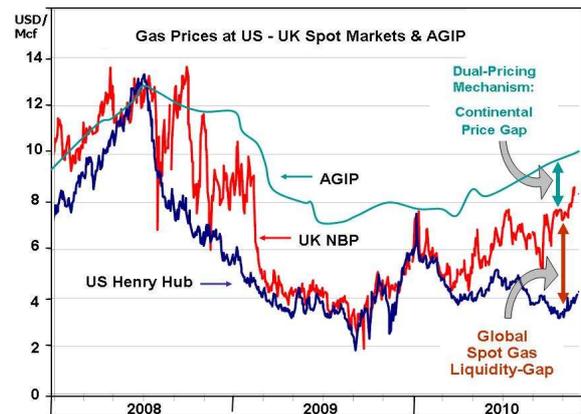


Energy Strategy Value Series



Assessing Gas Markets & Pricing Mechanisms

Alboran provides advisory services on gas market regulation and pricing mechanisms. Countries both within the EU - but also close to EU borders, should look outside their borders towards the United States and - indeed - the Far East, to see how the world's gas market is evolving. They must consider expansion of import capacity by long-distance pipelines while taking into account the increasing global trade in spot LNG. The eventual arrival of both domestic shale gas and even overseas shale gas transported as LNG provides additional competition for conventional gas suppliers.



Our insights in gas market regulation and pricing mechanisms are highlighted in a series of papers written for the UK Energy Institute's *Petroleum Review*. The papers' summaries are detailed below.

1. Lifting the Price

***Petroleum Review*, March 2011**

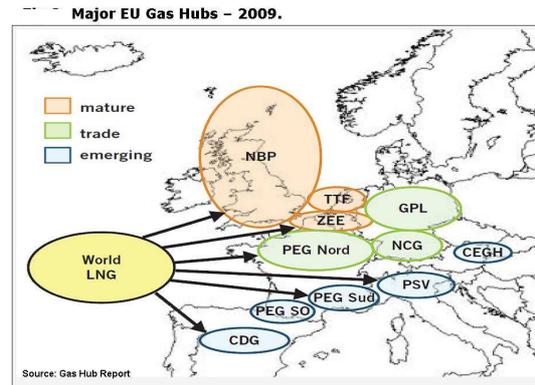
We look at the worldwide pace of oil and gas decoupling and its implications for future gas pricing. We argue that the decoupling of oil and gas prices that is occurring in the mature US market heralds a progressive gas price decoupling from oil throughout the world. Outside North America the world has been slow to adapt to this change. But global gas prices are set to rise, lifted by the oil-indexed European countries, who are at different stages in deregulation. UK gas prices, largely decoupled from oil, have begun their recovery and are dominated by flexible spot gas trades with high liquidity at the NBP. Gas prices in regulated Continental Europe are in a dual-price making regime. Prices have stayed relatively firm in recession as most volumes are sold under long-term oil-indexed gas contracts rather than at volatile spot gas prices. Gas prices in emerging economies (Russia, Malaysia, India & China) are strictly regulated and gas is sold at marginal cost. The Governments of gas exporters (Russia & Malaysia) are under some pressure to bring domestic gas prices in line with export prices. Finally global gas prices will continue their recovery as long as LNG producers do not flood the market faster than consumption rises.

2. The Rising Power of Gas Traders

***Petroleum Review*, June 2011**

We review the steps necessary to secure Europe's future gas supplies, which we argue will depend increasingly on a combination of physical hubs and trading skills as gas imports rise and Europe's indigenous gas reserves dwindle. We review how gas trading works and what action is needed to further improve liquidity in a nascent pan-European gas trading system. In so doing we examine the major difference

between the world's two leading liberalized gas markets. US gas imports are less than 5% of total consumption; Europe's imports are over 45%. As of 2011, international gas trading from outside the OECD accounts for nearly half of Europe's gas supply. More gas imports will be delivered to Northern Europe by the Nord Stream pipelines. Regional gas hubs have also emerged throughout Europe. The physical metrics of the US and EU gas markets are broadly comparable, with similar consumption volumes, converging storage and LNG landing capacities. However, Europe still lacks a single reference price for its physical gas and deals in a range of locally indexed derivative contracts. Furthermore, gas contracts in Continental Europe are oil-indexed, not spot gas-indexed. International gas trading has become a critical strategic component in Europe's energy security. The trader's role is to guarantee the future matching of gas supply and demand. Gas traders have not only a powerful position in the physical gas market but also in the gas derivatives market. Their trades may affect wholesale gas prices when speculative positions start to dominate the natural requirement to balance physical gas supply and demand.



3. Russian gas key to 2020 targets

Petroleum Review, July 2011

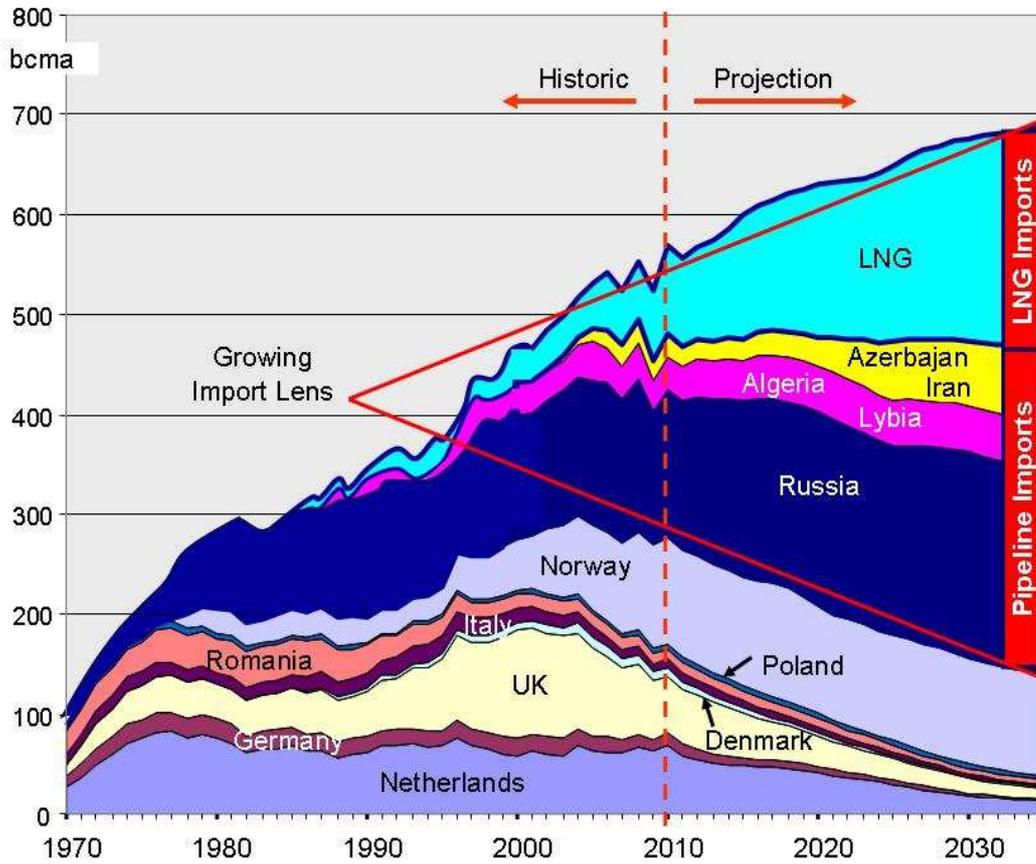
We argue that the EU's strong policy focus on renewables has diminished the EU's vigilance over the strategic security of its fossil energy supply. With only eight years until 2020, we examine the European gas supply situation in more detail in the light of Europe's GHG emissions targets. Fossil fuels account for 76% of Europe's primary energy demand. However, the use of fossil fuels should be scaled back before 2020, to slow down energy-related CO2 emissions, according to IEA scenarios adopted by the EU and G8 ministers. Substantial investment is needed to achieve this energy revolution. But, the effects of the economic recession may have weakened the EU's commitment to implement the GHG target for 2020. Europe's fast switch to 20% renewables by 2020 is a costly proposition, as today only 10% of its primary energy is from renewable sources. The nuclear option, apart from opposition to expanding its current 14% share in primary energy supply, provides no quick solution, as planning approval and completion exceeds eight years, based upon past performance. Using more natural gas for power production would help curb GHG emissions, but European gas production has now peaked. Building new long-distance gas pipelines, primarily to supply oil-indexed gas from Russia, raises the question as to whether that expensive gas will not again be displaced in the future by cheaper LNG supplies from elsewhere. Whilst Russia seems to have a trump card with its vast gas reserves, Europe cannot ignore its energy vulnerability and the only real question will be if Russian gas can be spot gas indexed.

4. Assessing Shale Gas Potential

Petroleum Review, September 2011

We remind Europe that shale gas has freed North America from natural gas imports. Its late arrival and the growing environmental concerns mean that shale gas development cannot be relied upon in Europe until the technology has been proven to work in its domestic shale gas fields as well as overcoming any political opposition. The consequence would be that Europe will face stiff competition in securing LNG imports need to at least 2030. The European gas industry is used to a state-backed conventional supply push and a captive consumer demand pull. Historically, the European natural gas industry itself has undertaken very little marketing. This is going to be a handicap in shale gas development, as the critics of shale gas have already received broad media coverage and shale companies have been slow in putting forward their side of the story. Only in Poland do we observe the classical state-backed supply push for shale gas. If successful, Polish policy is likely to help open up the European playing field for shale gas. As production begins it may or may not silence shale gas critics.

By 2035, Europe will import 80 percent of its gas from outside the EU zone. Over 50 percent of the EU gas supply will be via long-distance pipeline imports, and the remaining 30 percent will arrive via LNG imports.



We are delighted to provide additional information on our services.

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