PETER HUGHES ENERGY ADVISORY LTD.

GB Gas Supply and the Role of Storage

Peter Hughes

January 2013

Peter Hughes Energy Advisory Ltd.
Tel: +44 (0) 208 749 4840
Mobile: +44 (0) 7747 008285
Email: peter@peterihughes.co.uk

Introduction

The opening paragraph of the recent OFGEM Gas Security of Supply Report states that "the decline in UK continental production has inevitably resulted in increased reliance on international gas markets to deliver security of supply to gas customers and electricity generation. This exposes Great Britain (GB) to a range of additional risks." The even more recent Government endorsement of the major role that it perceives gas-fired power as having to play in meeting GB's future power needs, not to mention the real question marks that hang over the UK's nuclear programme, serve to bring these risks into even sharper focus. The purpose of this short paper is to offer some additional thoughts on the nature of those risks, in particular how developments in international gas markets over the past two years have, in my view, impacted on how those risks should be perceived, and the corresponding implications in terms of policy prescriptions.

The theory – access to an increasingly liquid international gas market

In theory, the future needs of the GB gas market, over and above the gas available from production from the UKCS, could be met by supply from the international gas market, subject to there being sufficient capacity in place in terms of the physical infrastructure required to secure delivery from the sources of imported supply, either by pipeline or as LNG. A degree of comfort could therefore be drawn from the fact that GB appears to be comfortably provided for in terms of such capacity, with OFGEM's stress tests showing that "in all but the most extreme cases, current and forecast levels of GB supply and storage infrastructure are sufficient to meet all customer demand". However, as the report goes on to consider, such comfort relies heavily on the assumption that the international gas market has the necessary characteristics of adequate fungibility and ready contestability, especially on a short-term basis. I would argue that, despite certain apparently positive developments, events over the past two years provide little by way of reassurance in this respect:

In practice – things going backwards not forwards

A previous paper submitted to the No.10 Policy Unit in 2011 (a copy of which is attached) pointed to the imperative, from a UK security of supply viewpoint, of accelerating progress towards the creation of a liquid and genuinely contestable traded gas market on the European continent and of promoting the multiplication of supply sources for such a market. Since that time, the European gas market has featured:

- A continuing decline in gas demand
- The commissioning of new delivery capacity (notably the Nord Stream pipeline), and
- A continuation of the fundamental shift in the pricing dynamic of the market, from oil-indexed to traded market prices, which I would assess to be irreversible.

However, even if these would appear to be positive developments in terms of increasing the supply of gas potentially available to the GB gas market, they disguise other developments which should be cause for concern, and in particular the lack of progress in improving the diversification of supply sources to the market. Most noteworthy in this respect has been Gazprom's success in undermining the prospects for a new "southern (or fourth) corridor" worthy of the name, in other words a major new piece of infrastructure that would have provided access to the European gas market for potential supply from Azerbaijan, Iraq (Kurdistan in particular), Turkmenistan and even, admittedly with a longer time horizon, Iran. What looked for a long time like the best prospect for realisation of such a corridor, the Nabucco pipeline, has now been dramatically scaled back in scope to compete with rival projects with a far more modest goal of bringing relatively limited quantities of gas from Azerbaijan to the markets of southern and eastern Europe. As such, whatever project prevails in this particular competition will result in very little incremental gas becoming available to the mainstream western European market, thereby adding to the diversity of supply and providing competition to the established suppliers, and Gazprom in particular.

Nor can one point to other infrastructural developments that would promote this goal. Although a major new pipeline (the Medgaz line) to bring gas from Algeria directly into southern Spain was commissioned in 2011, effectively adding to the existing excess of capacity to supply a weak Spanish gas market, this potential surplus is prevented from seeking markets further north by the very limited amount of interconnection capacity that exists between Spain and France. Although there has been much talk of removing this particular constraint, talk is what it remains for the time being.

Gazprom and the South Stream pipeline project

In its campaign to prevent the realisation of a southern corridor, and the original Nabucco project in particular, Gazprom's main weapon has been the promotion of what it describes as its own southern corridor, namely the hugely ambitious South Stream pipeline project, a section of which would bypass Ukraine to the south by virtue of running across the Black Sea from Russia to landfall in Bulgaria. The following comments can be made in respect of the South Stream project:

- It represents a massively expensive means of adding capacity that Gazprom does not actually need, for some time to come, to bring its gas to the European market. Gazprom argues that the pipe will enhance European security of supply by removing the possibility of Ukrainian interference with the volumes that transit its territory. This is of course true, but what it patently does not do is add to Europe's diversity of supply, quite the contrary, as it would reinforce Europe's dependency on Russia as the source of that gas supply.
- Given its huge cost, and very weak justification from an economic point of view, there must be significant doubts as to whether the pipeline will actually get built, especially in the timeframe announced. From a geostrategic point of view, the continued insistency concerning the project's imminent realisation can, however, be seen as serving dual Gazprom goals, namely that of crowding out an alternative southern corridor as discussed, but also of advancing its other agenda of securing control/ownership of the Ukrainian gas transit infrastructure. In other words, whether or not Gazprom would be happy to shelve South Stream in the event of these goals being achieved, the project's power as a strategic lever does depend on the perceived likelihood of its actually being realised, and Gazprom's apparent determination to do it, as manifested by the incessant news flow around it, can be seen in this context.

The possible role of LNG

Concerns about the implications for European security of supply of dependency on a limited number of sources of pipeline supply, and on Russia in particular, would be considerably less in the event of healthy competition from plentiful supplies of LNG targeting the European (including GB) market, just as was the case in 2009-10, but here again recent developments have not been positive. The key event in this respect was the nuclear catastrophe at

Fukushima in early 2011, which resulted in the subsequent removal from the grid of the entirety of Japan's nuclear generating capacity, which had previously accounted for some 30% of the country's power supply. The need to replace this lost capacity caused a rapid ramp-up in the country's requirement for LNG imports and, in parallel with continuing strong demand growth from other Asian markets, contributed to a significant tightening of the global LNG market and the disappearance of the comfortable supply cushion that had previously existed, to the prime detriment of the European market. It is possible that this tightening may be partially reversed as some Japanese nuclear capacity is allowed back on stream and as new LNG supplies become available post-2015, but the degree to which this will happen is highly uncertain, and from a policy point of view it would certainly be most unwise to rely on it.

The greater risk: physical interruption or hostage to fortune on price?

It should perhaps be stressed at this point that, while the developments discussed above have not been positive ones from the point of view of promoting a healthy commodity market for gas in Europe, this does not lead to the suggestion that there will inevitably be a greater risk of physical interruption, or unavailability, of supply. Rather, the greater perceived risk would seem to concern the issue of the terms on which such supply will be available; put simply, GB's relative lack of gas storage capacity, and consequent potential reliance on the international market for its marginal supply of gas, means that it may regularly find itself in the situation of seeking to purchase in a seller's market. It is not, for example, far-fetched to imagine a situation where the GB market is seeking to meet peak demand at a time when Gazprom, as the marginal supplier, has reduced supply availability to the European traded market, forcing GB to compete for potentially limited spot volumes of LNG with Asian buyers with demand peaks occurring at the same time and whose willingness to pay premium prices has been consistently proven.

Gazprom again (but as a rational "market" player..)

In this assessment of the evolving risk profile of future GB imported gas supply, and how it has been affected by recent market developments, it is clear that a central position is occupied by Russia via the behaviour of Gazprom. It is perhaps important to state that, in differentiating between the risk of physical supply disruption and price risk, and suggesting that the latter constitutes the greater of the two, there does not need to be any presumption that Russia will seek to exploit its position in pursuit of its geopolitical agenda. On the contrary, the conclusion is premised on Gazprom acting, in an admittedly single-minded way, as a rational market actor, seeking to maintain its status as marginal supplier and dominant oligopolist and subsequently take advantage of it to maximise its economic rent. Everything points to this being the case; one part of its ferocious defence of oil-indexed gas pricing has in fact been to suggest, in all innocence, that a move to traded market pricing might not be in the best interests of customers because of the scope that might be afforded to dominant suppliers to influence market pricing! Indeed, recent moves that Gazprom has made, notably the recently announced deal with BASF that will lead to Gazprom becoming sole owner of the major German gas distributor Wingas, assuming full control over a significant amount of in-market gas storage capacity (including Europe's biggest single facility, at Rehden in Germany) in the process, can be seen as entirely consistent with its intention to reinforce this position.

Conclusion: Everything points to a need for more domestic storage

In the event, whether one believes that exposure to price volatility or the threat of physical supply disruption represents the greater threat to the UK economy does not change the recommended policy prescription, namely a significant increase in the country's gas storage capacity, which would serve to:

- mitigate further the threat of physical supply interruption (including of domestic production), and
- provide greater scope for gas to be purchased at times of relative demand weakness, thereby reducing the scope for predatory behaviour by dominant suppliers where conditions of market distress prevail.

As regards the latter point, it could be, and has been, argued that the market should be trusted to provide the necessary price signals for investment in storage, primarily through the summer-winter price differential. This, it is clear, is currently not happening, with the result that as the GB market continues to become more import-dependent, very little incremental storage capacity is being developed. This may change in the future, but potentially as a result of the sort of distress conditions discussed above; the irony is that greater investment in storage in effect reduces the exposure to the future price volatility that might provide the price signal for such investment! In this way, prudential investment in new storage capacity represents an insurance policy of national importance, but one which the market, in the absence of active policy support, is currently failing to deliver.

Peter Hughes Energy Advisory Limited

January 2013