

## LATTICE GROUP PLC

### **Energy Policy Review – response to PIU scoping papers on gas and on networks and security**

#### **1 Introduction**

The Lattice Group's biggest subsidiary, Transco, is the owner and operator of the majority of Britain's gas transportation infrastructure. Transco's National Transmission System (NTS) transports well over 40% of the country's primary energy. This infrastructure plays a key role in maintaining the security of Britain's gas supplies. The related commercial arrangements and information systems operated by Transco provide the basis for Britain's liberalised competitive gas market. Through European organisations such as Eurogas and GTE, Transco is active in contributing to the efforts to achieve a liberalised pan-European wholesale market for gas, and addressing the related practical, commercial and regulatory issues.

Lattice has already provided the PIU with background material, analysis and detailed briefing on Transco's 10 year gas supply/demand projections as recently updated in 'Transporting Britain's Energy – Conclusions of Transco's Consultation for Future Network Requirements'. Additional briefing has covered the short and medium term outlook for covering the needs of the British gas market at times of peak winter demand.

This submission refers only briefly to this material. Instead, it concentrates on commenting on some of the key public policy and regulatory issues relating to the security of gas supplies for the British market, now facing the prospect of growing dependence on gas imports.

#### **2 Summary and Conclusions**

In summary, the Lattice Group believes the following considerations need to be placed at the forefront of Energy Policy development:

- the serious adverse consequences – both for electricity and gas consumers – of gas supply failures;
- the impact of links between the British gas transmission network and the European network on both the physical and commercial operation of the NTS;
- increasing uncertainty about the future source of gas supplies and the changing pattern of use of the network which limit the usefulness of traditional criteria for planning investment in the NTS;

- as a consequence, the value of additional network flexibility and resilience and of additional storage facilities to safeguard against supply or price shocks;
- the need for a regulatory framework that is conducive to investment, reflecting an appropriate balance between risk and reward.; and
- the need to set the use of market mechanisms in an effective framework of public policy, regulation and security standards.

### **3 The distinctive characteristics of gas in relation to supply security**

The distinctive characteristics of gas as a primary source of energy have an important bearing on supply security:

- Unlike oil and coal where security of supply depends mainly on the availability of the primary product, secure supplies of gas also depend on the **adequacy of the infrastructure** for transporting, storing and distributing it, and on the related commercial and regulatory regimes. In policy terms, the basis for providing infrastructure – physical, commercial and information systems – is therefore inseparable from market development and liberalisation initiatives.
- Gas is the **least concentrated of fossil fuels**, and requires fixed infrastructure which is capital-intensive and long term in nature – almost invariably being underpinned by long term contracts, at least historically. As Britain becomes more dependent on gas imports, the adequacy of Britain’s infrastructure in combination with the wider pan-European systems will have an important bearing on supply security.
- Unlike other supplies of energy to households and small consumers, **gas supply failures are intrinsically hazardous**, and the supply to each consumer must be reinstated separately and safely – a process which, on anything but a small scale, requires considerable resources and time. In peak conditions, large gas consumers with ‘interruptible’ contracts, now including a growing number of gas-fired power stations, will lose supplies first. For overriding safety reasons the maintenance of supplies to small consumers is given the highest priority and, if firm supplies are inadequate, large firm loads, including other power stations, will be required to cease taking gas. This has important implications for the security of electricity supplies.
- These factors lead to an **asymmetry of supply security risks** as far as consumers are concerned, with social and economic damage resulting from gas supply failures to consumers far exceeding the cost of providing additional infrastructure to meet such low frequency events.
- The **seasonality of gas demand** and the variability of winter requirements also pose particular problems. Accordingly, gas supply systems and infrastructure have been planned and developed to achieve specified standards of security – peak demands equivalent to 1 winter in 20, and sustained periods of cold weather, 1 winter in 50.

One of the issues raised by market liberalisation is how such standards should be determined in the future.

#### **4 The gas supply/demand outlook for the British market**

Transco's latest 10 year forecasts of gas demand and supply for the British market were summarised in July in 'Transporting Britain's Energy: Conclusions of Transco's Consultation for Future Network Requirements'. Full details will be published in the next 'Ten Year Statement' in October.

The main points relevant to the security of Britain's future gas supplies are :

- Britain's growing dependence on gas imports, with latest projections indicating that perhaps a third of Britain's demand in 2010 will need to be met by imports;
- the already tight winter gas supply position which is being accentuated by the export to Continental Europe of surplus summer gas from UK offshore fields;
- possibly reflecting the changing pattern of production, reduced reliability of beach supplies in winter;
- the future need for the NTS to provide additional flexibility for handling imports, exports and trans-shipments;
- the abundance of external gas reserves potentially available to Western Europe from Norway, Russia, the Caspian, North Africa, the Middle East, and further afield in the form of LNG; each source having different implications for onshore infrastructure requirements; and
- the limited role of existing gas storage facilities, given the historic availability of ample offshore supplies, and the future need for a more strategic role for gas storage in the context of growing dependence on gas imports from remote sources.

#### **5 Public policy and regulatory issues**

##### **(a) Import dependence – the European dimension**

The linking of Britain's fully liberalised gas market to the administered, largely contract-based, gas markets of Continental Europe is already having a significant impact on security of supply and on gas prices. The British market and its consumers have become 'price takers' from the Continental markets, where gas prices are generally linked to oil prices. Surplus summer gas from UK offshore fields is being exported to realise higher prices in Continental markets, some of it seemingly for strategic stockbuilding. This in turn is increasing the depletion of UK reserves while reducing the ability of UK offshore fields to contribute to the coverage of peak winter requirements in the British market.

While imports of Norwegian gas may well become an important medium-term source of supply for the British market, they will not be sufficient to cover the growing deficit in the longer term. Increasingly, Britain will depend on pipeline gas ultimately supplied from external sources such as Russia and North Africa – or on imports of LNG.

Given this, the development of a liberalised European wholesale market for gas served by a seamless open-access transmission infrastructure is a prime policy objective. The gap between this aspiration and the current position is wide, and little progress is being made in resolving the big divisions between EU governments as regards the merits of liberalisation versus administered markets in a strategically managed framework.

Physically, Europe's gas infrastructure is well developed and mature, but it comprises separate networks which are not well connected operationally or commercially. Gas quality differences and many other variances of standards and practice are used to defend the status quo and the continuation of vertically integrated monopolies. In spite of the existing European Gas Directive promoting liberalisation, third party access to the Continental European gas networks remains difficult and costly.

For the liberalised British gas market on the western edge of Europe, these existing arrangements imply uncertainty and high costs for the transportation of imports. Even the largest suppliers to the British market are ill-equipped to compete with the big protected European gas monopolies for access to long-term imports from sources like Russia.

These factors suggest that British energy policy as regards gas market liberalisation and the security of future gas supplies should be based on the following considerations:

- recognition that Europe's prime policy objective as regards gas should be the development of a diversity of substantial sources of imports, readily and efficiently made accessible to EU consumers through an effectively regulated pan-European transmission network;
- recognition that most sources of imports to Europe are likely to be developed under long-term supply contracts, many of these on a take-or-pay basis; and
- British advocacy of a model for pan-European gas liberalisation which is forward-looking and squarely addresses this growing dependence on gas imports and the central importance of supply security as a policy objective.

Such a model for liberalisation of European gas markets and networks will have some – but not all – of the features of the current British model. It would in particular involve:

- the mandatory separation of the functions of competitive gas supply from regulated monopoly transmission;
- the development of large liquid trading hubs;

- a common carriage transmission regime;
- open access to gas storage facilities; and
- the removal of the practical barriers arising from differences of gas quality and operating practice.

Finally, it is important to recognise that European liberalisation on these lines may not be achievable; or only partially and patchily achievable. A fall-back policy objective should be an urgent review of the vulnerability of a British gas market increasingly dependent on imports, and the steps needed to protect security of supply if this is not delivered by liberalised pan-European gas markets but instead depends on the provision of adequate infrastructure through the current regulatory framework.

#### **(b) Investment in infrastructure**

In order to promote security of supply and diversity of energy sources, regulation of the monopoly energy networks needs to strike a balance between driving for efficiency on the one hand, and providing suitable incentives for investment to achieve greater flexibility and resilience on the other. During the 1990s, regulation in the UK has concentrated on delivering lower prices through increased efficiency and ‘sweating assets’. This has removed excess capacity in networks, but at the same time reduced resilience to supply interruptions and also flexibility to respond to increasing uncertainties.

In the context of its current price control review, Transco has highlighted in its published responses to Ofgem some of the issues that need to be addressed in respect of future investment in the NTS, and the conditions necessary to promote additional investment, while continuing to promote efficiency. In particular, uncertainties about future supply and demand patterns, and other developments such as the introduction of new trading arrangements in electricity, increase the importance of establishing a stable, predictable and forward-looking regulatory framework which:

- sets out clearly the outputs the NTS is expected to deliver;
- recognises that the market will not be stationary and therefore permits change to the required outputs in the light of subsequent developments;
- provides incentives to achieve good performance, and
- above all, enables the company to finance its investment programme by delivering adequate and reliable returns to investors.

Outputs to be delivered by the NTS are established by the Gas Act, Transco’s Public Gas Transporter’s Licence and Transco’s Safety Case agreed with the Health and Safety Executive. The main current criterion, set out in the Licence, is to meet demands on the

peak day in a 1 in 20 winter. In addition, Transco is required by its Safety Case to ensure that supplies are sufficient to meet the 1 in 50 severe winter. To do this, it is required to book additional storage (or ‘top-up’) if shipper bookings are insufficient. Given in particular the changed beach supply position expected for the coming winter, Transco has had to make top-up bookings this year to meet this requirement.

Recent experience has highlighted the extent to which the changed pattern of use of the NTS is not adequately reflected in these peak winter measures of capability. In particular, there is increasing demand for capacity in summer, to allow for exports through the Interconnector, and for flexibility to allow beach supplies to be landed at different terminals. Producers have also expressed concern that the lack of certainty about long-term entry capacity availability and price is deterring investment needed to allow new supplies – for example from the Norwegian sector – to be landed in the UK.

A key question for future infrastructure investment planning is the extent to which additional investment in infrastructure, over and above that required for statutory purposes, is determined and funded through market mechanisms such as the auctioning of long-term capacity rights. Transco has said that it recognises and accepts the need to take account of clear and reliable market signals in informing investment decisions. But it continues to believe that it would be inappropriate to develop a framework under which market mechanisms alone provide the signals and incentives necessary to underpin investment in the NTS.

Ensuring adequate security of supply and an effective choice between diverse sources of gas, investment planning for the NTS therefore requires a continuing annual planning process which takes account of the best available evidence, including that provided by market mechanisms. In particular, Transco has proposed:

- to establish baseline output requirements for entry capacity in the NTS, based on extensive consultation between users of the network, customers and the regulator;
- together with the same set of stakeholders, to review the baseline outputs annually, and adjust the baseline price control to accommodate any changes;
- to continue developing and publishing plans for the NTS over a ten year horizon, but with a focus on the establishment and revision of output requirements on a three-year ahead rolling basis to reflect the lead times for major investment, and allow refinement of the requirements as additional information becomes available; and
- the need to provide regulatory certainty that any investment undertaken on the basis of such procedures will be fairly and consistently rewarded in future price control periods.

The interests of consumers are likely to be best protected by a regulatory framework which encourages the provision of reasonable insurance against a shortfall in capacity to avoid the high cost of inadequate supply. Given the increased uncertainty regarding

appropriate investment in the NTS, this suggests that, as long as customers are willing to pay for that approach, there is a case for erring on the side of greater flexibility in the network since any shortfall cannot be quickly remedied. Indeed, the lead time for investment is increasing as planning issues become more complex.

**(c) Regulatory implications**

The UK's current approach to regulation of energy networks reflects the primary statutory duty placed on the Secretary of State and the Gas and Electricity Markets Authority to protect the interests of consumers, where appropriate by promoting effective competition. The Lattice Group supports the general approach adopted by UK regulators, based on RPI-X price control mechanisms, as an effective means of lowering prices and increasing efficiency. However, this approach may require modification in the case of investment in infrastructure networks such as the NTS where the public interest may dictate a measure of 'spare capacity' as investment against the serious adverse consequences of supply interruptions.

As outlined above, public tolerance to widespread supply failures is low, even if these occur infrequently. Similarly, the intrinsically dangerous nature of gas merits treating safety as the highest regulatory priority. Again, whilst it may be for the companies themselves to deliver a safe network, the Lattice Group that there is a role for Government to ensure that the regulatory framework incentivises the provision of adequate insurance levels of infrastructure and supplies, and provides adequate funding to ensure public safety.

Even without the foreseen changes in future supply patterns – in particular the need to accommodate imports – the capacity of the NTS would need to be expanded significantly. Transco has set out a possible investment programme to provide additional summer capacity and increased system resilience in its consultation on 'Transporting Britain's Energy', amounting to some £600m on top of a baseline to meet 1 in 20 peak conditions of about the same amount. Other developments such as the promotion of embedded generation are likely to reinforce the need for increased NTS investment. Transco will set out the range of developments to be considered in its next planning round when it publishes the next Ten Year Statement in October.

Transco has recently submitted its comments on Ofgem's initial proposals on System Operator incentives, which cover the basis of changing the NTS investment programme, against this background. It has said that it supports Ofgem's objective of improving incentives to invest to expand the NTS in a timely fashion in response to customers' changing needs.

As Ofgem has said, its initial proposals on these issues represent a significant development away from the standard RPI-X form of control and seek to address the suggested weaknesses of that approach, in particular in relation to investment incentives. Transco agrees with Ofgem that the publication of clear output requirements, which Transco is committed to deliver, is a welcome development. Transco also welcomes the

recognition that in-period adjustments are likely to be needed to projected investment plans, in order to meet the changing requirements which inevitably emerge over time. Setting out in advance how such change is to be handled within the regulatory framework is an important development.

Whilst Transco believes that the introduction of long-term auctions has the potential to reveal information about when and where capacity is likely to be required in future, it remains concerned that Ofgem appears to place significant reliance on market mechanisms to determine the appropriate level of investment. Transco believes there is a number of reasons why long-term auctions could understate the requirement for capacity and undervalue supply security. Hence Transco continues to believe that a capacity planning process, which seeks to make best use of all the available information, should continue to inform the need for incremental investment, rather than relying on market mechanisms alone.

Investment incentives may also need to be reviewed in respect of the provision of storage, including LNG, and the provision of facilities to allow LNG importation. In the UK regulatory context, storage operates in a deregulated environment. Since deregulation, investment in new storage facilities has been limited. Given the assessment above, it is likely that additional strategic and mid-range will be required. Whether commercial incentives will bring forward adequate investment to support the achievement of security of supply objectives, or whether additional regulatory output standards need to be set, requires further assessment.