



GAS SECURITY POLICY FRAMEWORK

4th September 2013

Gas will continue to be a crucial part of our energy mix to 2030 and beyond. It is a reliable and flexible source of electricity, our Gas Generation Strategy showed that gas will continue to play an important role in the power sector and significant generation capacity will be required by 2030. In the longer term gas has the potential to provide significant amounts of low-carbon electricity when fitted with Carbon Capture and Storage (CCS). We also envisage gas being the major fuel for heat use well into the 2030s.

It is therefore essential that we have secure supplies at competitive prices. The GB gas market functions well, with the highest levels of liquidity in Europe¹, and providing lower wholesale prices than the oil indexed gas contracts still widely used internationally². Previous independent assessments³ show that we enjoy high levels of gas supply security provided by a diverse range of supply sources, including our own production, pipeline imports from Norway and the EU, imports from global markets via LNG and storage. These sources have provided reliable gas supply over recent challenging winters, including our highest ever daily gas demand in January 2010 and the protracted cold spell earlier this year. In the future, large scale shale gas development in the UK could be beneficial for our gas security, although the extent and timing of such development is still uncertain. The past decade has seen significant investment in new gas supply infrastructure, including a more than fivefold increase in our annual import capacity, and a significant increase in the peak deliverability of our gas storage facilities. Further storage capacity is currently under construction⁴.

At the same time, new challenges are emerging. We are increasingly dependent on gas imports. Volatility in gas demand is likely to increase as we see greater deployment of renewable generation. Gas demand-side flexibility is likely to fall as coal generation plant closes.

In the light of these challenges, a number of interventions to enhance our gas security are being developed and implemented;

- Ofgem are developing proposals to sharpen incentives on gas suppliers to secure their supply via changes to emergency cash-out arrangements. Ofgem will monitor the impact of changes to cash-out arrangements which will improve transparency on how participants are securing their gas supplies.

¹ "Continental European Gas Hubs: Are they fit for purpose?", OIES, July 2012

² Based on a comparison of NBP with oil indexed gas prices.

³ "GB Gas Security and Options for Improvement: A report to the Department for Energy and Climate Change", Poyry, March 2010, "Gas Security of Supply Report: Ofgem report to Government", Ofgem, November 2012

⁴ At Stublach and Hill Top Farm in Cheshire



They also reviewed the efficiency of our gas interconnectors with Europe, and proposed further work to ensure these pipelines flow gas into GB when we need them.

- We are working within the EU to ensure adoption and implementation of a variety of measures to enhance gas security through a well-functioning, integrated and transparent European gas market. For example, implementation of the Third Energy Package has already improved market integration across the EU, and the development of common Gas Codes provided for in the Third Package will facilitate price-responsive gas trading across borders. The European Gas Security of Supply Regulation requires Member States to undertake regular assessments of their gas security and prepare plans to mitigate the risks they face as well as meeting supply and infrastructure standards. New investments in physical infrastructure are being made to enable gas to flow more freely around the EU. The introduction of the Regulation on Energy Market Integrity and Transparency (REMIT) will increase market transparency and tackle potential market manipulation. The European Energy Infrastructure Regulation in force from May this year will support the development of key cross border gas and electricity interconnection and infrastructure investment through streamlined planning procedures and a cross-border cost allocation mechanism.
- Changes to the electricity market, such as the introduction of the planned capacity market, and Ofgem's proposals to sharpen cash-out price signals should provide further incentive for power-generators to safeguard their fuel supplies.
- Our work to maximise the prospects of our domestic gas resources including from unconventional sources such as coal-bed methane and shale. We have set up of the Office of Unconventional Gas and Oil which aims to promote the safe, responsible, and environmentally sound recovery of the UK's unconventional reserves of gas and oil. Measures to facilitate the growth of this industry are already underway: the Treasury is consulting on fiscal measures to incentivise shale activity, the Department of Communities and Local Government has issued technical planning guidance, and the Environment Agency have announced their plans to streamline permitting arrangements. In the North Sea, we have upgraded existing work on how to increase production efficiency from existing developments, and launched an in-depth review under independent chairmanship of how to meet the unprecedented challenges of maximising recovery from the UKCS, now one of the most mature basins in the world.
- We continue to work internationally to promote reliable supplies from key gas producers, to enhance the diversity and resilience of our gas supplies.

In addition, we asked Ofgem to report to us on the outlook for gas security of supply. Ofgem's report was published in November 2012. It confirmed the resilience of our



gas market, but also recommended we consider whether a further intervention might cost-effectively improve our security of supply.

Since then, DECC has been working to assess whether the potential benefits of a further intervention in terms of more secure supply and effects on gas prices might outweigh the associated costs and risks. We have worked closely with a range of gas industry participants, including Ofgem and National Grid, and commissioned independent consultants Redpoint to:

- extend Ofgem's analysis of disruption risks to different groups of gas consumers under different gas supply and demand scenarios out to 2030;
- assess the costs, benefits and risks associated with three possible broad interventions, covering effects on both gas prices and probabilities of disruption to different customer groups;

The analysis conducted for us by consultants confirms the resilient picture of the GB gas market reported to us by Ofgem in November last year,⁵ our own analysis to meet European gas security regulations, and previous independent market assessments.⁶ It shows that GB security of gas supply is expected to be robust in the short, medium and long term, and that effective implementation of our low carbon policies will bring further enhancement to our gas security.

Nevertheless, the impacts of any disruption would be serious, and there may be harmful price impacts even without any physical interruption to supplies. Therefore, we have analysed three further interventions in the gas market to establish whether they might improve our gas security cost-effectively, against scenarios in which we meet our decarbonisation objectives out to 2030 and in which our gas supply picture is more stressed. The interventions we considered were:

1. Non-technology-specific obligations on gas market participants to meet a specified security of supply standard. This might allow the market to develop the most cost-effective means of enhancing gas security and avoid market distortion. On the other hand in practice it might be difficult to implement robustly without prejudging the security provided by different measures, and it risks overlapping with Ofgem's proposed reforms to cash-out.
2. An obligation on gas suppliers to hold a given volume of gas in storage to guard against a supply emergency. This might ensure that greater levels of gas are available from storage at times of disruption, and over time incentivise more gas storage infrastructure. However it could also lead to increased costs and price volatility by sterilising part of our existing gas storage capacity, and risks distorting competition between competing sources of flexibility.

⁵ Gas Security of Supply Report, Ofgem. November 2012.
<http://www.ofgem.gov.uk/Markets/WhlMkts/monitoring-energy-security/gas-security-of-supply-report/Documents1/Gas%20SoS%20Report.pdf>

⁶ E.g. GB Gas Security of Supply and Options For Improvement; Poyry, March 2010



3. Revenue support for gas storage infrastructure (“semi-regulated storage”) to guarantee future returns to gas storage facilities. This might stimulate new investment in gas storage, potentially reducing average levels and volatility of gas prices. However it would not guarantee that more gas was held in storage, and as with a storage obligation it risks distorting competition between competing sources of flexibility.

Redpoint’s analysis finds that, although such interventions could enhance our gas security, under most scenarios they would not do so cost-effectively. If we exclude the modelled effects on gas price levels and volatility (which, are inherently challenging to estimate and are subject to wide bands of uncertainty) and consider only the direct benefits in terms of avoided costs of disruption against the cost of building the storage, the costs outweigh the benefits in all cases. In addition, all options risk unintended consequences through distorting a well-functioning GB gas market or crowding out investment in alternative gas supply sources. These effects could undermine any additional security of supply intervention might bring.

The analysis also suggests that additional, fast-cycle storage facilities, of the type currently under construction in Cheshire, will become economic by the end of this decade. And it shows that adherence to our energy efficiency programme and climate targets would yield significant improvements to our energy security.

Therefore, based on our analysis, we see no clear case for a further intervention in the gas market above and beyond the range of measures we are already taking to enhance our gas security. We expect that the significant work already in hand, both within GB and in Europe, to which our market is connected, will deliver further improvements to GB gas security. Interventions supporting new storage facilities would be unlikely to deliver security of supply benefits until the 2020s. By this time developments in global gas markets, such as the prospects for increased production from new gas sources such as shale gas, could improve an already large and geographically dispersed resource. When considering the extra interventions we have modelled, none gives a clear net benefit, while all carry significant risks of disproportionate impacts on consumer bills, costs to industry and unintended consequences.

We have therefore concluded that on balance none of these extra interventions should be developed further. However we will continue to press ahead with the range of measures already in hand to enhance our gas security, to ensure that we continue to benefit from reliable supplies both now and in the future.