

DECC's Consultation – Electricity Market Reform

Response by Oil & Gas UK

Introduction

Oil & Gas UK which is the main trade association representing the oil and gas exploration and production industry in the United Kingdom is pleased to be able to contribute to the debate on this important aspect of the energy markets. We fully support the government's desire to reduce emissions of GHGs in economically efficient ways and to encourage investment that will achieve this objective, coupled with securing the country's energy supplies in a manner which is both affordable for consumers and keeps the economy competitive. We also understand the government's desire to end some of the investment uncertainties which are currently evident in the electricity generating market, in particular.

It is probably worth noting that such uncertainties have not been evident in gas, with perhaps the exception of storage where the economics is currently difficult. Gas has seen multi-billion pound investments in new supplies and infrastructure in the past five years which have stood the country in good stead during the severe weather conditions experienced last winter (2009-10) and during the early part of this winter (in late November and through December 2010). According to National Grid, of the ten days of highest demand for gas ever recorded in Great Britain, nine occurred in 2010, with three in January and six in December. In other words, the gas market has worked, so there may be lessons from it which are applicable to electricity.

Rather than answer DECC's specific questions in detail, which others are better placed to do than we are, we would like to make some high level comments for your consideration. Also, it is necessary to consider HMT's recent consultation about a carbon price floor alongside this consultation by DECC. We copied our response to that to DECC in February.

It is, though, concerning that both HMT's and this consultation seem to be treating these proposed reforms largely as regulatory matters, whereas we believe they delve into the heart of energy policy. Therefore, it is worth remembering at the outset that government, both in the EU and UK, has three over-arching policy objectives:

reducing emissions of GHGs; security of supply; affordability.

With affordability comes, of course, the overall competitiveness of the economy.

Price of Carbon – the risk of confusion

The underlying difficulty is that, currently, there is a lack of confidence in the price of carbon. This is meant to be set by the market, through the EU ETS, but the price has been undermined by the consequences of the recession and the lack of signals about what will happen to the EU ETS after 2020. It ought to be the mechanism for setting the price of CO₂ through the market in the longer term, but it is not clear whether this will be the case or not. In these circumstances, it becomes difficult for companies to plan their long term investments. This requires attention at an EU level.

In addition, policy makers run the risk of confusing investors through the variety of reforms being proposed. It is a mistake to try and set the marginal price of some desired objective, such as the abatement of CO₂. Artificially set prices are unsustainable in the medium to long

term. It would be better to focus on ensuring that the carbon market works and delivers the necessary price signals.

Multiple Regulation – too many initiatives

The picture has also become clouded by the number of initiatives and instruments which have been introduced in recent years or are under consideration: CCL/CCAs, EU ETS, ROCs and CRC EES in the former category and the RHI, a carbon price floor and these proposed measures in the latter. The coherence of all of these measures has to be questionable.

Taken together, they represent a substantial shift away from allowing markets to work, with all of the benefits which have accrued over the past 20 years in Great Britain, towards much more intervention by government. Indeed, after the application of the various measures proposed, it is difficult to see how much of a market in electricity will be left to be contested in a normal, competitive way and, therefore, how the electricity market will function or how a reliable price for electricity will be set in future. Together with the intermittent nature of wind power, it is therefore highly likely that wholesale electricity prices will become much more volatile than currently.

We would encourage DECC to concentrate on simplification where ever possible. There is a material risk that the complexities of having so many measures and instruments will become unmanageable and counter productive. A price for CO₂ is becoming less and less likely to emerge through normal market mechanisms, with the risk that this in turn will encourage ever more governmental intervention and the creation of more instruments to deal with the next perceived failure.

DECC has pointed towards existing policy uncertainty on page 32 of its consultation document; simplicity and clarity are needed in this whole area.

Energy Policy – renewable or low carbon energy?

It is now abundantly clear that current policies which aim to de-carbonise electricity generation by 2030 and electrify the economy are going to be very expensive. It is must also be doubtful if the necessary capital can be raised within the timeframe contemplated, never mind spent to good effect, i.e. without straining the supply chain's resources such that it leads to significant cost inflation, which would be the worst of all outcomes¹.

Furthermore, current policies assume the simultaneous and successful introduction of a wide range of new technologies and changes in the way we live:

- 12-15GW of new nuclear power plant
- CCS becoming commercial
- offshore wind power of a scale, complexity and distance from shore never undertaken before
- development of a smart and much expanded electricity grid
- widespread introduction and use of electric vehicles
- electrifying home heating (80% of homes currently use gas)
- introduction of smart metering across the country
- dramatic improvements in energy efficiency and the way society uses energy.

¹ As we pointed out in our response to HMT-HMRC in February, it is worth noting that the much quoted £200 billion of energy infrastructure investment during 2010-20 excludes our sector, where £50-60 billion of capital investment is expected in the decade.

Among the policies already being implemented, the one we believe is the most mistaken is the renewable energy target for 2020. It would have been much more beneficial if it had been a target for low carbon energy which would have opened the way for investment in a wider range of technologies. Instead, the policy represents a commitment to offshore wind power on a very large scale that is not only extremely expensive and, therefore, highly resource intensive, but the effectiveness of this form of energy is of dubious value at times of greatest need, because of its intermittent nature, which has been brought sharply into focus by the coldest winter for more than 30 years in 2009-10, followed by the coldest start to any winter on record in late 2010. In an analysis of the winter 2009-10, we found that

“Also worth noting in the context of security of supply is the fact that, over a 90 day period during the heart of the winter, actual output of wind generation connected to the electricity grid only averaged 21% of its nominal capacity and on 83 of the 90 days it did not exceed 50%, with one period of seven days during which it never rose above 10%. The maximum achieved on any one day was 67% and the minimum was less than 1%. While the proposed offshore wind projects mentioned above are likely to perform better because it is windier offshore, these figures illustrate vividly the need for other means of reliable and flexible generation in order to maintain electricity supplies. It should be noted, though, that maintaining large numbers of wind turbines in maritime conditions will unquestionably be more difficult than onshore.” (ref p.17 of Oil & Gas UK’s Economic Report, 2010).

Given the difficulties of raising the necessary capital and the restraints in the supply chain, particularly of suitably qualified people, the current target for 15% of the UK’s energy needs coming from renewable sources is, more realistically, a target for 2030, a point which we have heard wind power developers acknowledge. It would greatly help if government were to recognise this reality and adjust its policies accordingly, even though this will mean having to re-negotiate the UK’s commitments within the EU. This will be less damaging to the economy than attempting to achieve the target which, according to our information, the European Commission is well aware the UK is likely to miss by a significant margin.

The consequences of current policies were analysed in two separate reports which were published last autumn, the first by Poyry Energy Consulting for Oil & Gas UK² and the second by Redpoint Energy for the Energy Networks Association³. Poyry noted in its report that “There is a greater risk of the lights going out from a lack of power generation than there is of gas interruptions because of a shortage of gas.”

Although approaching the subject from very different directions, the two reports came to similar conclusions, namely that using more gas in the energy mix would be more affordable, less risky and, therefore, more likely to succeed. Indeed, Redpoint estimated that it could save up to £700 billion over the years from 2010 to 2050, while still allowing renewable energy to develop.

More recently, McKinsey has published a report for the European Gas Advocacy Forum which came to similar conclusions looking across the whole EU⁴. Again, savings of hundreds of billions (€) are forecast for the power sector alone, between 2010 and 2030, with similar amounts possible although less certain between 2030 and 2050.

² See http://www.oilandgasuk.co.uk/Role_of_gas.cfm

³ See <http://2010.energynetworks.org/reports/>

⁴ See http://www.statoil.com/en/NewsAndMedia/News/2011/Pages/24Feb_EGAF.aspx

There surely has to be merit in broadly similar findings by three separate consulting organisations of such considerable expertise and stature.

Carbon Capture and Storage – new technologies need time

CCS is widely seen as one of the main ways of reducing CO₂ in power generation. However, CCS at scale remains some years away and it is increasingly unlikely that commercial CCS will come about before 2025-30. If CCS can work with coal, it can work with gas and probably more cheaply⁵. It is encouraging to see ministers promoting CCS with gas for one of the four planned demonstration projects (DECC's 2050 Pathways of July 2010 did not seem to envisage this, although the newly published Response to the Call for Evidence re the 2050 Pathways does).

Without CCS or an equivalent abatement technology, it is difficult to envisage how coal can continue to be a significant contributor to energy supplies in the years to come. In an overall context, though, it is worth noting that China now has some 600GW of coal fired generating capacity which is as much as the USA, EU and Japan have combined, according to the IEA. From another perspective, this number happens also to be ten times current peak winter demand for electricity from GB's national grid, i.e. from all types of power generation: nuclear, coal, oil, gas, hydro and wind.

However understandable it may be, therefore, the government should be wary of trying to do too much too quickly, at great expense to consumers and the economy at large. Introducing new technologies and scaling up existing technologies (CCS straddles these two) require plenty of time in order for them to be developed to a state of commercial maturity.

The Gas Market – a success story

The market for gas in GB has become an international model, respected for its open-ness, good liquidity and competitive pricing. As mentioned above in the Introduction, investors have responded magnificently in recent years to the need for new infrastructure, as our own production has declined. Investment on such a scale would probably not have happened without an open and liquid market.

There has, of course, been a substantial move to gas fired power generation since the early 1990s, with all the benefits which that has produced: lower costs and fewer emissions of CO₂, NO_x, SO_x and particle matter when compared with the coal fired plant which has been replaced. Gas remains the technology of choice. If all of the electricity currently generated in GB from coal and oil were replaced by gas fired plant, emissions of CO₂ would fall by some 50 million tonnes a year. This requires no subsidy, no new market mechanisms and would keep electricity prices internationally competitive, thereby helping our heavier, manufacturing industries remain competitive, with all of the jobs, tax revenues and investment that would flow. Such industries are needed to help re-balance the economy.

However, DECC's 2050 Pathways document published in July 2010 projects gas demand to fall by about 30% by 2020 and nearer 90% by the mid-2040s. This offers no encouragement for future gas investment, whether in new supplies as UKCS production declines or in storage (the main infrastructure has been built already, as noted above). Not only do such projections discourage future investment, but they also discourage those who currently provide a wide variety of international supplies to this country from including GB in their longer term plans, other than occasionally.

⁵ ref Mott MacDonald for DECC, June 2010

By seeming to think of gas as little more than a short to medium term stop-gap and then future back-up for intermittent renewable energy, to be switched on and off at will, DECC is putting at risk both security of supply and affordability. To say the least, we think that this approach is short sighted, particularly when due consideration is given to the very large scale of power station closures which will occur during the next 15 years and the need to replace these with reliable power supplies.

Implementation – the need for reality

In Chapter 6, DECC has detailed its thoughts about implementing the proposed package of measures. However, the policies which lie behind these proposed reforms are taken for granted. We question the wisdom of this, particularly on the grounds of financing-cum-cost and deliverability.

Offshore wind and nuclear power, CCS and a smart, much expanded grid will all incur very high capital costs – they are resource intensive. We doubt whether it will prove feasible to raise the necessary capital within the timeframes anticipated, taking into consideration the balance sheets of the likely companies involved, the range of international opportunities which they have available and their appetite for risk. The costs to consumers, both domestic and commercial/industrial, will be high, higher than in countries which do not adopt similar measures. This risks pricing British industry out of EU and international markets.

But, even if the finance can be raised, can the supply chain deliver? This looks to be even more problematic, as two examples illustrate: i) offshore wind power's Round 2 developers, working reasonably close to shore unlike the forthcoming and much larger Round 3 projects, are already suffering cost inflation and a competition for resources; ii) during the boom years of 2006-8, the oil and gas industry found itself resource constrained around the world, with the cost of many basic, industrial commodities such as steel and copper rising rapidly, deliveries of plant and machinery lengthening and a shortage of suitably qualified people.

We strongly suggest to DECC that government needs to study in some detail both of these crucial facets of current policies sooner than later. They are likely to prove to be substantial obstacles in the implementation of those policies. It would be better still if DECC were to recognise the considerable risks which it is running and were to recast its policies recognising these risks and restraints.

Conclusions

- **There is an undue number of interacting measures being contemplated simultaneously whose coherence and durability must, therefore, be questionable.**
- **The various measures proposed are likely to undermine the markets which have served GB so well in recent years.**
- **Current energy policies are risky and very expensive, threatening both their achievement and the competitiveness of the economy.**
- **New technologies need time to reach maturity; they cannot be rushed.**
- **Within the overall energy policy framework, the substantial benefits of gas seem to be overlooked.**
- **A greater degree of realism is called for. Policies should be simplified and de-risked; they would have a better chance of success.**

