Centrica plc

Response to the PIU Energy Review

1. Introduction

Centrica plc was created in February 1997 out of the demerger of British Gas plc. In the UK it trades under its brand names – British Gas, the AA and Goldfish. It supplies around 13.5 million residential customers with gas and has built up an electricity business of around 5 million customers since the market opened to competition. The company is also active in the industrial and commercial gas markets.

Centrica owns both electricity and gas upstream production assets to support its supply businesses. In gas the primary asset is the Morecambe Bay field which accounts for some 12% of marketable UK gas production. The company has recently purchased interests in three power stations giving it 1455 megawatts of electricity production capacity. The balance of gas and electricity that the company requires to supply its customers is acquired through a mixture of short and long-term contracts or in the wholesale gas and electricity markets. Centrica is one of the leading energy traders in the UK and suppliers through the interconnector.

Recently the company has entered both the North American and the Continental European markets. It aims to have 10 million customers in North America by 2003 and 5 million in Europe by 2005.

Centrica welcomes the PIU review as it is essential to have access to diverse, secure and competitive sources of electricity and gas to supply our customers. Our response covers views on the likely growth of gas generation, overall gas demand and supply, the need for imports and how security can be underpinned in such a regime. It also briefly covers shorter-term security issues and energy efficiency. The key points we would like to emphasise in our response are:

- Full support for a liberalised energy regime in the UK. The policy has brought substantial benefits in terms of economic efficiency, the environment and security of supply. We would be concerned to see the Government moving away from a market based policy.
- In terms of electricity generation, there is clearly no problem in diversity at present and there is not likely to be a significant problem in the foreseeable future. This is therefore not the right time for intervention.

- Whilst the UK will become a gas importer, we believe the majority of supplies can be sourced from the UKCS until beyond 2010, particularly given the right fiscal regime.
- Gas importation is certainly not a difficulty in principle and should not be viewed as a strategic danger to the UK. Reserves that could supply the European market are robust and European imports have proved to be secure in the past. Centrica is confident about contracting for such gas in future, provided that there are no barriers to development of the necessary infrastructure.
- There are a number of important measures that can be pursued that would facilitate import security. These include, vitally, liberalising the Continental gas market, achieving greater gas interconnectivity, providing sufficient investment in the UK off and onshore transportation system and the right storage regime.
- There needs to be close co-ordination of environmental and energy objectives. Market mechanisms are best able to deliver defined policy goals.

2. Electricity generation

We are now at a point where there are roughly equal amounts of gas, nuclear and coal generation. This is the most balanced power generation market we have had in UK history although it is inevitable that going forward there will be some increase in dependence on gas for power generation. However, this is unlikely on current market forecasts to be as sudden or as dramatic as some have predicted, and we will certainly not reach the level of dependence on gas that we had on coal in previous decades.

Longer term, replacement of the aging nuclear and coal fleets will be required. On current market economics, this would largely come from gas. However, history has shown that applying current market economics to long-term future events rarely turns out to be correct. New technology or changes in market conditions can result in rapid and fundamental changes to the equation. The current emphasis on renewables may be one such driver for change. One concern is that currently, owners of power stations only have to give NGC 6 month's notice of closure and no notice of 'mothballing'.

Despite some initial technology problems with many of the new gas fired power stations, we have also seen the lead time between a project being conceived and commercial power production getting shorter. It is now possible to get from feasibility into production in three years. With many designed and (partially or wholly) consented projects awaiting development, it would be possible to get to production even more quickly.

Capacity margins (the excess of installed capacity above peak winter demand) are high, with NGC forecasting 26% for 2002 and 31% for 2005 (on their middle scenario). The combination of short development lead-times and existing high capacity margins suggests that the market is in a strong position, and we are unlikely to find ourselves short of power in the coming years.

There were some fears that the lifting of the gas moratorium would see a further "dash for gas" with a wave of new stations being built. The combination of high capacity margins, low forward electricity prices and high gas prices have meant that new entry economics are not favourable at present. To our knowledge, no new CCGT stations have gone into construction since the lifting of the moratorium. Interest in new gas supplies and power sales from new potential developers has also dropped off. Given an approximate new build timetable of 3 years, this suggests that new entry will be very low for the next 3 years or more.

Our analysis suggests that the scaling back of CCGT development will result in CCGTs staying below 40% of installed generation capacity for the next five years. Longer term, an increased proportion of electricity from CCGTs will depend both on new build economics, plant retirement and increased renewable generation capacity. The most significant question will be the timetable on which the nuclear fleet is phased out, and what steps in to take its place. However, significant closures of nuclear plant (with the exception of a minority of the Magnox stations) are not planned between now and 2010. We also believe that UK coal stations with appropriate emission controls will continue to have a role post 2010.

An open market for capacity in the UK/French electricity interconnector would be a very welcome development. The recent interconnector capacity auctions, and the current round of French power capacity auctions are a small first step. However, much more needs to be done. There are several proposals to build power interconnectors to the continent, in particular to Norway and the Netherlands. In our view the economics of such developments will be difficult, and we should not assume that greatly increased continental electricity interconnection will happen.

The new market structures for promoting renewable generation are a major step in the right direction in our view. It is yet to be seen whether or not the £30/MWh buy out price and the associated recycling mechanism will stimulate the appropriate level of new entry of renewable

generation. However, it would be wrong to draw any conclusions too early, since the market needs to be started and bedded in before the market will begin to react.

Our analysis suggests that significant new wind generation will be possible at this buyout price. Depressed market power prices for wind generation will not kill off the new entry economics. It is appropriate that intermittent generation technologies should attract a lower market power price, and we strongly support OFGEM's view that any steps to compensate for this should not involve interference in the NETA mechanisms, which are working well.

Global warming is a global problem. An international approach to promotion of renewables is appropriate, and will lead to the least cost, most effective and least environmentally damaging outcome. It would be wrong to avoid internationally tradable green certificates on the basis of promotion of UK technology development.

3. Gas demand

Whilst recognising the uncertainties associated with energy demand forecasts out to 2020, Centrica is broadly in agreement with the range of energy demand forecasts published by the Dti, Transco and NGC.

Centrica expects continuing growth in UK gas demand, with annual growth in the years through to 2010 averaging around 1.5%. We do not support some of the more bullish gas demand forecasts which have recently been published such as the Wood Mac study.

In the long term the main growth sector is gas fired power stations, as gas continues to be viewed as the most environmental and economical fuel for new generating capacity. Our views on the development of gas stations is outlined above. Given current pricing assumptions, we see little scope for large scale additional gas load for power generation in the short term.

In all markets, gas continues to be the preferred (most economic) fuel for space and water heating, so the domestic and non-domestic markets will continue to grow modestly despite the displacement of some traditional non-domestic load to CHP. The rate of domestic growth will depend in part on the commitment to energy efficiency. Our views on this are outlined in section 9.

4. UK Gas Supplies

Centrica is the leading buyer of gas for the UK market. The company is in continual discussions with UKCS producers and others who may be able to meet the companies supply needs into the future. Our assessment is that the UK will continue to be a net exporter of gas through to the middle of this decade.

Centrica expects sufficient new UKCS gas discoveries to limit imports to around 20% of annual usage in 2010. This would be less as a proportion of UK demand than the country was importing in the mid 1980s. As we move through to 2020 there is greater uncertainty regarding UKCS supply availability and demand. An import requirement of 50% to 70% could be envisaged.

Regarding peak supplies, we are already importing from Europe during the winter period. The requirement for imported winter/peak gas is expected to grow faster as the more flexible, high swing, existing UKCS fields are replaced by less flexible fields.

Whilst recognising the physical need for gas imports, growth in imports will also be driven by market factors with gas from Europe being potentially cheaper than yet-to-be-developed UKCS gas, particularly where new transportation infrastructure is required. Fiscal, regulatory and other measures to encourage recovery of all gas from the UKCS should be developed and implemented. These should include continued Government/Industry initiatives such as PILOT, supplemented by any necessary changes to the licencing and offshore regulatory regimes.

Centrica urges the UK government to ensure that a supportive tax regime is in place that recognises UKCS maturity. It should seek to maximise UKCS developments and exploration. A supportive regulatory regime for developments that are brought to market is also essential. We support the concept that “the onus should be on ensuring that there are no Government policies or distortions in the tax system that might discourage private-sector development and production of the UK’s oil and gas reserves or of [relevant] technologies”.

Centrica is concerned that elements of the UK's offshore taxation regime may discourage incremental investment in mature fields. As mature fields approach the end of their economic lives high tax rates provide disincentives for new investments to prolong their field lives. We understand that other countries have recently recognised the need for lower tax on mature fields, and would encourage the UK Government to consider specific measures in this area.

5. Future Gas Imports

In the longer term the UK will inevitably be a significant net importer of gas and should therefore prepare for this. The UK has in the past successfully imported large volumes of gas and in principle should be able to do so in future. In addition the wider European market has always been heavily import dependent which has proved reliable.

World gas reserves remain very significant and there are strong incentives on producers to make these available to the European market. The gas market is becoming increasingly global with strong growth both in pipelines and the LNG trade. Centrica expects this trend to continue.

Centrica is in discussions with a number of overseas companies that would potentially provide large volume, long-term supply contracts to us. In principle there is no reason why such discussions will not be concluded successfully. However, the terms on which they can be concluded will, as discussed elsewhere in this note, be very dependent on the availability of and terms of access to UK off and onshore transportation capacity, new interconnector capacity and European transit capacity and to the pace of progress generally of European market liberalisation.

However, it could be costly for Centrica, and hence the UK domestic market, if the costs under new contracts are inflated. This could occur either by non-cost-reflective transportation costs from other countries or by the need to compete with other potential gas buyers who may be able to pass high costs onto a less-liberalised and less-competitive market.

There are a number of important developments that would facilitate the importation of gas and aid long term security of supply where import reliance was increasing. These include European liberalisation, greater interconnectivity, the right obligations and adequate financial rewards for the UK transportation system and the right storage regime.

Speedy and effective liberalisation of the gas and electricity markets in continental Europe would help deliver greater security and efficiency of gas supplies to the UK. This is of fundamental importance as, for example, liberalisation would:

- Reduce UK - Continental energy market distortions that arise from the different market structures and price mechanisms.
- Enable existing infrastructure to be used more efficiently.
- Allow gas to be moved more easily between networks.
- Through unbundling and transparency, enable transportation and storage capacity to be more readily available.
- Provide clearer price signals that facilitate investment in new infrastructure.
- Permit large companies to choose their own security levels and even contribute to security of supply by selling gas back to the market.
- Provide enhanced security of supply at off-peak times through the linkage of gas and electricity markets which unlocks the reserve capacity in each network.

Liberalisation is also a vital tool in weakening the dependence on oil indexed contracts. Liberalisation facilitates the development of traded gas markets, and this in turn facilitates a weakening on the dependence on oil-price linked contracts. As traded markets develop, the "gas-on-gas" competition brings traditional contracts under pressure, both in prices and volumes. Efficient liquid traded markets and associated trading exchanges also create the price transparency which enables gas market-linked pricing under long-term contracts.

The "state controlled" suppliers in Russia, Algeria and, albeit to a lesser extent, Norway currently like oil indexation in part because the oil market is not controlled by their buyers, whereas the gas market is (or could be). The development of fully liberalised gas markets (liquid with lots of players) may make them (as it has UKCS producers) more amenable to gas market pricing. Indeed for those who also sell oil, pricing gas independently of oil may give them risk-management benefits.

Prices tend to become based on the cost of producing the gas plus the tariffs for transportation to border points and hubs. Given that the major transporters are generally de facto monopolists in specific areas, this emphasises the importance of effective price-regulation in transportation, where competition may be unable to deliver cost controls.

Based on proximity and existing infrastructure, the most cost efficient source of imports for the UK in the near term is Norway. The UK therefore needs to ensure that sufficient capacity is available at terminals and in the NTS to land and distribute such Norwegian supplies. The DTI paper identifies issues relating to possible pipeline gas imports from Norway. This raises key investment issues, notably what form of obligations and financial incentives a dominant transporter (Transco) should be given taking into account the uncertainties as to future requirements, both quantitative and locational. There is a risk that regulation of Transco may produce sub-optimal (low) transportation prices at the expense of high gas commodity prices as a result of capacity restrictions and limited options for gas importation routes.

Greater connectivity with mainland Europe is required through increasing the reverse flow capacity of the existing interconnector and, desirably, a second interconnector. Such developments would help the UK with additional flexibility and peak gas potential which is unlikely to be available from Norway but could potentially be provided by the Netherlands. Greater linkage with Europe would also help to develop a single European gas market. Without efficient interconnection it would be possible for the UK and Europe to have different prices and thereby mean that UK industry may have different cost bases to Europe. Interconnection also reduces the risk of supply problems, increases security of supply and allows efficient arbitrage.

Though the gas needed by the UK should be available in sufficient quantities, it is likely to be "lower-swing" than the gas from existing fields it must replace. This means additional gas storage could be needed to complement the new gas, and that in turn means that the UK needs a suitable regulatory regime for gas storage. No such regulatory regime exists. Centrica envisages controls which would prevent any monopolist provider of major storage services exerting considerable market power, as happened before the 1998/9 Ofgas review of storage services. This might be facilitated by the introduction of a "licensing" regime for UK gas storage operators, say from May 2004 when existing storage contracts expire.

Centrica believes that the provision of additional gas storage facilities could be an important option for UK's gas balance and future security. We suggest that the Government should consider easing planning procedures relating to such projects. This would have the twin aims of a presumption in favour of the projects unless there are reasonable grounds for doubt as to their need and (at least as important) more rapid decisions, to reduce times to operation for projects gaining approval.

Further issues relate to forward allocation of capacity to and between interested parties, both short-term and multi-year allocation.

6. Shorter term Security of Supply

Though the PIU study addresses issues to and beyond 2020, Centrica believes there are "security of supply" issues for the period to 2010 which should be considered.

The UK has traditionally planned to two gas security levels – to meet a 1-in-20 peak day and a 1-in-50 severe winter. It might be desirable to consider whether these remain appropriate. However it is important that the security levels for the gas industry are demanding, because of the risks to safety if there were an inability to meet firm demand and because of the costs and time to achieve safe site-by-site restoration.

There should be no long or short-term implications from market liberalisation on the safety of the gas network. Through the involvement of the HSE and the obligations on Ofgem and Transco we believe that there are sufficient safeguards in place to maintain standards at the appropriate level.

Centrica has earlier stressed that it believes strongly in a competition-based energy policy. The UK's liberalisation energy policy has served the country well over the last decade, bringing energy prices down to a level which is generally amongst the most favourable for end-users in Europe.

However, some industry participants may plan to financial horizons which are relatively short, say 2-10 years. It would not be rational for such players to plan each year to 1-in-20 or 1-in-50 security levels unless there are strong penalties for failing to procure and assure supplies to such levels. It is difficult to monitor forward security levels in an individual player's portfolio, especially as their market share forecasts may move and their balance will move as they trade forward gas supplies and capacity. Also, although there may be "licence obligations", it is questionable whether there can be adequate monitoring and sanctions to police such obligations effectively.

Centrica believes that a balancing regime which does not protect players from the market consequences of failures to match supply and demand, provides the first and best protection against low supply security levels. Even low probability of unlimited financial exposure can act as a strong incentive.

Nevertheless, Centrica believes that the competition-based policy should be complemented by specific monitoring of industry-wide security levels and by measures to address any deficits which might be identified. The gas industry's "Top-Up" rules meet exactly this issue.

7. Regulatory regime

In general we believe that the UK gas and electricity markets should be regulated lightly and consistently against a clear set of long-term and coherent principles that reflect all governmental requirements and any European aspects. It should not be driven by short term aims or suffer from multiple exposure to different regulatory bodies.

However, in respect of natural monopolies, we believe that government must ensure that the regulators provide sufficient incentive to the regulated parties to meet the obligations on supply and potential to supply (ie provision of capacity). Therefore the controls on companies such as Transco, NGC, BG Storage, etc are fundamental to the success of the regime.

The regulatory regime for gas transportation should provide timely and efficient signals for new investment in Transco's NTS. Centrica believes that the current regime fails to provide the appropriate signals and incentives for Transco, and hence can deny to producers a reasonable degree of certainty over the availability and price of transportation capacity. Centrica considers that with the present regime the risks to the UK economy of under-investment in the NTS far outweigh the risks of over-investment.

Centrica has already commented on regulation issues in respect of entry capacity and gas storage.

We have offered specific proposals on future regulation of storage services in our recent submission to the Ofgem consultation on the proposed sale of BG Storage Ltd to Dynegy.

In relation to the onshore and offshore regimes, the separate regulatory processes, and indeed the separation of regulatory responsibilities, have worked well in the past. However, the best method needs to be found that provides a consistent and co-ordinated approach.

8. Energy balancing

The long-term implications for aligning the gas and electricity balancing systems are complex. However, there is currently no real evidence of problems in the interface between the markets. We therefore believe a move to an hourly gas market on the basis of a theoretical problem that might happen would not be justified.

The gas network does not operate at an hourly resolution. Unlike the almost instantaneous power network, the gas grid is inherently less time sensitive. Hourly balancing creates a danger of artificial allocation of costs, and creation of a costly new mechanism that does not result in an equivalent benefit.

In gas, moving from the current daily-balancing system is likely to impose significant (and unjustified) additional costs across the gas chain, most of which will be ultimately borne by consumers. Gas and electricity are different products and there is no inherent requirement for them to be operated in the same way.

Centrica therefore recommends that in the short-term gas and electricity should continue to be balanced substantially as they currently are. As the NETA arrangements are bedded down and extended to Scotland (through BETTA) and European linkages become more established, the appropriate balancing requirements will become clearer.

Meanwhile Centrica inclines to the view that "profiling" issues in gas would be much better addressed by a regime encouraging more disciplined and less volatile nominations than by within-day balancing periods.

It should also be borne in mind that that shorter balancing periods are used as a barrier to entry in some European countries. Some regulators may be actively looking to extend the within-day period lengths to develop competition.

9. Energy Efficiency and Environmental Issues

Centrica supports the view that energy efficiency has a role to play in meeting environmental, social and supply security objectives. However, the UK currently lacks a coherent energy efficiency strategy in terms of the targets to be delivered and the most cost effective way of doing so in which sector. There are currently a variety of institutions (including the EST, the Carbon Trust, local authorities, Ofgem, private companies, HEES contractors etc) pursuing various initiatives (including HEES, CCL, ESSOPs, EEC etc).

Centrica believes that current policy initiatives and institutions are unlikely to deliver the scale of savings that would make a major impact on emissions or security. (The possible exception to this is the CCL which is likely to see significant energy saving but not necessarily in the most efficient way). Fuel Poverty is being separately addressed.

If the Government is serious about the promotion of energy efficiency, it is likely that a more comprehensive and radical package will be necessary. Centrica believes the following could be considered:

- Reduced rate of VAT on high efficiency domestic boiler. The turnover in the boiler stock is low and it is therefore important that incentives can be provided to encourage the uptake of the most efficient boilers on the market.
- Reduced council tax rates for energy efficient homes
- Reduced stamp duty on the sale of energy efficient homes
- Compulsory energy audits as part of home sales
- Obligations as landlords for energy audits in the private rented sector
- Improvements in building regulations
- Encouragement for dCHP technology and market development

These measures would need to be supplemented by a significant change in customer awareness and attitude. The capacity of the Energy Efficiency industry would also have to be expanded. This is currently a significant supply side constraint.

Next year Centrica will be investing around £3.60 per fuel per customer in energy efficiency although under the EEC scheme the majority will be targeted at fuel poverty rather than emission savings. We believe that there will be issues of customer legitimacy if the present

EEC expenditure levels were significantly increased. Centrica also believes that any significant increase in energy prices in the domestic sector to improve customer energy habits would be unlikely to succeed. Price elasticity of demand for gas and electricity is very low and there could be social issues associated with such an environmental increase.

More widely, Centrica would like to see more coherent integration of environmental and energy policies. The California experience clearly demonstrates the interconnection between issues such as planning permission regimes and supply security. Whenever possible it should be left to the market to deliver policy objectives and we believe the current renewables obligations is a good example of this. At a more micro level, Centrica would like to see much greater co-ordination of various "green" plans, such as CCL, renewables, supplier EEC schemes and emissions trading, etc. This would encourage the lowest cost solutions to emerge.

10. Conclusions

Centrica believes the PIU study is a timely contribution to the energy policy debate. We believe that policy should continue to be underpinned by a commitment to the principles of a competitive market. We believe that a number of concerns that some have raised are exaggerated particularly the development of CCGTs, the decline in the UKCS (given the right fiscal regime) and the potential problems of imports. Nevertheless, it is clear that the UK will become a major gas importer and we have identified in this paper a number of steps that will be needed to ensure this transition is successful.

We would be happy to discuss our thinking with the PIU and to provide background data on the points we have raised.

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