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How do Gas and Coal compete globally?

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# Conventional wisdom on coal to gas competition says “... ”

“...the shale gas revolution is resulting in increasing coal exports from the US, putting pressure on European coal prices”

“...EU environmental policy failure means that gas cannot compete with coal”

“... China is close to ‘peak coal’ in power”

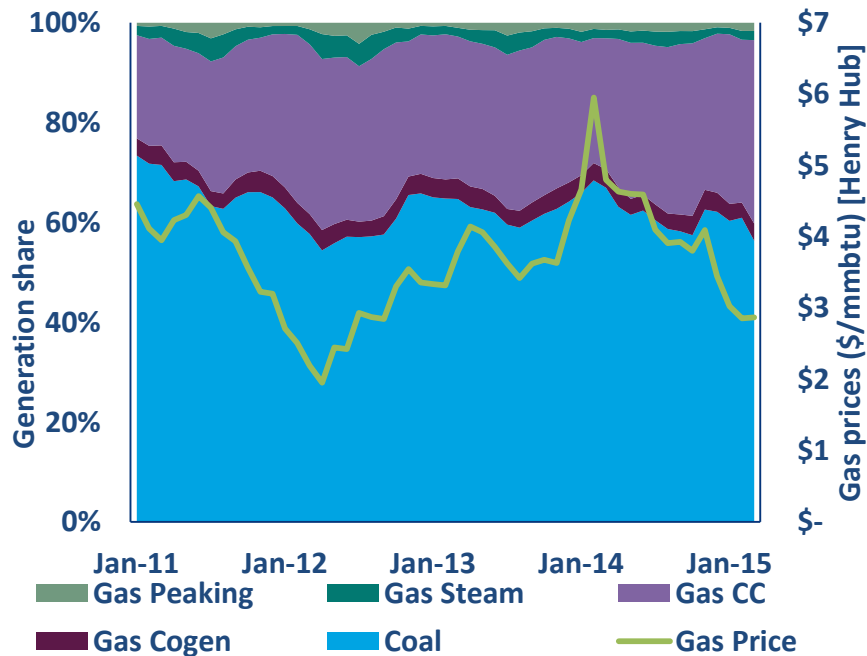
“...coal has no role in OECD Asia”

...but conventional wisdom is often proven wrong!

Source: Wood Mackenzie

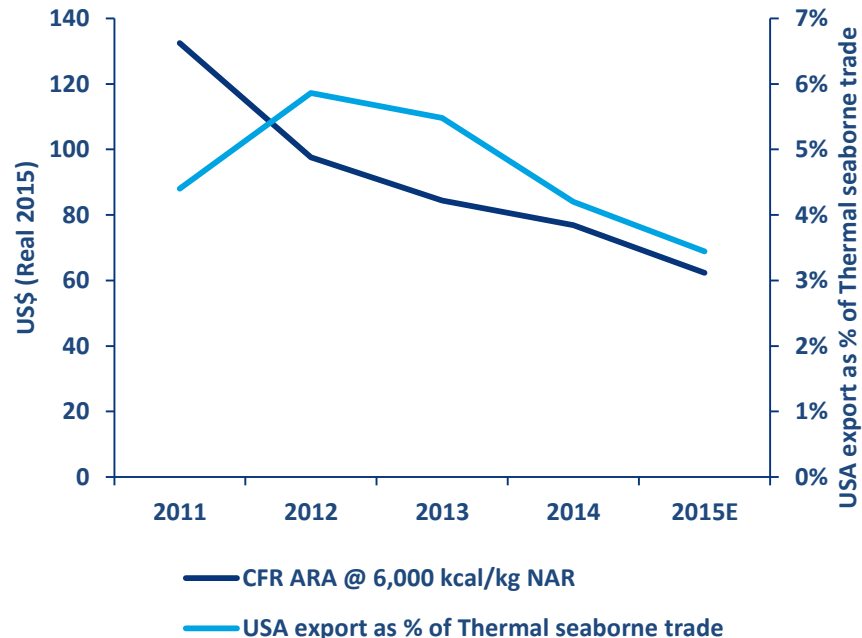
# US coal exports continue to decline in 2015 - despite US gas prices falling below US\$3/mmbtu

## US historical coal and gas generation



Source: Wood Mackenzie Americas Power and Renewables Research, EPA, SNL Prices

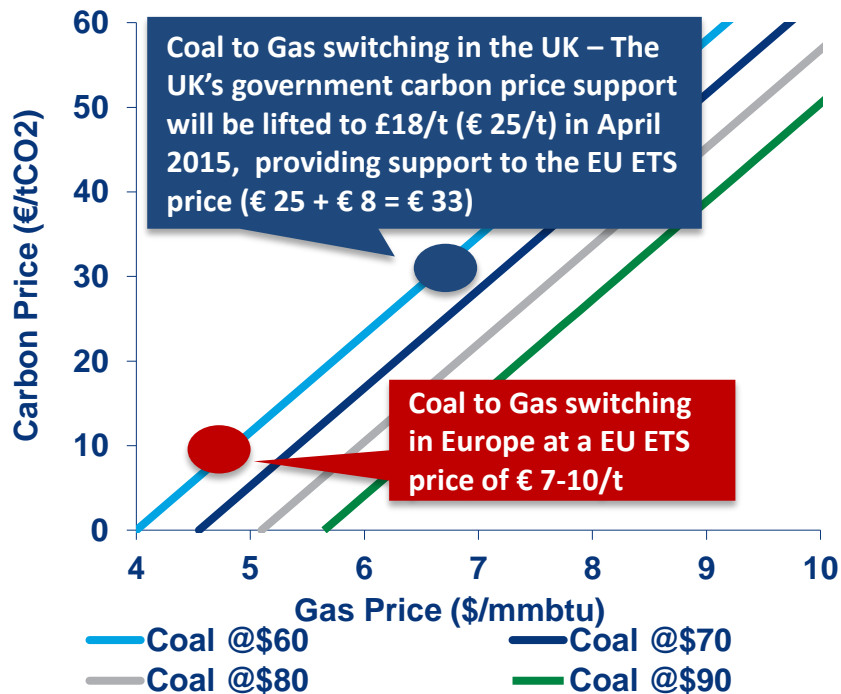
## US coal exports and CFR ARA coal price



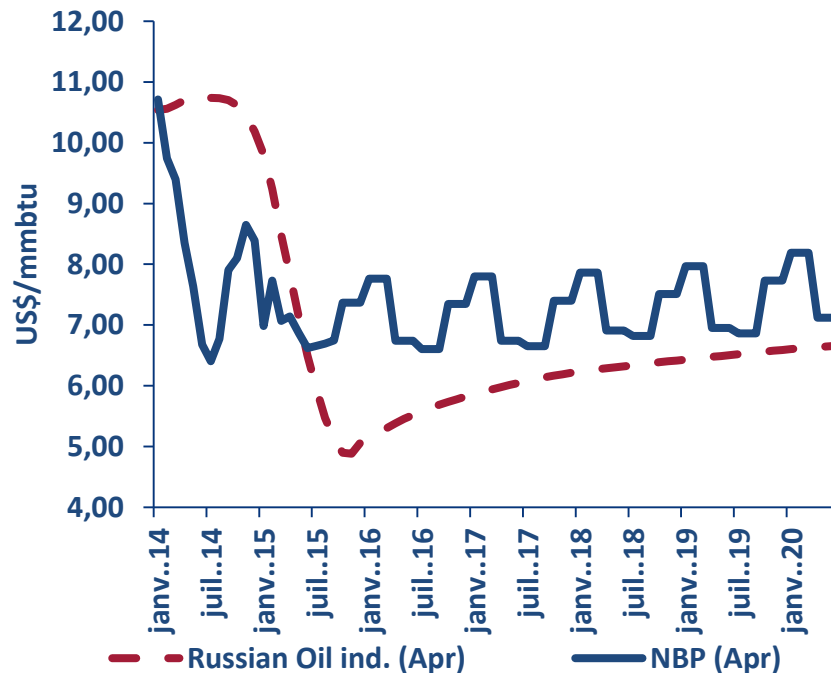
Source: Wood Mackenzie Global Thermal Coal Research

# A carbon tax in the UK is resulting in coal to gas switching potential – sustaining European spot prices above oil indexed contracts

## Carbon prices and costs

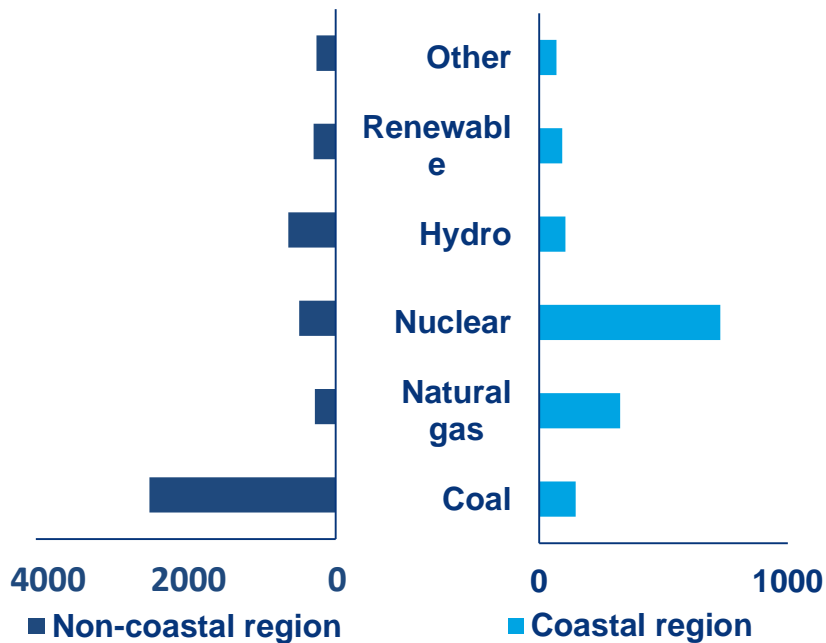


## Oil indexed prices and NBP (Forward April 2015)

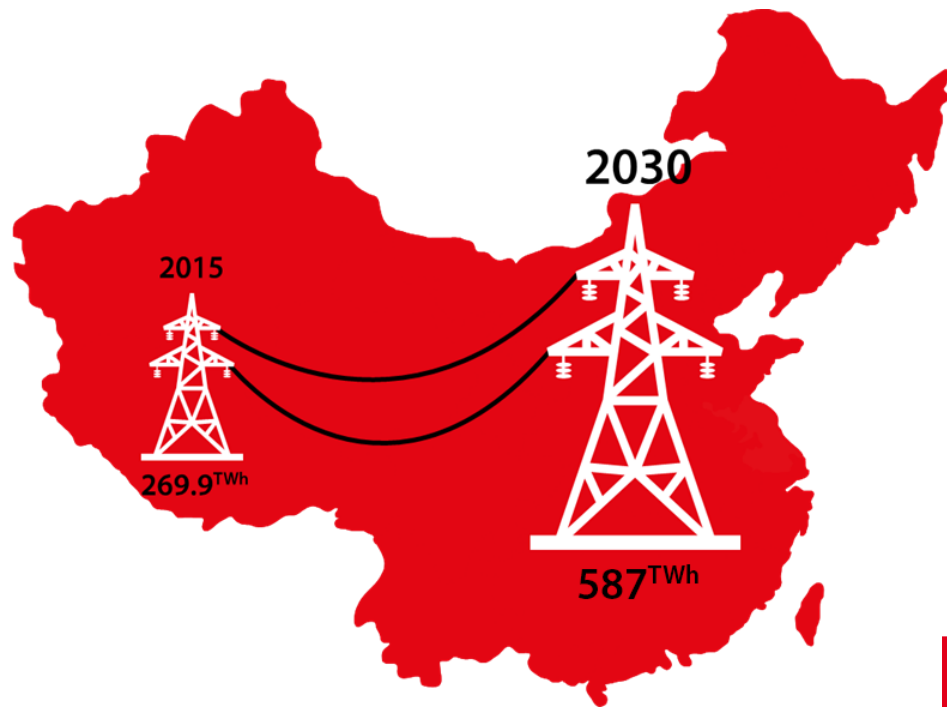


# Lower Asian gas prices offer potential for more competition with coal - but in China imported gas will compete with coal from the West...

## Change in power generation 2015-2030 (TWh)



## Coal-fired power transmission from inland to coast



# ...and a coal renaissance in JKT. Carbon support necessary to support wider gas adoption



Source: Wood Mackenzie Global Gas Research

# What should we expect going forward?

- ◆ Upcoming US LNG exports will put further pressure on global gas prices
- ◆ Coal to gas switching in the UK - a matter of time
- ◆ Could low gas prices support introduction of carbon price mechanisms in Asia?

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