eef The manufacturers' organisation

EEF SUBMISSION TO THE CALL FOR EVIDENCE ON THE ROLE OF GAS IN THE ELECTRICITY MARKET

Executive Summary

- Gas-fired generation has a key role to play in delivering a secure, affordable and low carbon electricity supply. It is likely to remain the most competitive generation technology for a significant period, can act as back-up to intermittent renewables like wind and significant emission reductions can be achieved from further switching from coal to gas.
- The ongoing revolution in the exploitation of unconventional gas resources can only have a positive effect on the economics of gas-fired power generation – it should add to global supply and put downward pressure on international prices.
- However, EEF is concerned that current market arrangements do not provide adequate incentives to develop the increased levels of gas storage capacity that the UK will need to manage the risks associated with the changing nature of our supply.
- The government should not target a specific level of gas-fired generation. Instead, it should focus on ensuring that its policies facilitate rather than undermine investment in this key technology.
- The Carbon Price Floor (CPF) risks pricing gas generation out of the market in the 2020s if commercially viable CCS is not available early in that decade. The government must put in place contingency arrangements to manage this risk starting with a commitment to review the CPF trajectory if development of CCS proves slower than expected.

ABOUT EEF

EEF is the representative voice of manufacturing, engineering and technology-based businesses with a membership of 2,500 companies representing 6,000 industrial sites.

A large part of our policy work focuses on the issues that make a difference to the productivity and competitiveness of UK manufacturing, including investment, innovation, skills and tax issues.

This memorandum is a submission to the Department of Energy and Climate Change Committee's call for evidence on the role of gas in the electricity markets.

a) What are the main strengths and weaknesses of gas generation in helping deliver a secure, affordable route to decarbonisation through to 2020 and 2050?

Gas-fired generation has an essential role to play if the UK's electricity supply is to be decarbonised in way that is affordable to consumers and maintains security of supply. It has a relatively low emissions factor, is likely to remain the cheapest generation technology for a number of years and has the flexibility to act as back-up to intermittent renewable technologies like wind power which the government has put at the heart of its energy policy.

The potential emissions reduction benefits from further switching from coal to gas for power generation should not be underestimated. It is worth noting that the 1990s, which was dominated by the 'dash for gas', saw the carbon intensity of the UK's electricity supply drop by 36% whilst the 2000s, during which policy was dominated by a drive for renewables, saw carbon intensity drop by only 7%.

Whilst there have been a wide range of factors that have affected carbon intensity over the past two decades, such as the rise and fall of nuclear power, the fact remains that coal is significantly more carbon intensive than gas and still fuels a significant proportion of UK power generation. So further switching from coal to gas can deliver meaningful reductions in emissions.

The main challenge to a long-term role for gas-fired power generation in the UK's decarbonisation is the need for a secure and competitively priced supply of natural gas.

However, the ongoing revolution in the exploitation of unconventional gas resources can only have a positive effect on the economics of gas-fired power generation – it should add to global supply and put downward pressure on international prices. Especially if the recent US experience is replicated in other countries with significant unconventional resources.

b) What role can gas fired generation play in the future and what level of gas generation capacity is desirable?

The UK's extensive and well-developed gas infrastructure, coupled with the inherent characteristics of the technology, means that gas plant have the potential to deliver cost-effective and reliable baseload, peaking and back-up generation into the future.

The government should not target a specific level of gas-fired generation. Markets are better placed to deliver the most cost-effective and secure generation mix consistent with the UK's emission reduction targets. Instead, the government should focus on ensuring that its policies facilitate rather than undermine investment in this key technology.

c) What are the factors driving the economics of investing in new gas-fired power generation and how are these factors likely to change?

The government rightly identifies the prices of natural gas, electricity and carbon as key factors in the economics of gas-fired power generation.

EEF is concerned that the Carbon Price Floor (CPF) risks having the unintentional and counterproductive effect of pricing gas out of the generation market in the 2020s. If

affordable and proven carbon capture and storage is not available within a short timescale, which cannot be taken for granted, gas is unlikely to be a viable, let alone attractive, investment in the 2020s if the government sticks to the current CPF trajectory.

Based on the current trajectory, in today's prices, the CPF will add around £6/MWh to the cost of gas-fired generation in 2020 and £13/MWh by 2030. To put this risk into context, current margins for gas-fired generation are in the region of £2.5/MWh to £3/MWh.

The government must put in place contingency arrangements to manage this risk starting with a commitment to review the CPF trajectory if development of CCS proves slower than expected.

d) What barriers do investors face in building new gas generation plants in the UK? What are the key regulatory uncertainties that may prevent debt and equity investors making a final investment decision in gas generation and supply infrastructure?

-

e) Are there any other policy issues that need to be addressed beyond the Government's proposals for the capacity mechanism and the EPS?

See our response to question c above, which highlights the major threat we believe that the Carbon Price Floor could pose to the future economics of gas-fired power generation.

f) Given the continuing role for gas and the potential for increased volatility in gas demand, to what extent is gas supply and related infrastructure a barrier to investment in gas-fired generation and the supporting infrastructure?

The UK is well provisioned and has a good record in attracting investment in gas import infrastructure. However, EEF is concerned that current market arrangements do not provide adequate incentives to develop the increased levels of gas storage capacity that the UK will need to manage the risks associated with the changing nature of our supply.

By 2020, the UK will be dependent on imports for around 70% of our natural gas supplies. The nature of that supply is set change significantly too – by 2020 LNG will account for 3/5 of imports, up from 1/3 today. This will expose the UK to longer and more varied supply chains, which brings risks that need to be adequately insured against. Diversity of supply brings risks as well as benefits.

Storage is a proven and widely used insurance policy against disruptions to supply. Yet the UK has relatively little gas storage capacity. We have capacity equal to 14 days supply compared to 65 in the USA, 67 in Germany and 87 in France.

EEF shares Ofgem's concern that current gas market arrangements will not deliver long-term security of supply. However, we believe that the recent changes to market rules during situations of national shortage are necessary but not sufficient to ensure future supply; including encouraging the investment we urgently need in additional gas storage capacity.

EEF is not convinced that sharpening price signals during an emergency will have a material effect on long-term security of supply. Whilst it could reduce the severity and duration of an

emergency, which is important, it is highly debatable that it would reduce the likelihood of one occurring in the first placed.

Fortunately, to date, there has never been a national gas shortage in the UK. However, the UK natural gas industry is barely 50 years old and were one to occur the economic and social impact could be very significant.

The risk of high-impact but low-probability events, such as a national gas shortage, is difficult to manage effectively through price signals alone. Not only do individual market participants lack responsibility for overall security of supply, the likelihood and consequences of a gas shortage are very difficult to predict.

In the context of gas security, it is not obvious why utilities would alter their investment and risk management strategies on the basis of the potential consequences of an event which has never occurred, is unlikely to occur and if it did would likely trigger prompt government intervention to mitigate the effects on the economy.

In addition, reliance on price signals alone to deliver security of supply ignores the diversity of gas market arrangements in Europe. The UK is increasingly connected to and reliant on supplies from a range of European markets that operate under very different rules. For example the regulations that prioritise domestic consumers in the event of disruption and encourage long-term gas contracting which are prevalent in many markets, mean that continental European gas flows will not necessarily respond to UK price signals during a shortage.

To address these concerns, the government's gas generation strategy must be informed by the parallel work being undertaken by Ofgem assessing the need for further changes to market arrangements and the regulatory environment to ensure future gas security.

For more information, please contact: