

SUBMISSION FROM VPI Immingham

To Economy, Energy and Tourism Committee

Call for Evidence: Electricity Security of Supply

VPI Immingham welcomes the opportunity to respond to the above call for evidence. VPI Immingham is a combined heat and power (CHP) plant near Immingham, on the south bank of the river Humber. It is one of the largest CHP plants in Europe, capable of generating 1240MW – about 2.5% of UK electricity peak demand and up to 930 tonnes of steam per hour, which is used by nearby oil refineries to help turn crude oil into products, such as gasoline. Although we do not have any interests in Scotland, we are active participants in the GB Power market and therefore any decisions taken in Scotland are likely to have a direct impact on the economics and operation of our plant.

Our detailed response is set out below, but to summarise our key points:

1. The most efficient and affordable approach to maintaining security of supply is to take a GB wide approach, allowing the market to operate freely
2. Investor certainty is critical and given the period of unprecedented change in the electricity market, investors are looking for period of relative policy certainty
3. The capacity mechanism is the correct tool to ensure security of supply going forward

Current Security of Supply

Currently, Scotland is a net exporter of electricity, exporting 26% of its total output in 2012¹. With an installed capacity of approximately 11GW, of which c.6GW is wind generation, and a total annual demand of 32TWh², Scotland has more than enough installed generating capacity to meet its own electricity requirements. As a result, much of the electricity generated is exported to England or Northern Ireland via the existing interconnectors. Even assuming very low load factors or no wind, Scotland has healthy capacity margins and enough installed capacity to meet its demand currently, as set out in National Grid, SP Transmission and SHE Transmission's paper on security of electricity supply in Scotland³.

Whilst total national demand has been reducing and is expected to remain broadly flat in the medium term, peak demand remains relatively predictable at 5.5GW in Scotland. However, this is changing due to the increased level of

embedded generation and changing consumer behaviour. As the implementation of smart meters progresses and the prevalence of time of use tariffs increases, this is likely to change further.

With much older, thermal generation closing in recent years and the operation of the electricity system changing due to the increasing penetration of intermittent generation, there has been much focus on capacity margins across Great Britain. As a result, the UK government has implemented the Capacity Mechanism with the first auction held in December 2014 for delivery of the capacity in 2018. National Grid, in their role as EMR Delivery Body and System Operator (SO), has forecast the required demand and the corresponding volume of capacity required for the whole of the GB market - 95% of this has been procured via the first auction, with the remainder due to be procured in the year ahead auction. We believe that this is the right mechanism to ensure security of supply at best value for the consumer across the UK.

However, as the capacity will not be delivered until 2018, National Grid are looking to procure an additional 1.8GW of capacity via its controversial Supplemental Balancing Reserve for Winter 15/16 to ensure that there is adequate capacity to meet peak demand in the interim years. It is worth noting that of the three plants procured for this service in Winter 14/15, one was located in Scotland – Peterhead power station.

As a result, we do not believe that there is an issue with security of supply either in Scotland or in Great Britain, as demonstrated by the fact that there have been no blackouts as a result of insufficient capacity in recent years. The advantages of a GB wide system is that it allows for the most efficient management of the system – from procurement of adequate capacity for the country as a whole to a single over-arching view of constraints and system operability challenges. We believe that a market based approach provides the most economic outcome for consumers.

Changing Generation Mix

The Scottish Government's objective of a "largely decarbonised electricity system by 2030" is not inconsistent with the overall direction of the GB electricity market, although, as stated, the targets appear to be more ambitious. In the recent Contracts for Difference auction, of approximately 2.1GW of successful bids, 70% of this came from Scottish wind⁴. In addition, there is a further 8GW of Scottish wind projects in the pipeline to 2020. As a result, Scotland could withstand some closure of thermal plant and still be self-sufficient, even remaining a net exporter of electricity. This position will be further strengthened by the planned investment in Transmission infrastructure.

Development of wind energy in Scotland has not only contributed to Scotland's

decarbonisation objectives, but also to the UK wide targets and will continue to do so. However, a system cannot rely on intermittent electricity generation alone. Therefore, if Scotland wishes to remain entirely self-sufficient, it would need to also invest heavily in other technologies to achieve this – gas generation with carbon capture and storage, (although this is not yet commercially viable), energy efficiency, demand side response, electricity storage (again not commercially viable), nuclear, plus any new technologies that may be developed. It would be more efficient to align targets with the GB as a whole and to deliver on a larger more efficient scale, importing electricity via interconnectors should there not be enough renewable capacity to meet Scottish demand.

Energy efficiency and Demand Side Response (DSR) will play an important role in the future electricity mix, both in Scotland and the GB market and may be a more efficient approach to decarbonisation. Whilst there has been some progress to date with the Electricity Demand Reduction pilot, looking to permanently reduce demand (and which largely funded the installation of low energy lighting), DSR in the capacity mechanism and the forthcoming DSR transitional arrangements auction also under the capacity mechanism for new participants, it remains to be seen how DSR can be effectively incentivised and hence reduce energy demand.

Currently, the push for energy efficiency tends to be focused on large industrial and commercial customers who invest to reduce their energy costs. However, this is likely to change going forward, especially with the roll out of smart meters. With Scotland having the highest household consumption of electricity of anywhere in UK, it is likely to benefit the most.

The most efficient approach to decarbonisation needs to take a long term view of the electricity network as a whole and must not design policy in silos or in response to short term issues. In order to achieve security of supply under a largely decarbonised electricity system, it may be more efficient to invest in energy efficiency and DSR, further transmission infrastructure and increased interconnection both with the rest of the UK and Europe than to build new power stations or keep existing ones open.

Future Investment

With unprecedented change in the electricity sector as a result of Electricity Market Reform, increasing deployment of renewables, closure of older thermal power stations and various interventions from Ofgem, such as Project Transmit and the Electricity Balancing Significant Code Review, investors are now looking for a period of policy certainty. Regulatory risk remains a major barrier to investment. Therefore, any proposed changes must ensure that investment decisions are not undermined. Significant effort has gone into developing the new EMR framework and the new Transmission charging arrangements (to be

implemented from April 2016) and whilst there may be some changes that could be made to improve the policy, wholesale change is not required at this time and the new policies need time to bed in.

In terms of network infrastructure, National Grid's Electricity Ten Year Statement highlights where future investment and strengthening in the network may be required in the future, prioritising the most important areas. This investment is also closely regulated by Ofgem to ensure value for money for consumers. Investment in new Transmission assets across the UK is essential to meet the increasing penetration of renewable generation and bring the system up to 21st century standards, especially in Scotland which has seen unprecedented investment in wind generation.

The high penetration of wind and the fact that Scotland is a net exporter of electricity have resulted in constraint payments to both Scottish windfarms and thermal generation. For example, in the early hours of 26th October 2014, approx. 3.8GW of Scottish wind was generating, of which 3.2GW was constrained off⁵. The cost of these, and all, constraint payments are smeared across all generators operational in that settlement window which in turn can impact despatch decisions for other generators, but should be alleviated by the planned investment. With much of the planned major investment set to strengthen Scotland's transmission network, Scotland can only benefit – exporting increasing levels of wind power to the rest of the UK plus importing in times of low wind if required.

This is the major benefit of having one integrated system, managed by NG as the SO - electricity can flow both ways meaning that hugely expensive infrastructure in one location may not be required. It also can result in generation assets being built in the most efficient place, for example, recognising the very high cost of transmission losses. It also results in subsidy costs being shared across the whole system and a wider cost base. In addition, increasing integration with the European market and the European single market will play an important role, helping to contribute to security of supply across the UK.

Affordability

In our view, the correct tools are in place to manage the future of the GB electricity system, but affordability must remain a key priority, particularly when many families are struggling financially. Decarbonisation of the GB electricity sector is ongoing, but a balance must be struck between decarbonisation, security of supply and affordability whilst ensuring investor certainty. All proposals must be fully costed and benefit the integrated GB electricity system. There are economic benefits to being integrated and any separation may result in considerably higher costs in Scotland.

Going forward, interconnection, storage and demand side response will increasingly play a part in maintaining security of supply and are also able to participate in the capacity mechanism. Whilst the future landscape may look different to historic, GB is well placed with its current market arrangements to secure its energy future, including that of Scotland. The benefit of an integrated system is that costs are shared across the country and that Scottish generation can flow to England and vice versa meaning that expensive, under used power stations may not be required.

In this context, it is also worth considering that the CMA is due to publish its findings into the energy market by the end of the year and therefore any major policy decisions should pay due consideration to their findings and proposed remedies. Also, with a further discussion on a decarbonisation target due to take place in Westminster in 2016, this may provide further clarity for investors in both renewable and thermal generation.

We would welcome the opportunity to discuss our response further if of use to the Committee.

For further question regarding any of the above, please contact:

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