

## CHAPTER: Two

**Question 1:** *Please provide comments on our approach of using scenarios and stress tests to explore future uncertainty, and as a basis for evaluating policy alternatives.*

Stress tests and scenario analyses are appropriate as a tool to understanding the vulnerabilities of the electricity system under both likely and extreme conditions.

**Question 2:** *Are there other techniques for analysing uncertainty that we should consider?*

Probability distributions and simulation could be used but are probably not appropriate in this case.

**Question 3:** *Do you agree with how we measure the impacts of our scenarios and stress tests?*

Yes the impacts outlined are appropriate.

**Question 4:** *Do you agree with our key scenario drivers and choice of scenarios?*

The choice of scenarios and drivers are appropriate for today's view of a future market. In six months time the energy world may have changed dramatically with unforeseen implications, i.e. following the Copenhagen COP15 summit, and different scenarios and drivers could then be more relevant. The energy market is every changing and Ofgem should continue to monitor and react appropriately.

**Question 5:** *Do you believe our scenarios sufficiently cover the range of uncertainty facing the market, and hence cover the areas where future policy responses may be required?*

The ability to finance projects as we move out of the current economic downturn needs to be included. The very uncertainty in the energy market Ofgem is trying to model, is the reason companies are unwilling to invest in large capital intensive projects. This will continue until the market situation becomes mores transparent. In many cases this will then be too late to deliver the necessary capacity required.

Credit issues are also important following the 'credit crunch'. Credit facilities have been dramatically reduced and this will restrict IPPs from building capacity.

**Question 6:** *Do you have any specific comments on scenario assumptions, and their internal consistency?*

Nuclear build may be curtailed under the green scenarios if proposed planning legislation is defeated or repealed by a new government.

Under the 'dash for energy' scenario commodity fuel prices drop back significantly in 2020 from 2015 levels despite a growing energy demand. The consultation document offers no explanation for the fall and it seems at odds within a scenario where nuclear output is falling and energy demand is strong.

**Question 7:** *Do you agree with our methodology for modelling gas and electricity supply/demand balances?*

Levels of investment used within these models need to be sense checked against likely investment as we come out of the economic downturn.

**Question 8:** *Do you agree that LNG is the likely medium-long term source of "swing gas" for the European market*

Yes, LNG will set the marginal price of gas in the UK. As pointed out in the consultation having LNG import capacity available does not guarantee sufficient gas will be delivered into the UK to meet demand. Therefore, this gas will only be delivered if the UK is willing to compete with other nations and pay the highest price, which will be subsequently be passed onto consumers.

### **CHAPTER: Three**

**Question 1:** *Do you have any observations or comments on the scenario results?*

UKC believes that the electricity supply situation could be significantly worse in the future than portrayed, if the Government accept the recent recommendation of the Committee for Climate Change not to allow any unabated coal plant to generate post the early 2020s.

The uncertainty caused by this recommendation is likely to postpone the large investment required to fit SCR onto existing coal plant. The risk of being forced to retrofit CCS onto these ageing plants before the end of the financial payback period will cause operators to opt out of the IED and close the plant down at the end of 2023.

Therefore we disagree with your IED assumptions on page 89 regarding the number of plant fitting SCR. At present there are 17 coal stations operating of approximately 28GW capacity. In three out of the four scenarios Ofgem assume that SCR will be fitted to 19 coal plant, which is two more than is currently listed in the Digest of Energy Statistics table 5.11. Out of the 17 plant currently in operation, five and a half will close by 2016 due to the Large Combustion Plant Directive; removing 8GW capacity.

It therefore seems unlikely that we will have 19 coal plant fitted with SCR and 18.367GW of capacity available in 2025 in the Green Transition scenario even with the building of 7.2GW of new coal with CCS. The Government is coming under pressure to announce it will not allow unabated coal plant post the early 2020s and UKC believes there is a significant risk that no unabated coal plant will be allowed to operate post 2023. If this were to occur the capacity margins showed in figure 3.9 would be dangerously low post 2016.

In order to meet this capacity shortfall it is likely that the electricity industry will build further gas plant, (probably unabated), which would further exacerbate gas imports into the UK and make it harder to achieve the UK's long term carbon reduction targets.

**Question 2:** *Do you agree with our assessment of what the key messages of the scenario analysis are?*

UKC agrees with the rationale for the study, the key messages and the key risks outlined in paragraphs 1.17 and 3.74.

Each scenario comes with real risks, consumer price increases and varying carbon impacts. The variation in the results between each scenario is also very wide which asks the question whether the market can deliver these outcomes without substantial government intervention.

However there is no doubt that the UK is headed for higher energy bills, increased gas import dependency, greater risk of gas disruption and the need for additional fossil fuel generation to cover large amounts of planned intermittent renewable capacity.

The scenario results point out the potential imbalance in our energy mix with a growing dependence on gas generation as the market defaults to gas build as the short term answer to capacity shortages.

In order to provide diversity, security and affordability of supply, new build coal with CCS is required to replace the ageing coal stations which will be closed as a result of European environmental legislation.

**Question 3:** *Are there other issues relating to secure and sustainable energy supplies that our scenarios are not showing?*

- The risk that there will be no investment in SCR in coal stations leading to reducing coal burn post 2016 and no unabated coal in operation post 2023. This would dangerously reduce capacity margins and encourage further gas build.
- The cost to the consumer of supporting low carbon technology and which type of technology delivers the best value for money.
- Planning risk: the abolition of the Infrastructure Planning Committee (IPC) so no new infrastructure is built in the timeframe envisaged.

**Question 4:** *To what extent do you believe that innovations on the demand side could increase the scope for voluntary demand side response in the future?*

No comment on this question

#### **CHAPTER: Four**

**Question 1:** *Do you agree that our stress tests are representative of the types of risks facing the GB energy sector over the next decade?*

Whilst stress tests are appropriate for testing security of supply and whether the lights will stay on, they take no account of affordability. The demand for electricity under these unusual conditions may be met, but the price may be prohibitive for UK industry and the fuel poor.

**Question 2:** *Are there further stress tests that you think should be considered?*

- Ofgem should consider applying a 'reverse-stress test' requirement, to consider the scenarios most likely to cause failure of the current energy system.
- Combinations of stress tests should be applied, ie it is not beyond the realms of possibility that zero wind days occur at the same time as a gas outage.

**Question 3:** *Do you agree with the assumptions behind our stress tests?*

Re-direction of LNG supplies: if there is a redirection of supplies due to higher prices elsewhere in the world, it is likely that 100% of supply would be either redirected or traded on to achieve the higher price. Therefore this stress test should be performed with no LNG supply.

**Question 4:** *Do you have any views on the probabilities of these stress tests occurring?*

Many of the events outlined in stress tests have already occurred, although not necessarily during a 1-in-20 peak demand day. It is therefore very likely that one of these will occur in the future as the UK competes for energy in the international market.

**Question 5:** *Do you agree with how we have modelled demand curtailment in response to constrained supply?*

Yes, the approach outlined within the document is appropriate. It is important that energy within the model reaches those customers who value it most.

**Question 6:** *Do you have any other comments on our stress tests?*

No further comments to those made above.