

## **BG Group plc Response to PIU Energy Project Scoping Note : Electricity and Gas Networks**

### **Is the concept of natural monopoly a useful one to apply to these networks? Is it likely to remain so for the foreseeable future?**

The dominance of Transco in the UK onshore gas transportation network means that Transco is very much a natural monopoly. Transco should continue to be regulated in a manner that ensures fair and open access to its network, and which ensures that Transco's charges are cost reflective, and allow Transco to earn a reasonable return on its assets.

Although there is scope for pipelines owned by other companies to exist, as indeed is already the case, it is highly unlikely that Transco's natural monopoly will be undermined. With the correct regulatory framework Great Britain should be able to enjoy some of the benefits that such a monopoly can bring, such as economies of scale, and the ability to ensure security of supply for gas through investment in sufficient capacity at lowest economic cost to allow importation of gas from a variety of different sources to meet UK gas demand.

### **Is it appropriate to apply Common Carriage access to the main networks and NTPA to other wires and pipelines?**

It is important to note the crucial differences between the onshore gas transportation network, and the offshore pipelines on the UKCS. As noted above Transco is a natural monopoly – gas which wishes to flow to consumers has very little choice but to flow through Transco's network, and indeed, it would be sub-economic to try and establish competing networks. This is not the case for UKCS pipelines.

Firstly a number of different transportation options exist for North Sea field developers wishing to transport their gas either to the UK, or indeed to other possible landfalls, such as the Netherlands. This competition prevents monopolistic abuse in the setting of transportation tariffs.

Secondly whereas Transco transports a homogenous product, this is not the case with offshore networks, which have to deal with different qualities of gas from different fields. This means that the offshore is not suited to the type of "one size fits all" regulation that is possible with Transco.

Common carriage is simply not possible because there is no commonality of product or transportation requirements. Were regulation of the sort that Transco has to be applied to the UKCS it would imply detailed regulatory

intervention to take account of the different circumstances for each application for access to a pipeline.

Thirdly offshore pipeline owners and operators face a very different risk profile from that faced by Transco. The bulk of the Transco network was built in the days when it was part of the British Gas monopoly which meant that the company faced relatively little commercial risk. Transco remains a monopoly, and although it faces some regulatory risk as to what assets it is allowed to earn a return on, it faces significantly less risk than the offshore industry. Transco has a high degree of certainty of the returns it can earn.

By contrast, offshore pipelines, especially those built for Third Party business, are built at commercial risk. The tariffs they charge are limited by competition, as noted above, and ultimately by the right of the Secretary of State for Trade and Industry to make a determination in the event of an appeal. However they should reflect the needs of their owners to earn a commercial return where commercial risk are taken.

If this is not the case - for example if regulated TPA were to be introduced - it could have adverse affects on investment. There would be asymmetrical risk, whereby pipeline owners would have all the downside since they could not be certain that their pipeline would be fully utilised given the uncertain nature of oil and gas exploration and the present and future availability of other transport routes, but their upside would be limited by regulation. At a time when government is concerned about security of supply, BG does not believe that it is in the UK's interests to disincentivise investment in UKCS exploration and production, and the related investment in offshore pipelines.

BG notes that the UK offshore industry has a long and successful track record in delivering North Sea oil and gas to the UK, and in extending the life of what is now a mature province.

**Where do the natural monopolies end and how can the boundaries be justified: in respect of offshore gas pipelines?**

See comments immediately above.

**Is it appropriate that, where practicable, network users should pay different prices depending on the costs they impose on the networks? If not, why not and what could be an alternative approach?**

The principle that network users should pay different prices depending on the costs that they impose on networks is a sound one. The general thrust of gas regulation in the past few years has been in this direction, and rightly so. However this approach needs to be qualified.

The approaches taken to ensure that prices reflect costs can themselves have costs and hence implications for economic efficiency. For example Ofgem's proposals to use auctions of line-pack and hourly balancing, to ensure that those who impose balancing costs on the system are charged for those costs, have major cost implications for the whole industry. Not only do these costs outweigh balancing costs by a factor of more than 20 to 1 on Ofgem's own estimates, but they would disproportionately affect all shippers because of the costs involved in operating on an hourly balancing basis. However the potential problem of load profiling by power stations, which Ofgem has identified as the reason for a system better able to reflect costs imposed in prices charged, is clearly limited to the small and easily identified number of power stations.<sup>1</sup>

Therefore, it is essential that methods to ensure cost reflectivity are themselves appropriate, and do not incur more costs than the problem they are designed to solve. Furthermore market mechanisms, whilst in most cases these are the best way to ensure economically efficient outcomes, may not always work in the context of the industry. Illiquid markets are likely to have damaging effects, which may outweigh any gains. Alternative approaches may have better outcomes. This point is developed more below in response to the questions of auctions of capacity.

**Is there a need for more market-based instruments to allocate existing capacity and improve investment decisions and if so how could they be introduced?**

**Are the costs of introducing such measures likely to outweigh their potential benefits?**

**Are capacity auctions and tradable access rights appropriate instruments – and if not, what other instruments might be used?**

In the long term, auctions of capacity by a monopolist such as Transco are not an appropriate method for allocating entry capacity. The aim of

---

<sup>1</sup> BG's response to Ofgem on this issue is attached.

the regulatory framework should be to ensure that Transco provides the system capacity needed at the lowest economic cost (i.e. allowing Transco a reasonable regulated return). This will ensure that the UK onshore gas system has enough capacity for the gas needed to meet demand, and that such capacity is only provided where it is economic to do so.

In the long term, the supply of capacity is variable since Transco can invest in new capacity if there is sufficient demand, subject to investment and construction lead times (about three years). Through a combination of an enhanced Base Plan Assumptions process and shippers signing up to buy capacity at Transco's Long Run Marginal Cost of providing that capacity, Transco will have the signals it needs to know how much capacity is needed. Ofgem will have the assurance that any additional investment made by Transco is required, and therefore should be added to the Regulated Asset Base on which Transco is able to earn a return.

A pay-as-bid auction approach would not make sense, either for allocating capacity in the longer term or for giving Transco signals as to where it should invest. Given that Transco is a monopoly whose revenues are capped, and which is guaranteed to earn a return on investment included in its asset base, there is no point in shippers paying more for capacity than Transco is allowed to earn under its Price Formula.

If this happens the over-recovery has to be re-distributed which, as current experience has shown, can lead to further unnecessary distortions. Therefore Transco should publish the LRMC of capacity to ensure that it is paid enough, and shippers are aware what prices need be, to earn a reasonable rate of return.

Since shippers know that in the long term the supply of capacity is variable, they should not bid more than the LRMC. If those that need capacity all bid the LRMC there is clearly no way a pay as bid auction can function. By avoiding using auctions, all the problems associated with the current auctions can be avoided.

Transco should be obliged to provide capacity where shippers have indicated a need through the Base Plan Assumptions process, and committing to pay for capacity at LRMC. The current emphasis on incentives and buy-backs has the potential to cause problems in the future. Under the buy-back theory, Transco can decide whether or not to invest but, if it does not, it bears the cost of not doing so through having to buy-back capacity from shippers. Such an approach raises the prospect that in the future shippers will not be able to flow gas into the UK to meet demand because Transco has not invested in capacity. Although Transco will be financially penalised for this, such an approach will not help those

consumers who either do not receive gas because they are interrupted, or have to pay higher prices for their gas because demand outstrips supply. Such an approach cannot be in the consumers' or the UK economy's best interests.

There are issues still to be resolved for the long term allocation of capacity, such as methods to prevent hoarding of capacity by long term players, and how much capacity should be allocated on a longer term basis, and how much kept back for shorter term allocation. Such issues will impact the liquidity of both primary and secondary capacity markets, and effective competition between gas producers and suppliers. There is also the issue of over what period Transco should earn a return on entry capacity provided in this way, since this will impact the unit price at which Transco provides entry capacity. However it is important to note that the proposed approach of Transco offering capacity at LRMC means that capacity provided will be cost reflective, and therefore the outcome should be economically efficient.

Tradable capacity, particularly in secondary markets, will ensure that as participants' capacity needs change, they can alter their positions. Secondary capacity markets could work in much the same way as the NBP spot market does for gas. However for such an approach to work participants need certainty as to the capacity rights they are buying. Currently the rules regarding auctions and the amount of capacity to be auctioned have been changed constantly, undermining the certainty needed. This illustrates the importance of well-designed, pragmatic regulation, a point which is further discussed below.

Capacity auctions, if correctly designed, can have a place in allocating a limited residual quantity of capacity in the short term to those who value it most. However the emphasis on "correctly designed" auctions is crucial. The current auctions of monthly entry capacity for the Transco system have led to significant over-recovery of revenues by Transco. This over-recovery has been redistributed in such a way that it favours one group of shippers over another, and this creates perverse incentives for bidding behaviour. The result is that prices paid for entry capacity have been much higher than they need have been for no real economic gain.

**Are the recommendations of the Working Group consistent with a general approach of cost-reflective pricing for networks?**

**Do they address the key problems identified with embedded generation?**

**Is reform of distribution network regulation the most important network issue at present?**

Embedded generation such as Domestic CHP offers an opportunity to cut greenhouse gas emissions, improve overall energy efficiency and improve security of supply. As noted above, the principle of cost reflective pricing is a good one. In the case of embedded generation, it is a question of ensuring that all relevant costs are reflected in the regulatory framework to ensure DCHP has the opportunity to compete on a level playing field.

**Is there a case for a deliberate regulatory policy to encourage over-sizing of networks on precautionary grounds?**

**If so, how should this be done, to what extent, and who should bear the costs?**

**Is uncertainty created by regulatory changes currently being considered causing medium term security risks? If so, how can these risks best be dealt with?**

As noted above, the use of auctions to provide long term signals to invest and allocate entry capacity for the Transco system is inappropriate. An alternative approach has been proposed.

With regards to over-sizing of networks, such as the Transco network, it is worth bearing in mind the following. The costs of failure to invest in capacity are high since they can lead to higher than necessary gas prices or indeed failures of supply. Lack of available entry capacity or certainty that such capacity will be provided at reasonable cost will have an adverse effect on investment in North Sea exploration and production, directly undermining Britain's security of supply, and the Government's declared aim of maximising UK hydrocarbon reduction.

So long as any degree of over-investment is marginal the costs of such over-investment are likely to be lower than those associated with under-investment. Furthermore, because investment made will be on the basis of Transco's LRMC, such investment will be cost reflective. The costs of any over-sizing will be paid by users of the Transco network, but the cost of such over-sizing will be very small when spread over all users.

There is an issue surrounding the fact that Ofgem is giving the industry insufficient time to consider the future framework. In pursuing a particular agenda, Ofgem runs the risk that changes made will be poorly thought out leading to undesirable consequences and constant tinkering to get the system right. More time needs to be given to consider changes with far reaching consequences. BG includes its response to Ofgem's recent consultation on its priorities as further comment on how processes can be improved.

**Can market forces be relied on to provide the appropriate number and capacity of international links, especially if energy market competition is less well developed outside the UK?**

**Is there a case for government or regulatory intervention to promote new links and if so, what form should this take?**

If there is sufficient demand for more international links, market forces can be relied on to provide the appropriate number of links, on the assumption that the investment environment is benign. As noted in our comments above on the offshore gas industry, pipeline developers should be allowed to earn market-based returns since they take the risk of providing new capacity. Competition between alternative transport routes, with the back up of legislation such as the Competition Act 1998 and Petroleum Act 1998, will ensure that prices are not abusive. However, uncertainty concerning the possibility of regulation capping prices for such pipelines could undermine incentives to invest.

The best way government can encourage international links is to push for further liberalisation of European gas markets, and effective Third Party Access to European gas transportation networks. This will have the effect of creating a large liquid market where potential suppliers of gas know they will be able to sell their gas at market determined prices.

This will encourage the building of links to areas of potentially unsatisfied demand or where gas prices are higher due to transport constraints. This has been the experience of the US, which has seen the building of new pipelines into the North East of the country. By ensuring that the UK is part of a wider competitive gas market, the government will not only improve security of supply, but also ensure that the UK receives its gas at the lowest cost.

Government can also play a constructive role by ensuring that any Treaties signed with other countries encourage the building of interconnectors on the basis of the principles outlined above. Governments can also ensure that planning procedures are appropriate.

**What, if any, further steps need to be taken to ensure that trading and network arrangements for gas and electricity provide appropriate incentives for arbitrage between the two markets?**

The best way to ensure efficient arbitrage between the two markets is to ensure that there are deep and liquid wholesale markets for gas and electricity. This is not the same as having the same rules for operation of the gas and electricity systems, for example with regards to balancing.

**What further lessons can the UK learn from network regulation in other countries with liberalised energy markets?**

The US has competitive and liquid gas markets. Following deregulation of the 1970's onwards, the US gas industry has seen growth in both exploration and production of gas, and in the construction of high pressure transportation pipelines. The UK can learn from US experience in regard to a number of issues including, but not exclusively :

- How the US has encouraged Exploration and Production activity.
- The issue of balancing (most US pipelines balance on a monthly basis).
- How construction of new pipelines is encouraged and regulated.
- How the US has succeeded in the creation of deep and liquid gas markets, and more recently electricity markets.
- How the US deals with capacity allocation issues.

**Would current approaches to network regulation, based on cost reflective pricing and investment to meet user requirements be able to deliver the changes needed to accommodate significant new sources of gas and expand the gas network to more consumers?**

**If not, what does this suggest for approaches to network regulation and investment and in particular for any urgent changes to these approaches?**

The approach outlined above, of an enhanced Base Plan Assumptions process and shippers giving commitment to longer term capacity at LRMC via a long term allocation process, should enable the gas network to cope with new sources of gas supply. It is conceivable that investment made in capacity to meet a current demand may become redundant in the longer term. However as such investment will have been approved by

Ofgem and included in Transco's regulated asset base, Transco will be assured of a return on its investment, and users of the network will still pay charges that include payment for that investment. However this is the price that needs to be paid to ensure that the Transco system has the flexibility to cope with new sources of gas. Furthermore, since Transco does not face the same commercial risk as non-regulated developers, the cost of such capacity is likely to be low enough to compete effectively to gain other new sources of supply in the future. This will ensure an optimal outcome for the UK.