CASE STUDY
A LONG TERM VIEW OF THE UNITED KINGDOM’S NATURAL GAS REQUIREMENTS WITH SPECIAL EMPHASIS ON THE OPPORTUNITIES FOR US LNG SUPPLIES

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UK Energy Review => Where does Natural Gas fit?

**WOOD** Up until 16\textsuperscript{th} Century

**COAL** Surface mined from 1200s
- Mid-16\textsuperscript{th} century > established fuel source
- Mid-18\textsuperscript{th} century > Industrial Revolution
- Two World Wars > NCB formed (1946)
- Dominated power generation until 1990s
- Unabated coal plants to shut by 2016

**GAS** “Town Gas” produced from coal – early 20\textsuperscript{th} century
- Natural Gas discovered in North Sea by BP in 1965
- Conversion from Town Gas completed in 1977
- “Dash for gas” after Coal Miners strike of 1984-5
- 1980s onwards – the era of gas > > > > Electricity next
2012 DEMAND
141 MTOE

- Industry
- Transport
- Domestic
- Other
2012 SUPPLY
214 MTOE

- Coal
- Gas
- Electricity
- Petroleum
UK signed Kyoto Protocol in 1998

=> UK Attitudes to Climate Change & Energy

- Public attitudes – generally concerned, in principle, about my kids’ future / jobs / costs in energy bills (now creating backlash – retail energy / utility companies blamed rather than the government) / NIMBY attitude re. onshore Wind Farms, Shale Resource exploration. Public not aware of: transmission towers (pylons), all-electric home – yet to come.

- Government attitudes – all-party support for action on emissions. UK is a leader. Legislation in place for legally binding 5-year Carbon Budgets (in place through 2027). Targets for decarbonisation of electricity to be set 2016. Pushing onshore shale resource exploration…
UK Government declarations => the Long Term view

- UK’s future electricity supply is to become, “secure, low-carbon and affordable” – with a mandatory commitment of an 80% reduction in GHG emissions by 2050 (relative to 1990)

- Meanwhile noting that “the demand for electricity is expected to double from its current level by 2050 with the expected electrification of heating and transport”

- Coal fired and legacy nuclear plants facing retirement: new nuclear generation to come onstream earliest 2024

- Conclusion: “The Future is Electric” (implied but not spoken)
UK Energy Demand 2050 (MTOE)

- Industry
- Transport
- Domestic
- Other
The future role for Natural Gas (MTOE)

UK Gas Demand to Power Generation
The future role for Natural Gas (MTOE)

UK Gas Demand Total
Sourcing Natural Gas for the UK – import options*

- Interconnector UK pipeline (capacity 25.5 BCM/yr)
- BBL pipeline (19.2 BCM/yr)
- Isle of Grain LNG terminal (20 => 28 BCM/yr)
- South Hook LNG (21 BCM/yr)
- Dragon LNG (7.6 BCM/yr)

* In addition to North Sea supplies from Norway
Outlook for indigenous Shale Resources

> Yet to be determined

[Map of the UK showing areas related to shale resources, with a note that the Midland Valley of Scotland study is in progress.]
CONCLUSIONS

> UK gas market - highly risky place for new entrants

> Government policy is geared towards a low carbon, all electric future: nuclear plus renewables (wind) will be the big energy sources in 2050

> Alternative LNG market opportunity exists - Zeebrugge Terminal in Belgium, operated by Fluxys, a hub for the whole of North West Europe, access down to Italy and linked to the Interconnector pipeline to the UK

END