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Kirsti Berge
Head of GB Markets
Ofgem
9 Millbank
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Project Discovery, Energy Market
Scenarios

Dear Kirsti

ExxonMobil International Limited is responding to the above consultation on behalf of its gas shipping entity ExxonMobil Gas Marketing Europe Limited.

Background – ExxonMobil World Energy Perspective

The energy markets of today are global energy markets. World demand for energy continues to increase and the best approach for meeting future energy challenges is to harness the power of free markets and new technologies.

History shows that when capital and ideas flow freely and property rights are protected by law, investors, entrepreneurs, and companies will invest in new technologies – leading to innovations that fundamentally shape our economies and our way of life over time. On the energy front, the sum of these innovations represents a set of integrated solutions – solutions that leverage technology to expand energy supplies, increase energy efficiency, and reduce emissions.

We know that investments in innovation and cooperation unleash human ingenuity. That ingenuity can, in turn, bring far-reaching technological advances that transform the economy, protect the environment, and increase energy security.

ExxonMobil is committed to disciplined and long-term investments in technologies that hold the promise of meeting the global energy challenge.

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Summary Perspective – Project Discovery

GB is a part of the global energy market and is moving into a period where new technology and innovative solutions will play an increasingly significant role in providing future GB consumers with the affordable and secure energy they need. Project Discovery was initiated in early 2009 with the objective of examining secure and sustainable energy supplies over the next fifteen years. We agree with Ofgem's view that it is important to examine UK energy policy as part of a wider global market to address energy supply and environmental challenges.

However Ofgem have issued a consultation that is in effect a supply demand study, that in one form or another has already been performed by a number of competent energy consultants, as well as DECC and the Climate Change Committee. What the energy industry needs urgently, however, is strong independent regulatory guidance so that significant market uncertainties that continue to exist can be substantially removed enabling investment and innovation to proceed now with greater confidence

Ofgem's scenarios work, in common with other studies, demonstrates the wide range of uncertainty in GB energy markets and trumpets the cause of new technology and innovative solutions but in its objective to test security and sustainability fails to make clear how far the power sector is exposed to new, and overlapping risks. The pace of technology development, innovation and policy making must be considered alongside the requirement for energy security.

Project Discovery provides an opportunity, and we urge Ofgem to take that opportunity, to get a very clear focus on two important features of the GB energy market over the next two decades:

- (1) Power security is the central issue for GB and the ongoing requirement is for clear policy that supports the building of sufficient gas fired power generation capacity.
- (2) Natural gas will be playing a key role over the next two decades, as a low carbon fossil fuel using proven CCGT technology, providing flexible fuel backup to cover delays to other projects and increasingly as the most flexible infill for variable power output from renewables such as wind.

By getting focus on this aspect Ofgem, working closely with DECC, NGG and others, will be able to consider the risks to power security that accompany investment programs of the size envisaged (where delay is a real risk) and the risks associated with operation of new technology (where there can be teething problems in initial operations) and the risks arising from the variability of power output from renewable sources such as wind.

By contrast to this requirement, Ofgem seem to have focused initially on specific gas supply shocks in a period where world supplies are plentiful and growing, where Europe's access to world gas supplies has increased and where European interconnectivity and hub liquidity continue to improve.

Finally, in the context of public and political concerns about GB's future gas storage requirements we believe Ofgem could include within Project Discovery a dispassionate look at GB's options to access flexible gas supplies and examine whether appropriate regulatory measures might facilitate such access. At the same time we see that Ofgem might take the opportunity to recognise the characteristics, benefits and market impacts of contracting firm gas supplies from any source, storage, pipeline or LNG.

We provide further specific comments (in italics) against some of the questions raised by Ofgem in its consultation.

Scenarios and Stress Tests

Scenario Questions - Ofgem asks for comments on its scenario approach as a means of bounding future uncertainty and as a starting point for evaluating policy responses. Ofgem asks whether consultees agree that LNG is the likely medium-long term source of "swing gas" for the European market?

The four scenarios are a representation of the boundary pathways, although as Ofgem have noted it is unlikely that any of these scenarios will represent the ultimate path followed. The Green Transition and Green Stimulus scenarios describe the outcomes from an energy market that has very little choice, operating within a context of ever increasing policy mandate and subsidy to deliver extremely challenging carbon emissions and renewables targets. At the other end the Dash for Energy is unrealistic as it implies no improvements in energy efficiency.

The assumption that on an annual basis LNG will always be the swing supply to balance Europe demand is, as Ofgem acknowledge, a "simplified" one. In one sense the assumption of LNG as swing gas seems reasonable as over the timeframe of the modeling a significant proportion of world LNG supply can be re-directed between regional markets in response to market signals

However:

(i) LNG should not generally be viewed as "swing production" - LNG liquefaction facilities, once constructed and operational are designed to be run at capacity.

LNG suppliers, as opposed to producers, can provide supply "swing" by re-direction of LNG to/from Europe or from/to other Regional markets in response to market signals, or through use of floating LNG storage where there is a surplus of shipping capacity

(ii) LNG supplies will continue to compete with pipeline gas sources for sales within Europe – and there will be many more periods of time when pipeline sources including storage sources will in fact provide the "swing gas" ...Europe is currently in such a period.

Our conclusion is that European annual demand will be balanced by a combination of LNG, pipeline gas, and seasonal storage.

Further Scenario Questions Ofgem also seeks any observations or comments on its assessment of the key messages of the scenario analysis, whether there are other issues relating to secure and sustainable energy supplies that the scenarios are not showing, and asks to what extent consultees believe that innovations on the demand side could increase the scope for voluntary demand side response in the future ?

In its key messages (3.67) Ofgem concludes “that gas and electricity supplies can be maintained to customers provided the market participants respond adequately to market signals.....”

Our view is that market participants will respond adequately as long as market signals remain available and the market has confidence in them. Neither the gas or power markets can be expected to respond efficiently to forward supply demand signals that are subject to a large degree of uncertainty with respect to regulatory intervention and Ofgem’s scenarios demonstrate this very clearly for gas. For other sources of energy the uncertainty is more around ultimate cost and availability of Government subsidy than it is around supply demand.

The scenarios do not demonstrate very well the relative risks to security of power supply – build programs for alternative new power technologies or infrastructure could suffer significant delay, operate below design, or fail unexpectedly during the proving phase. The extent to which the power sector’s reliance on gas fired CCGT to take up the slack is not clear enough in the green scenarios. We encourage Ofgem to put a lot more effort into building a clear picture of power side risks over the next decade or so for each scenario, as the degree to which GB is reliant on new technologies and challenging build schedules is different in each case. Amongst the deliverables would be a better understanding of required power reserve margins in the critical period 2016-2025. It should be made clear that gas CCGT power generation will play a critical role in the new balance in this period.

Innovations (e.g. smart meters, distributed generation, feed in tariffs, pay as you save etc) in the domestic sector will over time widen consumer participation in the market and open up options for additional demand side response. Providing policy that encourages consumer innovation is desirable, particularly those relating to energy efficiency but it seems irrational right now to be planning in a level of domestic demand side response – change must be managed.

Stress Test Questions Ofgem ask whether the stress tests are representative of the types of risks facing the GB energy sector over the next decade, whether consultees agree with the assumptions behind the stress tests as well as inviting any views on the probabilities of these stress tests occurring?

The risk that the wind does not blow on a 1 in 20 peak day seems to be a wholly representative risk but the other tests lack justification.

We are concerned that Ofgem have not adequately explained their objectives in this part of the study. The lack of clarity here may potentially undermine Ofgem’s efforts to establish secure and sustainable energy supplies by increasing stakeholder uncertainty as it may signal that regulators are seeking to pick solutions and mandate a certain energy mix.

Notwithstanding the above, we would advise that any stakeholder analysis focus on the risks of new power facility delay, including overlapping delays, and otherwise examine the potential for supply events or shocks on a consistent as possible basis, starting with a generic categorisation e.g.

- (i) startup delay (permitting, financial, technology readiness)*
- (ii) equipment failure (offshore, onshore, supplies) for proven, new technology*
- (iii) commercial events (pipeline and LNG re-directions)*
- (iv) geopolitical*

The probability of each type of event, the size and duration of events can be considered for each energy source in turn, and the likelihood of multiple overlapping events assessed. Such an analysis is not straightforward and we would encourage Ofgem to work with DECC, NGG other stakeholders, consultants and experts to ensure a robust, defensible approach results

Conclusion

As expressed in our summary section above, Ofgem must come out quickly and make clear statements regarding the key role Natural Gas must play in GB power provision for the next decade and that power security is GB's main concern. Industry decision making can start to proceed with greater certainty – and Project Discovery can then afford the further time for development, if necessary, to inform on policy refinements that may be required for the post 2020 period.

Project Discovery is fundamentally an extremely important activity as far as Ofgem have described its objectives for the project – we very much welcome the opportunity to contribute to this activity and we remain committed to working with Ofgem and industry to maintain a successful and robust UK energy market.

In you have any questions regarding this response, please don't hesitate to contact me.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'I. Trickle', with a horizontal line underneath.

Ian Trickle