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Energy and commodity price benchmarking and market insights


illuminating the markets

Market Reporting
Consulting
Events
Gas and coal competition in the power markets from a long-term sustainability perspective

Overview of trends and policies

Paris, 30th October 2014
General wisdom

• Coal is dirty but cheap

• Gas is clean(er) but expensive
Coal is inexpensive...
...relative to European and Asian gas...
...but not so clear-cut compared to US gas
The US is an exception globally

- Gas has competed successfully with coal in recent years largely without a CO2 reduction incentive system — although other Nox and SO2 legislation is helpful to gas.
- The US shale gas revolution may not be replicable anywhere in the world ... but it might (the energy industry is a notoriously bad predictor of the future).
- It would make logical sense for the US, with its cheap domestic gas, to push aggressively for a binding global CO2 deal.
Europe
Where we are in Europe politically?

- **UK**
  - Technology neutral capacity market from 2018-19; first auctions this year
  - But CfDs favour renewables and nuclear (at very high cost)
  - Carbon levy promotes gas over coal

- **Germany**
  - Government producing a green paper on a capacity market
  - Want any capacity market to be supra-national
  - Nuclear banned; enthusiasm for supporting renewables has waned
  - No discrimination between gas and coal

- **France**
  - Capacity market launching imminently; likely to be in operation 2016-17
  - Long-term planning favours renewables and nuclear

- **Netherlands**
  - Has a coal tax which favours gas over (old) coal
A reminder from the UK past...

Gross spark spread (55pc)  Gross dark spread (38pc)
...an interesting summer in Germany...
...and in the UK

spark spread day-ahead (55pc)  dark spread day-ahead (38pc)
Is imported coal cheaper than European gas?

Erik Johnsen, Norwegian Ministry of Petroleum and Energy — “Ormen Lange is very profitable; the southern Norwegian North Sea fields are very, very profitable”
Russian gas costs are uncertain

• Production cost estimates vary from $0.50/mn Btu up to around $3/mn Btu for new, remote fields
• Additional costs including taxes and transit provide even greater divergent estimates
  ◦ Anywhere from $5/mn Btu up to $11.50/mn Btu!
  ◦ Reducing these costs is to a large extent in the hands of authorities and pipeline operators
Asia
Summary

- Asia is almost entirely devoid of competitive electricity markets, meaning that the generation economics at play in US/European markets is much less of a factor
- Asia is seen as a hugely promising growth market by both the coal and gas industries
- Policy drivers — price, but also environmental factors (e.g. China) and supply security/diversity — tend to play the major role in determining the fuel mix
Supply diversity

- **Coal**
  - China
  - Indonesia
  - Australia
  - South Africa
  - Russia
  - India
  - Colombia
  - US

- **LNG**
  - Australia
  - Qatar
  - Indonesia/Malaysia/Brunei (for now)
  - Other Mid-East Gulf
  - Russia
  - West Africa
  - Norway
  - European reloads
  - US?
  - Canada?
  - East Africa?
Environment

Annual Mean Temperature
Australian coal costs

Tangguh LNG (2002 adjusted for inflation)