Sheffield City Region Response to the National Infrastructure Commission Call for Evidence

1. Executive Summary

1.1 Transformational investment into the North's existing transport and electricity network is absolutely essential to help assist business growth in the Sheffield City Region and help provide a step change in economic productivity and prosperity. Through dialogue with the Transport for the North Partnership, Highways England, Network Rail and HS2 ltd, there are a series of improvement to specific pieces of infrastructure and key corridors to unlock labour markets and increase economic interaction.

2. Section 3 - Electricity Interconnection and Storage

2.1 Energy consumption and generation is vitally important to the SCR and its businesses. The SCR has a large proportion of manufacturing companies which use, and rely on, access to large quantities of electrification and energy. Any change in the provision of electricity may force factory close downs which results in large business costs. In addition, the changing price of electrify means that production costs are not stable and this places vast amount of insecurity on business cost planning and long term investment. The SCR would therefore as part of this call for evidence, like to highlight the negative impact that the current electricity market places on the business environment, and this needs to be seen as a priority for change.

What changes may need to be made to the electricity market to ensure that supply and demand are balanced, whilst minimising cost to consumers, over the long-term?

2.2 The use of transmission charges is a key concern for business as this is a direct result of mismanaging supply in relation to demand. The most significant of which is called the Triad charge, which is derived from National Grid data to identify the three biggest peaks in power demand across the November-February period. Industrial consumers are then retrospectively charged at a vastly inflated rate, based on their power consumption during these peak periods.

2.3 As a result of this, businesses seek to mitigate the impact of the Triad by switching off systems or closing down plants for several hours at a time whenever they suspect demand across the country is peaking. In seeking to avoid peak prices, plants close up to 30 times at short notice over the winter season, disrupting operations and suffering punitive opportunity costs. This is an unnecessary obstruction to business and in the SCR this is having an impact on business growth and employment rates. A consistent supply of energy throughout the year will help prevent these peak costs and provide more certainty for operational costs and overheads.

What are the barriers to the deployment of energy storage capacity?

2.4 One of the main barriers is the ability for Local Planning Authorities to seek investment and to allocate land for the use of storage and energy production. Many of the sites outlined for this type of development often require the provision of expensive enabling infrastructure such as, pipelines, cables and road access. This can make seeking planning permission and building the infrastructure economically unviable unless other higher value land uses can be developed alongside (employment and housing). Government Grants could be used to fund these projects and incentivise investment and development of these facilities.

2.5 In SCR, the DN7 project in Doncaster has a number of elements (Don Valley Power Project, Doncaster Energy and Technology Park and the Doncaster Energy from Waste Project) which when complete will be a major asset to national electricity production and storage. There will also be a significant benefit to the local area as these facilities will provide jobs and supply chain opportunities for supporting businesses.

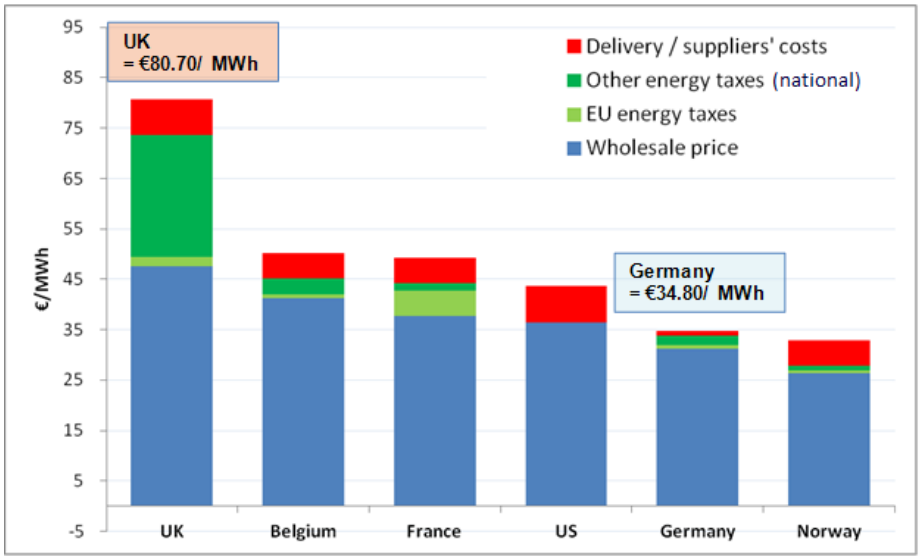
What level of electricity interconnection is likely to be in the best interests of consumers?

2.6 SCR recognises the benefits of the electricity interconnection and the potential increased interconnection will have on contributing towards energy security, consumer affordability and the ability to shift existing power production to decarbonised methods. On a national basis, this will also provide an opportunity to facilitate the single European electricity market, bringing more resilience, competition and economies of scale to the UK power market.

2.7 Evidence[1] published by DECC, shows that more interconnection is likely to be in the nation's interest. Through testing different investment scenarios, Great Britain consumers could see benefits of up to £9 billion by 2040. The evidence also stated that the security of supply would be enhanced by further interconnection. Any benefits in relation to costs or reliability of electricity will be supported by the SCR.

What can the UK learn from international best practice in terms of dealing with changes in energy technology when planning to balance supply and demand?

2.8 The below chart compares the €/MWh between various countries, with prices in the UK being substantially greater than the other compared nations. This demonstrates that the UK pays double what Germany pay, with most of the additional costs being 'other national energy taxes'.



6.9 The wholesale price is also radically different when compared to Germany and Norway. This would generally mean that in Germany and Norway, energy production is more efficient and the supply chain is more efficient with limited or managed peaks in demand. Although no specific examples can be pointed to in this response, SCR would recommend a closer look at the energy sector in Germany and Norway as this would help identify a series of quick wins for UK energy companies.

[1] Department for Energy and Climate Change (2013), More interconnection: improving energy security and lowering bills, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/266460/More_interconnection_-improving_energy_security_and_lowering_bills.pdf