

Written evidence submitted by Substations Action – Save East Suffolk (SASES)

Summary

Substations Action – Save East Suffolk (SASES) is a Community Action Group representing the deep concerns of communities close to the East Suffolk Coast.

Our purpose is to support the development of offshore generated energy sustainably and in doing so combat the unnecessary and environmentally damaging onshore impact of up to eight major energy projects whose developers intend to install many tens of acres of industrial infrastructure up to 18 metres high in a rural area, including an Area of Outstanding Natural Beauty. Developers of offshore wind power and sub-sea electricity 'Interconnectors' have identified an approximately 5 square miles area of East Suffolk heritage coast lying between the villages of Sizewell, Thorpeness and Friston where all this could take place.

Whilst this issue is local, it is symptomatic of a much wider failure to properly plan for and invest in the needs of offshore energy. This is a failure which is causing unnecessary environmental damage and which threatens the ability of the UK to sustainably develop offshore energy. That is why we feel this issue deserves the attention of the Environmental Audit Committee.

Ofgem and National Grid are Custodians of UK energy systems. There has been a failure to act on previous reports recommending coordinated plans for the connection of offshore energy to National Grid. For two examples: see **Ref 1** and **Ref 2** below.

There has also been a failure to innovate, in contrast to neighbouring countries on the Continent also engaged in the generation and transmission of wind energy from and via the North Sea. Were the UK to seriously rectify these shortcomings, it could seize the huge opportunity to create sustainable energy and counteract climate change through wind power. This could be done efficiently and responsibly with respect to the environment and to onshore communities that are increasingly being blighted by the present proliferation of coastal landing points, long cable corridors and massive substations. This can be achieved through investment in coordinated infrastructure solutions for offshore transmission to and from the UK National Grid, enabled through the application of innovative technologies from which UK would greatly benefit by becoming a world leader.

SASES believes there is an urgent need to invest in the transmission system for renewable energy generated offshore, principally offshore wind, to stop the unsustainable, environmentally damaging, uncoordinated, inefficient and long-term uneconomic approach which is currently being taken by National Grid and the energy sector.

The Present Situation

National Grid and the offshore wind developers have failed to strategically plan and invest in the transmission infrastructure needed both onshore and offshore to deliver the power generated offshore to the parts of the UK where it is required. This is despite the need for such a strategic plan and investment being identified at least 10 years ago, and the introduction of Ofgem regulatory policies intended to encourage the emergence of independent OFTOs (Offshore Transmission Operators) to plan and develop coordinated transmission infrastructure which would serve multiple offshore wind developers. This Ofgem policy has conspicuously failed, leading to the present situation in which each wind farm developer has to develop and build its own transmission infrastructure. This is inevitably causing unnecessary environmental damage onshore, not least because the onshore infrastructure (including substations) required to support wind farms has become increasingly large as the generation capacity of offshore wind farms has increased. The current approach is unsustainable and may well prevent the UK achieving its 2050 net zero carbon targets.

For example in East Anglia there are or are proposed multiple cable routes and large substation complexes connecting multiple offshore wind farms to the National Grid onshore. In Suffolk this has led and will lead to the Suffolk Coasts and Heaths Area of Outstanding Natural Beauty being dug up at least six times. The two latest wind farm developments being brought forward by Scottish Power Renewables require an onshore substation complex covering 30 acres of land with structures up to 18 m high. Scottish Power proposes to construct this on a green field site surrounded by listed buildings next to the quiet inland rural village of Friston in East Suffolk. Further high quality agricultural land will be lost in inadequate attempts to mitigate the landscape damage which will be caused.

Ofgem has not effectively regulated National Grid and the energy sector under the Electricity Act 1989. It and National Grid has focused on short-term economic measures whereas the Electricity Act requires a coordinated, efficient and economic system of transmission. What has been happening is neither coordinated nor efficient. As to whether it is economic depends on the financial model that is being employed.

How government policy in this area could be developed or improved

Whilst the problems are beginning to be recognised by Ofgem and BEIS as a result of efforts by local communities with the support of their MPs and Local Authorities, the actions proposed are extremely limited and do not reflect the urgency to avoid unnecessary environmental damage or to meet the future needs of offshore wind.

For example Ofgem's recently published decarbonisation action plan proposed the "action" of *"We will explore, with government and industry, options for a more coordinated offshore transmission system to connect offshore wind generation"*. This is not an 'action'. It is a recipe for inaction. Further, Ofgem proposes to work with National Grid on this topic. But it is largely the combination of Ofgem and National Grid which has led to these problems, so there can be no confidence that they will come up with an effective way forward without delay.

There needs to be an independent review with independent Power Engineering expertise to determine an effective way forward.

Further, National Grid and the energy sector will only apply the drive, resources and expertise necessary to develop effective solutions as quickly as possible if the current round of environmentally damaging, uncoordinated, inefficient and arguably uneconomic transmission approach is stopped pending the outcome of this review and the development of a sustainable way forward.

Technical Innovation

UK must exploit technical innovation as an enabler of more coordinated, efficient and environmentally acceptable methods of transmission from offshore wind farms to landfall and onward to the National Grid.

The UK should also aim to collaborate closely with other countries facing similar issues including North Sea countries such as Denmark, Germany, Holland, Belgium and Norway in order to build upon best in class recent technology advances. This would require evaluating and developing technical concepts and solutions for supplying the large capacities required to generate energy from renewable sources while realising the same at the lowest possible environmental impact and cost.

The goal should be for common energy generation and transmission designs approaches and joint developments where feasible.

References

- 1. Offshore Transmission Network Feasibility Study – National Grid and The Crown Estate, 26 September 2011**

<https://energy.soutron.net/Library/Download.aspx?id=4588>

- 2. Proceedings from National Symposium on Future Electricity Networks – Tim Yeo MP, April 2011**

<https://www.suffolk.gov.uk/assets/planning-waste-and-environment/major-infrastructure-projects/National-Symposium-Final-Proceedings.pdf>

SASES Contact details

SASES
South Cottage
Chase's Lane
Friston
SAXMUNDHAM
IP17 1PJ

email: bill@williamhalford.com