SUFFOLK ENERGY ACTION SOLUTIONS

PILOT TESTS for an OFFSHORE GRID is THE WAY FORWARD

The cheaper, faster solution is an offshore grid. This uses the North Sea as the main delivery corridor for wind energy going from the wind farms to an offshore platform where it is pooled and taken for the last stage of the journey in a single set of subsea cables to a hub site at shore line such as West Grain, Tilbury or Bradwell. A series of these grids can be built over time with three or four wind farms per offshore platform and an interconnector which can import or export that energy from Britain to another North Sea country such as Belgium or Holland. This offshore grid is ultimately composed of a series of offshore circuits that are flexible and expandable.

Switching to an offshore grid for the transmission network design off East Anglia coast will help achieve Net Zero faster and with greater certainty, whilst supporting economic growth and regeneration. With the Framework in mind now, we can start building for the future knowing that we are setting in place the smartest solutions in terms of environmental, economic and social benefits. Nothing is perfect, but this is significantly better than the current needlessly destructive plans using places such as Friston, a deeply rural medieval village, as a major hub site.

Brownfield sites such as West Grain and Bradwell are better suited to the long term needs and can be the base for a growing raft of converter stations, substations connecting to upgraded pylons, and hydrogen storage. Above all, they are closer to demand and in need of regeneration.

An offshore grid will mean significantly reduced onshore impact, with fewer onshore substations and cable trenches and correspondingly, reduced negative impact on environment and communities. An offshore grid will demonstrate Government action towards the legally binding commitments regarding Net Zero and its 30-by-30 biodiversity pledge.

An offshore grid is not a fantasy. It is realistic and achievable. Belgium's National Grid equivalent has been successfully implementing offshore grids for the last four years. Holland, Germany and Denmark are fast becoming offshore grid converts ploughing billions of Euros into their offshore circuits, where a growing network will join up through offshore platforms and in time, artificial islands. It took Belgium less than 4 years to build its MOG platform – see this great video https://youtu.be/ccafjYKERM0.

We propose two Pilot Tests:

Pilot 1: Nautilus interconnector

This is already being planned by wind farms Five Estuaries and North Falls combining with the Nautilus Interconnector and taking power to West Grain, and is expected to be announced soon as part of the Government's Offshore Coordination Support Scheme results.

Pilot 2: LionLink interconnector

ScottishPower's windfarms East Anglia One North (EA1N,) and East Anglia Two (EA2) and LionLink can combine energy offshore and take power to the brownfield site of Bradwell.

Based on previous National Grid ESO analysis an integrated offshore grid for East Anglia could offer cost savings of more than £2bn.

There is a further saving of £1.8bn if Pilot 2 is adopted because Sealink becomes unnecessary.

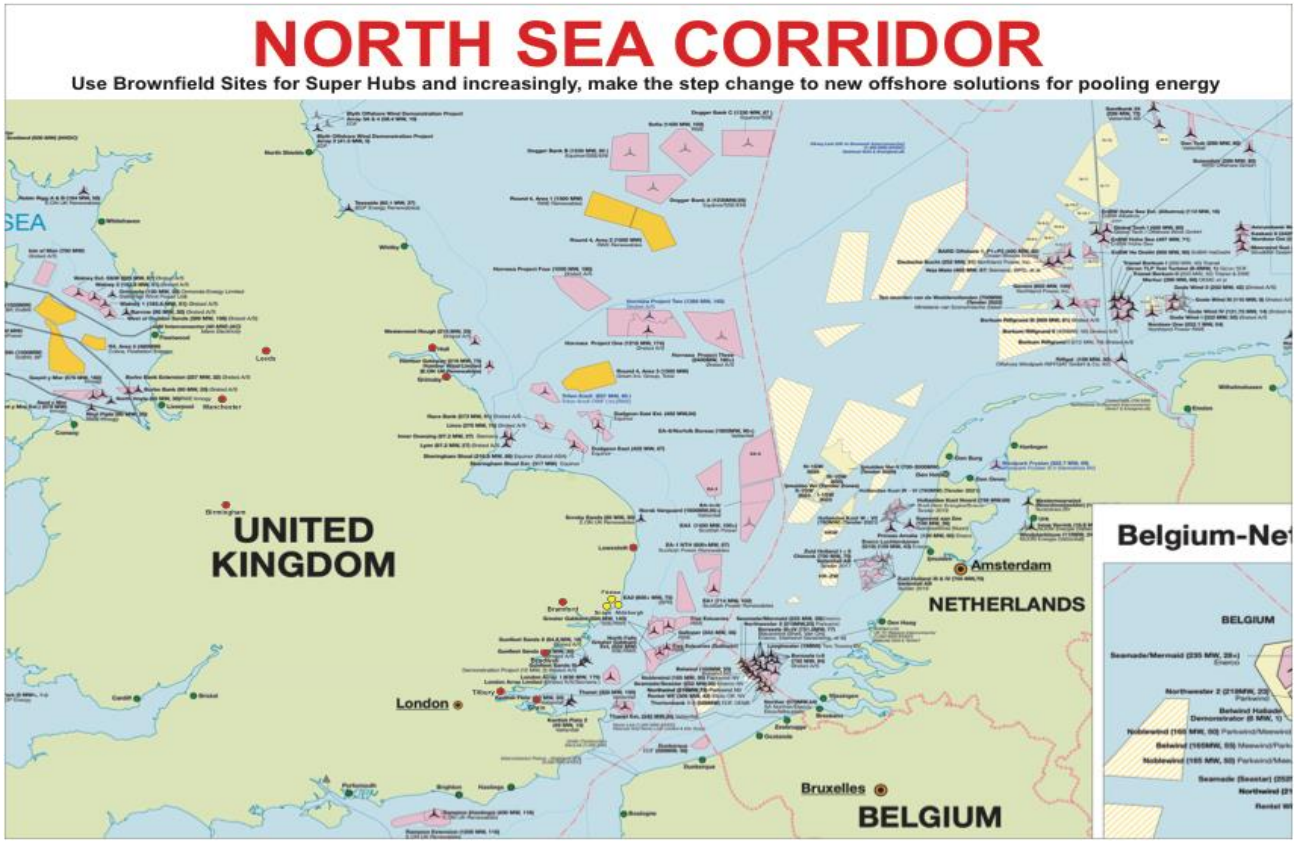
In the short term, Government needs to put in place a financing investment scheme to build the platform and establish incentives for developers to cooperate rather than working separately. Belgium's Elia MOG could be a great role model for Britain on how to do this.

We urge you to support our proposal for an offshore grid.

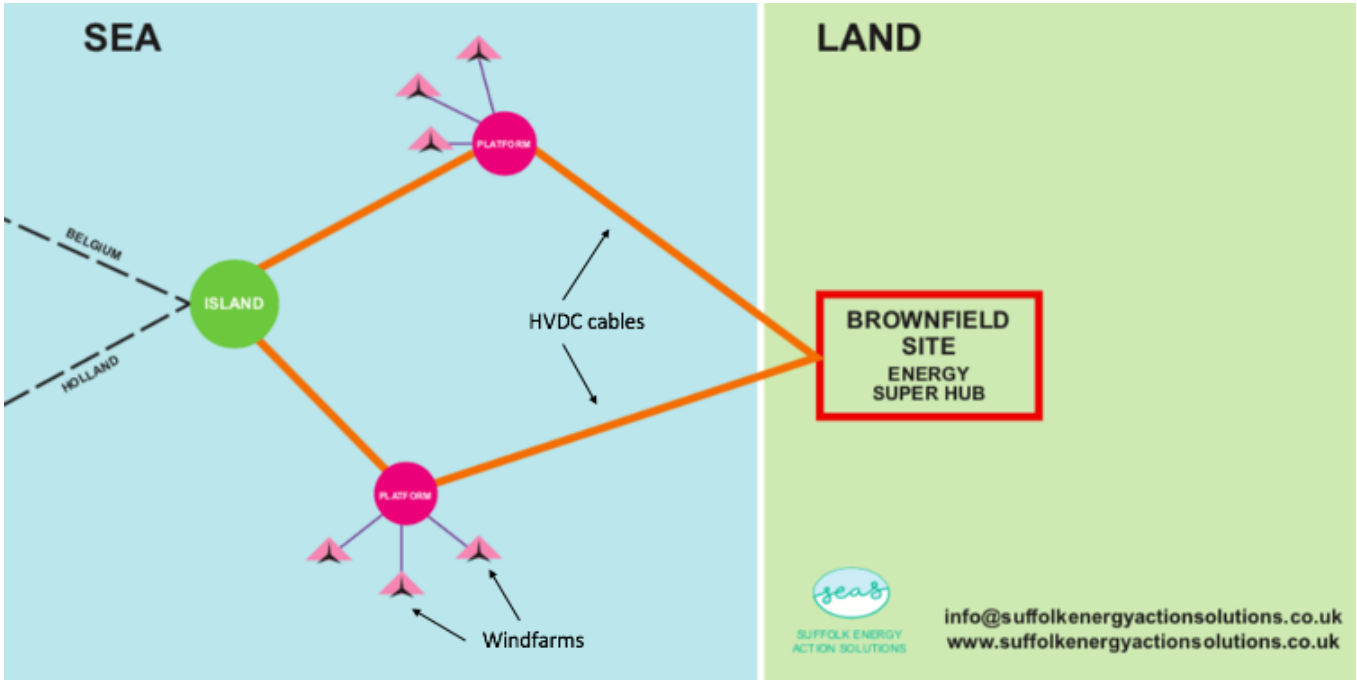
Better for Energy Security, Better for Consumer Pricing, Faster to Net Zero.

info@suffolkenergyactionsolutions.co.uk
www.suffolkenergyactionsolutions.co.uk

1. North Sea Corridor



2. Offshore Grid Theoretical Model



A simplified diagrammatic model for an offshore grid in which offshore platforms pool wind energy and carry it to landfall at brownfield sites. Offshore platforms can be located where wind farm subsea cables/converter cable routes intersect to maximise pooling opportunities. In the mid-term artificial islands could be constructed to support further energy infrastructures (e.g. green hydrogen electrolysers). A series of brownfield sites along the shoreline close to demand should be considered, designed to provide for future energy infrastructures (e.g. energy storage). Larger brownfield sites could develop into super hubs, to share more diverse energy storage/ conversion. This system is called a Modular Offshore Grid (MOG) and has been implemented successfully by Elia for Belgium. There are cost efficiencies for developers and consumers with faster implementation benefits. By 2032, this offshore grid can be GB's main arterial corridor for offshore wind.