Project Discovery – Response by Oil & Gas UK to Ofgem's Consultation re Options for Delivering Secure and Sustainable Energy, ref 16/10.

Introduction

Oil & Gas UK is pleased to be able to contribute further to Project Discovery, having responded on 1st December 2009 to Ofgem's earlier consultation, ref 122/09. We welcome the overall emphasis on delivering secure and sustainable supplies of energy to consumers at affordable prices and the fact that Ofgem has concluded that, looking ahead to 2015, the future looks secure. Furthermore, it is recognised in the consultation document that there has been substantial investment in new gas supplies; it is also notable how well the gas market has performed during this winter now ending, the coldest for more than 30 years with demand rising higher than ever before (not only did the highest demand on a single day occur, but nine of the 20 days of highest demand on record also occurred during this winter, 2009-10).

Looking five years or more ahead inevitably encompasses some considerable uncertainties (the dramatic financial cum economic events of the past two years provide a vivid illustration of this), although the nuclear and LCPD induced power plant closures are clearly predictable. Any concerns about investment in electricity supplies, however, are not evident in gas, with probably the exception of storage where new investment has suffered a series of obstacles and delays over several years, but no lack of promoters wanting to develop gas storage.

Therefore, Oil & Gas UK believes that Ofgem should be very cautious about proposing wholesale change, unless there is a compelling case for such change. Ofgem has identified some reasonable concerns in its document, but it is far from clear that there has been genuine market failure, particularly in gas, given the scale of recent investment in new supplies by industry serving GB's market. It would be much better, in our firm opinion, to analyse carefully the causes of any shortcomings identified and proceed accordingly. The considerable uncertainties raised by the scope and nature of some of the changes which Ofgem is proposing are themselves potential disincentives for investment during the coming years. This would not be desirable.

Furthermore, of the five factors which Ofgem believes have combined to merit the reforms proposed, four have been known about for many a year; only the financial crisis is new in this context. Strangely also, Ofgem offers no preference among its options for change, nor does Ofgem propose an option of no change which ought to be equally valid and worthy of consideration.

Summary of Main Points

- **The gas market has delivered very substantial investment in new supplies in recent years (which Ofgem acknowledges); it is competitive and there is good trading liquidity. Market failure is not evident.**
- **The only weakness is in new gas storage, where there have been significant delays for a variety of reasons; the causes should be addressed specifically.**
- **Ofgem has under-estimated the extent of the changes taking place in worldwide gas markets. A much fuller analysis by recognised experts is called for.**

- **Any concerns about investment in power generation should not be allowed to affect gas. In any event, CCGT power generation is the only technology which can replace LCPD induced and age related closures of power plant in the next 10 years on the scale required, within the time available and at an affordable cost.**
- **Government and regulator should recognise the enormous contribution which gas has made for the past 40 years, and can continue to make in future, to the well-being of this country, cease treating it as the stop-gap when all else fails and develop a policy for its future use, so that the necessary, long term investment decisions can be taken.**
- **Overall, Ofgem should be very wary of proposing wholesale change for GB's market; the case for this has not been made in its "appraisals" and "assessments" which exhibit a worrying lack of rigour and quantitative analysis.**

We now turn to the specific questions posed in Ofgem's document.

CHAPTER: Three

Question 1: ***Do you agree with our assessment of the current arrangements?***

We can agree with some parts of Ofgem's assessment, but not others; the analysis of perceived market failures does not appear to be deep enough to draw any firm conclusions. Nonetheless, we welcome Ofgem's recognition that the significant investment in GB's energy market, particularly in gas, can be largely attributed "*to the high degree of transparency and the perception that the risks of government and regulatory intervention were low*". It is encouraging to see that nearly 30% of current gas supplies have been developed since 2006. Such investment has allowed supplies to continue at record volumes during this recent winter, the coldest for more than 30 years, according to the Meteorological Office.

It is also noteworthy that, in its recently released paper, Energy Market Assessment, HM Treasury states in the summary under "security of supply" that "On gas, the government will publish shortly its policy statement on security of supply. This document will confirm that the risks of the gas market being unable to meet demand are very low, even in extreme scenarios, and that there are no scenarios where there are any involuntary interruptions to supplies".

Cost and availability of finance

The main risk appears to be whether there will be sufficient investment in low carbon power generation by 2020. Any risks associated with investment in natural gas appear, or ought, to be secondary, with probably the exception of storage, itself perhaps an early indicator of some changing perceptions. The cause of this change is the absence of a clear policy and the resultant lack of clarity in forward gas demand signals. Currently, the government and Ofgem in its "green" scenarios view the energy outlook in terms of a substantial decline in the UK's use of gas by 2020, whereas National Grid is forecasting nearly constant demand – reduced domestic, commercial and industrial, but increased power generation demand.

This risks creating confusion in the minds of investors, even though CCGT power generation in place of coal and oil will inevitably form a significant part of the route to a lower carbon future and, in any event, will be required to back up intermittent, renewable sources of electricity post 2020/25. CCGT power plant is the only technology capable of filling the generation gap created by LCPD induced and age related closures of existing power stations during this decade, on the scale required, within the time available and at an affordable cost. In addition, there is the future possibility of CCS retrofit for CCGTs, now on the same footing as for coal, within the current Energy Bill (ref also **Investment signals in generation**).

It should be of little surprise that, with the exception of heavily subsidised wind, all of the power plants recently commissioned or under construction are gas fired, as are most of those being planned.

Market structure

Ofgem comments (para 3.18) that "*there is a risk that such dynamics could impact the perceived riskiness of generation investments, such that, perversely, investments with stable operating and fuel costs (such as nuclear and wind) could be viewed by the Big 6 suppliers as more risky than investments whose costs vary with volatile global fuel costs"*

Ofgem's views here are surprising; in the first place, future fuel prices and the degree of volatility in these can only be speculated upon, but we believe that the outlook for stronger competition and diversity in the international gas market will tend to reduce volatility. More importantly, investors will not see fuel price variability as a risk as long as retail prices are not regulated – they will, however, be much more concerned about risks associated with capital intensive investments such as nuclear and offshore wind.

Issues with current market rules

Ofgem notes in 3.27 that "*In gas, the problem primarily manifests itself in the emergency cash-out arrangements. Firm load could be curtailed in an emergency with the cash-out price frozen well below the value of … "*

We agree that, in the (unlikely) event of a gas supply emergency, the cash-out price may be frozen below that necessary to attract the additional gas to restore supply, but whether the price needs to rise to the value of lost load is far from clear. A more significant issue is the extent to which firm supply consumers should be compensated if they were to suffer loss of load. Compensation enforced by licence would certainly sharpen price signals and act to reduce the already small risk of such an emergency, but there is an affordability question in seeking an appropriate incentive for supply to consumers. We are not convinced that this is what GB's market needs.

Risk management

We question Ofgem's comments regarding the availability and transport of LNG cargoes and would recommend that Ofgem commissions a thorough study of global natural gas supplies, including LNG liquefaction and re-gasification projects. The advent of a growing international LNG industry means that increased supply (or demand) in one region of the world will

have an impact in another. In addition, gas from unconventional reservoirs in the USA has become technically and economically feasible to the extent that such gas now comprises some 50% of production. The USA's reserves are up 29% in just five years, gas prices are down and it is now anticipated that a 100-year supply is available, with potentially little need to import cargoes of LNG.

The world uses about 3 trillion cubic metres of gas a year. Its proven reserves are 185 TCM – a 60-year supply at current rates of consumption. Undeveloped conventional resources are estimated at another 217 TCM. But when unconventional resources – like shale gas – are added, the recoverable potential jumps to well over a thousand TCM. And that does not include the methane hydrates under the ocean floor and in the Arctic.

As a result of growing transport capabilities and the improved economics of LNG, gas found almost anywhere can potentially benefit Europe through direct import, or by supplying other parts of the world market and freeing other supplies for Europe. In the space of a few years, a globally inter-dependent gas market is evolving, just as with oil albeit on a smaller scale.

Meanwhile, Europe's unconventional gas is only beginning to be assessed. Shale gas exploration is under way in Poland and in Sweden, France, Germany and Austria. Coalbed methane is being explored in France, the UK and Germany and tight gas is being tested in Hungary and the Ukraine. It will take time to assess the results, because these efforts have started 10 years later than in the USA.

Ofgem is clearly among those who automatically assume that threats to imported gas supplies are greater than through domestic disruption, but there is little evidence to support this view. Indeed, a recent study by Dr. Jim Watson of Sussex University, *UK Gas Security: Threats and Mitigation Strategies*, published in January 2010 concludes otherwise.

Ofgem states that "*the GB markets rely on price signals and the companies' response to these to deliver the desired level of supply security".* We agree that a well functioning market delivering clear price signals is an important component of assuring security of supply, especially in shorter time frames, i.e. once infrastructure to receive and distribute supplies has been built and is operating.

But to attract future investment in new gas infrastructure, there must be a supportive policy from government together with supportive regulation. The former is lacking at present and, as an example of where regulation does not support major new investment, we point to changes in the tests for obtaining exemption from regulated third party access for major new infrastructure (Third Gas Directive). An unpredictable regime does not inspire confidence in investors.

Costs to consumers

We agree with Ofgem that it would be undesirable for any policy or system of regulation to "*impact on the international competitiveness of GB's energy*

intensive industries" ….or "*particularly affect those on low incomes and in fuel poverty"*

However, with respect to international competitiveness, we would have expected to see a comprehensive analysis of the future and additional costs of unilateral UK and EU regulation, such as the RHI, CRC EES, CCS levy, EU ETS Phase III and the new Security of Gas Supply Regulation.

Ofgem must ensure that the costs of future investment and supply are as efficient as possible for consumers; this can be achieved by actions that preserve the functioning of the wholesale gas market and which promote gas as an important long term fuel, alongside new nuclear, clean coal and renewable sources of energy. For power, there is clearly a need for some reform to enable improved competition and wholesale market liquidity. We welcome Ofgem's recent proposals in this regard.

Inter-action with inter-connected markets

Ofgem points out that there are supply risks caused by differences between GB, where supply relies on market price signals, and other EU countries, where access to supply may be restricted by the operation of PSOs or the holding of strategic stocks. We agree such divergent arrangements are not desirable under the solidarity model or an integrated market approach.

If GB were to introduce PSOs in a tit-for-tat approach, the effect may be that other Member States act to strengthen their PSOs. Stimulating a race of this kind would not in general be productive and, in general, we would support Ofgem in continuing an advocacy within Europe to reduce PSOs that compromise internal market principles of open-ness and liquid trading.

We agree that "*LNG responsiveness to short term price signals in GB*.." is limited by virtue of the fact that LNG is supplied via batch delivery after transport over long distances and often under long term contracts. However, as LNG tanker fleets grow, more un-contracted LNG becomes available and LNG terminal users fine tune stocking policies, we would expect responsiveness to improve with time.

Additional commercial storage investment within GB and access by GB players to firm supply from continental storage are both solutions to ensure that the GB market can maintain adequate short notice supply security. Ofgem seems more concerned about potential overbuild of storage .."*ultimately costing consumers more*". Ofgem's own scenarios indicate that gas demand outlook is so uncertain there is a risk of both underbuild and overbuild, or undercontracting or overcontracting of firm supply flexibility – importantly these risks would exist whether or not the market was left to its own devices to build storage or Ofgem established firm supply flexibility for each supplier under a licence PSO. At risk of repeating ourselves, the risks in storage investment can be narrowed significantly with a supportive and predictable gas policy and, therefore, less uncertainty for investors.

In relation to system resilience and, in particular, imports through the Interconnector, we welcome Ofgem's comments on the current restricted

gas specification under GS(M)R 1996, the risk of higher prices or demand curtailment and the challenges of investing in gas blending/ballasting to resolve this. We would urge Ofgem to develop a regulatory regime that facilitates such investment in what is increasingly a key infrastructure link. As we stated in our reply to Ofgem's Project Discovery consultation in 2009 "The problem is not a 'market failure' as it is described, but an incompatibility in regulatory regimes between one EU member and another. There is a lack of interoperability which cannot be pinned on any one, or even several, market participants …". Ofgem needs to recognise that the solution will almost certainly be a common user service provided by the TSO.

Non-financial barriers

Ofgem briefly mentions the capacity of the supply chain and the availability of the necessary skills. We entirely agree that this is a substantial factor to be taken into consideration. During the last period of intensive investment in gas and electricity infrastructure in the 1960s and 1970s, the supply chain in this country was substantially larger than it is today. This matter merits a major study in its own right to define the scale of the challenge facing the UK – which is not alone in this regard – before identifying possible solutions, some of which are likely to be on long timescales.

The size of the proposed investment (c. £200 billion in 10 years) points unerringly towards the creation of severe pressures within the supply chain (the worldwide offshore oil and gas industry has had a recent taste of such pressures during 2006-7-8). We are surprised that Ofgem touches on this so lightly – it calls for much greater attention by all parties.

Question 2: ***Are there other aspects of the current arrangements which could have a negative impact on secure and sustainable energy supplies, or costs to customers?***

At the expense of repeating ourselves, we think that government and the regulator should cease treating gas as a fuel to be tolerated at best, recognise its considerable virtues, its widespread availability and the huge benefits (economic, social and environmental) it has brought to the UK over the past 40 years and establish a sound policy for its future use. Without such signals and with much uncertainty, there is little to guide investors, but on at least a 10-15 year timeframe, it is the one source of new generation which can replace soon-to-be-retired power stations in sufficient quantity, at an affordable cost, with the necessary reliability and lower emissions.

Question 3: ***Do you agree that the five issues we have highlighted are the most important?***

We can agree in part, but not wholly.

i) The scale of the investment arises largely because of policy choices agreed by the EU's Council of Ministers. As mentioned above, it is doubtful if the supply chain can deliver such investment efficiently and it must be questionable whether the planning system has the capacity to process the

necessary applications. Gas fired power would be much cheaper, quicker and simpler to implement.

ii) We agree that carbon prices are uncertain, but it does not necessarily follow that the costs of low carbon solutions will be more expensive in future. It is the technology choice forced on industry by the EU's agreement which is the principal cause of the very large investment required, for which current carbon prices offer no incentive.

iii) Given the experience of recent winters, we are not convinced by Ofgem's argument "*that short term price signals at times of system stress do not fully reflect the value that customers place on supply security*". GB's gas market has responded well both with short term price signals and long term investment (except probably in storage, but for unrelated reasons).

iv) There will always be some risk that "*Interdependence with international markets exposes GB to a range of additional risks …*", but, as we pointed out above, in a recent study Dr Jim Watson of Sussex University concluded that imported gas is no less reliable than domestic supplies. Government should concentrate on ensuring that relationships with supplier and transit country governments assist new investment in supplies and the free flow of gas and, with regulators, that the EU's market is fully opened by removing any obstacles to the free flow of gas.

v) We would suggest that no one can forecast the future wholesale price of gas (ref "*The higher cost of gas and electricity may mean that …*"). For example, who predicted its current low price, putting substantial pressure on long term, oil indexed contracts and resulting from not just the recession, but some major increases in supply (LNG and shale gas in the USA)? It is likely that electricity prices will have to rise to pay for the outcome of EU and UK policies, but establishing the extent of any such price rise is equally fraught with difficulty.

Question 4: ***Do you have any comments on our description of what might happen if no changes are made to the current arrangements?***

Ofgem seems to take an unduly pessimistic view of current arrangements, for which it is substantially responsible, and comments that installation of new CCGT power plants "*… risks increasing the costs of future de-carbonisation of the power sector as these plants may have to be written off well before the end of their useful working lives.*" This is one possible outcome, but there are others such as CCS being installed and/or electricity prices rising as a result of the intermittency of renewable generation.

Ofgem also comments that investment in CCGTs may not be forthcoming because of investors' concerns about the risk of future government intervention to address issues via the promotion of CCS and nuclear. It may be the case, however, that industry is already fully aware of such possibilities as evidenced, for example, by the current Energy Bill which seeks to incentivise four CCS projects.

We disagree with Ofgem's argument that additional CCGTs would push demand up as indicated in its "Dash for Gas" scenario. Most commentators, including National Grid, expect that gas demand will remain more or less flat over the period to 2020-25, as energy efficiency and other measures reduce domestic, commercial and industrial demand, but this is matched by increased power generation demand.

We agree with the arguments put forward as to why the business case for investment in seasonal storage is challenging at present, although it has to be remembered that the UK has significant gas resources that have provided such flexibility. This picture is changing as Ofgem notes and this may alter market participants' future perceptions (there has been no shortage of storage promoters in the past five years). Ofgem also asserts that, among a number of reasons that investment may be held back, it is because of a "… short term glut of LNG…" and that future gas demand is uncertain.

Ofgem's analysis disappointingly demonstrates a failure to grasp the scale of changes taking place in the international gas market, the extent to which competitive pressures to supply gas to the market is growing and the advantage that GB has in attracting those supplies, provided there are supportive government policies. Both of the assertions in the preceding paragraph and this failure to understand the changes taking place are very significant and suggest a clear need for a thorough and independent analysis of the market by international gas experts, before conclusions can be drawn.

CHAPTER: Four

Question 5: ***Do you believe that our policy packages cover a sufficient range of possible policy measures?***

One plausible policy proposal is clearly missing, namely no change; it would be much less radical than having a central energy buyer. Under Option A, targeted reforms, even the introduction of a minimum price for carbon would represent a substantial, interventionist step, out of keeping with how Ofgem has sought to structure the market over the past 10-12 years.

As mentioned in some answers above, the unwillingness of government and the regulator to recognise openly the importance of gas leaves a gap in policy making and creates un-necessary uncertainty for investors.

Question 6: ***Do you have suggestions for variants to these policy packages?***

We firmly believe that evolution is to be preferred over revolution. It would be better to improve the functioning of current arrangements within the existing framework without resorting to significant, new regulatory measures. So, a minimum price of carbon should be removed from Option A, Targeted Reforms, and only considered in more radical packages.

Question 7: ***What other policy measures do you believe should be considered and why?***

The licensing and regulation of offshore oil and gas is the responsibility of DECC. However, gas storage, the "S" of CCS and wind power are all leased offshore by The Crown Estate. This makes little sense; all three should be rationalised under DECC, so that there is a single department of government responsible for all energy related matters.

CHAPTER: Five

Question 8: ***Do you agree with the assessment criteria that we have used to evaluate the policy packages?***

Yes, we broadly agree. However, a further criterion should be added to assess the impact of any policy measures on the UK's competitiveness. As Ofgem highlights, there are already a significant number of specific policy measures yet to be implemented including the RHI, CRC EES and CCS levy, in addition to the effects of EU ETS under Phase III which, in the case offshore oil and gas, are already substantial and will lead to reduced recovery of the UK's reserves.

Question 9: ***Do you have any comments on our initial assessment of each of the packages?***

Ofgem presents a reasonable discussion of the pros and cons of the elements within the packages. However, there is no weighting of the assessment criteria, nor quantitative measurement to guide readers as to which package best achieves any particular outcome.

This lack of rigorous analysis to support Ofgem's "assessments" and "appraisals" is a major weakness. For example, there is no discussion of the effects that a minimum carbon price could have on industry, nor does regulatory risk in general seem to have been examined adequately.

Furthermore, the oft-repeated conditionality contained in the body of Ofgem's arguments becomes near-certainty in its policy proposals. This cannot be right.

Question 10: ***Do you agree with our summary of the key benefits and key risks of each policy package?***

See our answer to Q.9 above.

Question 11: ***Do you have a view on which package is preferable or alternative policy measures or packages that you would advocate? We are particularly interested in any analysis you may have to support your views.***

At this stage, it is very difficult to express a preference for the reasons given in answer Q.9 above. It was noteworthy that when asked by the Chairman, during public evidence to the E&CC Committee of the House of Commons on 24th February, Ofgem's Chief Executive declined to express a preference.

However, his colleague, the Senior Partner for Markets, added that Ofgem was traditionally towards the left hand end of the scale from A to E of possible policy packages. So is Oil & Gas UK and, as expressed above, we question why the option of no change has not been considered and we do not believe that the case for a minimum carbon price has been made.

Therefore, we would urge caution and would prefer to see an evolutionary approach rather than anything more radical.

CHAPTER: Six

Question 12: ***Do you agree with our assessment of the timing for important investment decisions?***

Broadly yes, but Ofgem should consider that Project Discovery itself may cause delays in investment through the uncertainty it engenders. Then there is the length of time taken to initiate any changes in the regulatory framework before investment decisions can be taken. This reinforces our preference for evolution.

Question 13: ***Do you believe that early actions should be considered?***

Proposals such as improving demand-side response and price signals should be undertaken first. Other options call for more detailed analysis before any changes of legislation or regulation should be considered or decisions can be taken.

Question 14: ***Do you think that the issues are such that policy measures should be considered as a package or should they be considered on a case by case basis?***

Please see our answer to Q.13. Case by case is to be preferred.

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