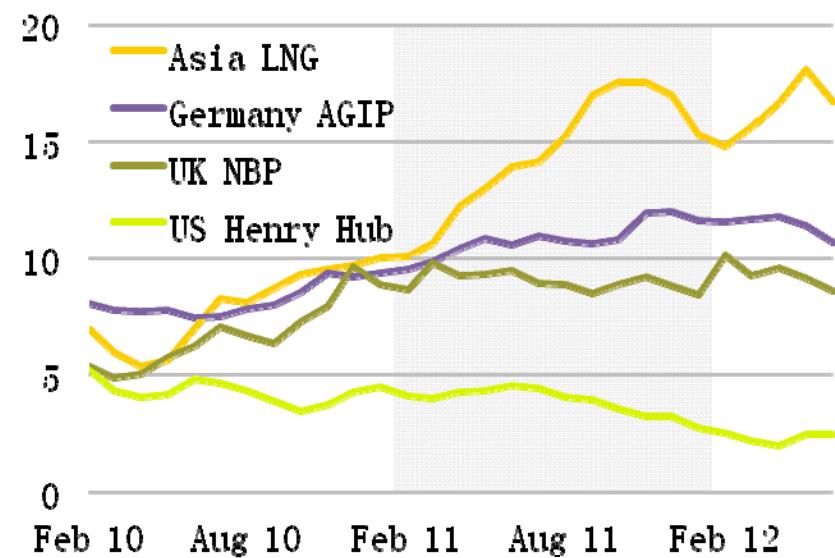
Production and consumption growth

Annual change, Bcm



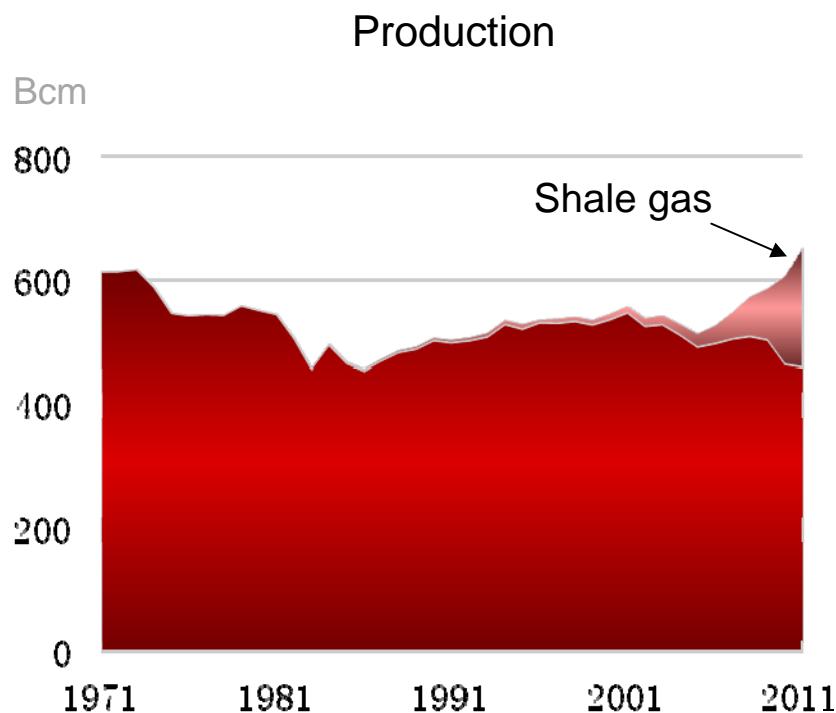
Regional gas prices

\$/Mmbtu

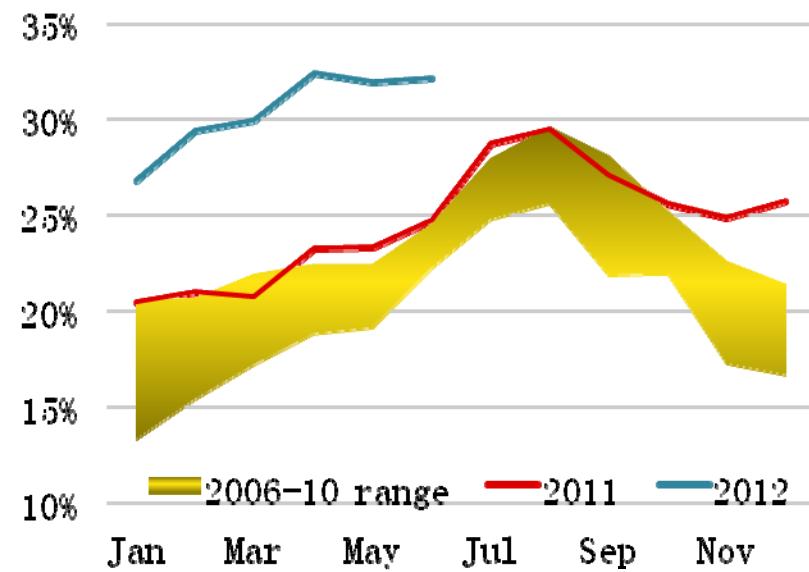


Source: includes data from Platts

US natural gas market

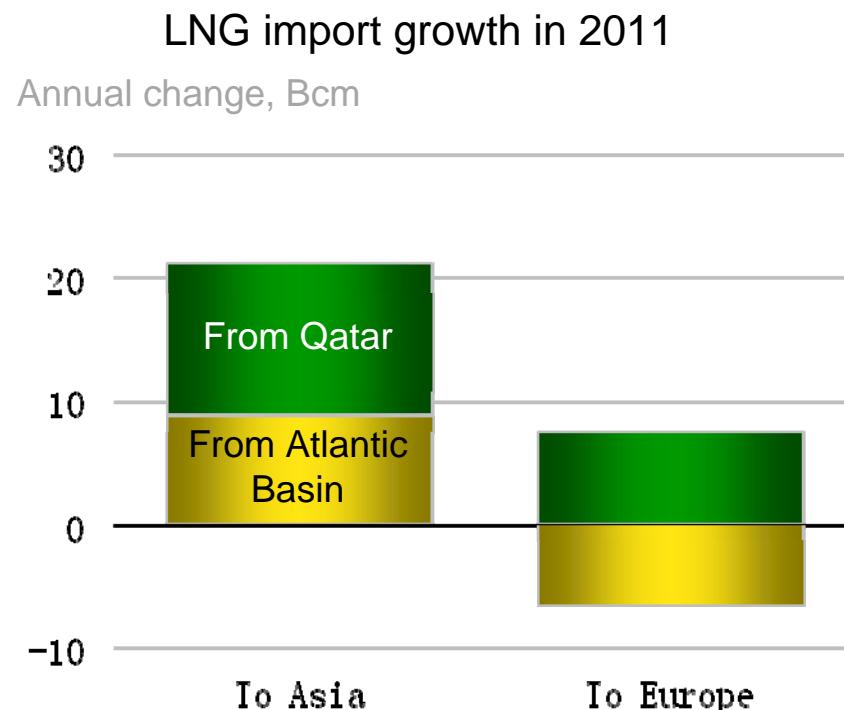
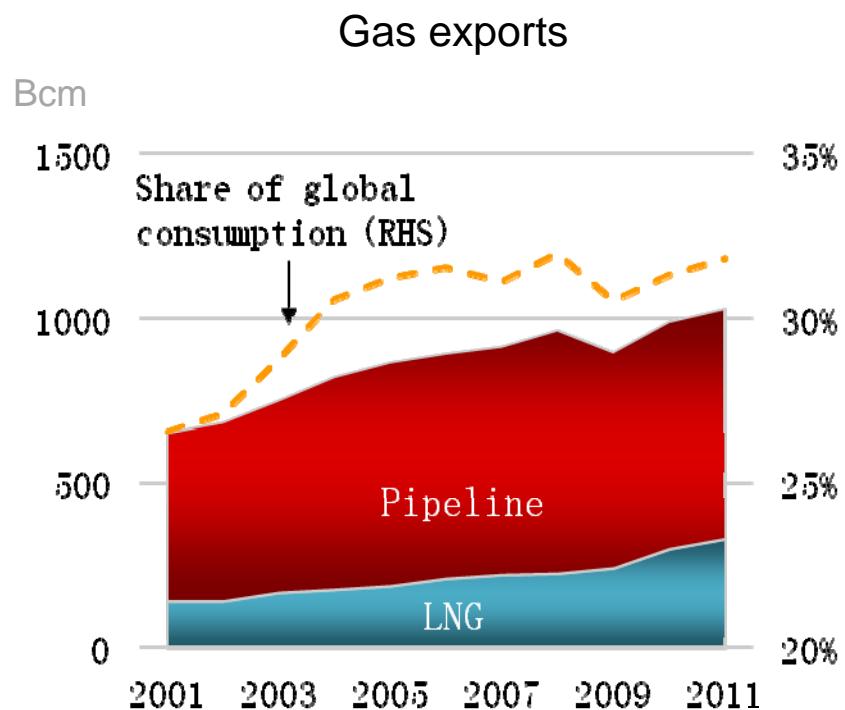


Gas share in power generation



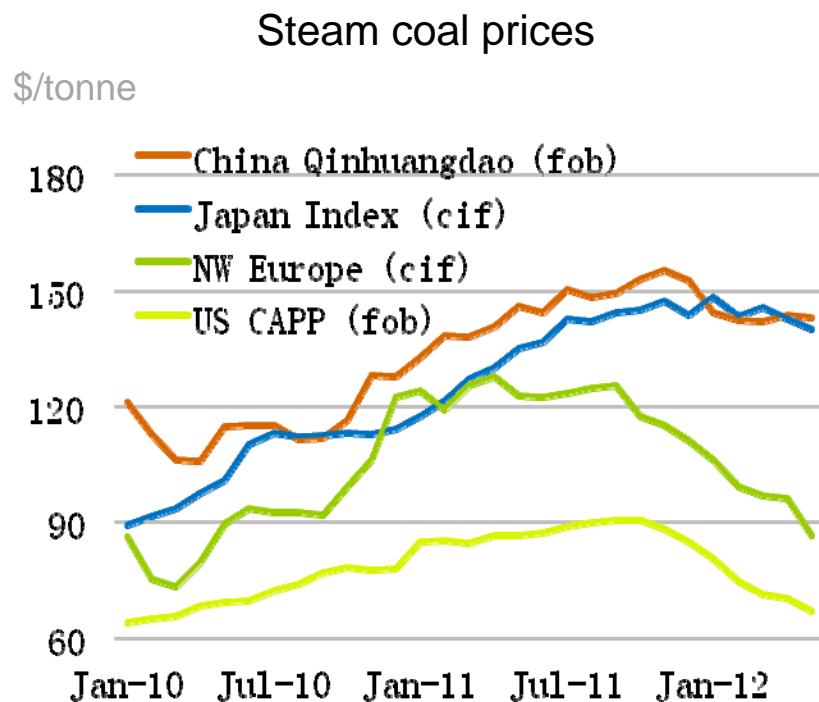
Source: includes data from Energy Information Administration

Global gas trade

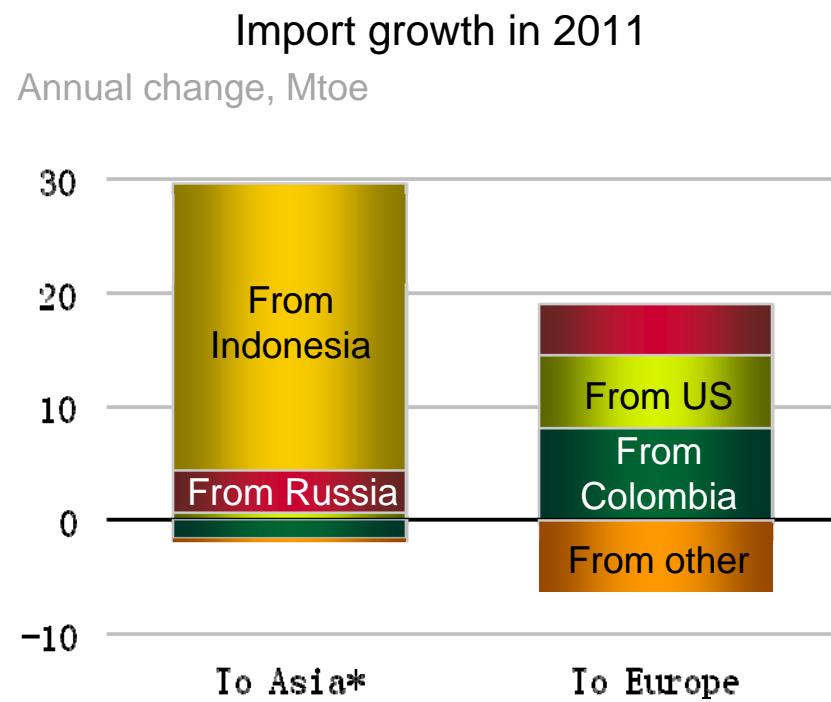


Source: includes data from Cedigaz, GIIGNL, CISStats, Poten, Waterborne

Coal prices and trade

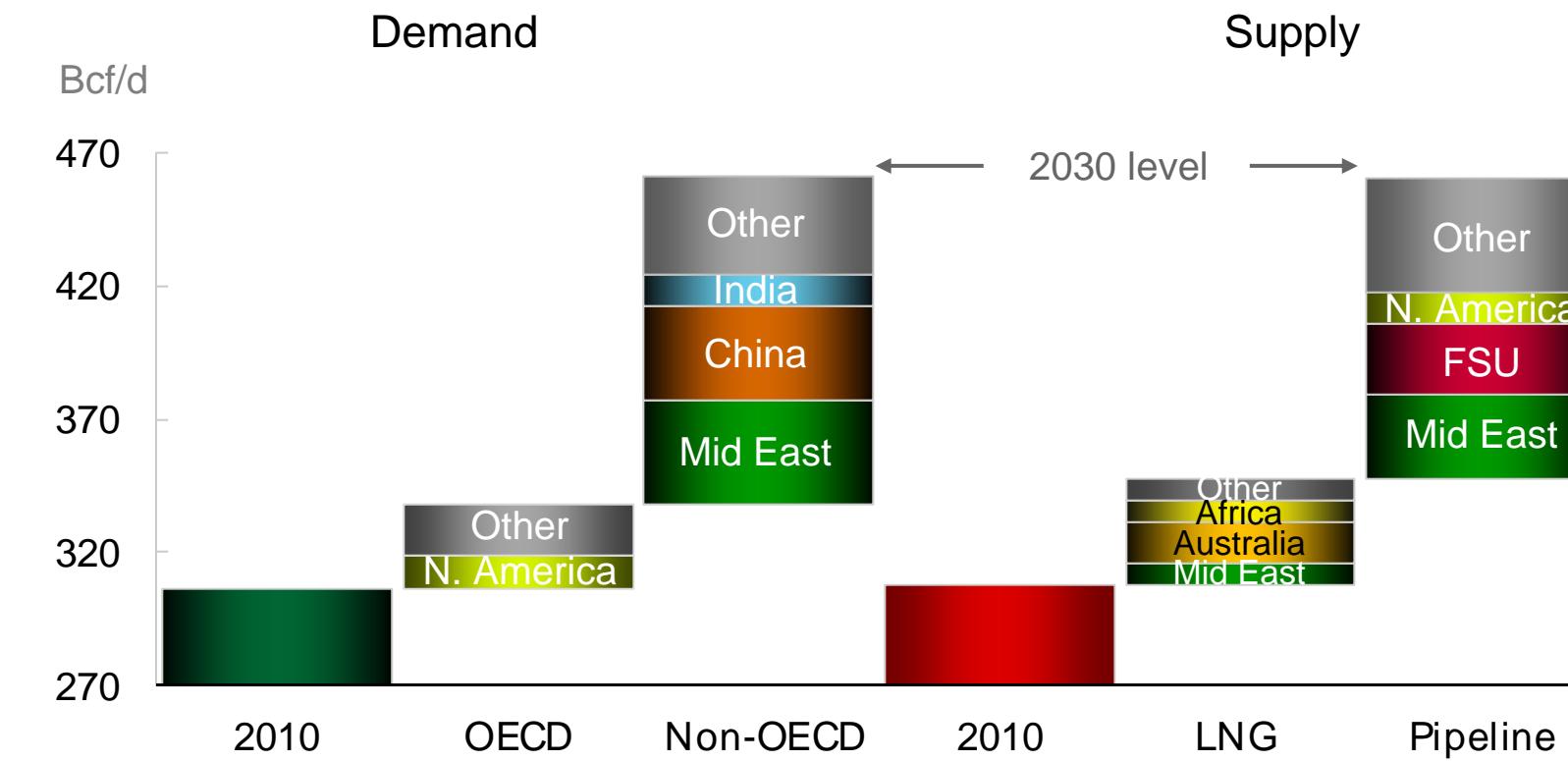


Source: includes data from McCloskey, Eurostat, IHS CERA

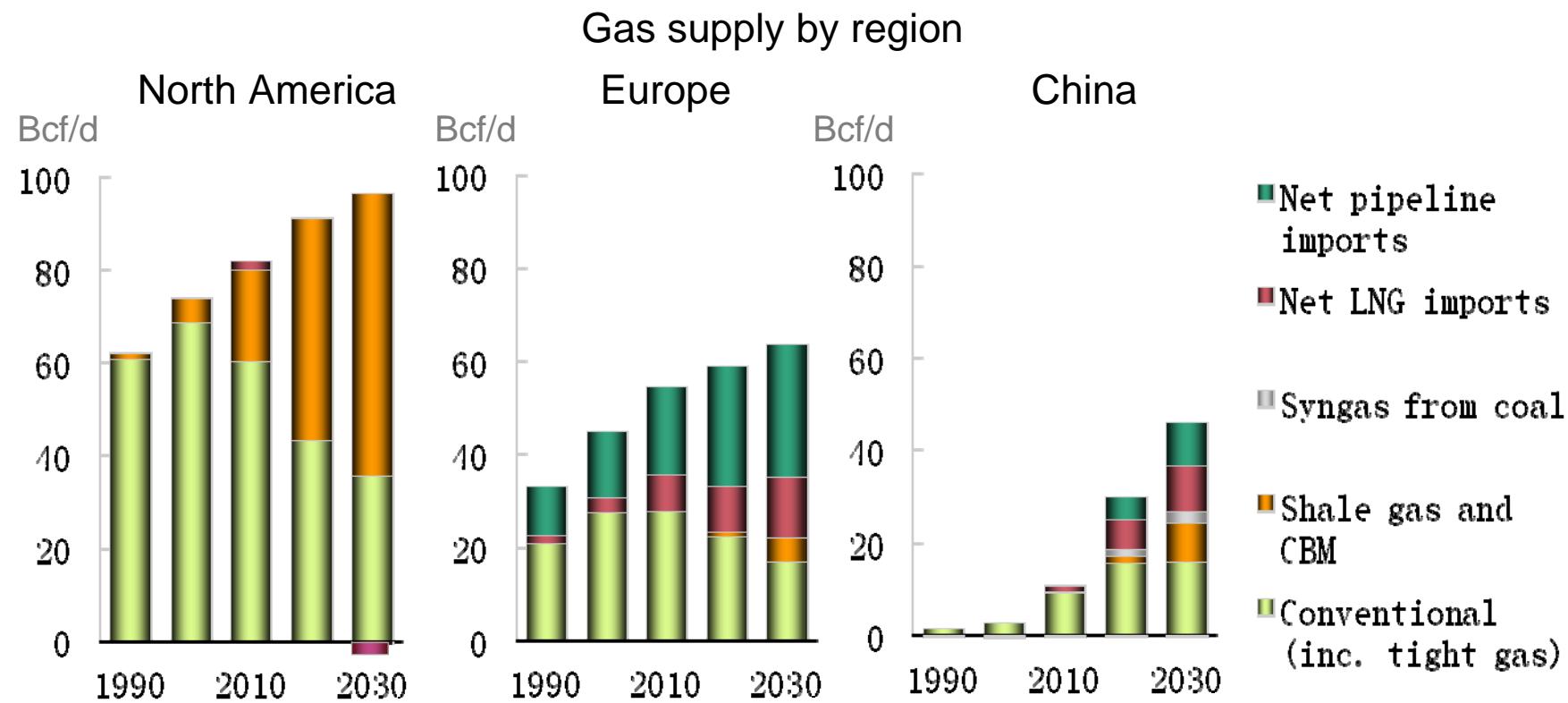


*China, India, Japan, South Korea, Hong Kong, Taiwan

Natural gas demand growth is concentrated in the non-OECD



Unconventional gas will play a growing role



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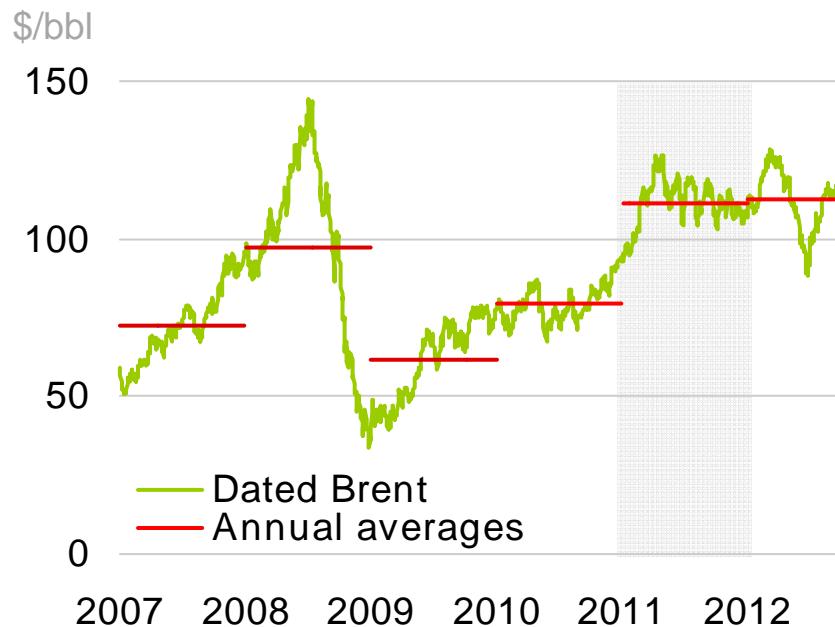
Oil markets and trends



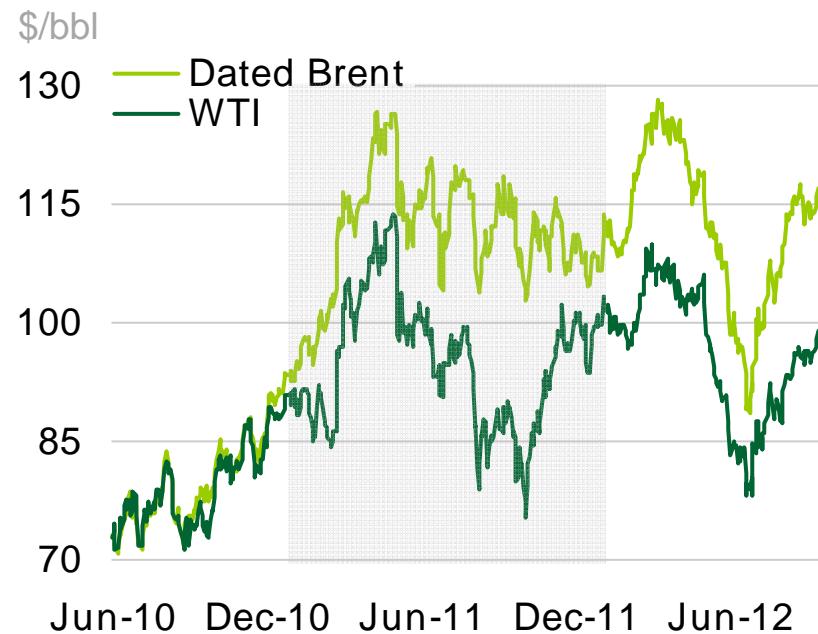


Crude oil prices

Dated Brent



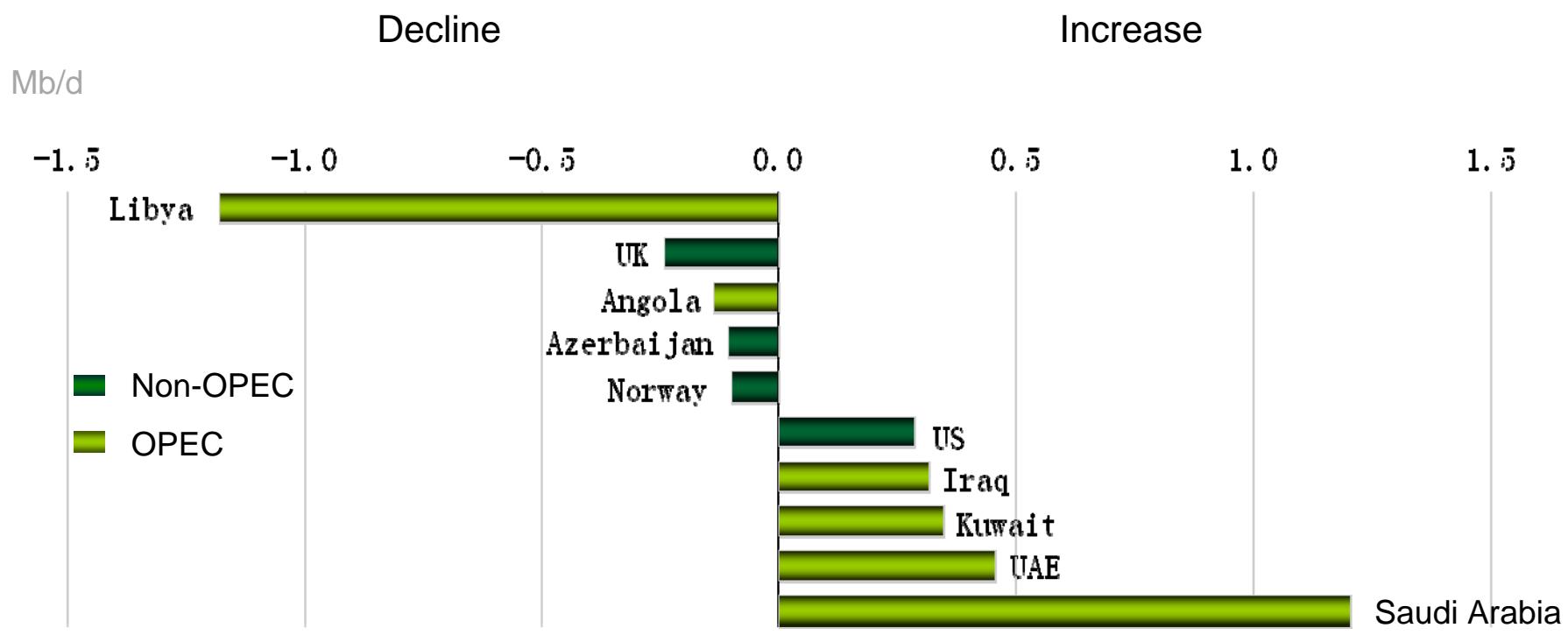
Dated Brent and WTI



Source: includes data from Platts

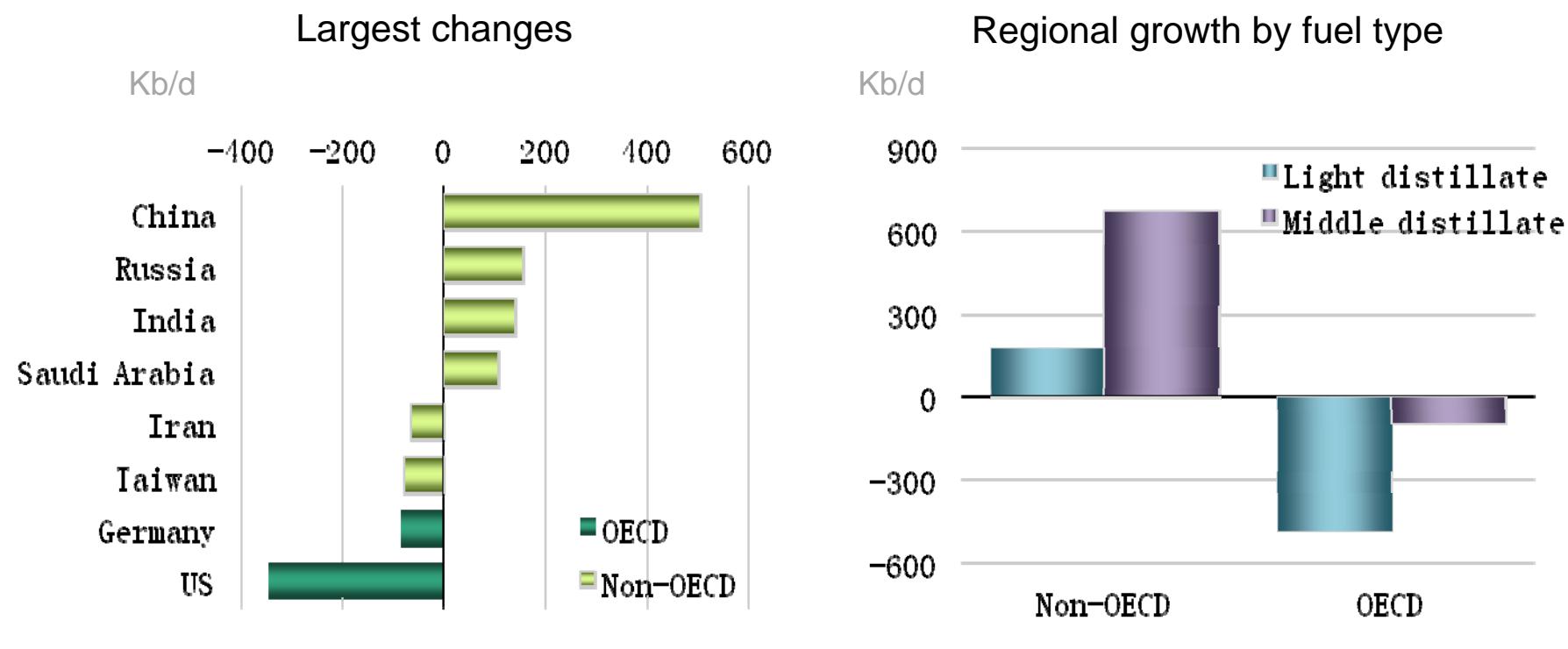


Oil production growth in 2011



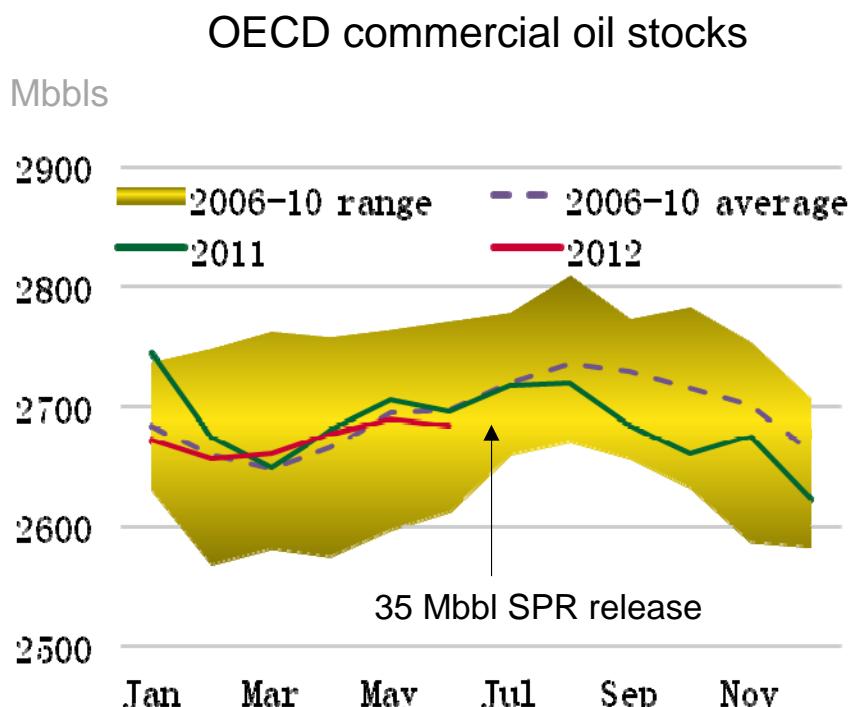
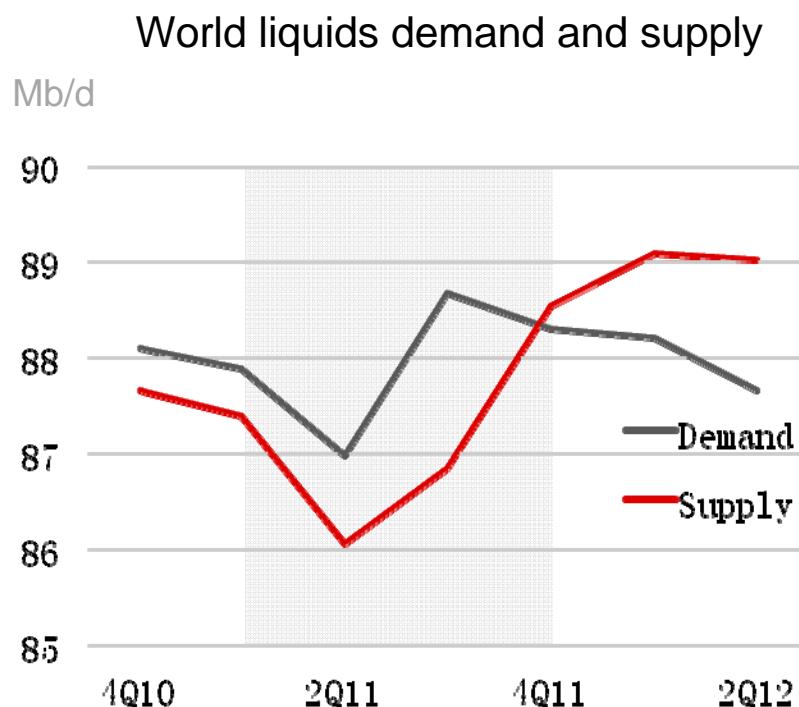


Oil consumption growth in 2011





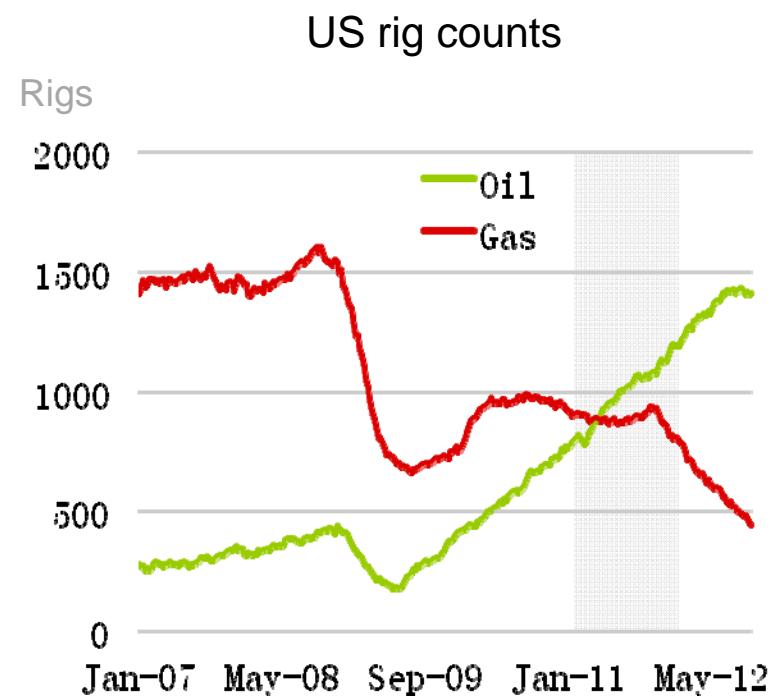
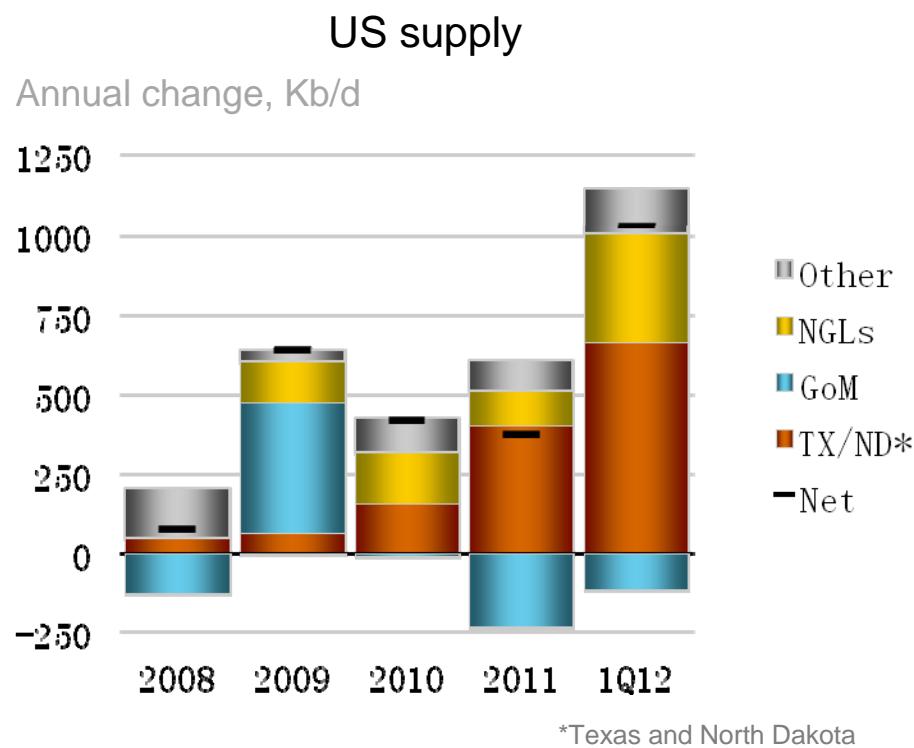
Oil consumption and production



Source: includes data from Energy Information Administration and Monthly Oil Data Services © OECD/International Energy Agency June 2012



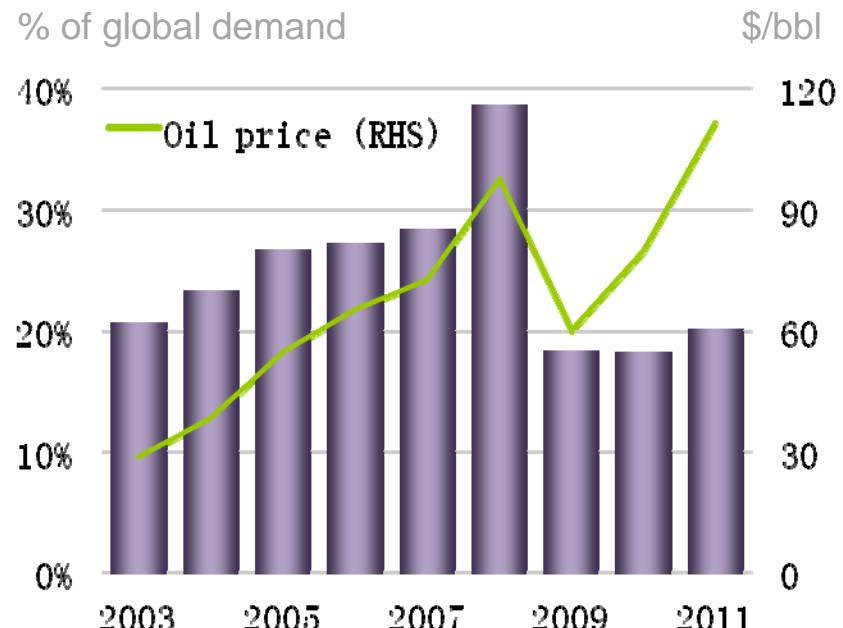
US supply



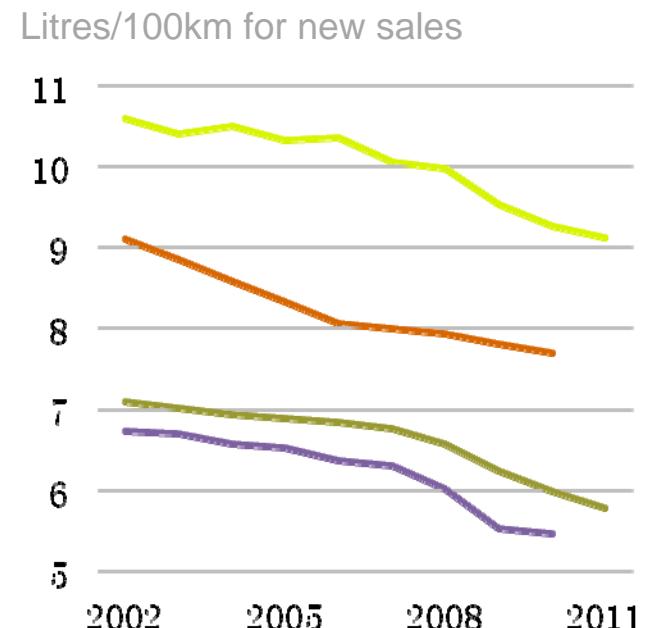
Source: includes data from Energy Information Administration and Baker Hughes

Limits to oil consumption growth

Subsidised consumption



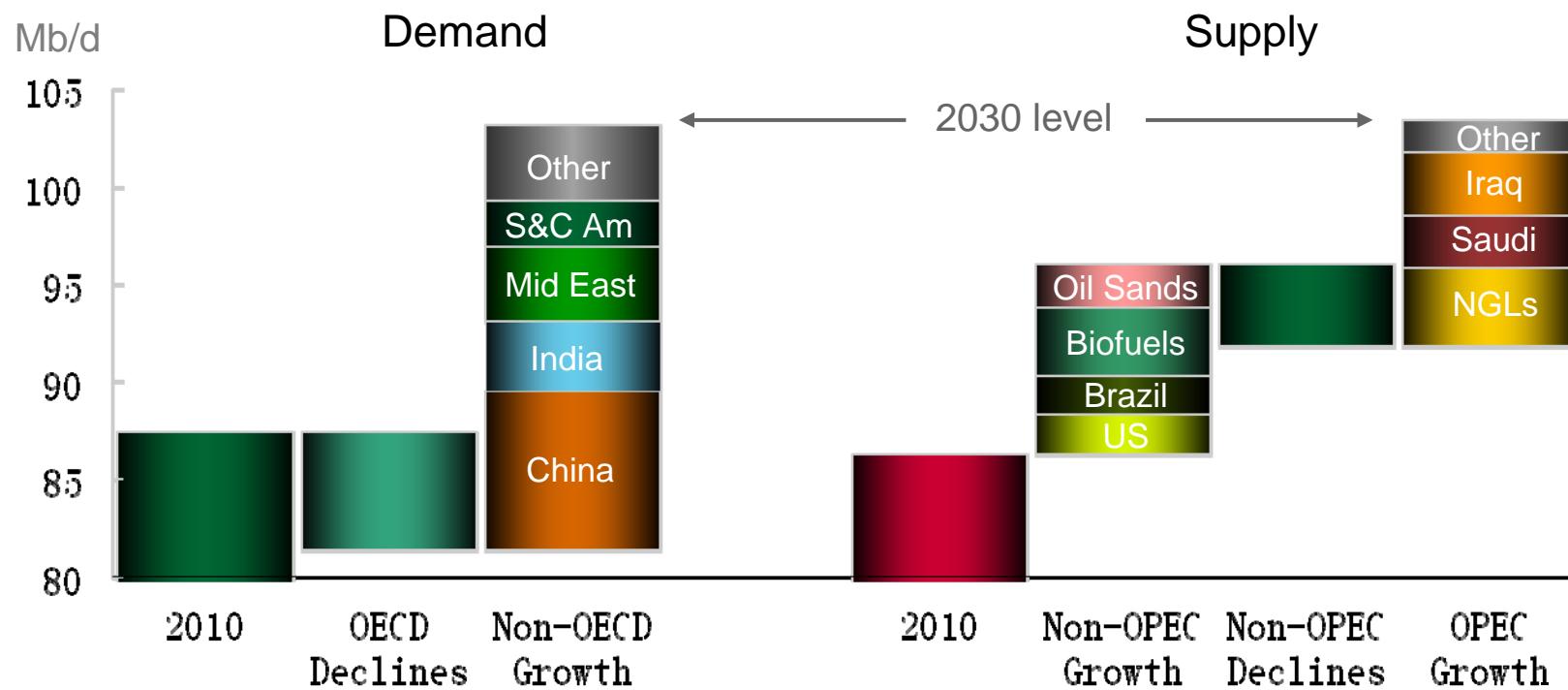
Vehicle fuel economy



* Includes light trucks

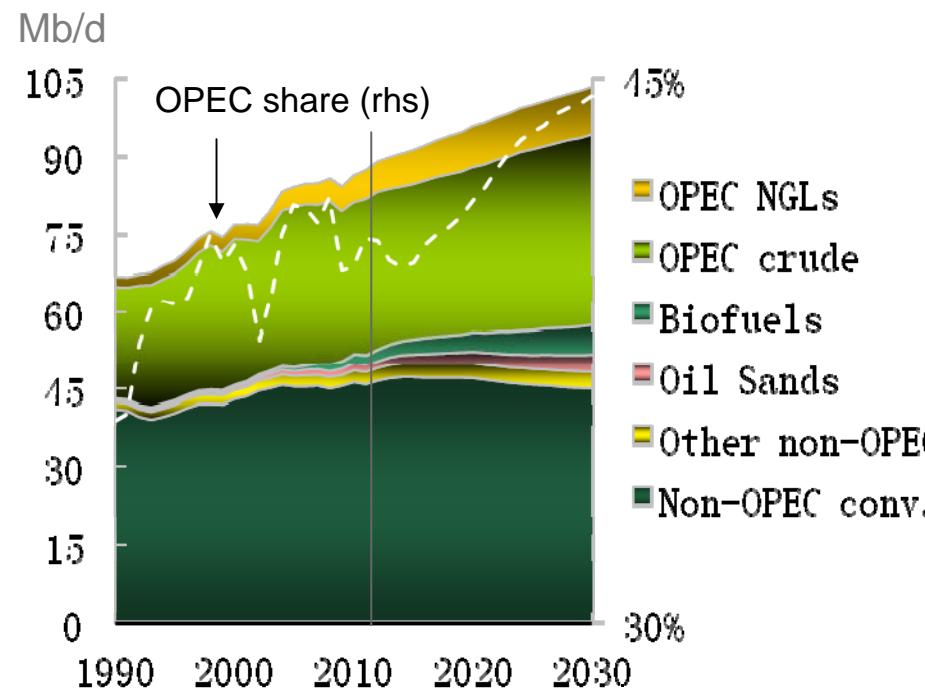
Source: includes data from the International Council for Clean Transportation and the US Environmental Protection Agency

Global liquids – demand and supply

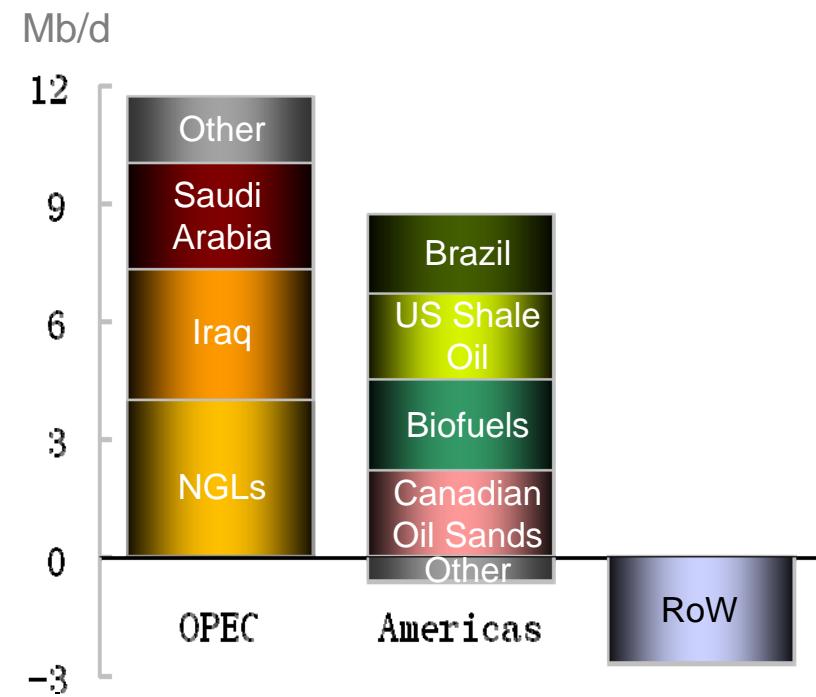


Liquids supply growth - OPEC and North America

Liquids supply by type



Growth from 2010 to 2030

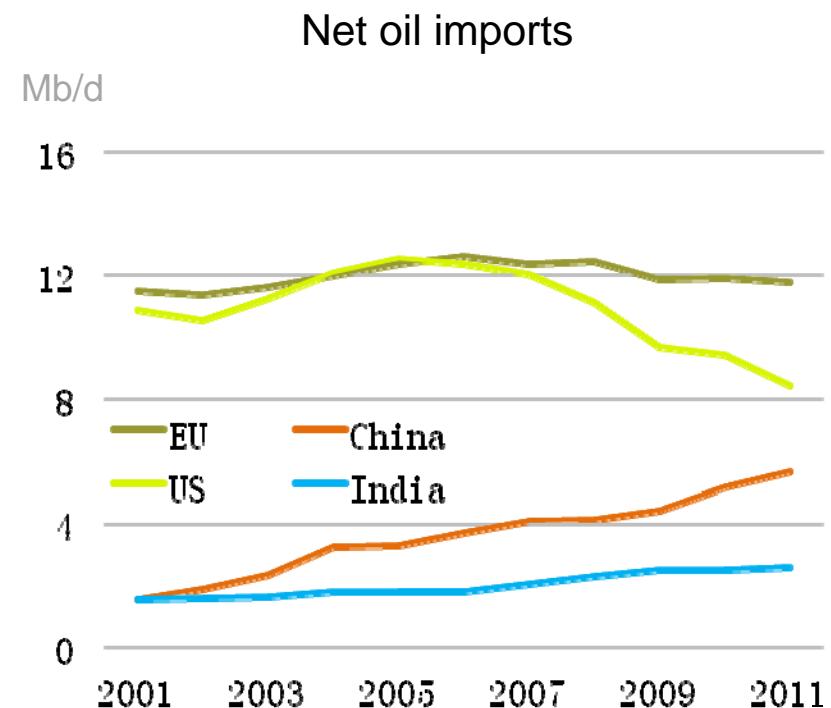
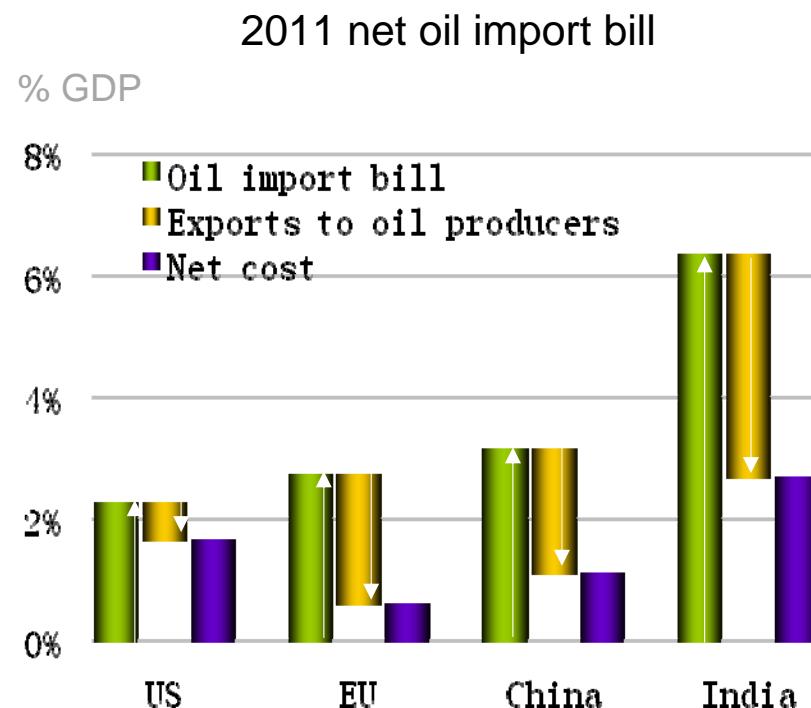


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The long term: energy security

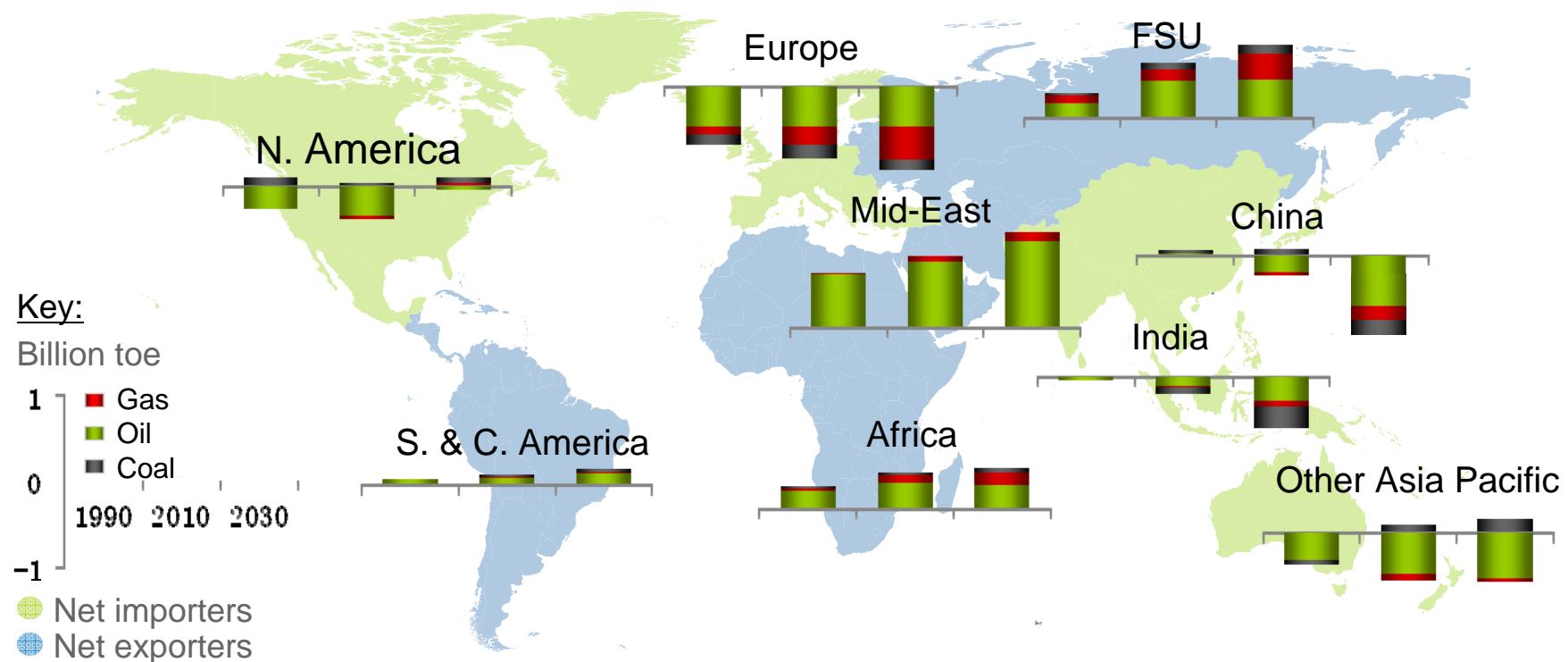


Impact of oil prices on the economy



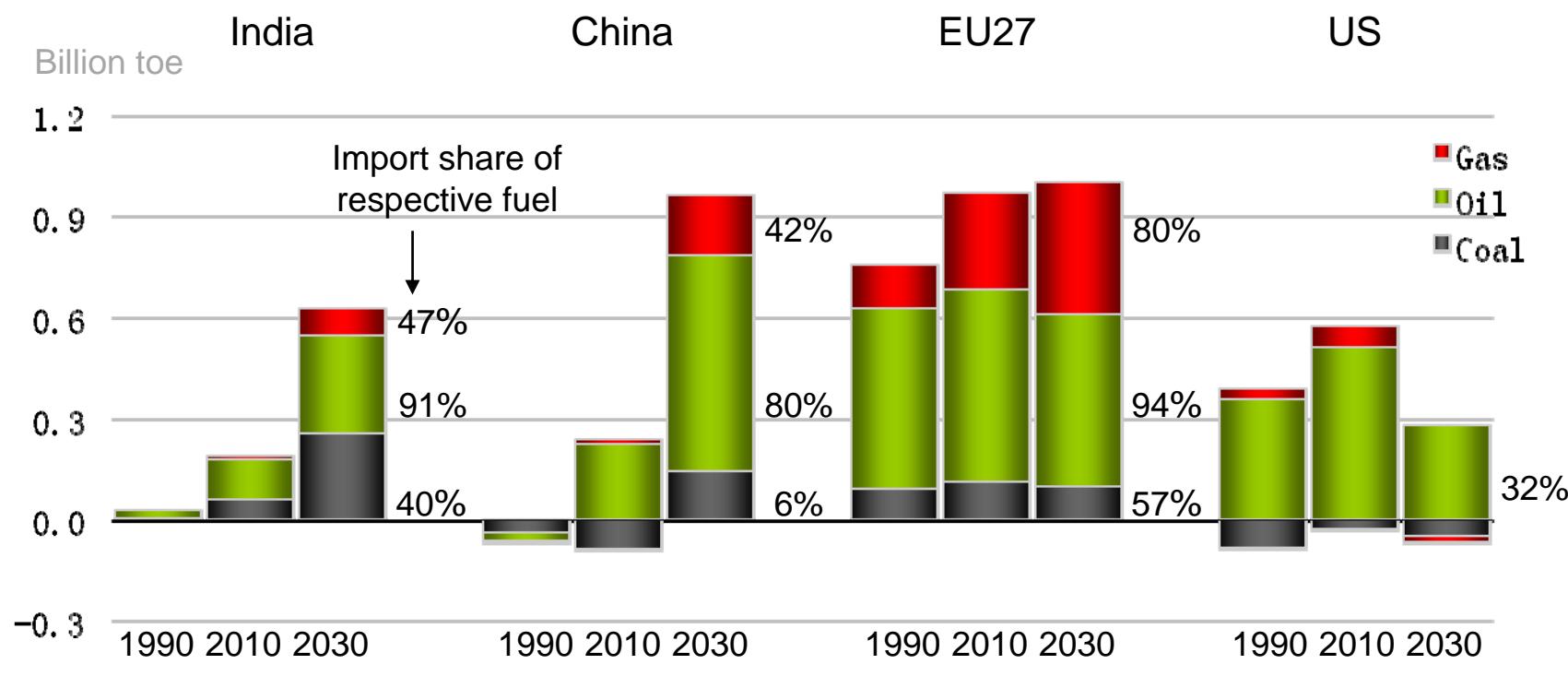
Source: includes data from the International Monetary Fund

Regional energy imbalances

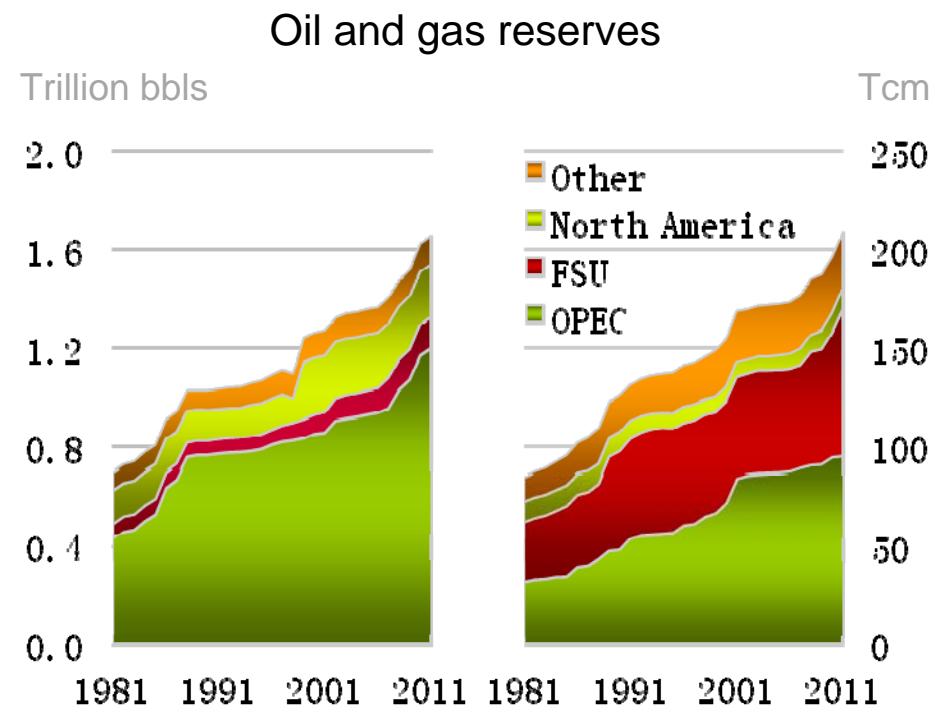
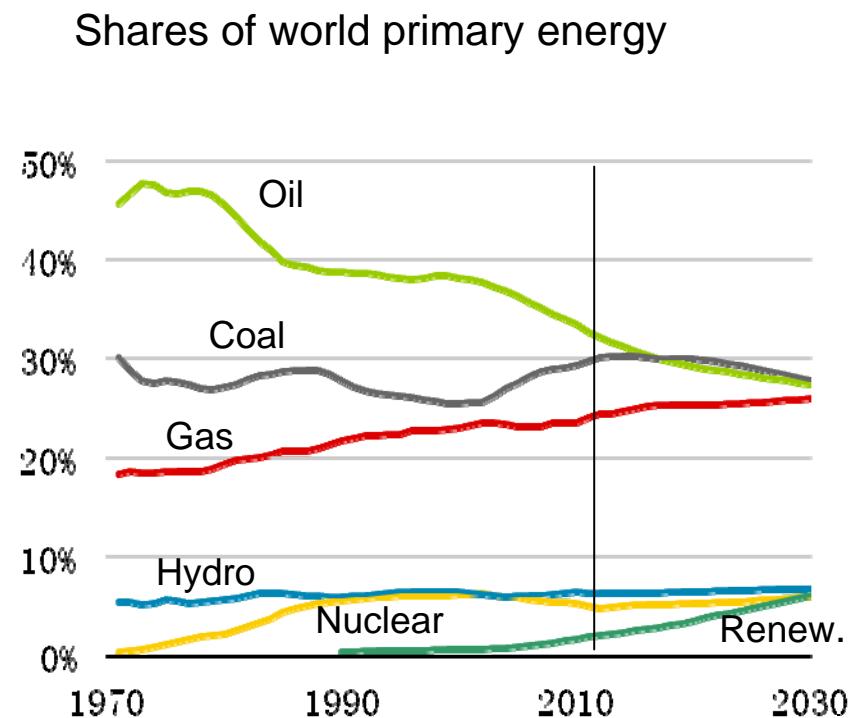


Source: includes data from the International Monetary Fund

Import dependency rises in Asia and Europe



Long-term trends



Conclusion

- Key to the 2011 response: flexible markets
 - Medium term: supply response, inter-fuel substitution and trade optimisation
 - Long term: Global integration and its perils
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