



THE EVOLUTION OF THE UK GAS INDUSTRY



Main Drivers



- Energy Security and Diversity of supply
 - Increased dependence on imported energy (2004 self –sufficient)
 - Expanding import capacity (pipeline and LNG terminals) to allow greater volume and diversity of supply source
 - Extending supply options to include supplies from other exporting countries via LNG imports and spot trades
 - Diversifying supply to avoid over dependence European pipeline connections
- Infrastructure Expansion (NG and LNG)
 - Existing physical pipeline connections include imports from Norway, Netherlands, and import/export Interconnector link to Belgium
 - Increased pipeline capacity from Norway and Netherlands
 - LNG Milford Haven (Dragon & South Hook) and Isle of Grain
- Price structure
 - UK gas market one of the world's most liquid markets with a flexible mix of price regimes

Drivers for UK are meeting two major long term challenges– clean & secure energy

UKCS - Infrastructure



Source: <http://www.oxfordenergy.org>



Main Challenges



- Harmonizing effects of different types of gas regimes
 - UK includes pipeline NG, LNG, short terms and spot trading
 - Interconnection via Europe long term oil indexed contracts
 - Juxtaposition of regimes leads to price spikes, volatility and market inefficiencies
- UK and EU gas import dependencies
 - State driven export strategies impacts market fundamentals and security of supply concerns (Russia, Algeria, Nigeria)
- Delivering secure, clean energy at affordable consumer prices
 - 'clean coal' - *indigenous energy source plus carbon capture and storage technology*
 - nuclear
 - seen as potential 'answer' to energy security
- Emerging view of more Government interventions needed
- Re-regulation European Gas Industry.
 - European Commission Third Energy Package

Main challenges for market integration are creating an alignment of gas regimes and fuel supply source options



Main Policy Options



- Improve European linkages to **support** price competitiveness
 - Physical linkages and more liberalized European market??
 - Coordinate main energy policies and regulatory frameworks
 - Smooth contract complexities
- Deliver secure clean energy at affordable prices
 - Allow LNG infrastructure to improve supply import diversity
- Energy security
 - Improve storage facilities and offshore infrastructure usage to better utilize indigenous UKCS gas and import LNG offshore
 - Set targets for fuel mix?
 - Government to invest in 'strategic storage'?
- Climate change commitments
 - Include gas CCGT for carbon capture and storage pilot

Aligned timing of policy goals with key elements for improved integration and energy security



Main benefits



- Energy security and diversity of supply
 - A planned transition toward greater import dependency
 - Post liberalization move from end-user market to a globally interconnected market.
 - Improved accessibility
- Operational optimization (physical and contractual).has allowed market liquidity and flexibility.
- Economic and Environmental development
 - Competition has delivered the provision of better services and lower prices and for private company investors benefit from certainty in regulations, transparency and long term market signals.
 - To meet UK and EU Kyoto commitments
 - GHG emissions reduction targets

Benefits linked to development and energy and climate goals



Conclusions and Lessons learned



- It takes time. Over two decades for UK to move from a gas monopoly to a fully open market viz
 - full choice for all customers to select the supplier of gas.
 - no single player has a dominant position or significant market power.
 - clear and distinct ownership and operation of various segments of the gas value chain.
 - full access to gas infrastructures (e.g. pipeline, gas storage, LNG terminals), availability of risk management instruments (spot, futures, etc.) and gas spot and futures markets are established.
- It takes strong policies. Three distinct phases
 - Market liberalization/competition for lower consumer prices
 - Fully open market. Geopolitics and availability of supply concerns Infrastructure development
 - Post liberalization complexities. Delivery of secure, clean energy at affordable prices
- It can be achieved
- Supportive 'light touch' Government interventions needed to address emergent political and geopolitical dimensions..eg strategic storage etc

Stepwise implementation and flexible approach to deliver policy objectives in changing external environment