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Energy markets – the short and the long term

Christof Rühl, Chief Economist, BP



Outline

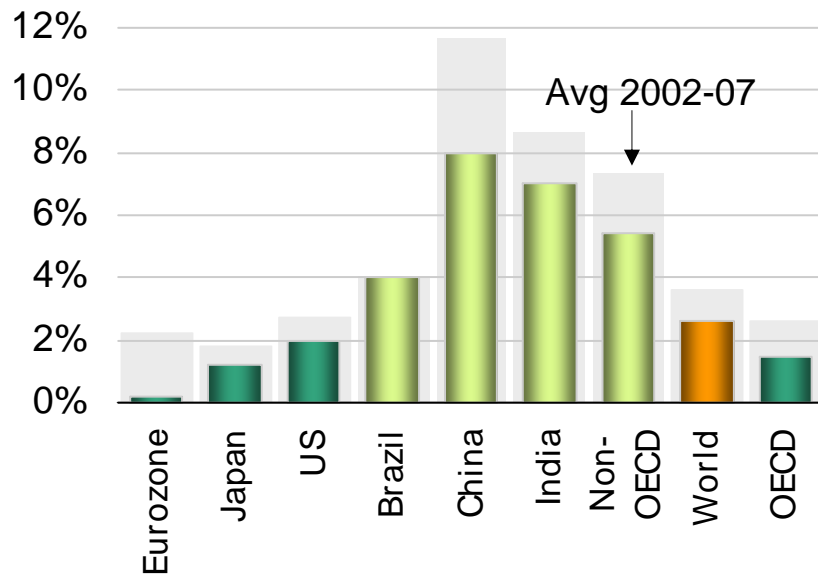
- The economy
 - A year of disruptions
 - Long term implications
 - Conclusion
-



Global growth: slow and on life support

2013 GDP and the good old days

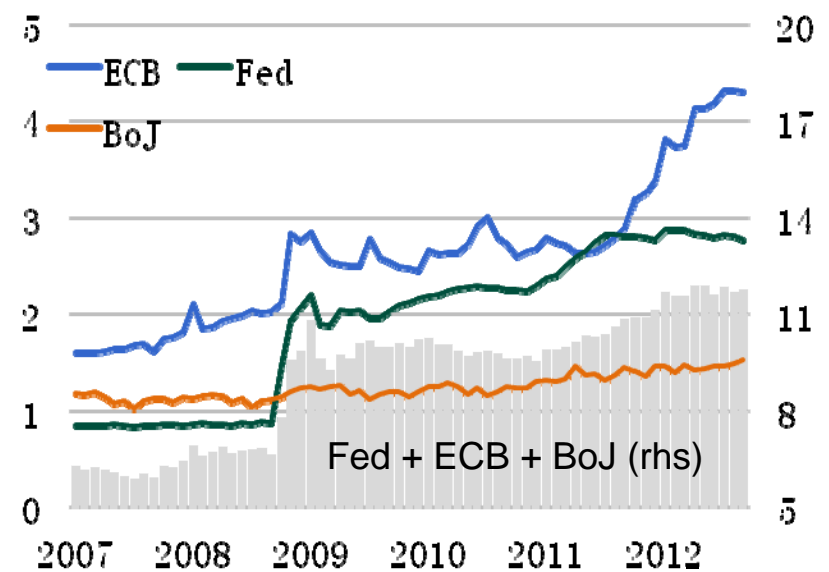
Annual change, %



Central Bank liquidity

Trillion \$US*

% of world GDP



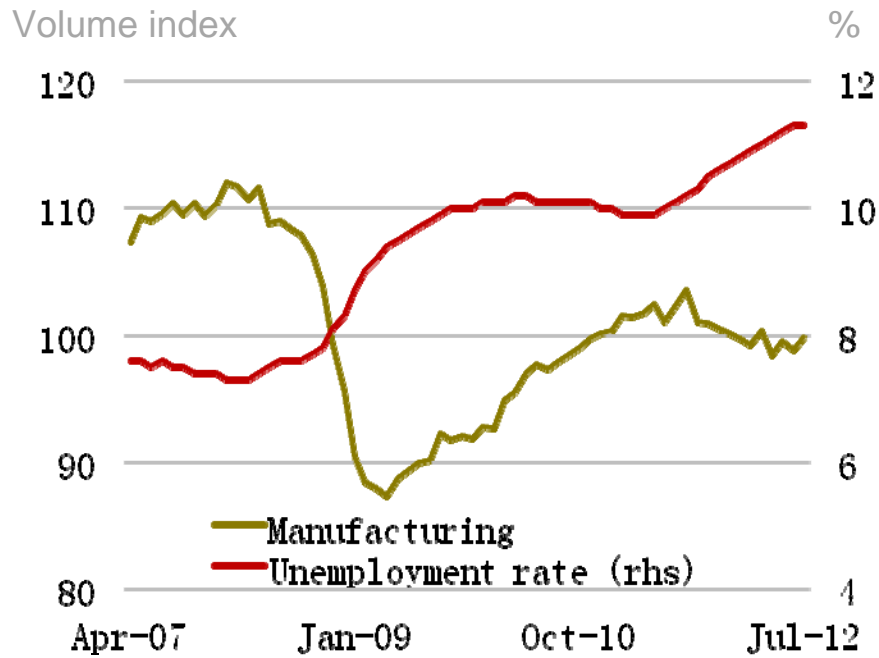
*At constant 2011 exchange rates

Source: includes data from Thomson Reuters Datastream

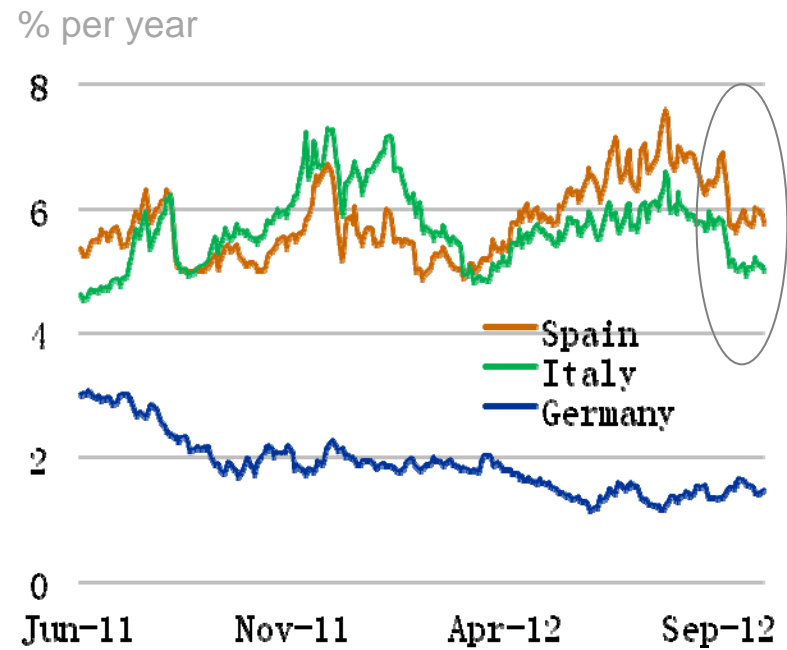


Europe struggles into recession

Eurozone indicators



10-year benchmark bond yields



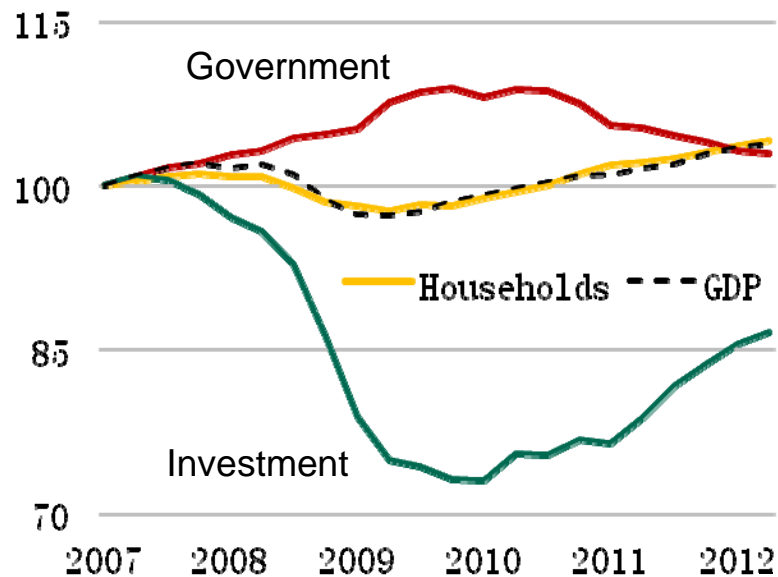
Source: includes data from Thomson Reuters Datastream



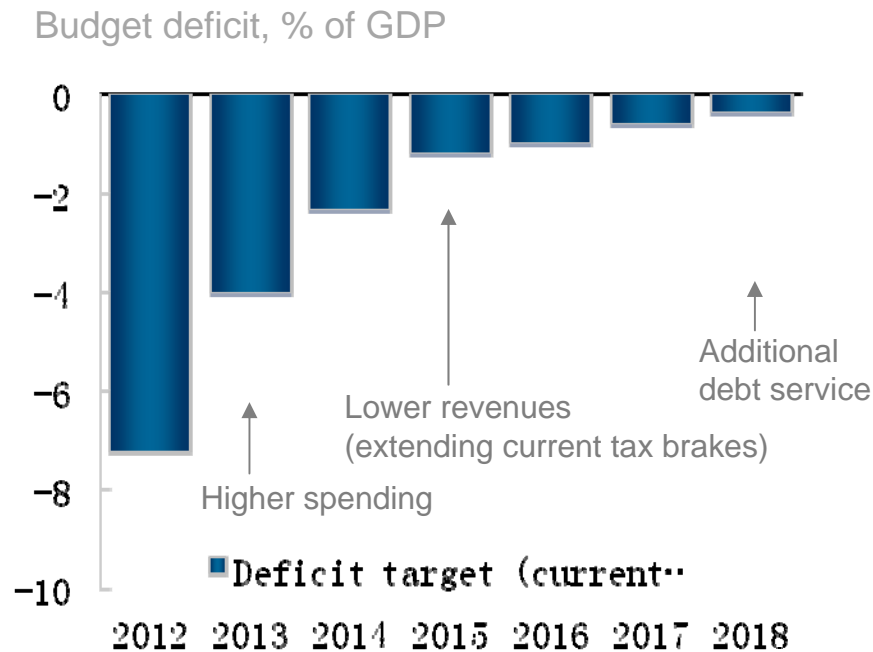
The US grows slowly

Components of domestic demand

Index: 1Q 2007=100



"Fiscal cliff"



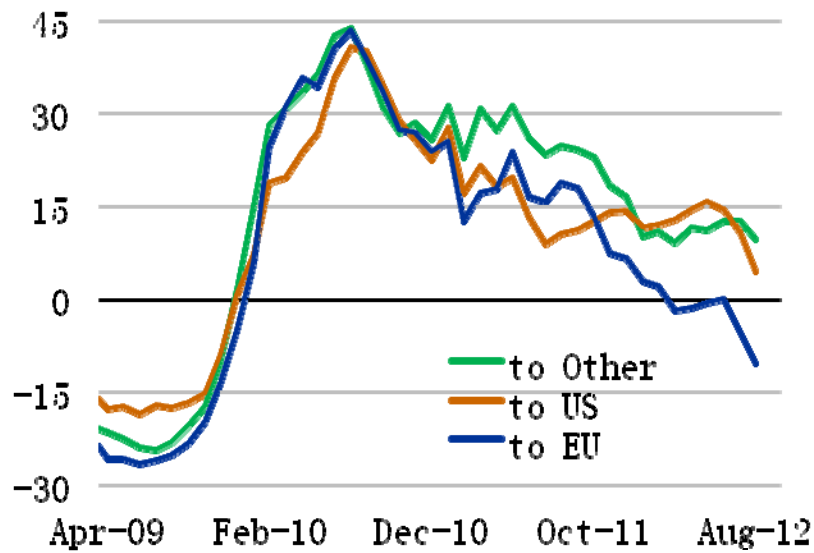
Source: includes data from CBO August 2012 forecast and Thomson Reuters Datastream



The Chinese economy slows

Exports

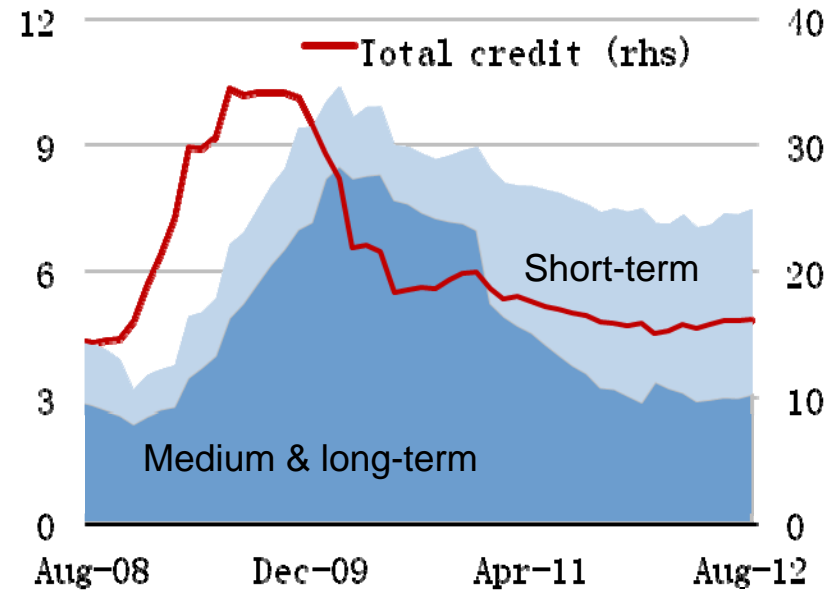
% y-o-y, 3m ma.



Commercial bank loans

Change y-o-y, trillions of CNY

% y-o-y

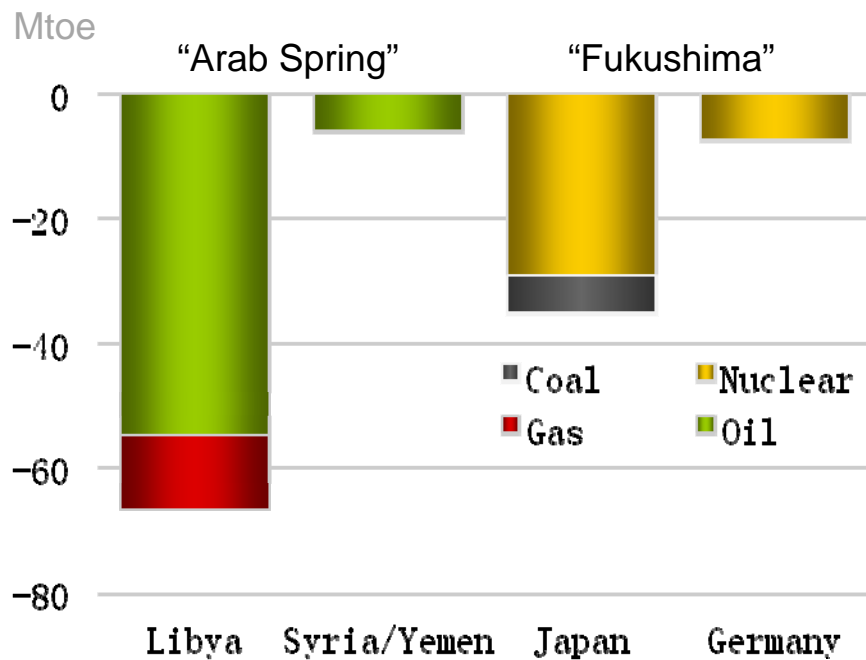


Source: includes data from Thomson Reuters Datastream

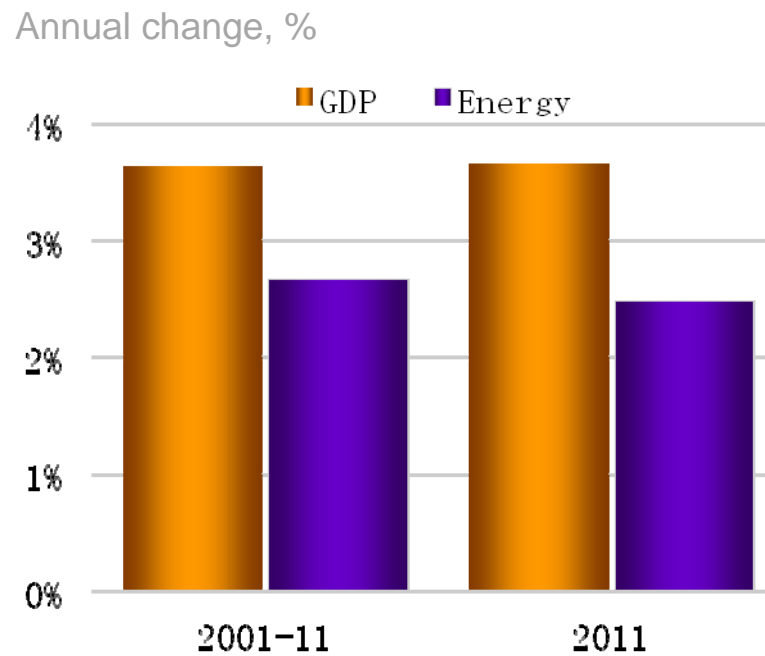


Energy in 2011 – disruptions and continuity

Supply disruptions



GDP and energy growth

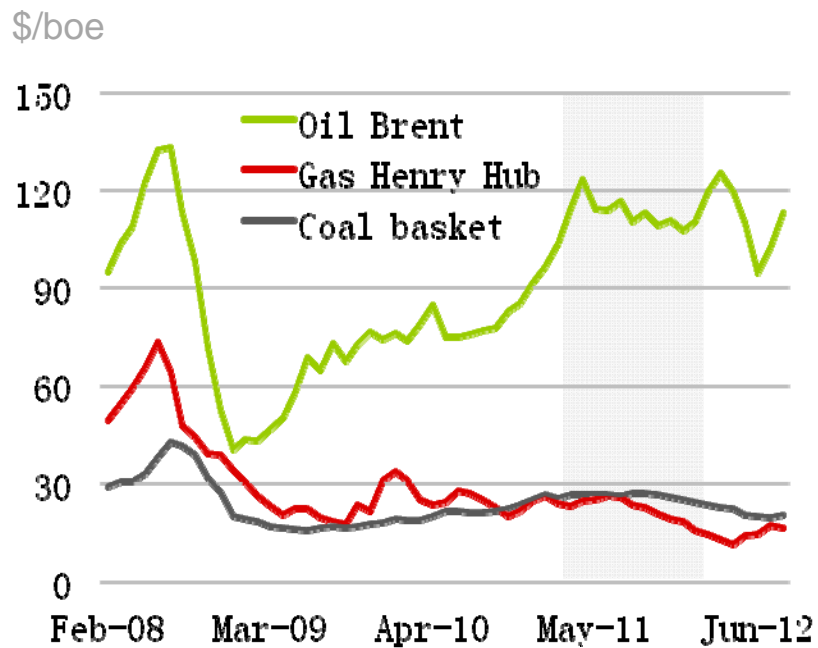


Source: includes data from Oxford Economics

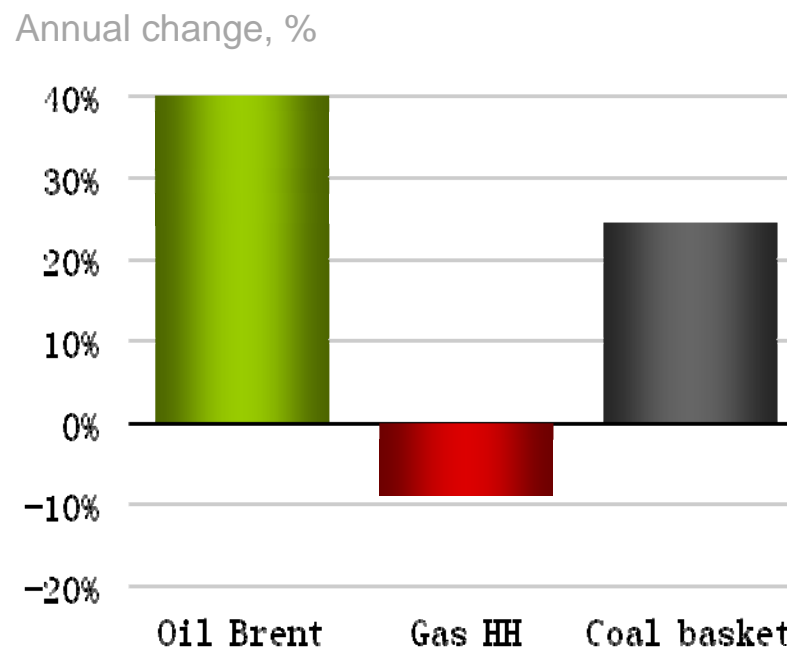


Energy prices

Energy prices



2011 price changes



Source: includes data from Platts and McCloskey

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The Fukushima Adjustment

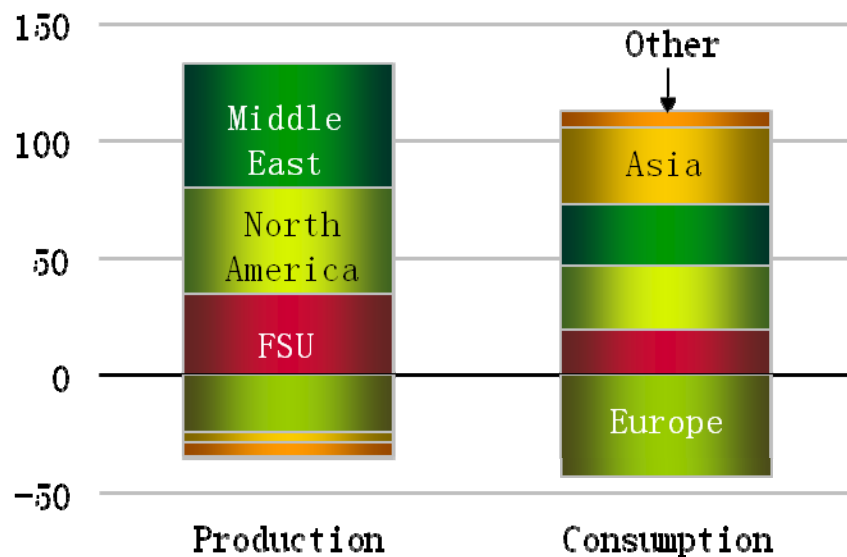




Natural gas markets in 2011

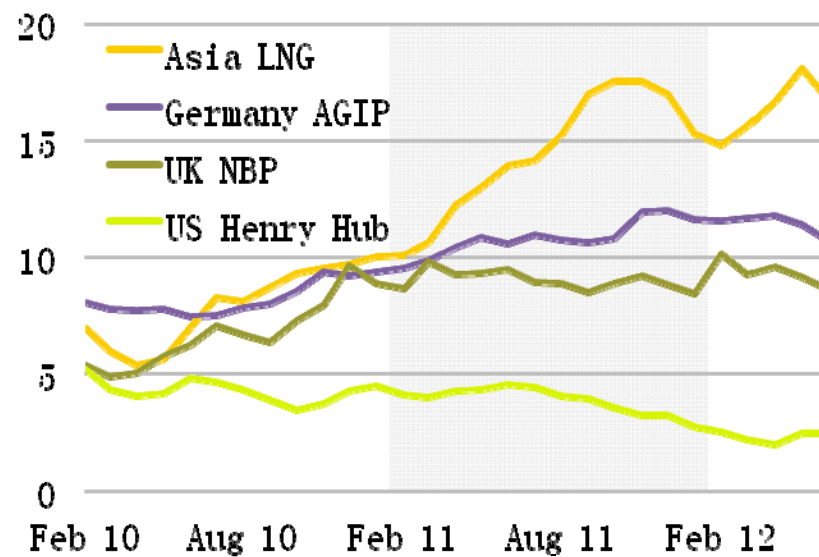
Production and consumption growth

Annual change, Bcm



Regional gas prices

\$/Mmbtu

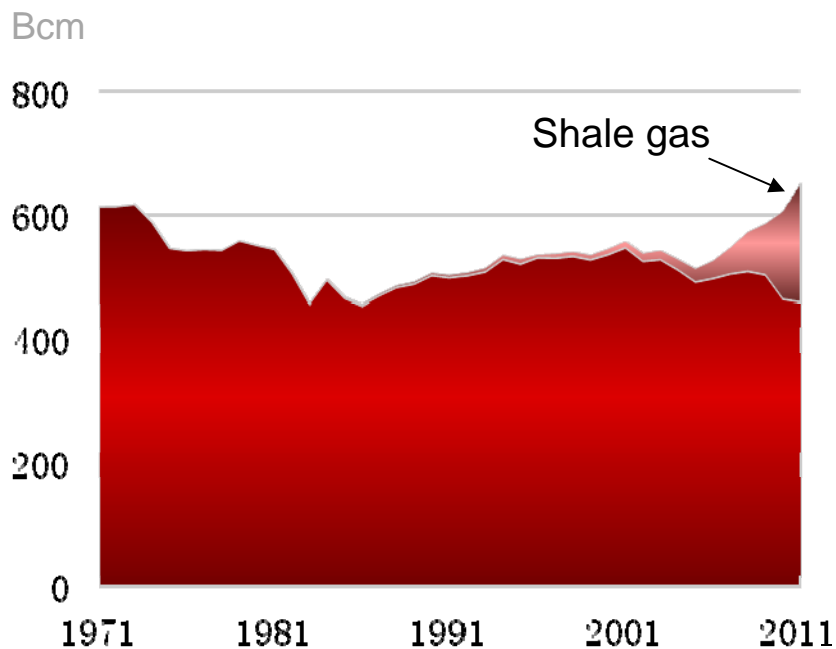


Source: includes data from Platts

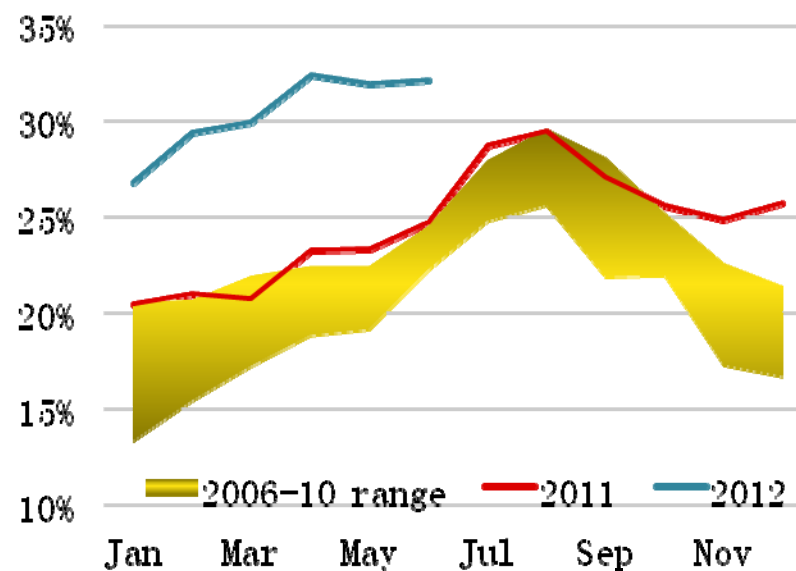


US natural gas market

Production



Gas share in power generation

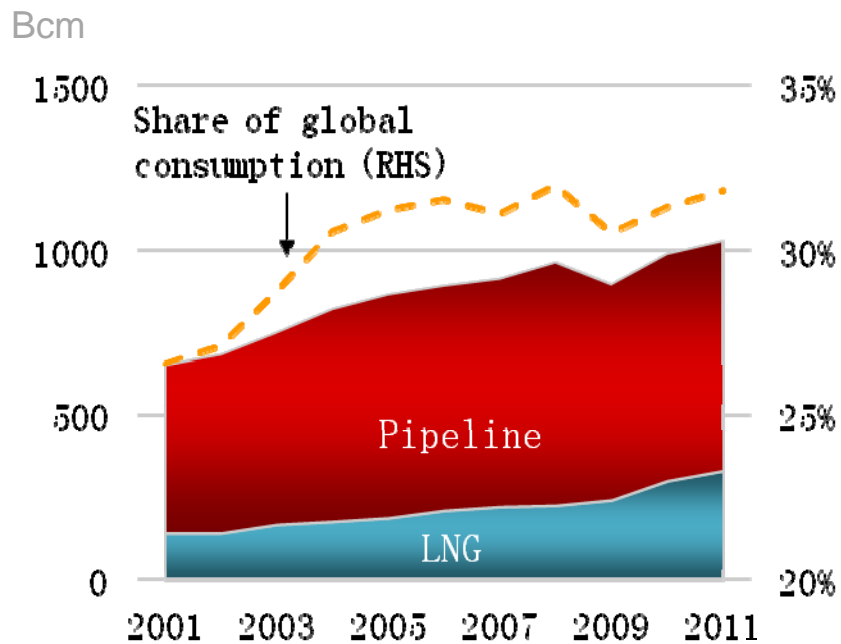


Source: includes data from Energy Information Administration

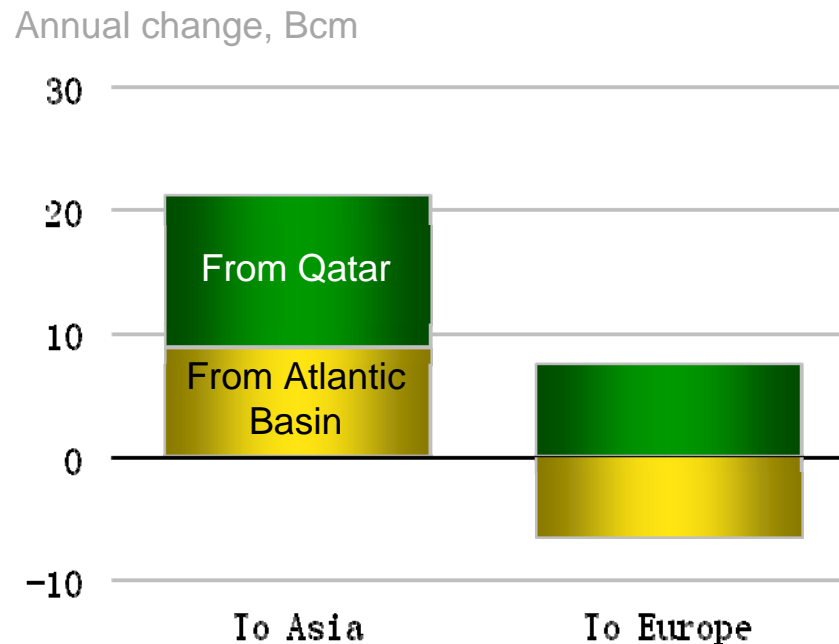


Global gas trade

Gas exports



LNG import growth in 2011

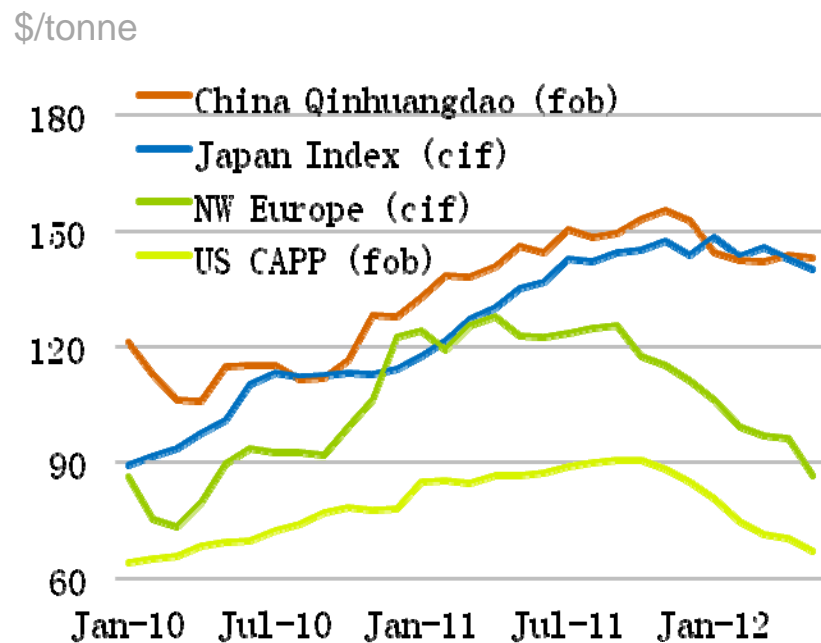


Source: includes data from Cedigaz, GIIGNL, CISStats, Poten, Waterborne

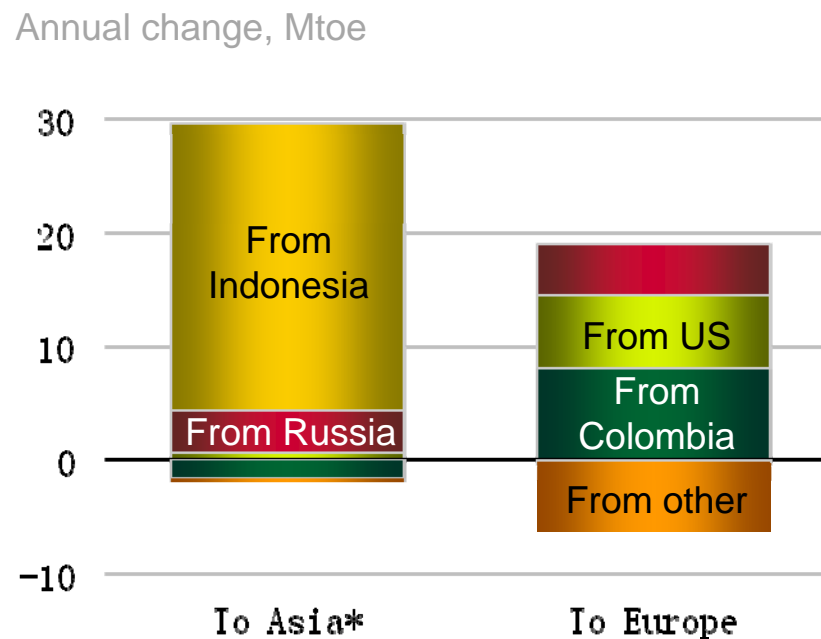


Coal prices and trade

Steam coal prices



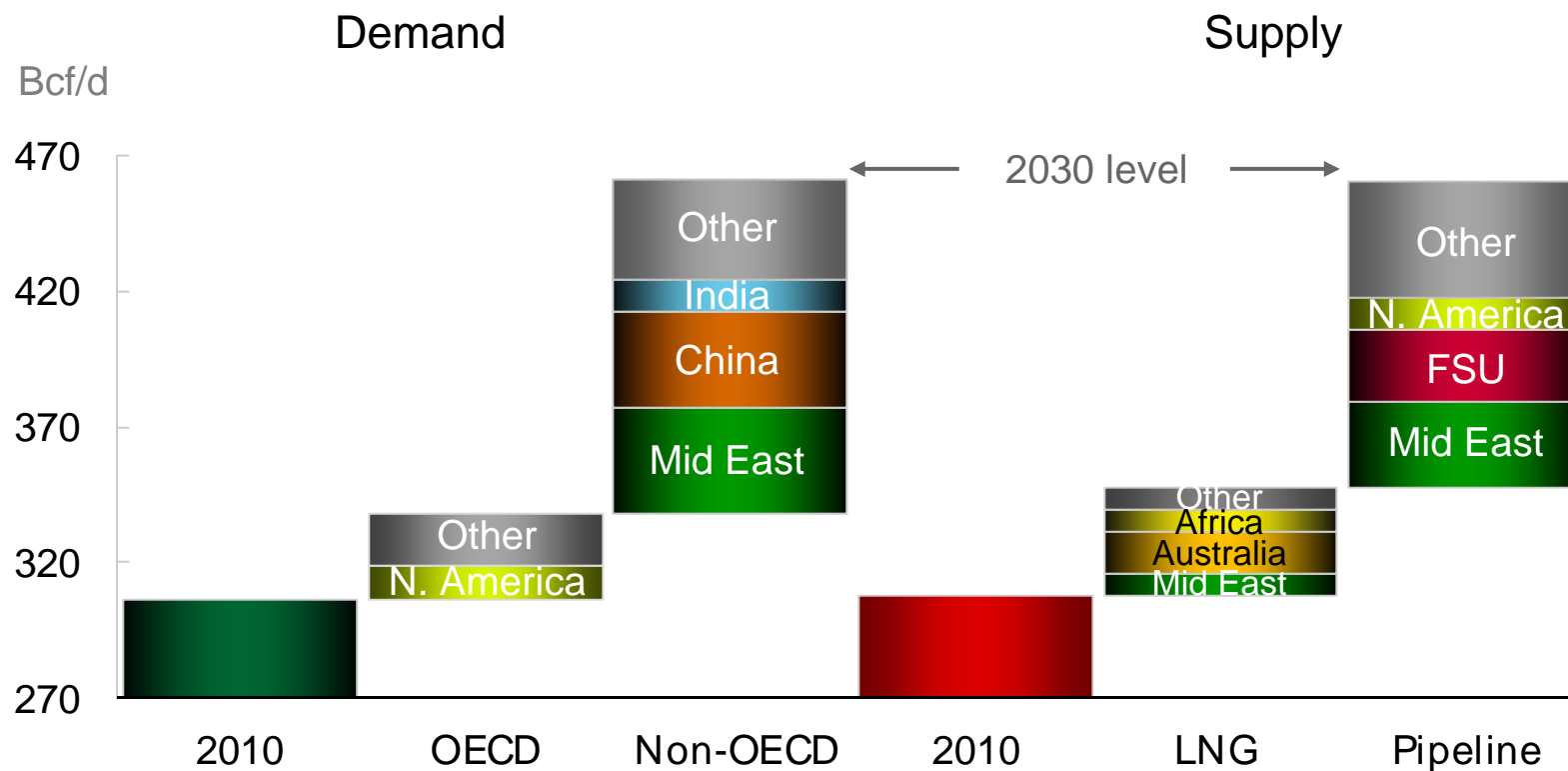
Import growth in 2011



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



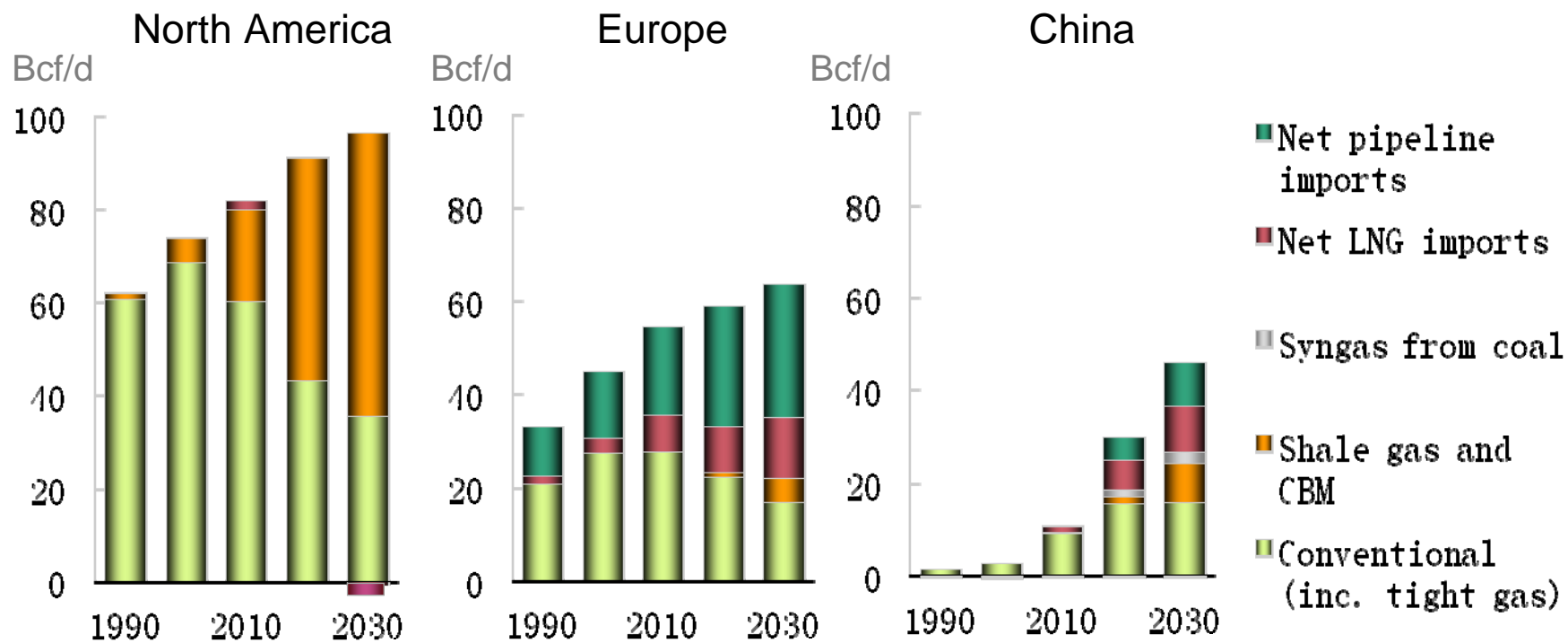
Natural gas demand growth is concentrated in the non-OECD





Unconventional gas will play a growing role

Gas supply by region



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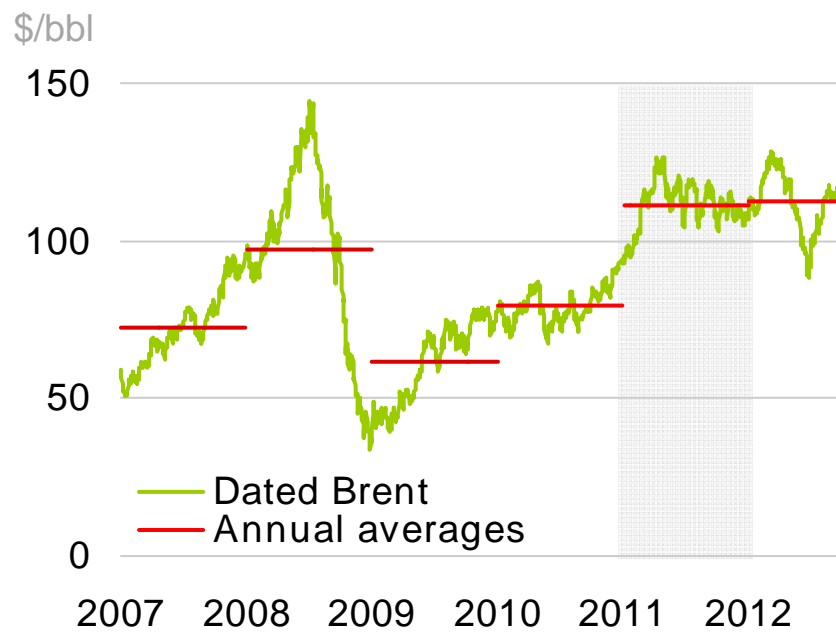
Oil markets and trends



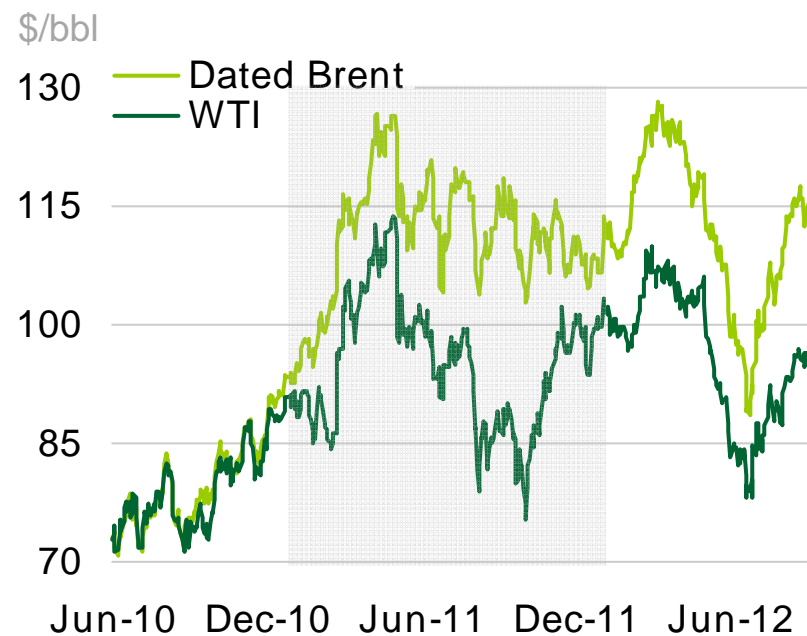


Crude oil prices

Dated Brent



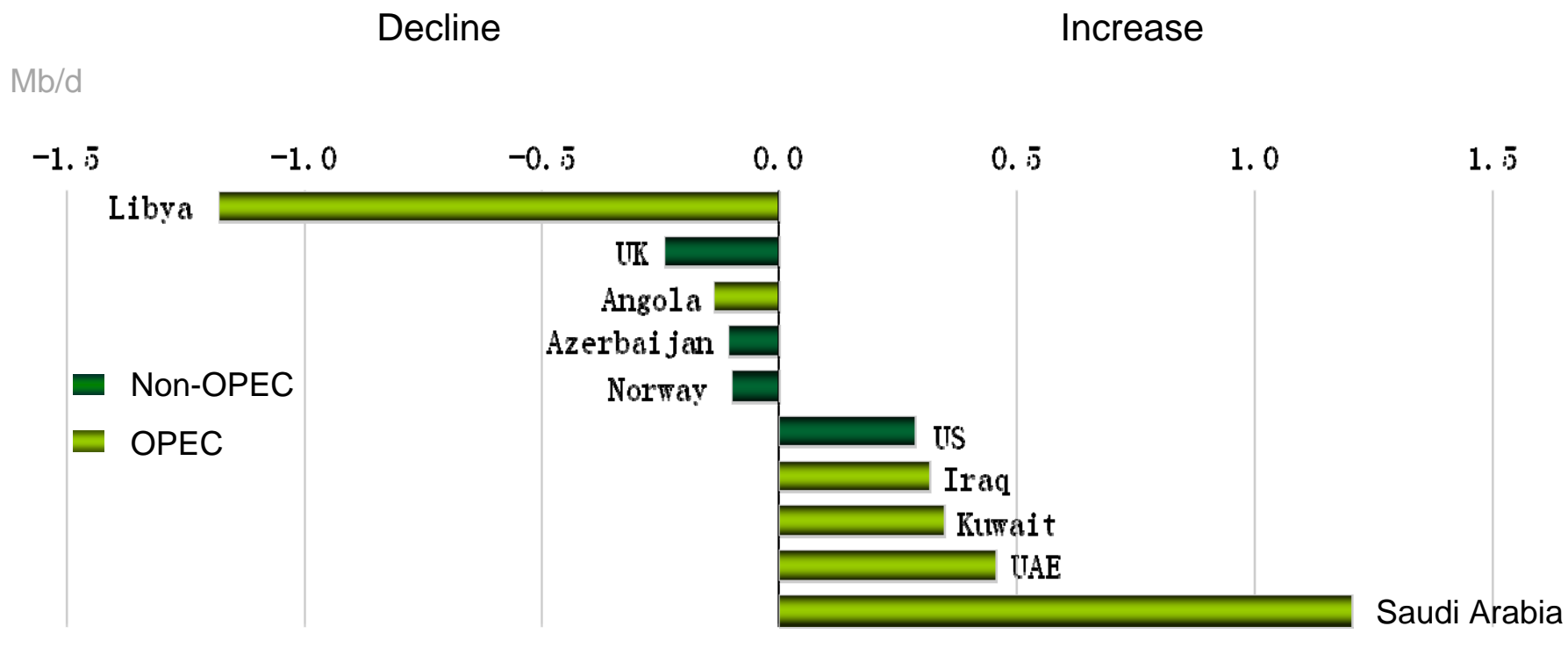
Dated Brent and WTI



Source: includes data from Platts



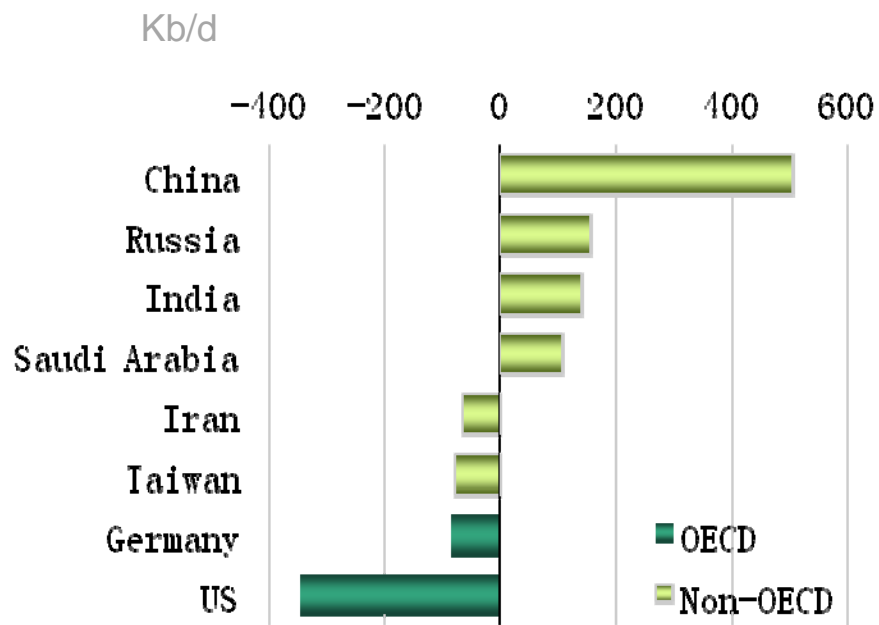
Oil production growth in 2011



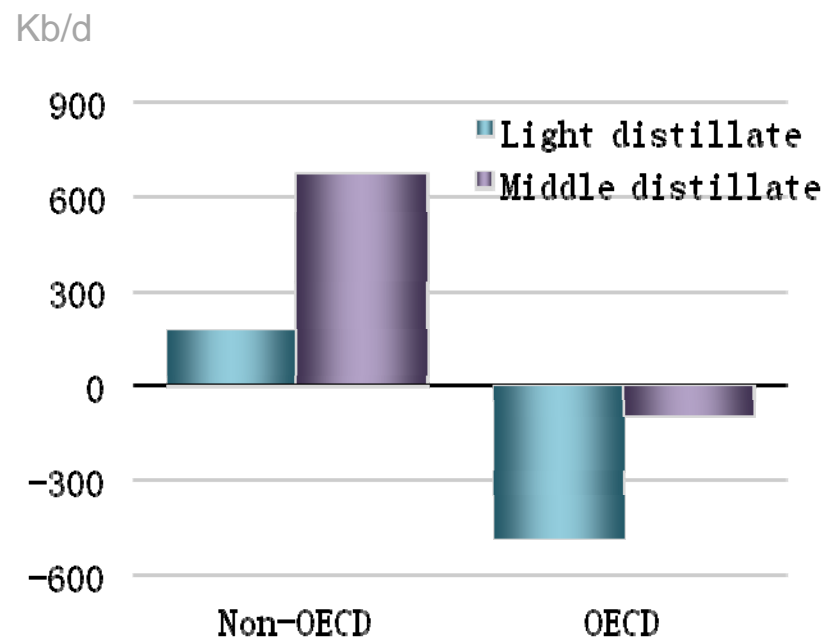


Oil consumption growth in 2011

Largest changes



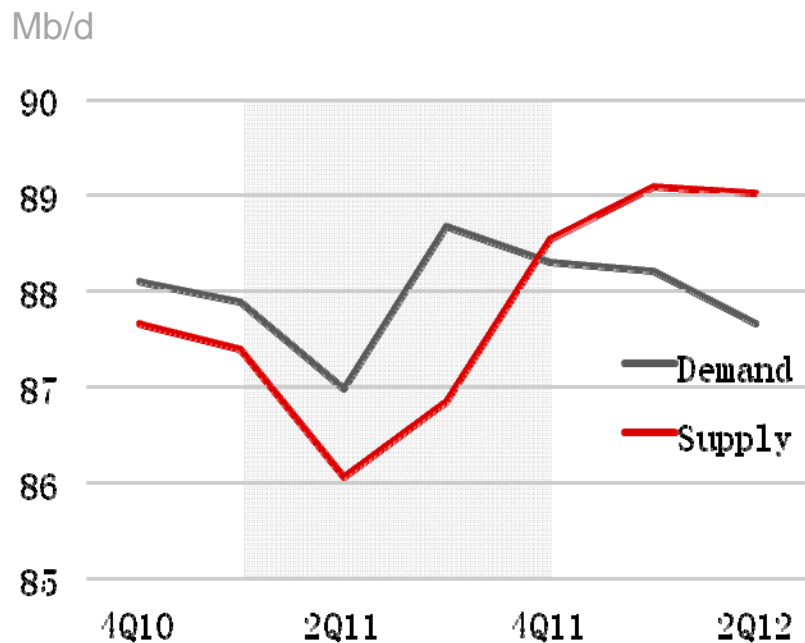
Regional growth by fuel type



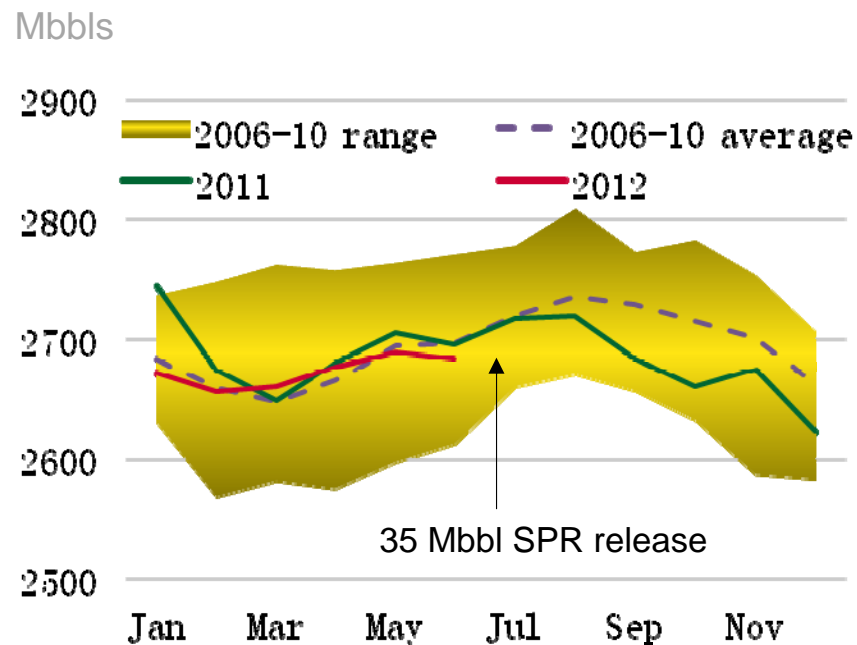


Oil consumption and production

World liquids demand and supply



OECD commercial oil stocks



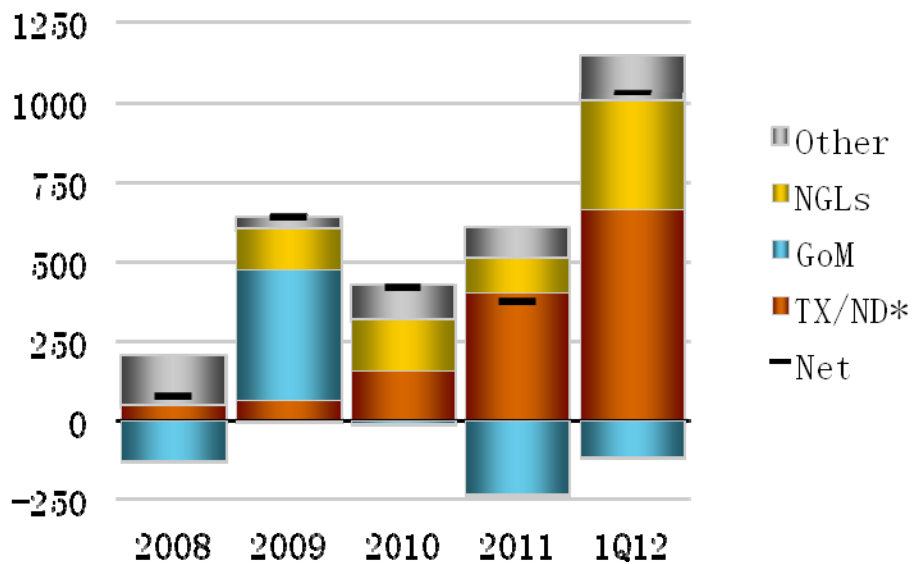
Source: includes data from Energy Information Administration and Monthly Oil Data Services © OECD/International Energy Agency June 2012



US supply

US supply

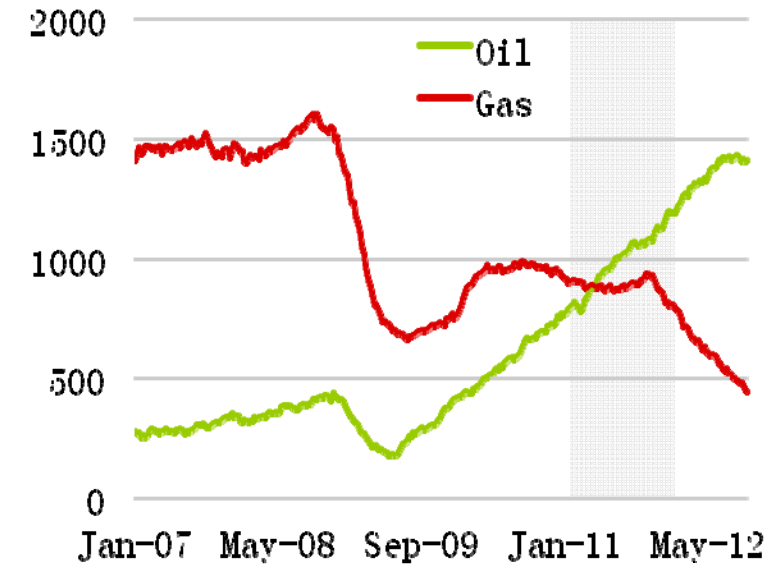
Annual change, Kb/d



*Texas and North Dakota

US rig counts

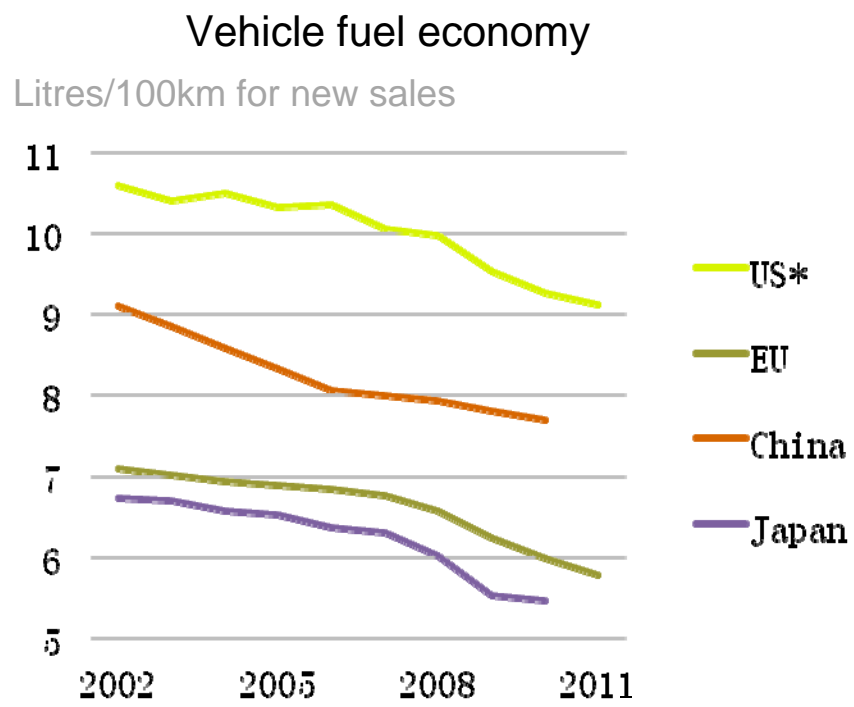
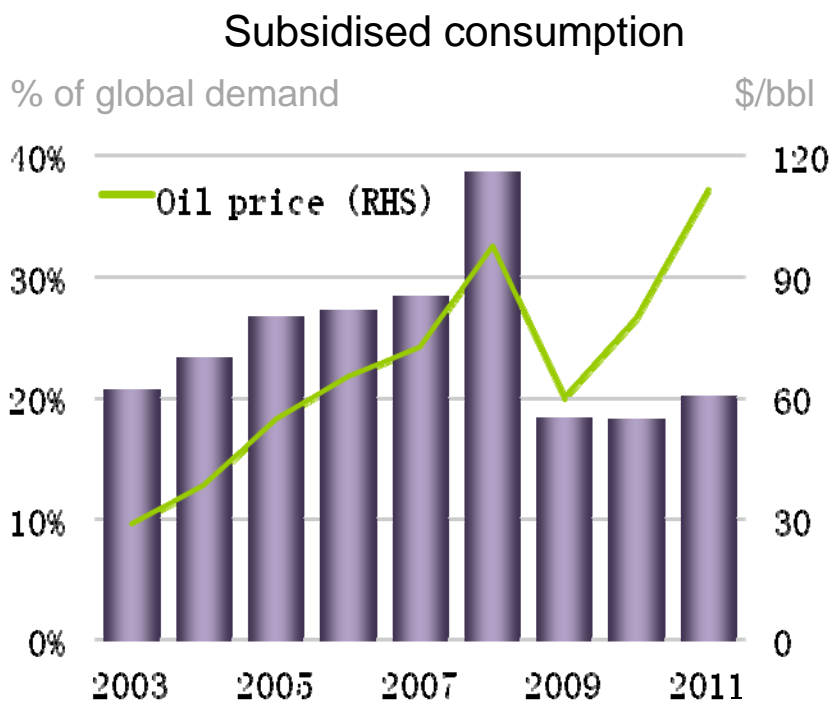
Rigs



Source: includes data from Energy Information Administration and Baker Hughes



Limits to oil consumption growth

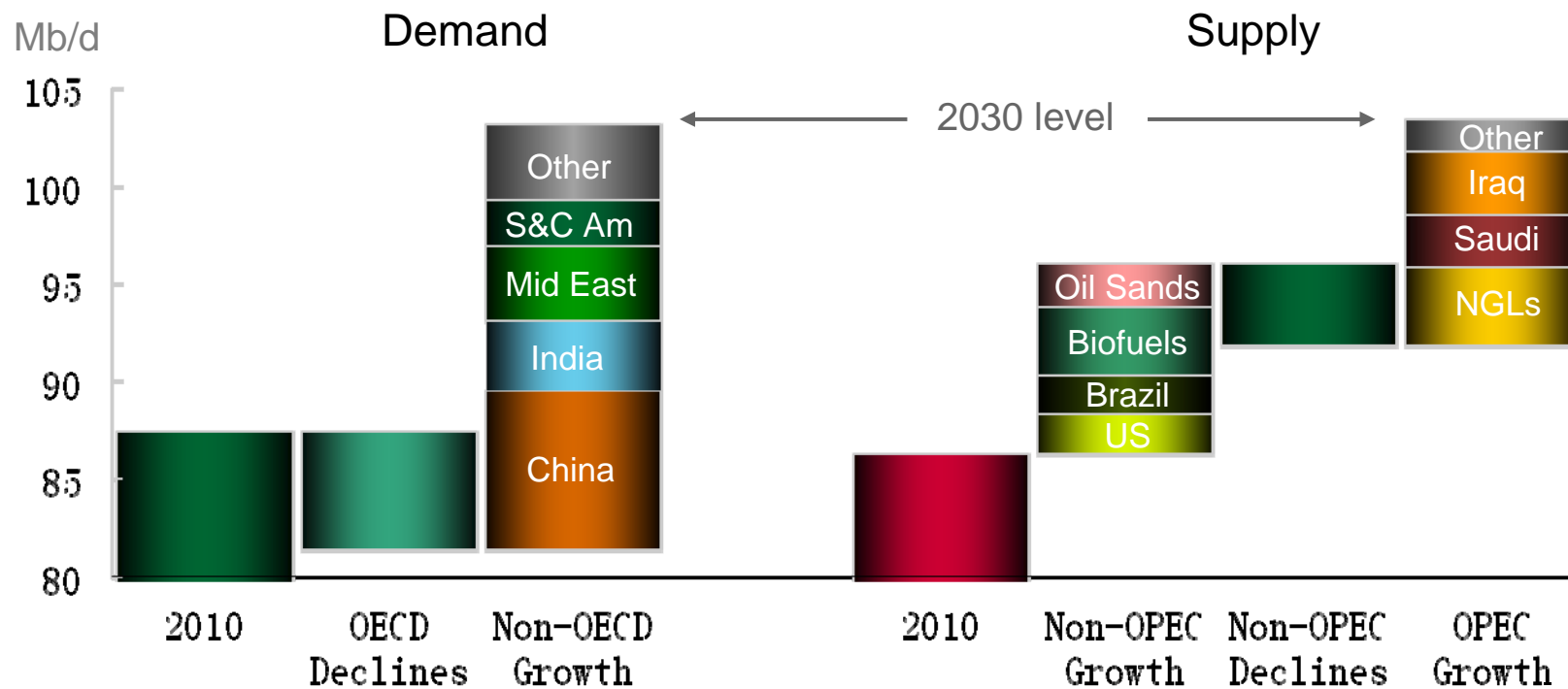


* Includes light trucks

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



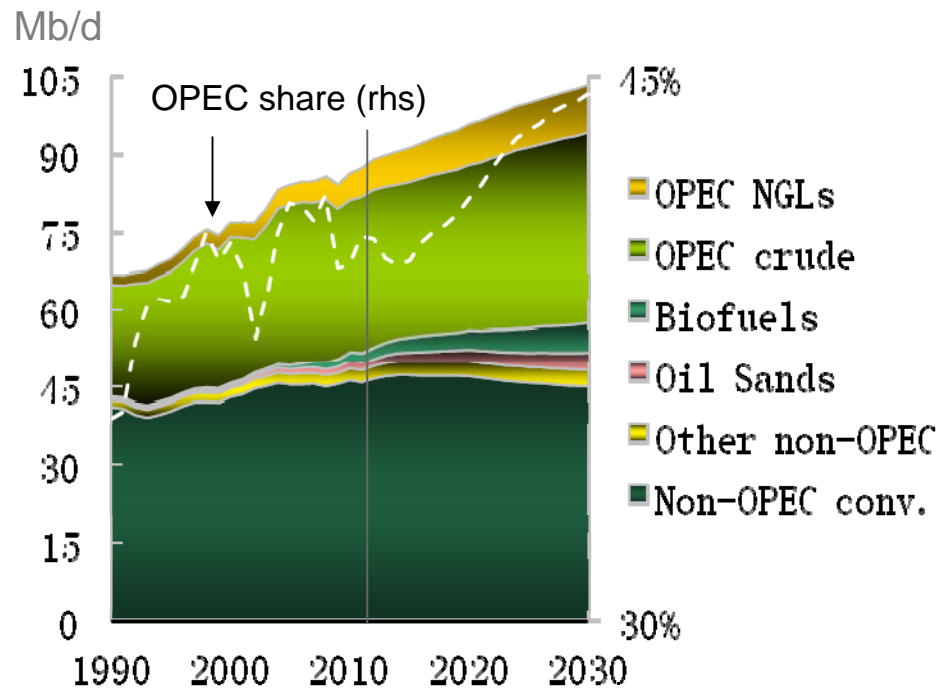
Global liquids – demand and supply



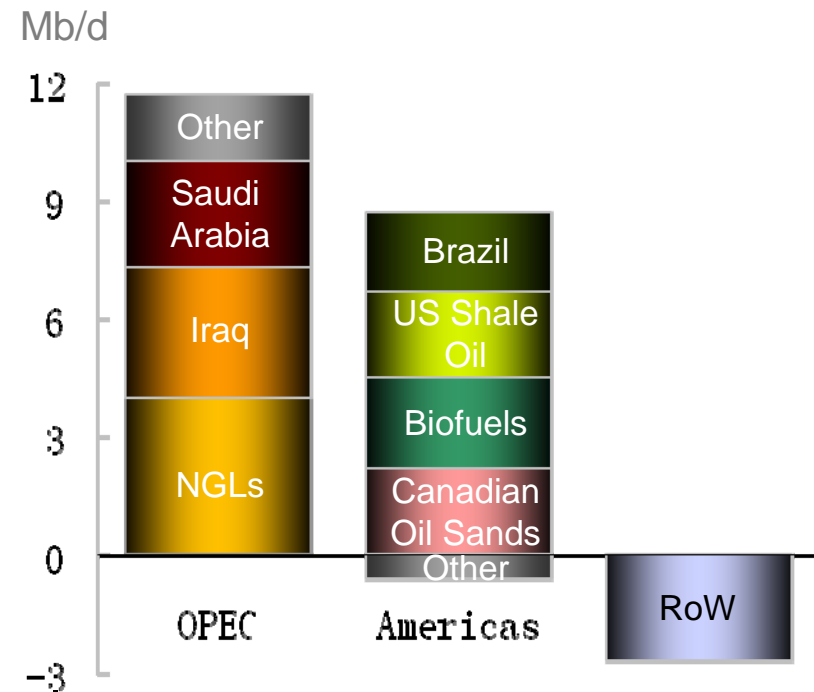


Liquids supply growth - OPEC and North America

Liquids supply by type



Growth from 2010 to 2030



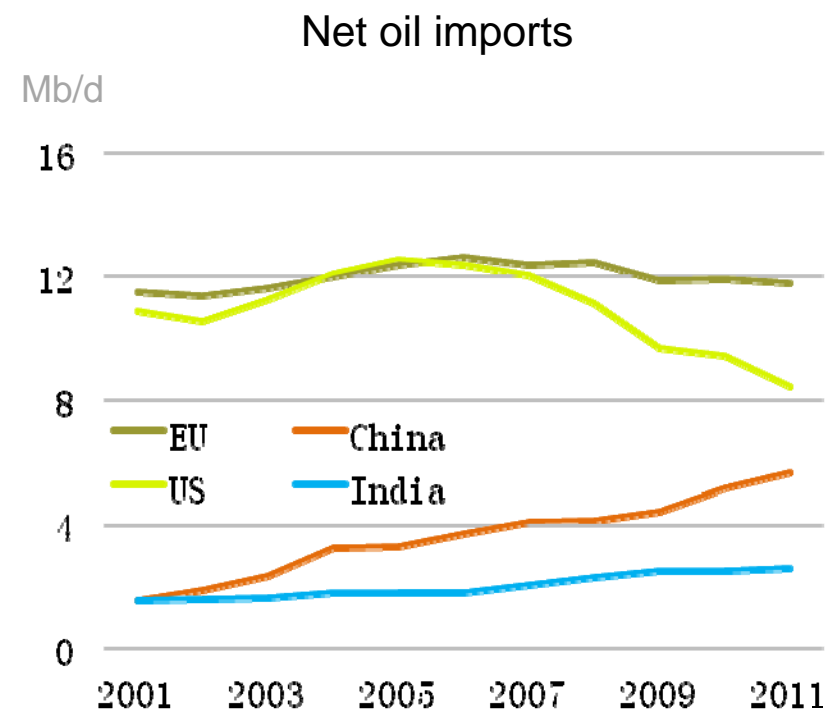
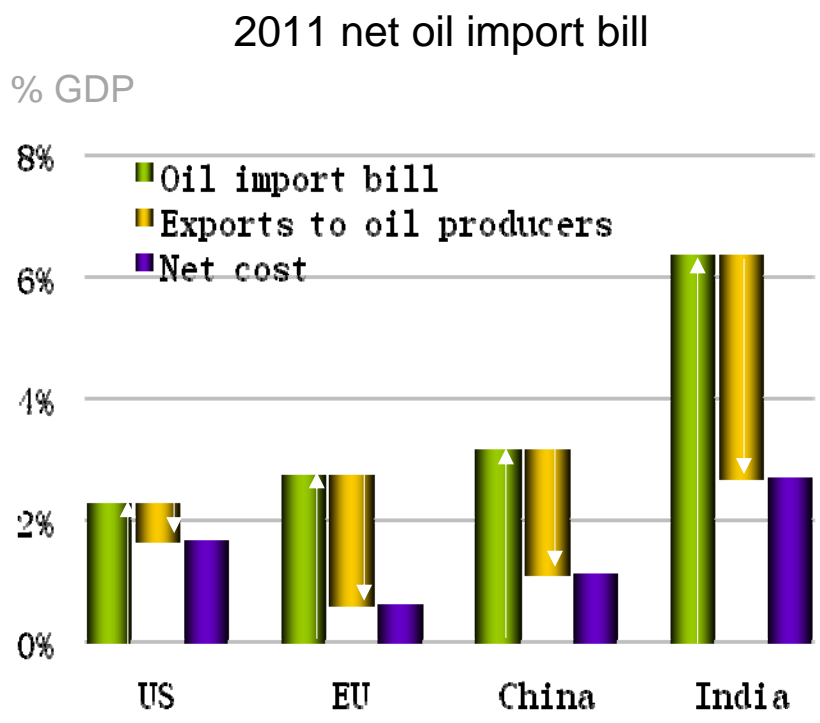
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The long term: energy security





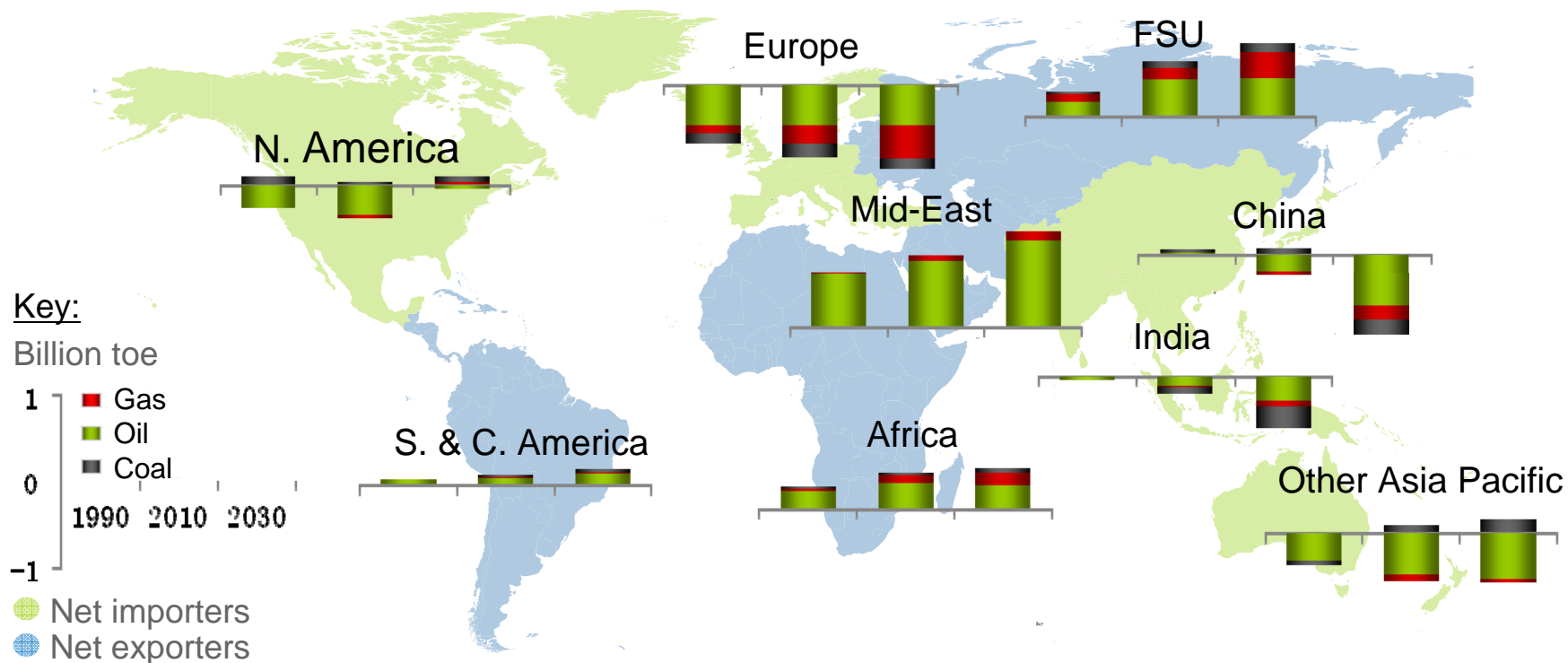
Impact of oil prices on the economy



Source: includes data from the International Monetary Fund



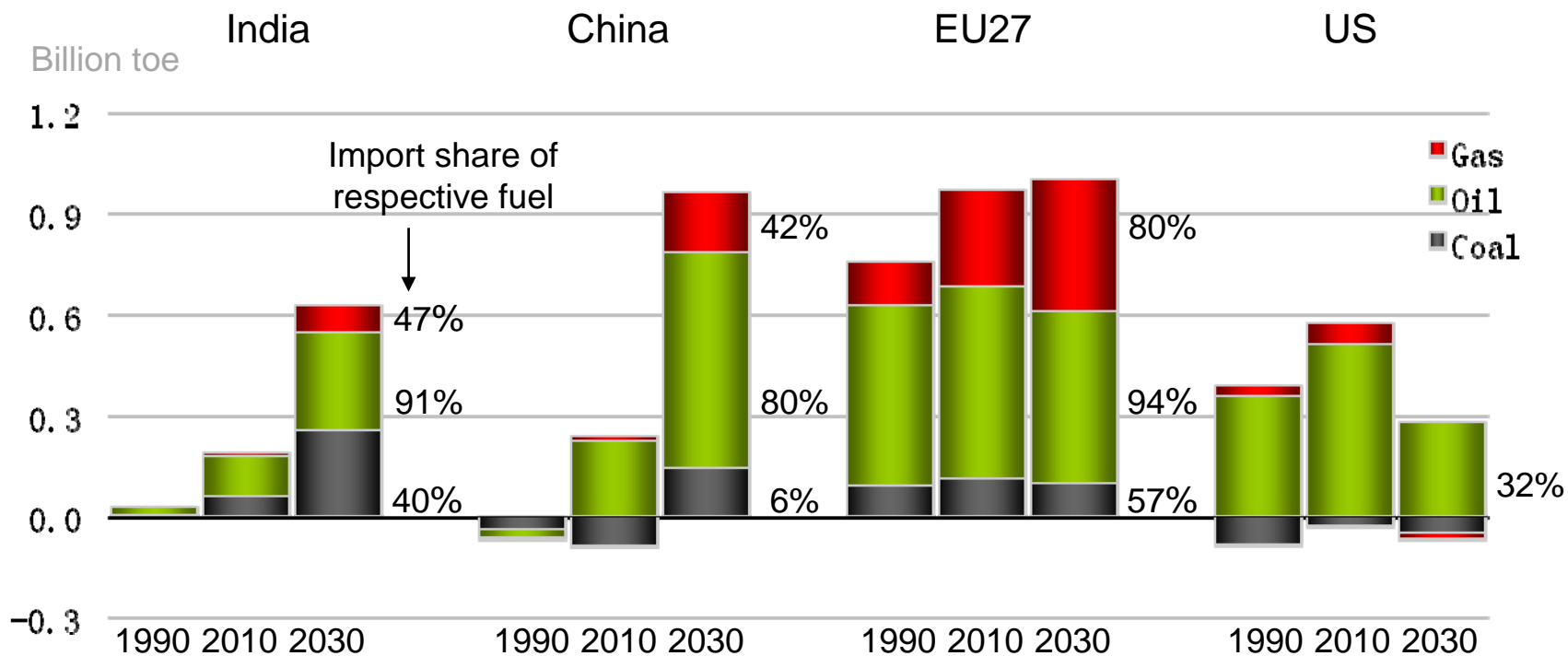
Regional energy imbalances



Source: includes data from the International Monetary Fund



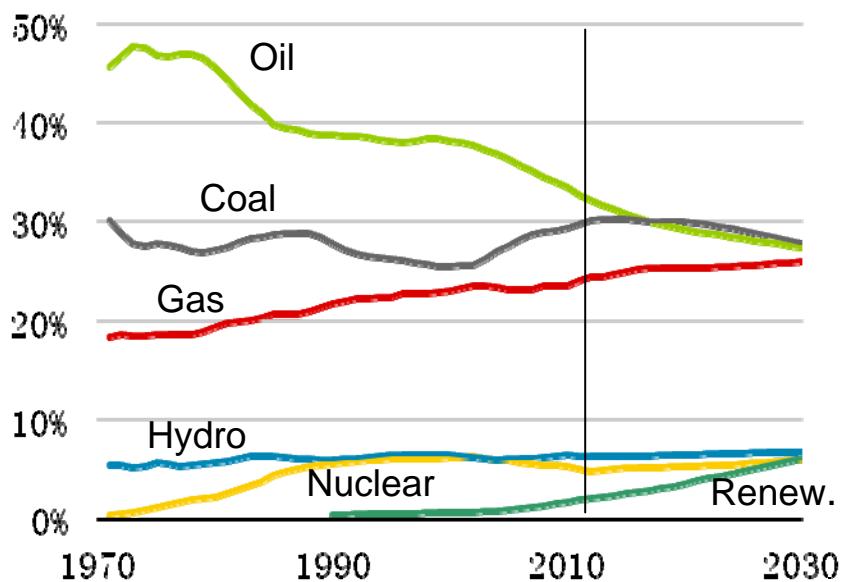
Import dependency rises in Asia and Europe



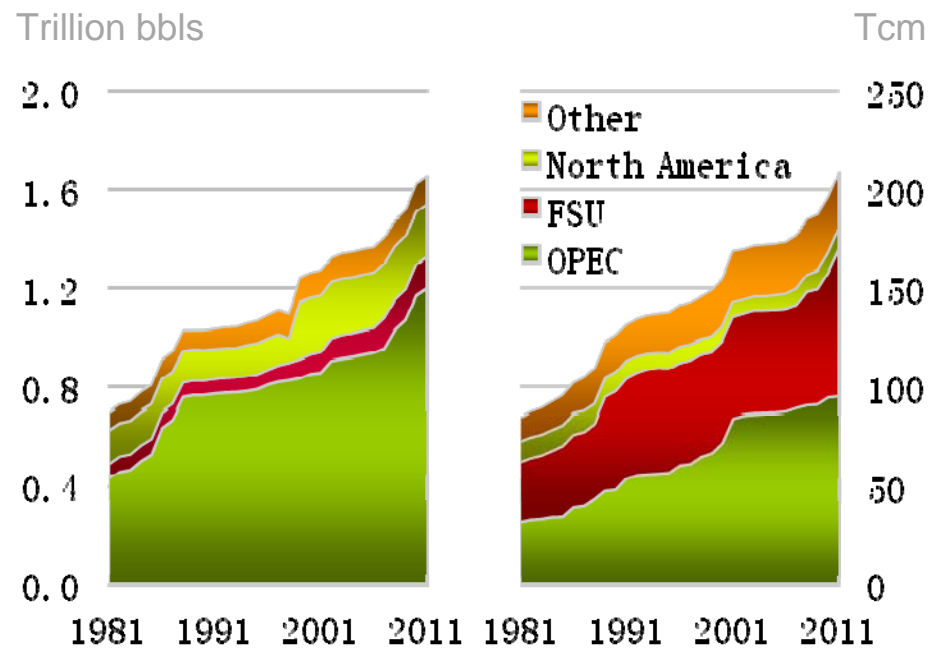


Long-term trends

Shares of world primary energy



Oil and gas reserves





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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