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Energy and commodity price benchmarking and market insights

London, Houston, Washington, New York, Portland, Calgary, Santiago, Bogota, Rio de Janeiro, Singapore, Beijing, Tokyo, Sydney, Dubai, Moscow, Astana, Kiev, Porto and Johannesburg

Illuminating the markets

European gas and global LNG

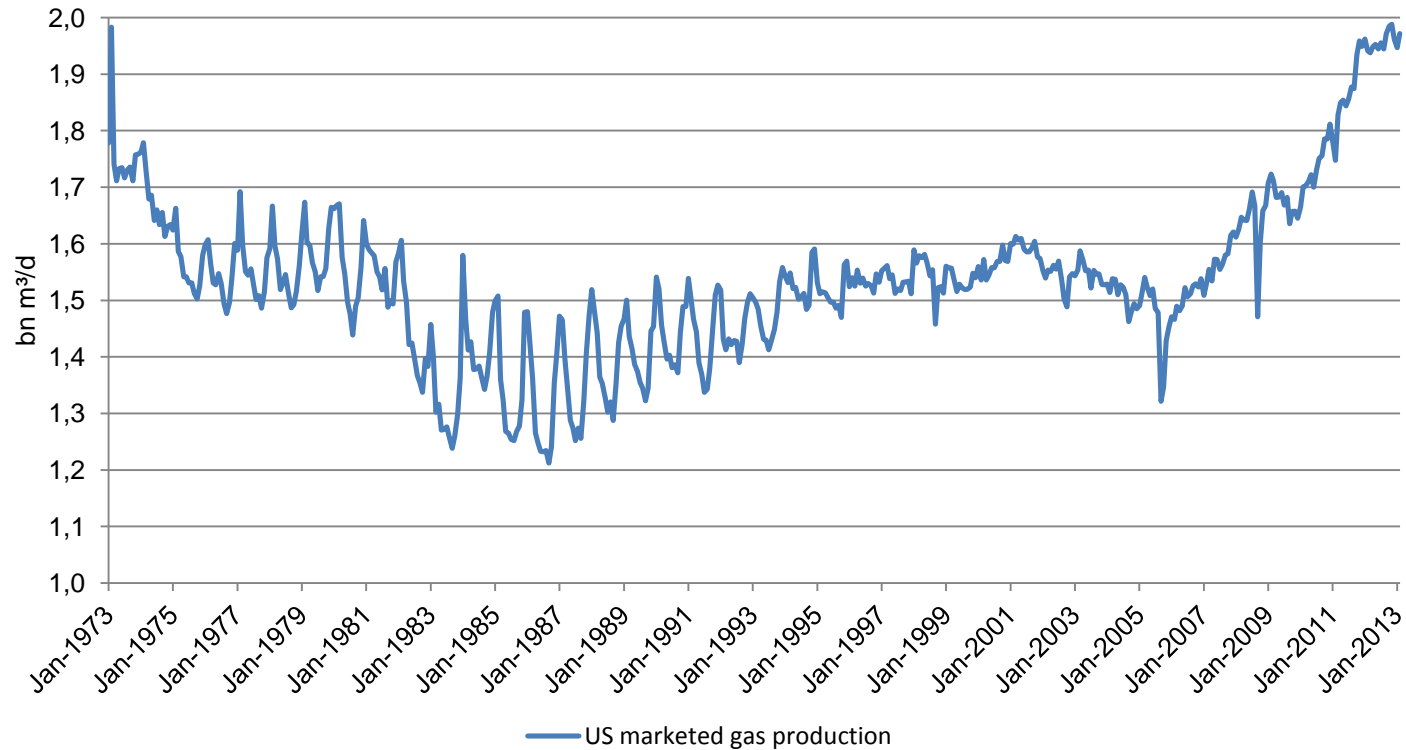
5 June 2013

IFIEC Europe — Brussels

US shale — coal now

US shale – coal now, LNG later?

Shale drives record US gas production

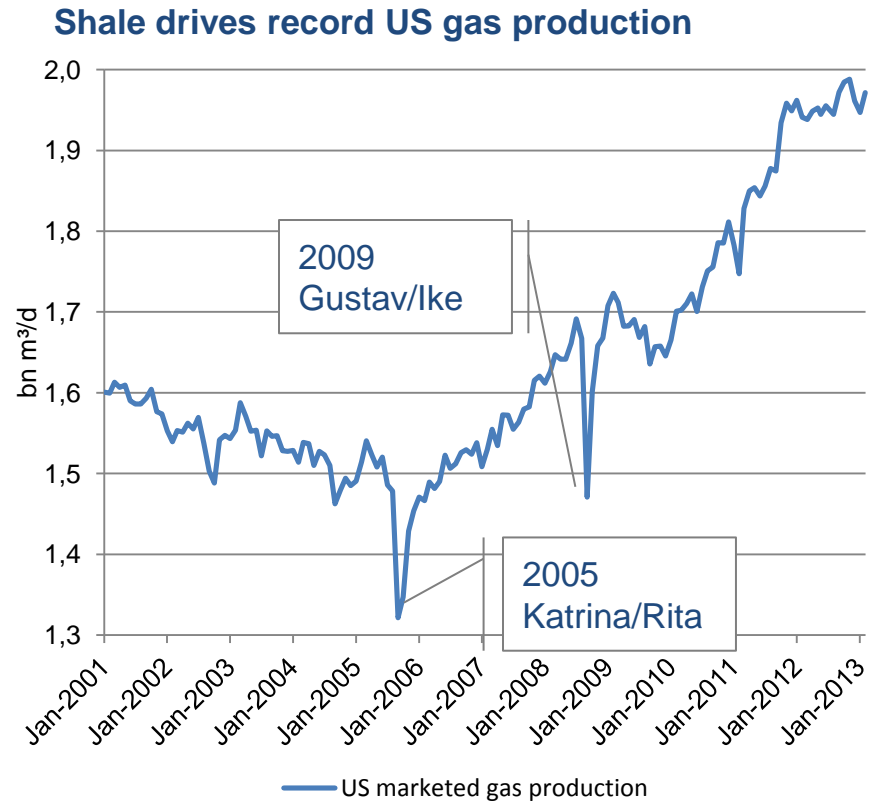


US shale – coal now, LNG later?

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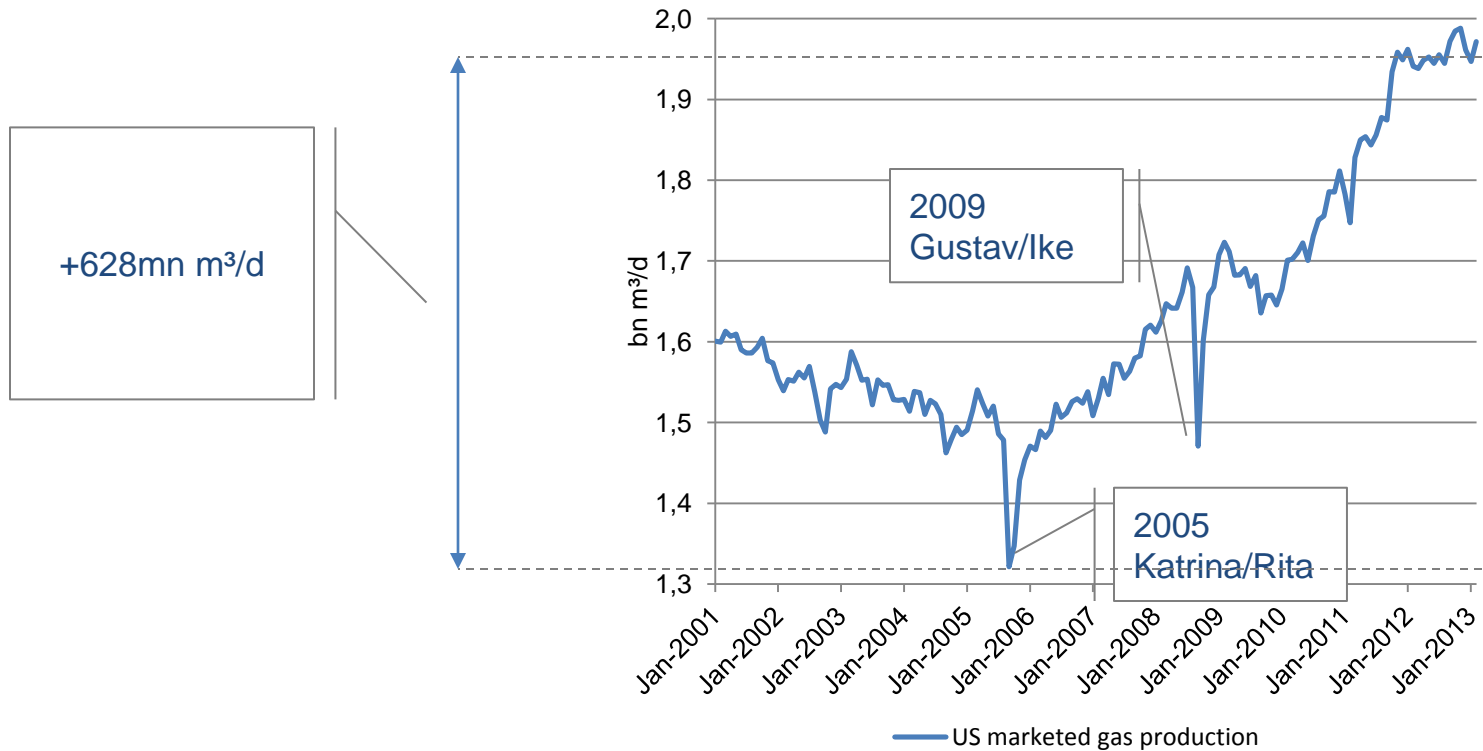


US shale – coal now, LNG later?



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Shale drives record US gas production

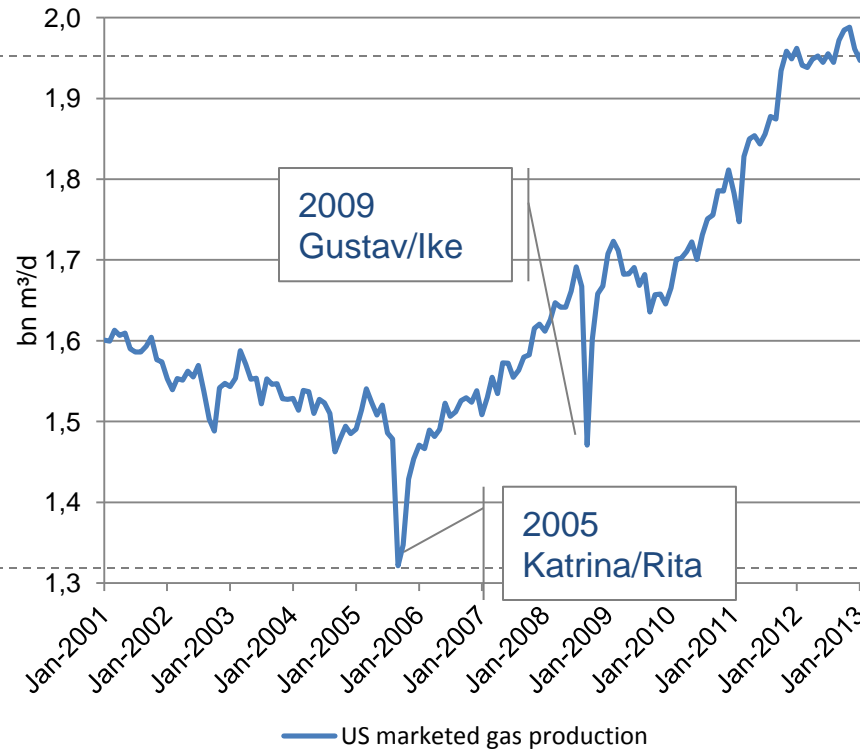


US shale – coal now, LNG later?

or + 2.6 times
UK demand
each day

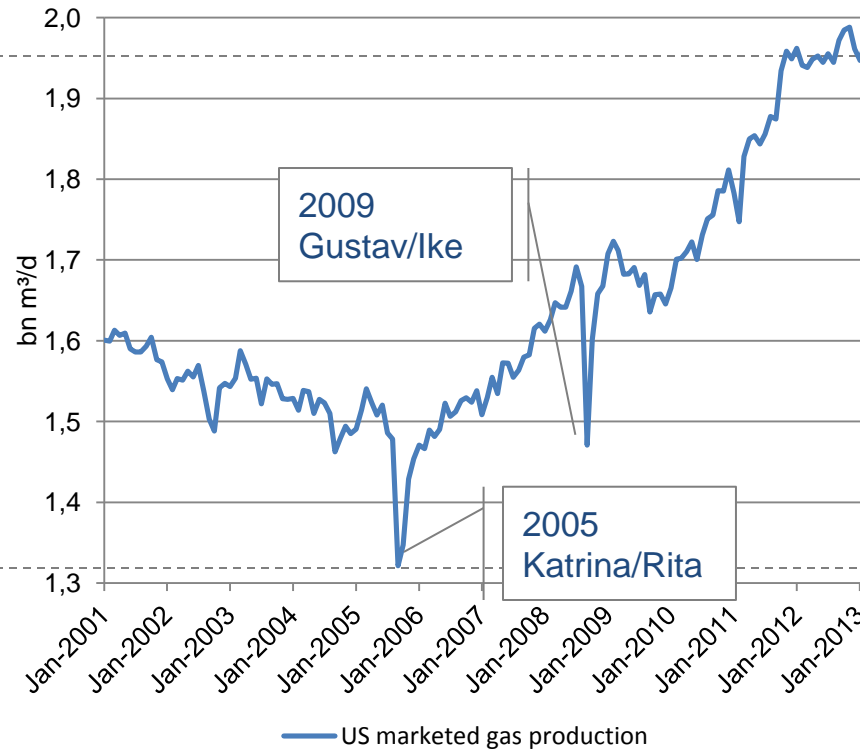


Shale drives record US gas production

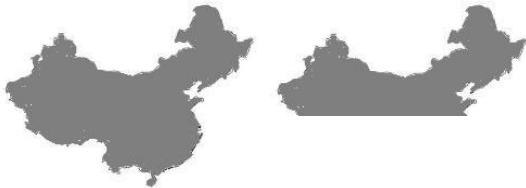


US shale – coal now, LNG later?

Shale drives record US gas production

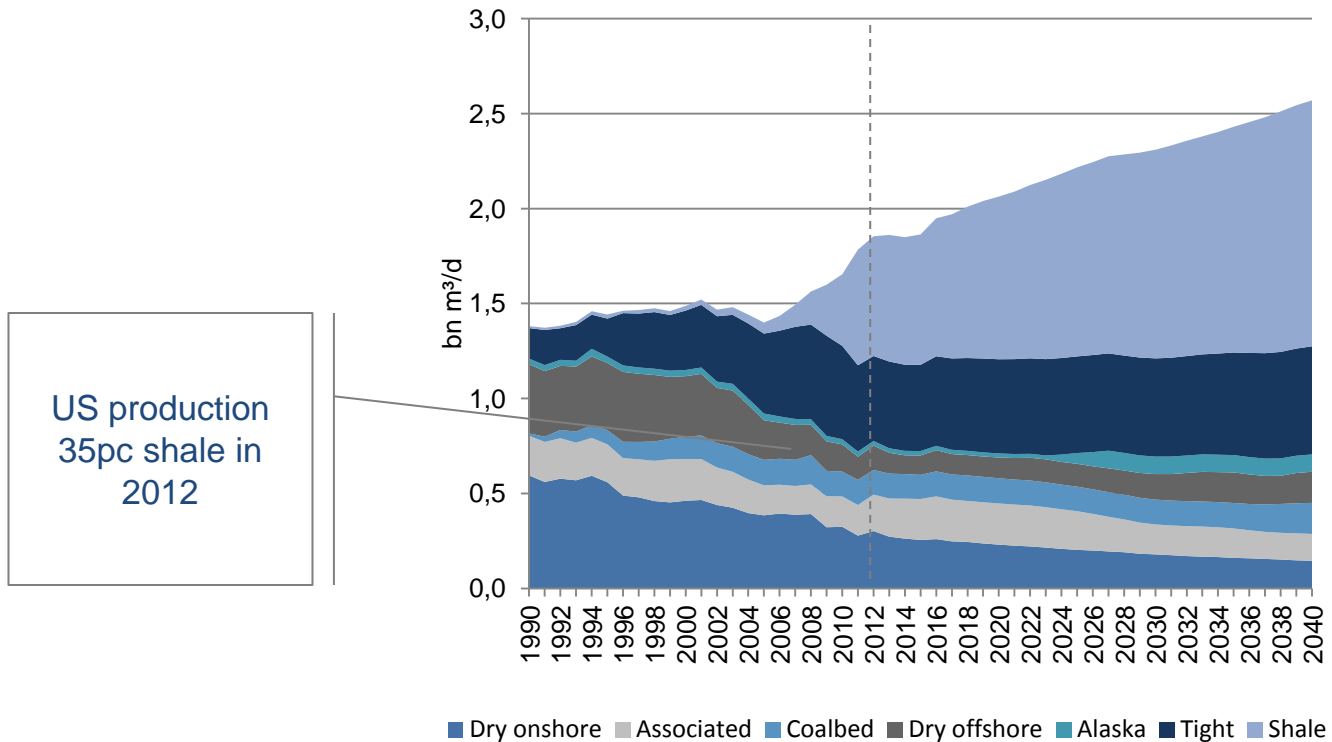


or + 1.6 times
Chinese demand
each day

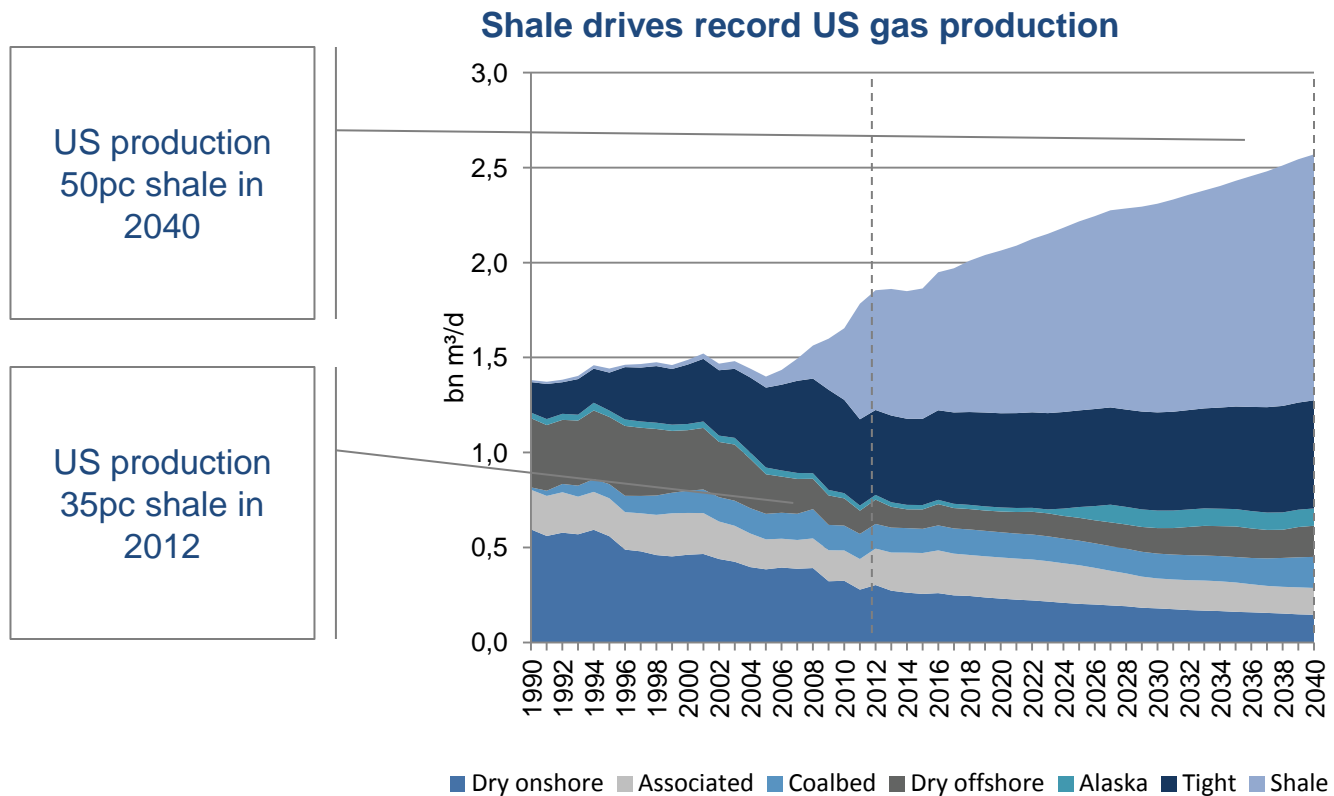


US shale – coal now, LNG later?

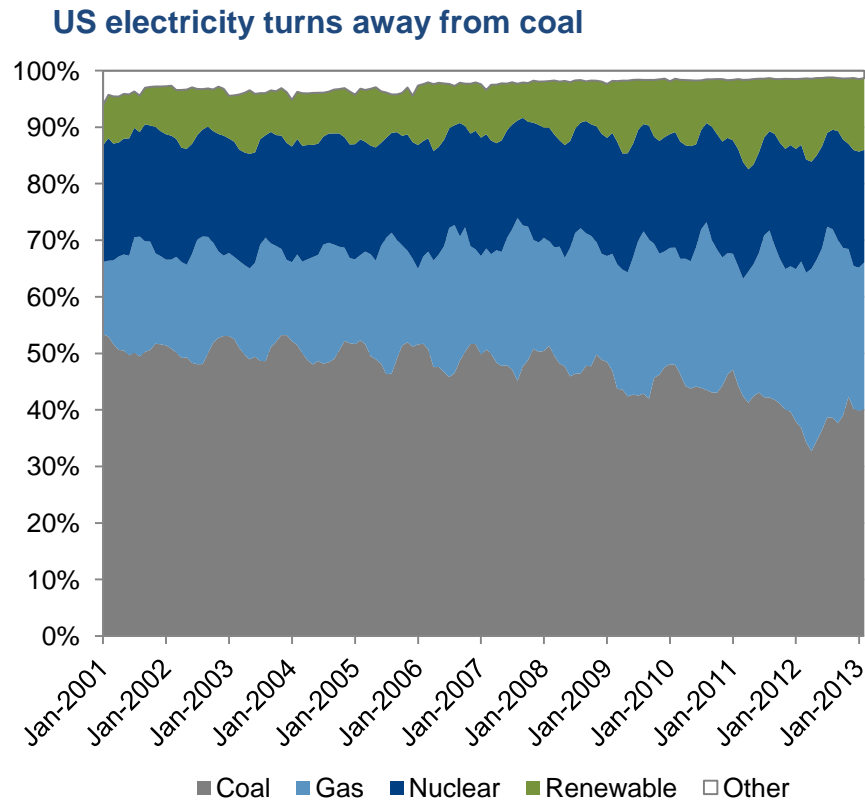
Shale drives record US gas production



US shale – coal now, LNG later?

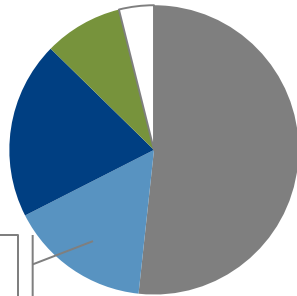


US shale — coal now



US shale – coal now

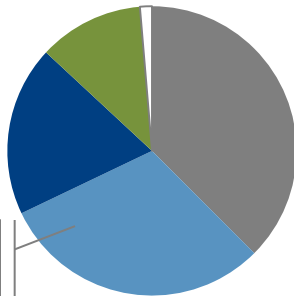
2001



16pc gas

■ Coal ■ Gas ■ Nuclear ■ renewable □ other

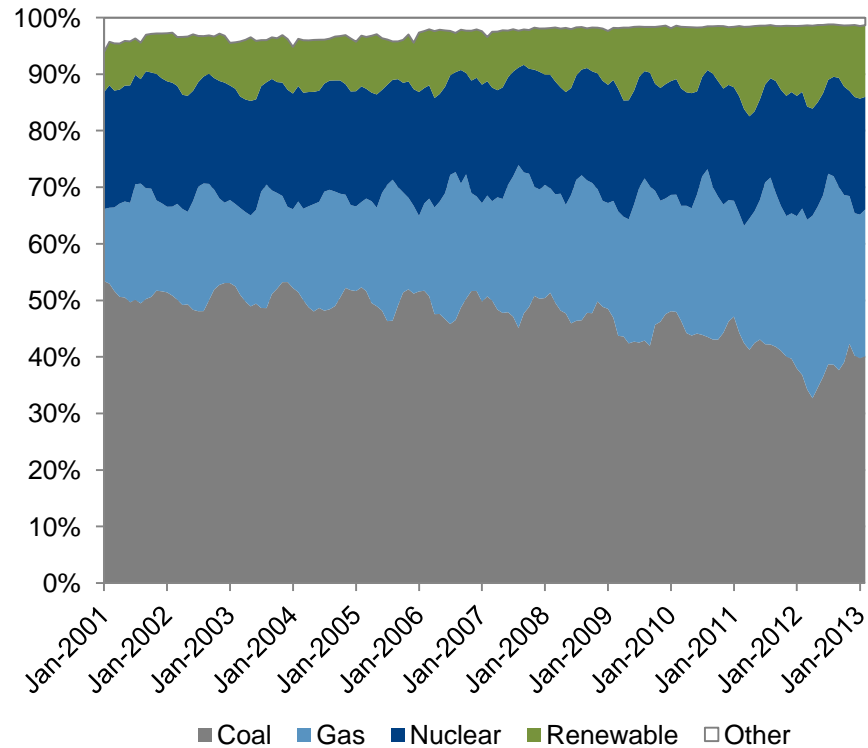
2012



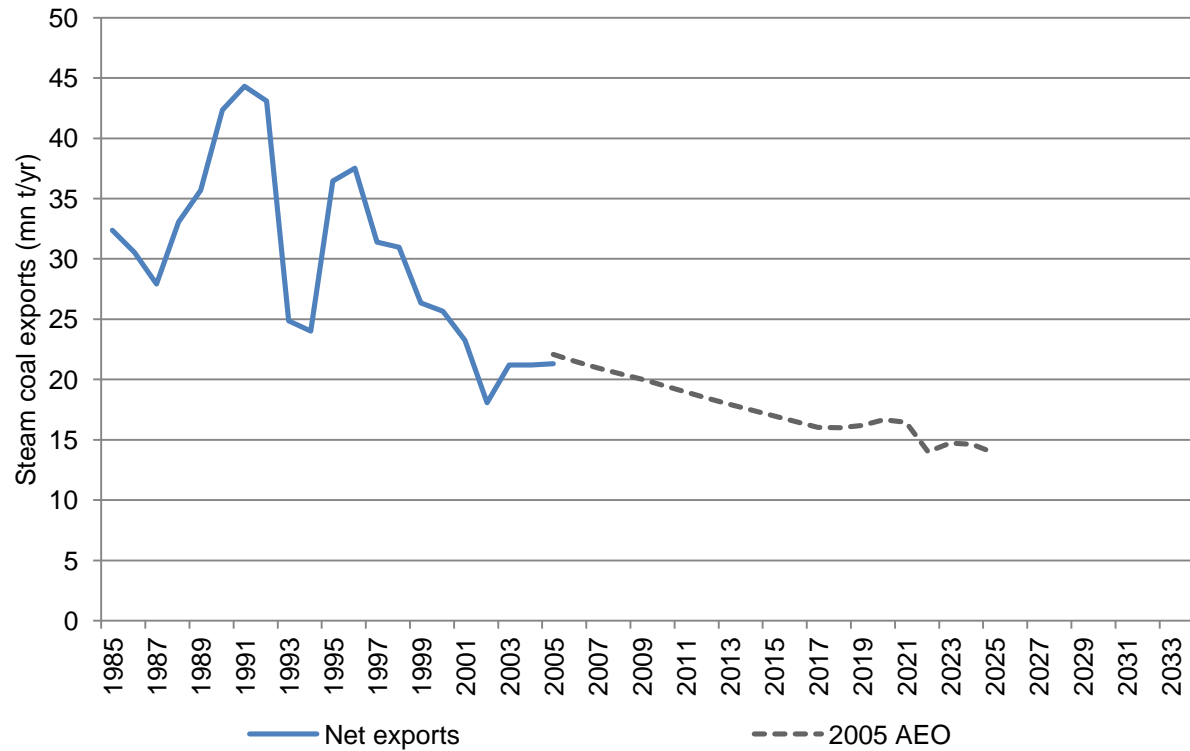
30pc gas

■ Coal ■ Gas ■ Nuclear ■ renewable □ other

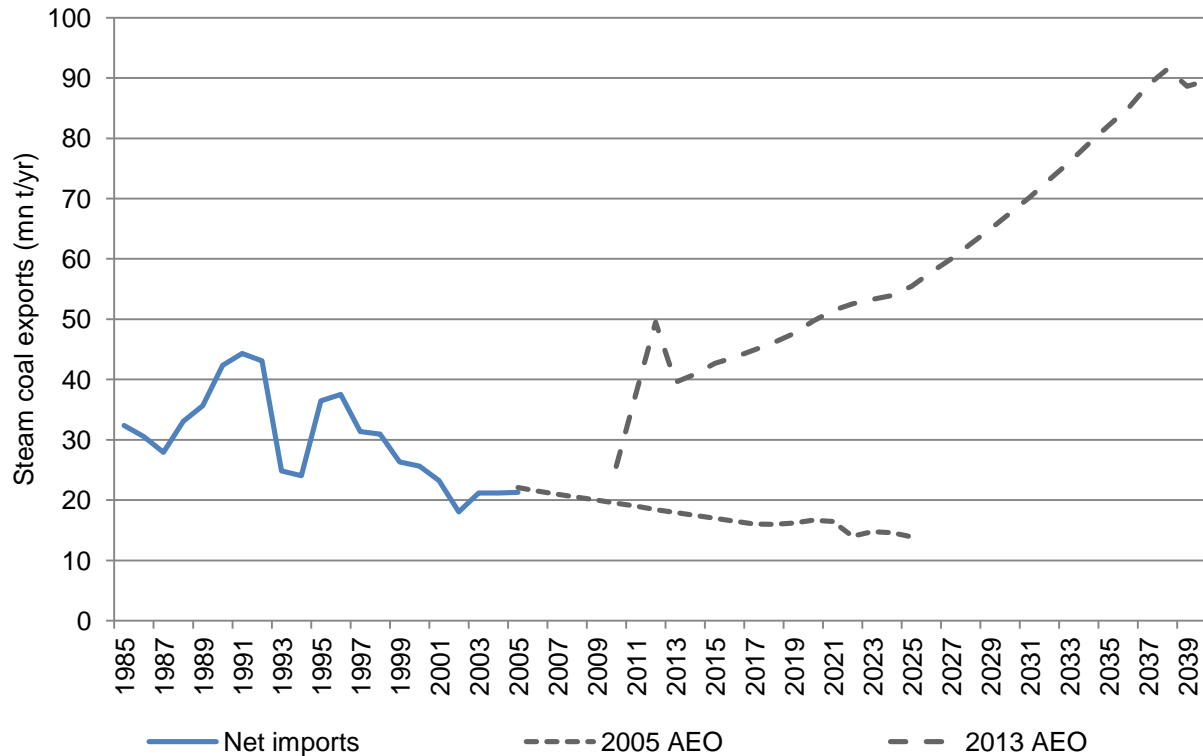
US electricity turns away from coal



US shale — coal now

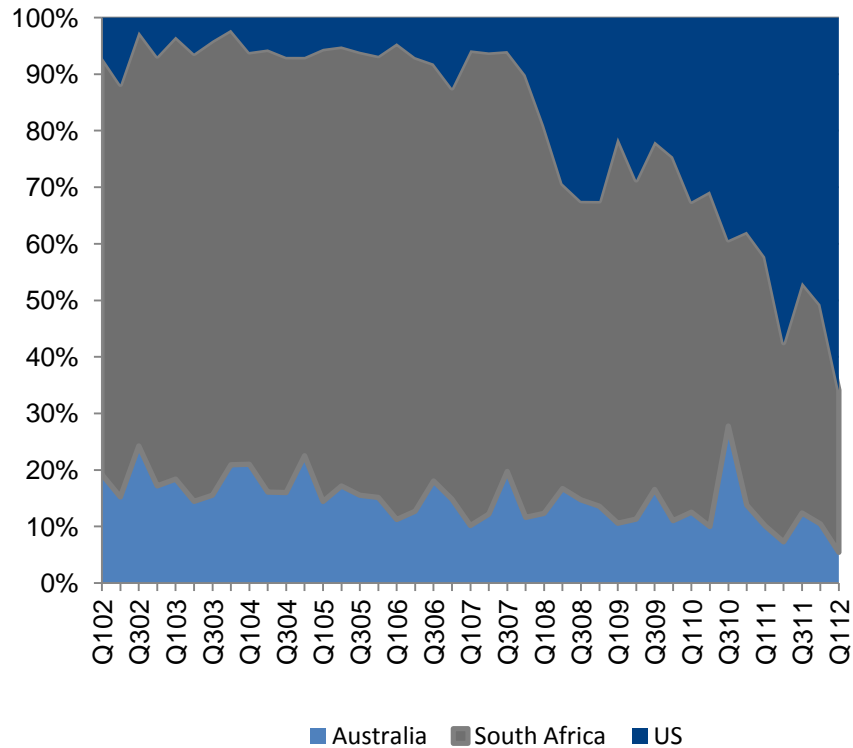


US shale – coal now



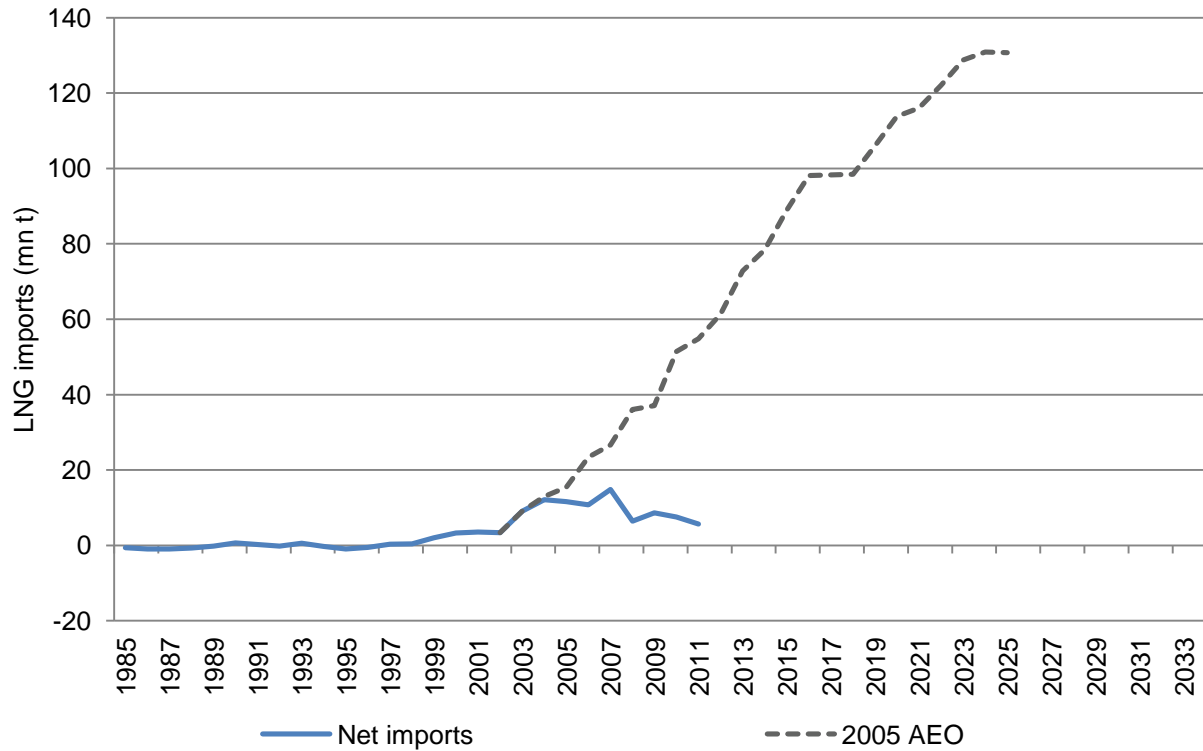
US shale – coal now

EU27 coal import balance – SA/US/AUS



US shale — LNG later?

US once on course for vast imports



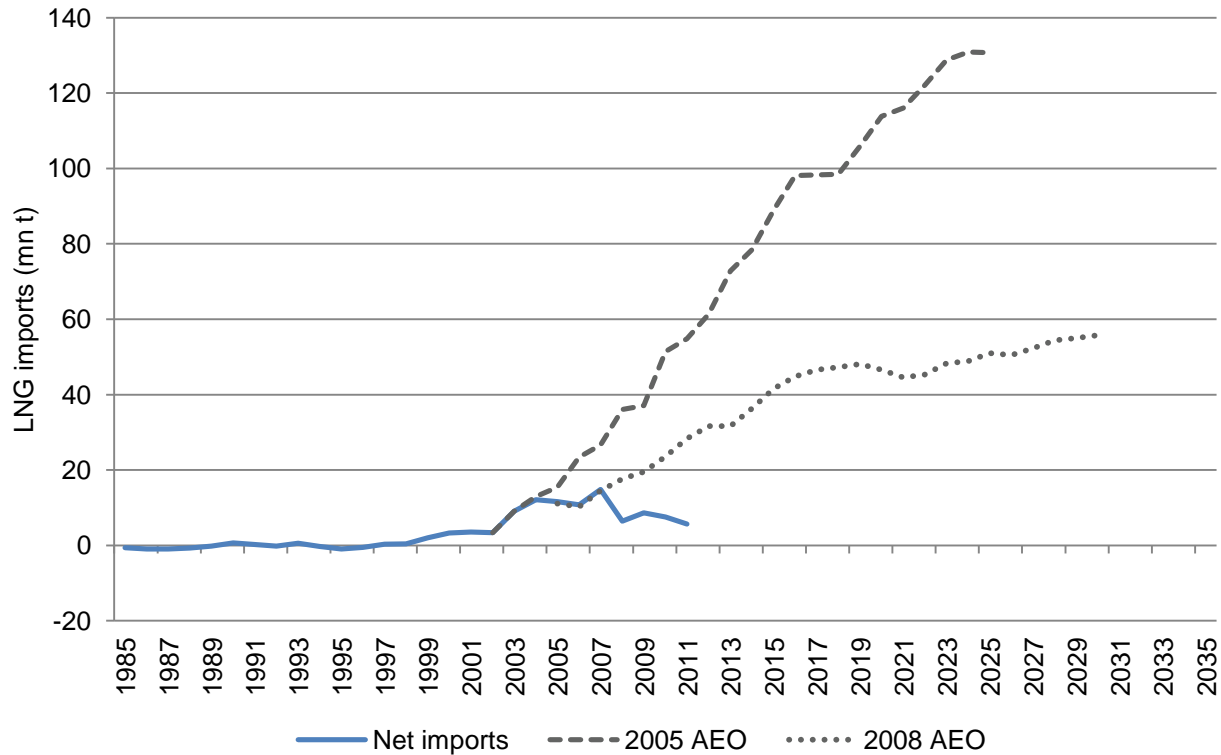
US once on course for vast imports

Planned or proposed import projects

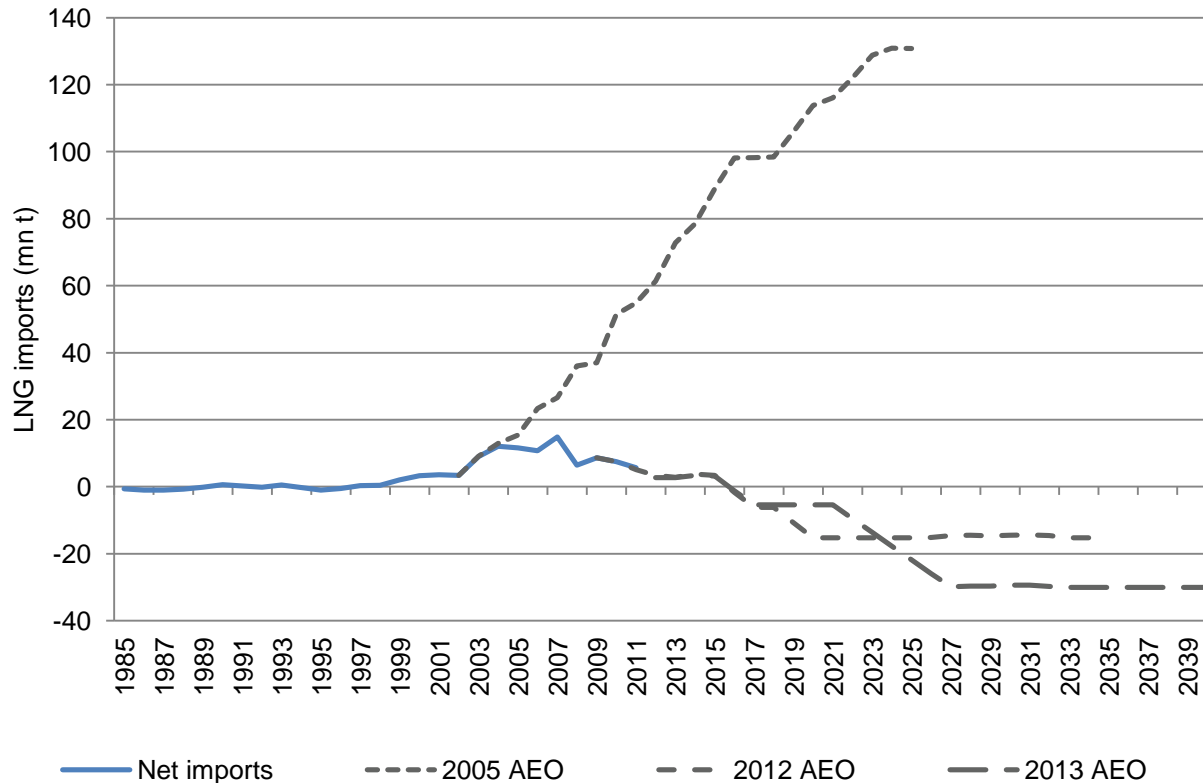


1.4bn m³/d of
sendout capacity

US once on course for vast imports



US poised for exports



US poised for exports

Planned or proposed export projects

Oregon
Oregon LNG
Jordan Cove

Maryland
Cove Point

Georgia
Elba Island

725.3mn m³/d of
liquefaction capacity

Texas
Gulf Coast
Freeport
Golden Pass
Corpus Christie
Lavaca Bay

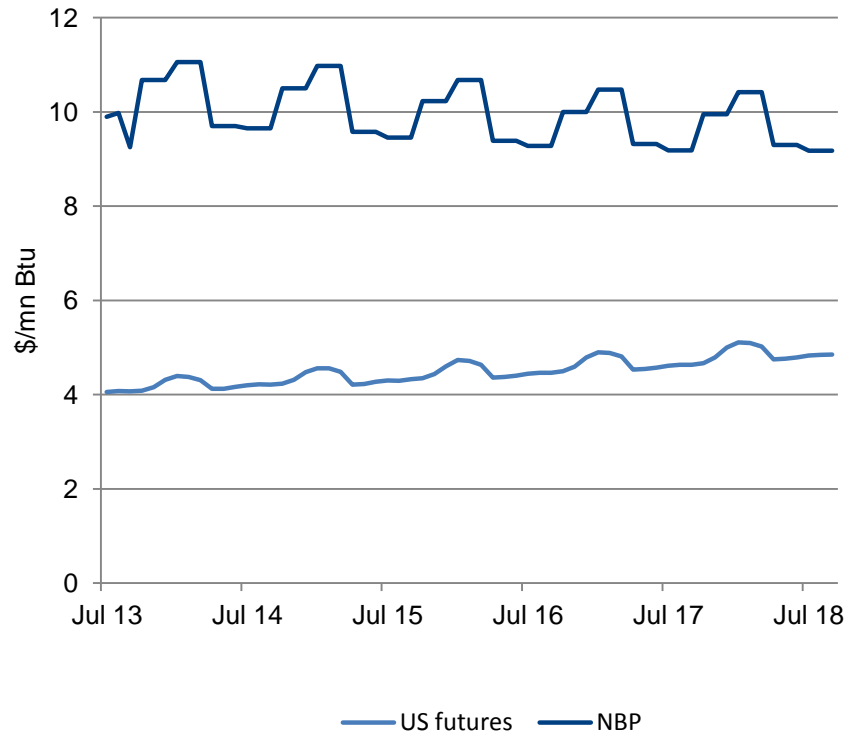
Louisiana
Main Pass
Sabine Pass
Lake Charles
Cameron

Mississippi
Gulf LNG

US LNG – exports, but at what price?

Exporting US shale, but at what price?

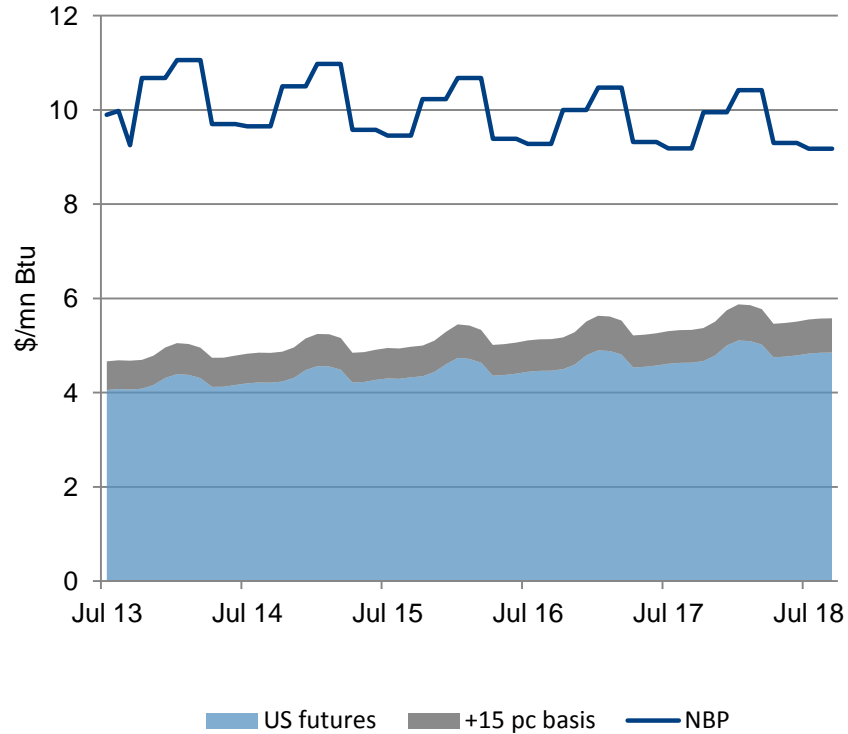
US LNG exports must compete on price



Exporting US shale, but at what price?

115pc Nymex - commodity cost

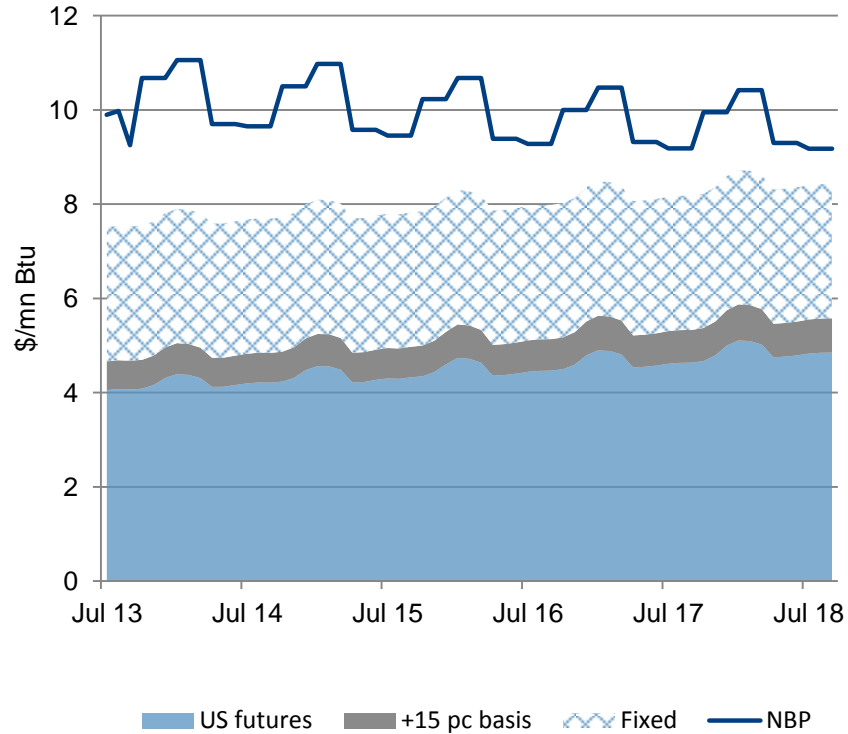
US LNG exports must compete on price



Exporting US shale, but at what price?

115pc Nymex - commodity cost
+\$2.85 fixed cost (margin)

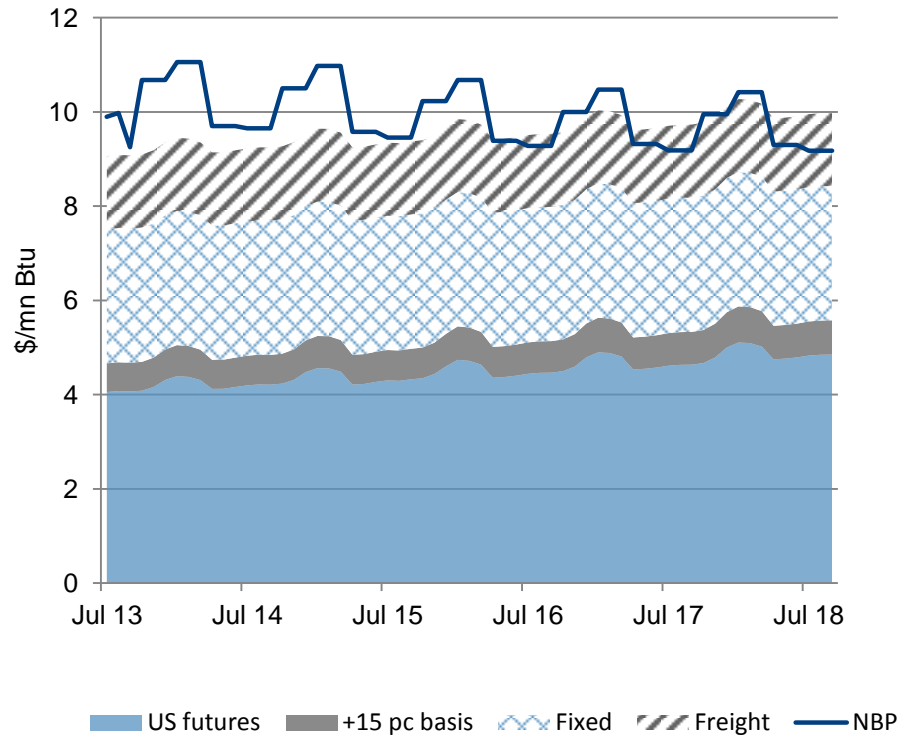
US LNG exports must compete on price



Exporting US shale, but at what price?

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+Freight

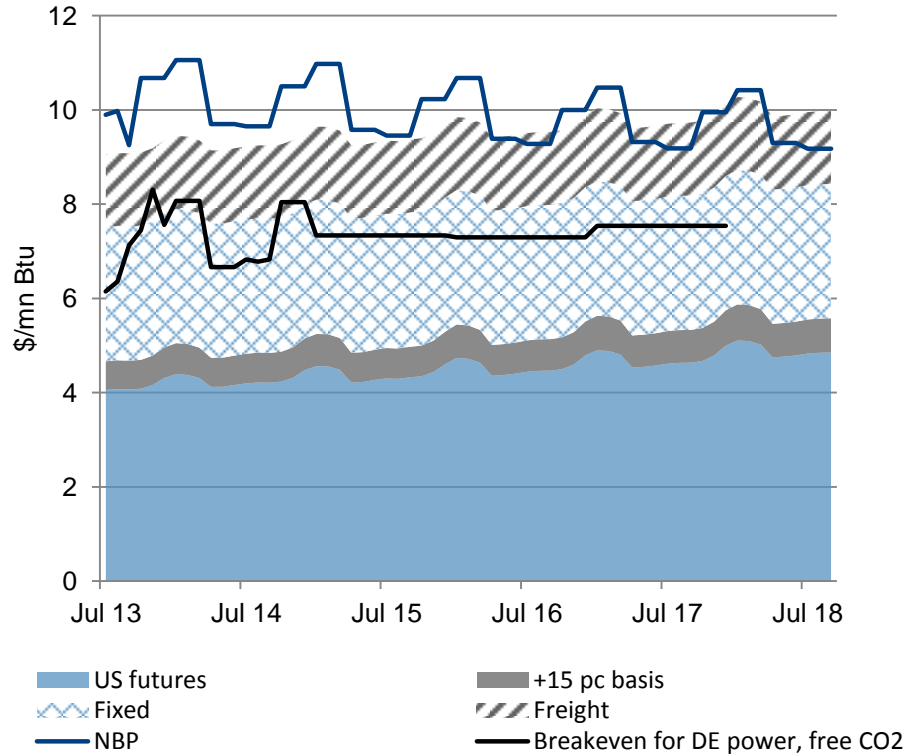
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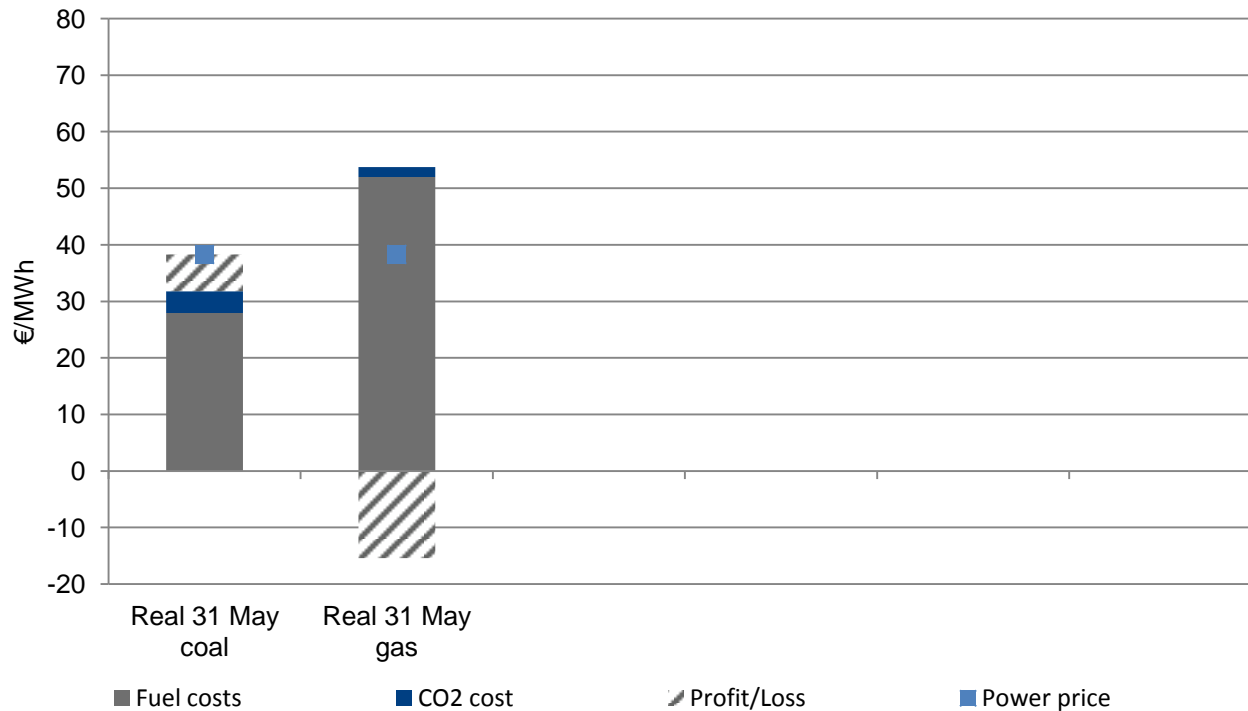
US LNG exports must compete on price



Gas prices and the power sector

Gas prices and the EU power sector

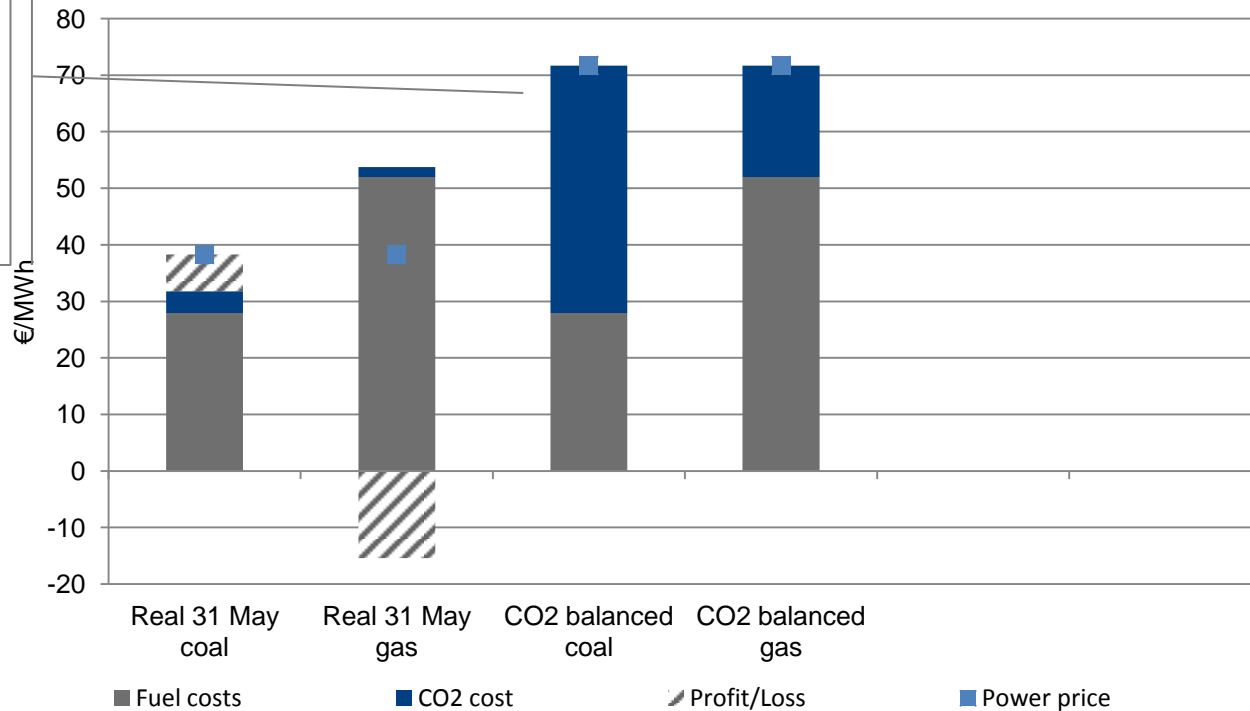
Costs and P/L scenarios 2015



Gas prices and the EU power sector

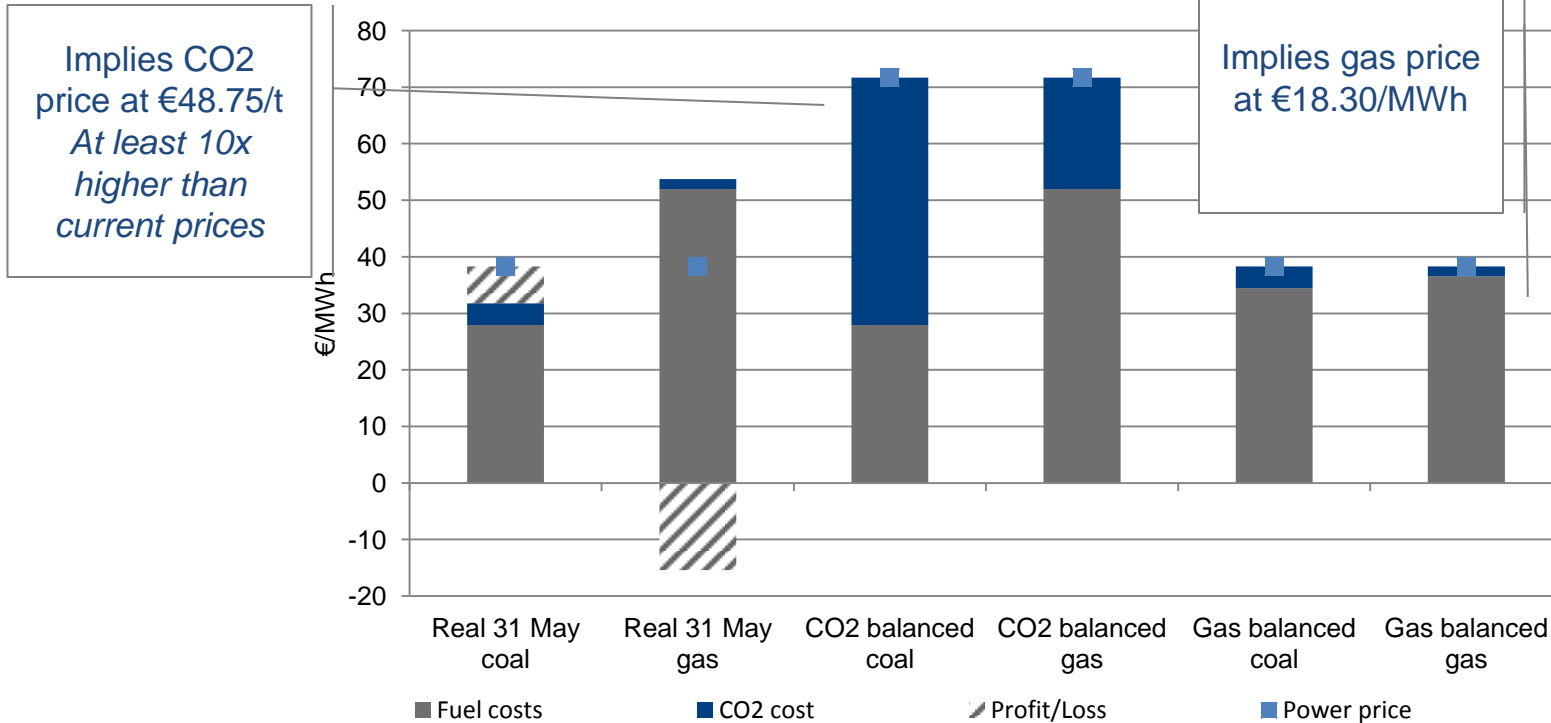
Costs and P/L scenarios 2015

Implies CO2 price at €48.75/t
At least 10x higher than current prices



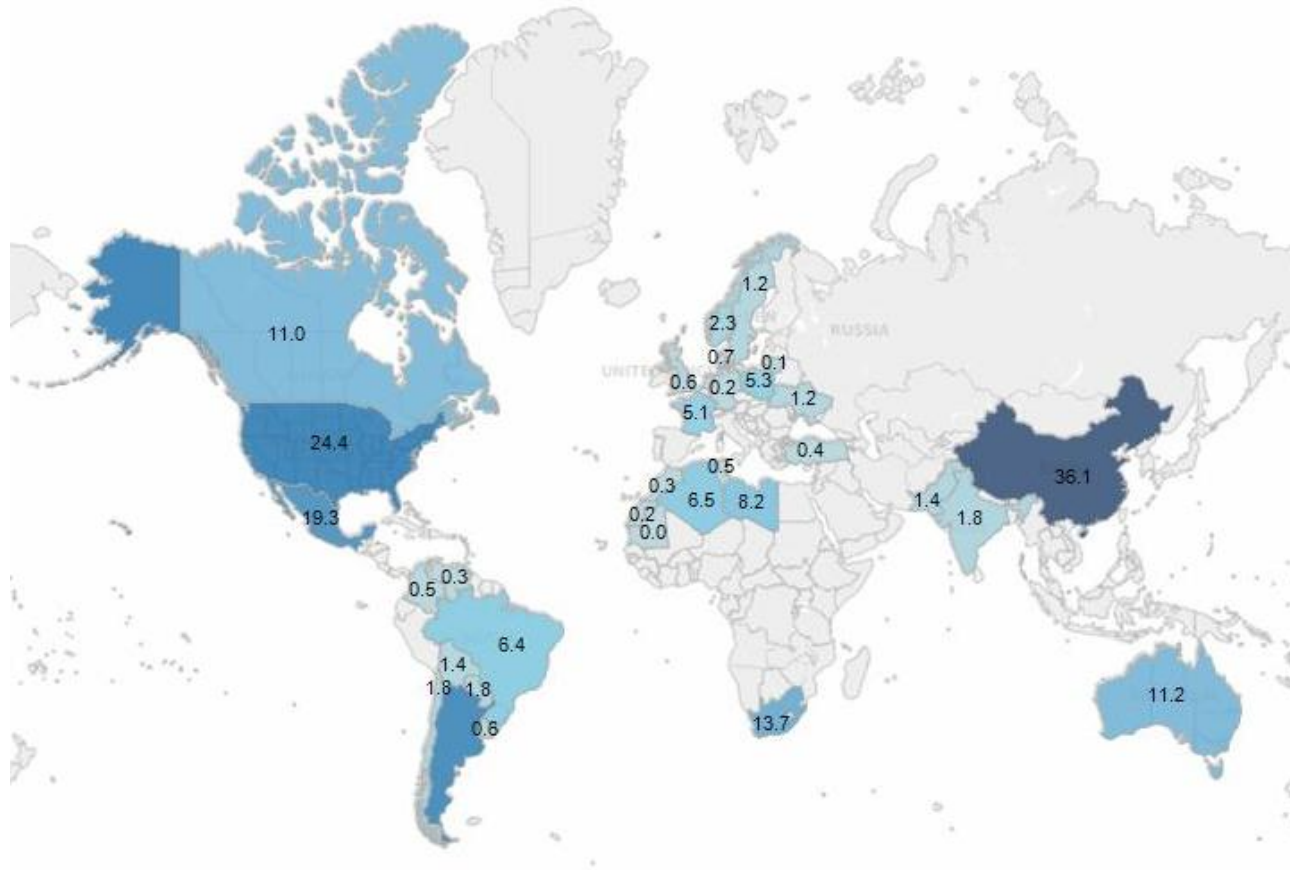
Gas prices and the EU power sector

Costs and P/L scenarios 2015



Global shale resources

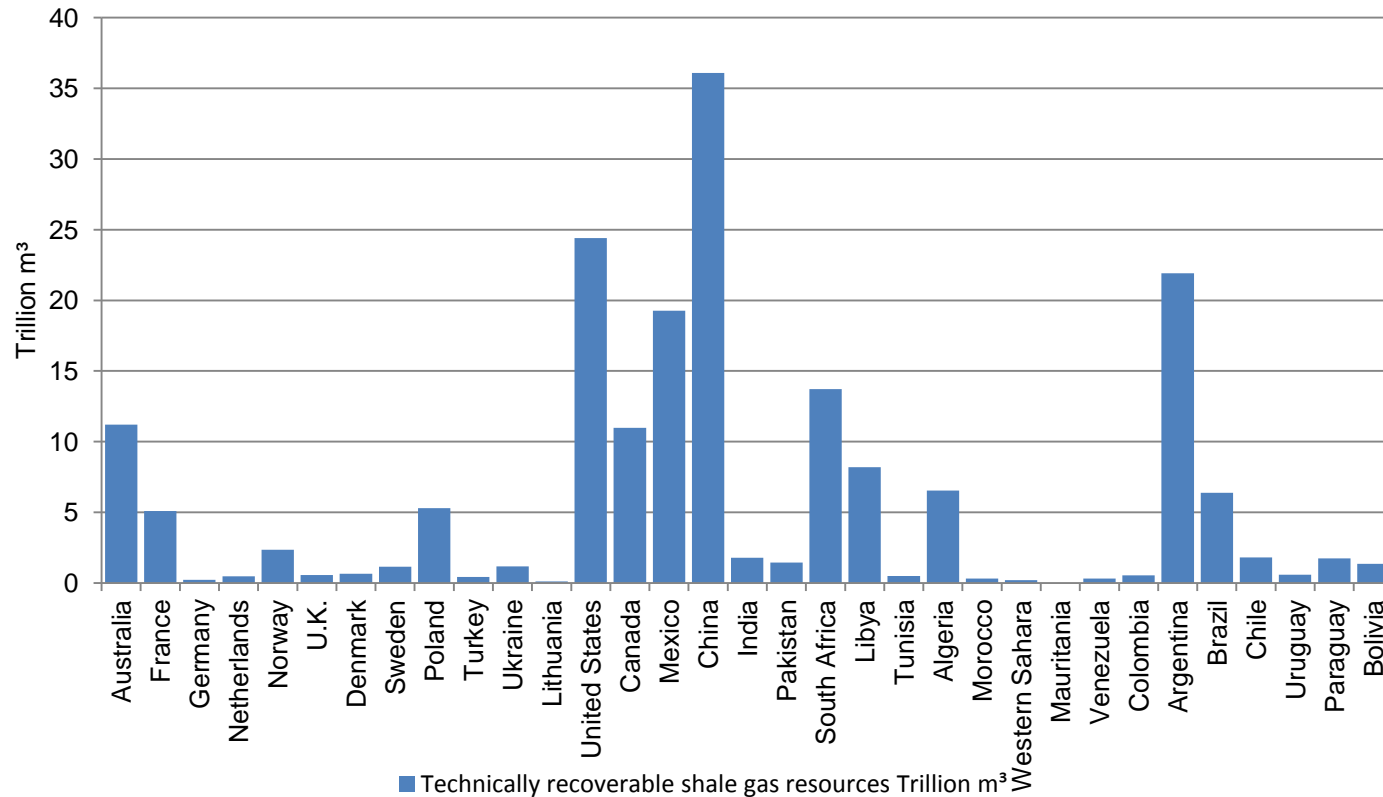
Global shale resources



Trillion m³ – EIA - April 2011

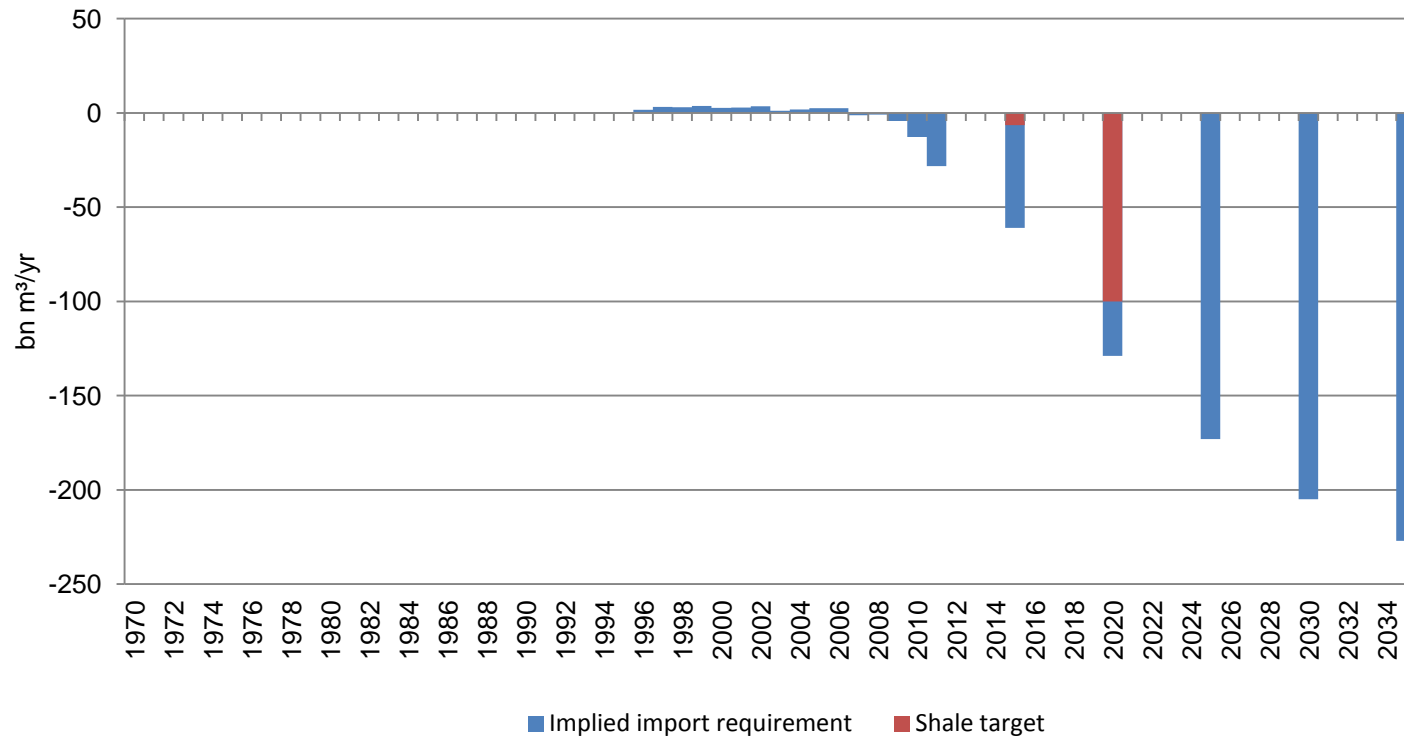
Global shale resources

Chinese resources estimated to be larger than those of the US



China will still require imports

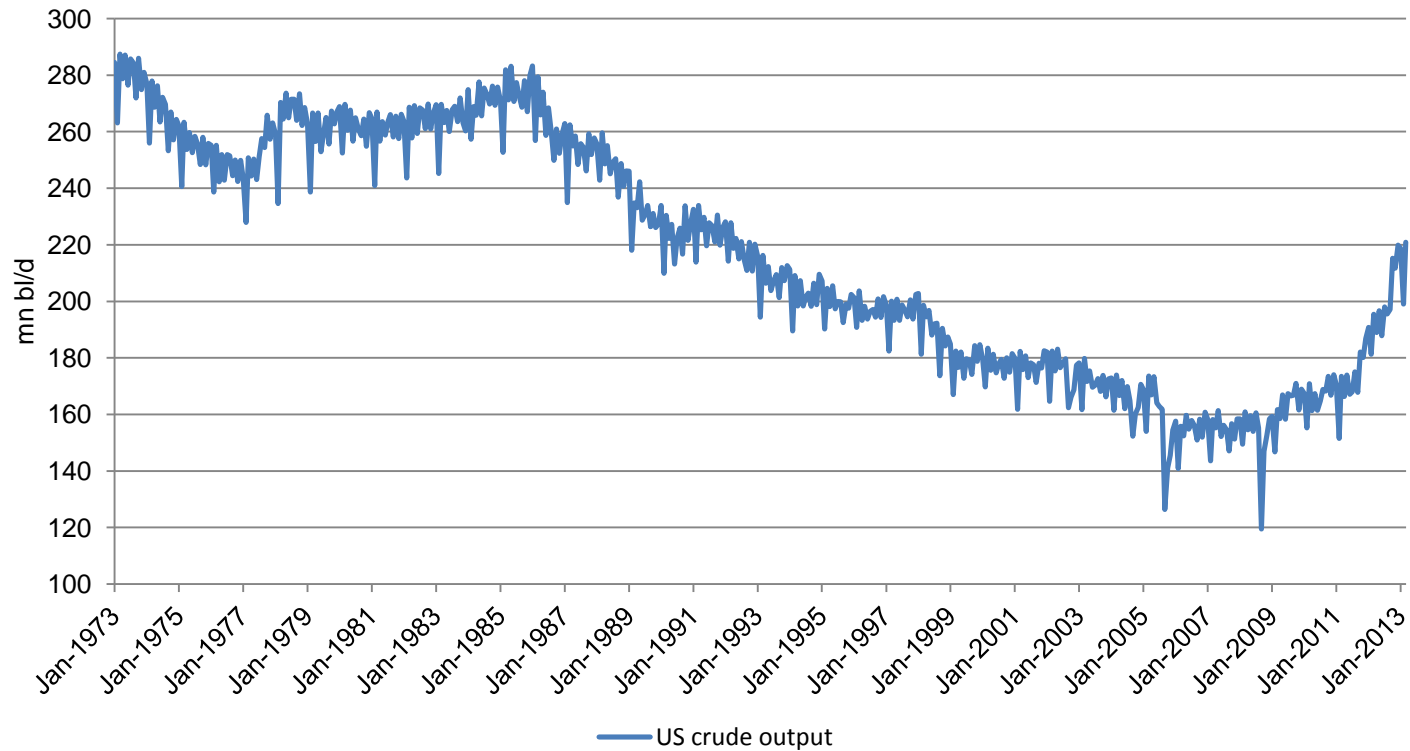
Even at target, shale still insufficient to completely close supply gap



Shale oil — more of the same?

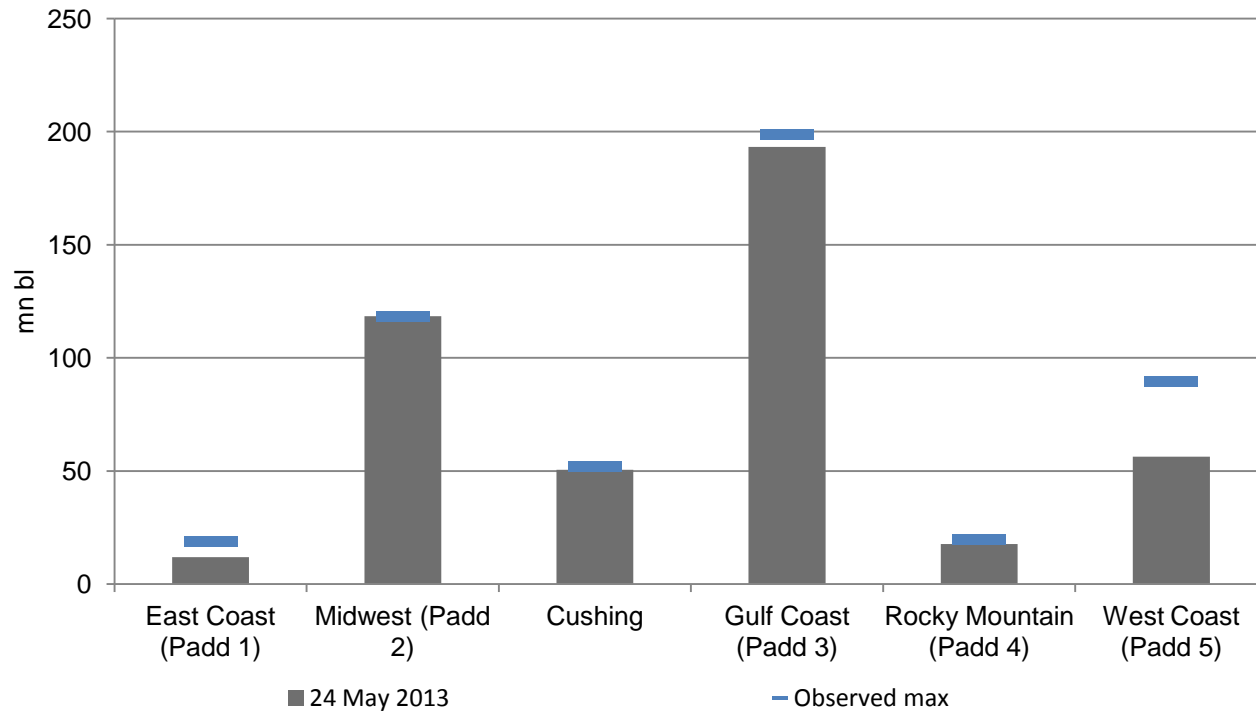
US crude production

Shale drives rebound in US oil output



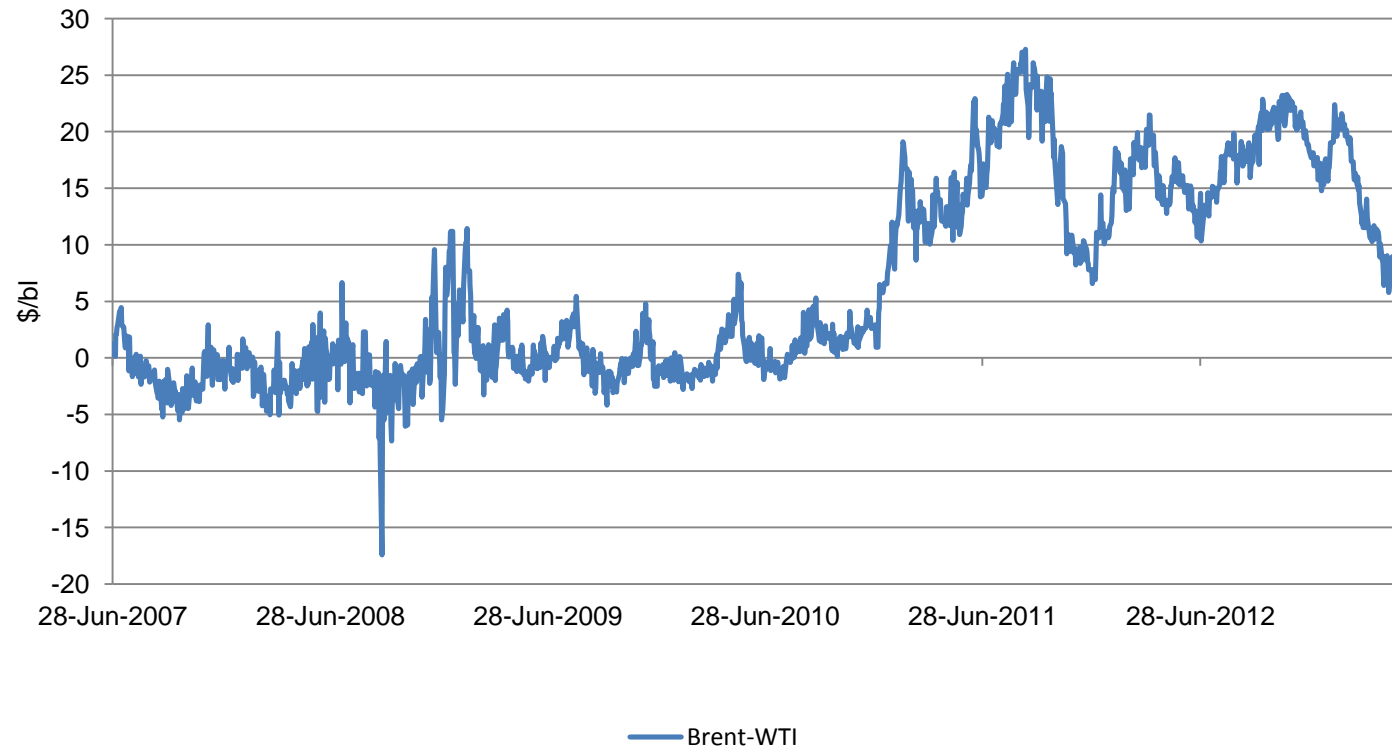
US crude stocks

Crude stocks at or near historic highs



US-North Sea price spreads

WTI v Brent



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