

Offshore Wind: a perfect storm heading for Norfolk Does Your Parish Know?

Dear Parish or Town Council,

To avoid this disaster for Norfolk your support is needed urgently.

We are writing to you on behalf of a group of 30 Norfolk Parish Councils who are objecting to the cabling connecting offshore windfarms to onshore electricity substations. We apologise if you are already familiar with the detail of the various projects and perhaps have responded to the statutory consultations. However, we are seeking to ensure that all Parish Councils in Norfolk fully understand the implications and potential impact of these projects, which are simply the latest in a growing band of offshore windfarms with proposed onshore connection to the national electricity network. We are especially concerned that you have not been properly consulted by the developers regarding their current plans and therefore you may not have a complete understanding of the damage this will do to the Norfolk ecology and the severe disruption it will cause to the lives and livelihoods of the people of Norfolk, including those in YOUR parish.

Let us explain.

The Background

Currently the windfarms off the coast of the UK generate about 10GW of green electricity¹. The government has set ambitious targets to double this by 2025 to 20GW and then double it again to 40GW by 2030². This is basically good news in that it will create jobs, lower electricity costs and, in time, help the environment.

However, there is a downside. Under the current system, each offshore windfarm builds its own connection to the onshore electricity grid network. This is known as a “radial connection” and the consequence is that Norfolk is set to be criss-crossed with sets of massive underground electricity cables. Also, to transmit all the additional wind-generated power to where it is needed in the UK, the existing onshore electricity network will need to be upgraded down through Norfolk, Suffolk and Essex. After increasing objections from Parish Councils in Norfolk and Suffolk fearful of the damage caused onshore by these projects, the campaigning of local MPs³ and the publicity gained from a landmark case determined in January 2021 in the High Court in London brought by Ray Pearce⁴, there is now a growing awareness of the stupidity of the current radial connection system. There is also a recognition that the regulator Ofgem, the government Department for Business, Energy and Industrial Strategy (BEIS) and National Grid plc should have acted earlier to rationalise the connection of offshore windfarms to the onshore electricity network. This was, in fact, the original plan for these large-scale projects.

An Offshore Transmission Network

The government has at last woken up to the problem and in 2020 it set up an Offshore Transmission Network (OTN) Review⁵ with a view to planning and expediting the infrastructure to enable offshore connection of the various windfarm projects to an electricity network. When it is in place, the OTN will drastically reduce the overall amount of infrastructure required, as well as the need for multiple cable paths through Norfolk. If this were to be in operation by 2025, according to National Grid it would save an estimated £6bn and reduce the cable paths by 50%⁶.

The problem, however, is that Ofgem and BEIS are reluctant to delay any projects which jeopardise the government meeting its arbitrary target of 40GW of offshore wind energy by 2030. Ofgem does not wish to *enforce* delay of the projects until an

OTN is available and is merely proposing to allow developers to opt into opportunities for cooperation between projects which would mitigate some of the damage to the environment and to the lives and livelihoods of people in Norfolk⁷. Note that Ofgem's previous attempts to get developers to opt into cooperation between projects have been completely unsuccessful, and the government's target of 40GW of offshore wind does not take into account whether or not the onshore electricity network upgrades will be there in time.

So, what are the current plans?

Currently there are 5 offshore wind projects being developed which affect Norfolk, though many more are planned. As can be seen in Table 1 below, these projects are in various stages of planning but currently they are all likely to be granted Development Consent Orders (DCOs) which will allow them to proceed. Note that once a DCO is granted it can only be overturned by the High Court on procedural grounds. This is an extremely expensive and uncertain process, which makes Ray Pearce's victory in relation to Vattenfall's Norfolk Vanguard even more stunning. But, a DCO only provides an option – like any planning permission, it does not mean that the project has to be built that way. Hornsea Three, for example, with a DCO granted, has not yet reached the stage of bidding for government subsidies, and could still be changed if enough pressure is brought to bear.

Table 1: Current Offshore Projects affecting Norfolk:

| Project | Developer | Base in | DCO Status | Start Date | Complete Date | Substation |
|------------------|------------|---------|-------------------------|---------------|---------------|--------------|
| Hornsea 3 | Orsted | Denmark | Approved | ? | ? + 3 years | Norwich Main |
| Norfolk Vanguard | Vattenfall | Sweden | Pending | Delayed | + 3/4 years | Necton |
| Norfolk Boreas | Vattenfall | Sweden | Pending | 2022 | ? + 3 years | Necton |
| SEP (Sheringham) | Equinor | Norway | Planned submission 2021 | 2024 or later | 2027 or 2033 | Norwich Main |
| DEP (Dudgeon) | Equinor | Norway | Planned submission 2021 | 2024 or later | 2027 or 2033 | Norwich Main |

What does this mean for Norfolk?

Firstly, it is important to understand the sheer scale of each of these projects. The typical format for an onshore connection is a landing site on the coast where the cables from offshore are ducted onshore to buried joint bays, link boxes and, in some cases to a booster station, and then cables run inland from the coast to a substation and connection point to the grid.

The cable paths will each run for a distance of approximately 60 km in trenches which are over 40 metres wide (i.e., wider than a 3-lane motorway). To facilitate construction, a haulage road will be built along the length of the cable path which will necessitate, for each project, the importation of over a quarter of a million tons of rock and removal of over 100,000 tons of soil⁸. So, in effect, three motorway-size cable corridors will be built through Norfolk – two running North-South from Weybourne to Norwich and one

running East-West from Happisburgh to Necton. Furthermore, after a few years, in the case of two of these “motorway” corridors – because of potential ‘phasing’ of the projects – it is entirely possible that the trenches will be dug up and more cables added!

Please click on link below, where you will be able to access the map above, and hover over an area to see the parish boundaries in more detail:

https://www.wgphoto.co.uk/cable_routes/

Each cable path will terminate in a specially constructed substation occupying around 15 acres, which will connect into the existing substations at either Necton or Norwich Main. These existing grid substations will also require modification and extension to accept the new source of electricity. During construction temporary compounds, typically up to 60,000 square metres in size plus, will be required for site offices and material and equipment storage. Additional dedicated construction compounds for the landfall and substation sites are also planned.

The amount of additional traffic on the roads caused by these projects is truly vast. For the SEP and DEP projects, the developer’s data reveal that in the realistic worst-case scenario it is possible there will be over 400,000 HGV and LCV (Light Commercial Vehicle) movements⁹. This means some roads will have to accommodate an extra 1,000 vehicles per day. Materials and equipment for the projects will need to be brought into the county using the roads from the West and South and via the ports to the West at Kings Lynn (or Grimsby) or to the East at Great Yarmouth or Lowestoft. The huge electrical cable drums need transportation via the ports and will require low loader vehicles, as will some of the electrical equipment for the substations, which are classified as Special Order Abnormal Indivisible Loads (AILs). Each individual cable drum will require its own low loader. The cable drums for Hornsea Three will be 3.2m wide (measure your lane!) and 1,121 of these AILs will be required to travel down rural lanes to reach every section of the cable corridor for that one project alone.

Please see the map of cumulative impact of traffic, attached below at Appendix 1. Note that this map was produced in 2019, before the planned cable route for SEP/DEP had been established.

All the extra power generated offshore needs to be distributed to where it is needed in the country and most of it will need to go to London. This means that additional transmission routes (i.e., overhead power lines) will need to be constructed running south out of the county. These are separate construction projects which will have to be initiated soon, and will affect parishes in south Norfolk that have not yet been consulted on any of these plans.

What will be the impact on Norfolk?

The impact of all this construction will be enormous. There will be obvious consequences for the wildlife of Norfolk resulting from destruction of the countryside. Ponds, hedgerows and trees will be destroyed, some woodlands affected, and it is not possible to replace or permit re-growth of trees of any significant height over the cable paths. There are serious concerns about how the projects will affect bats and other endangered species.

There will be huge consequences for people right across Norfolk. The levels of noise and air pollution will increase dramatically. The road closures, additional traffic

movements, both on the major trunk roads and the already congested local roads, the extra displaced traffic, and the restricted access for emergency vehicles, will impact not only on people's ability to move around freely but also it will disrupt schools, farming, businesses and tourism. We believe that few parishes in Norfolk will escape these impacts.

The construction phase for the projects in the table above will extend over many years, stretching beyond 2030. As each new development comes along, the developers will be seeking new landing sites, new cable paths and new acreage for substations.

Please also remember that these projects are likely to overlap with each other and with other significant development projects taking place in Norfolk. These include the Norwich Western Link, the dualling of the A47, the re-development of the Thickthorn roundabout at the junction of the A47 and A11 and numerous other housebuilding and utility projects across the county. A perfect storm of road congestion and disruption is descending on Norfolk.

There is strength in unity – now is the time to act to stop this madness.

But aren't these projects necessary to reduce global warming?

There is no doubt that offshore windfarms can be an important source of green energy and we are absolutely not against their development. What we are concerned about is how these windfarms connect to the onshore electricity network and the current system of radial connection is illogical, inefficient and unnecessary. If the developers used an Offshore Transmission Network for their connections, most of the proposed cable paths through Norfolk would not be needed and more of the renewable energy would get used. It would require a determined cooperation between all the project stakeholders and, yes, some modest delay to some projects. But it is technically feasible, vastly more efficient from an engineering point of view – and in time it will be available anyway.

What can be done?

We have made, and continue to make, our concerns known to the developers at every opportunity. To date these concerns are being dismissed on the grounds that it would be difficult for them to change their plans – and that our objections are from only a *minority* of councils. However, we strongly believe that the developers need an incentive from government and the regulators to change their plans and that we are a minority only because we are the councils who have been fully presented with the facts. We are convinced that if all councils knew and understood the true implications of what is going on we would become a *majority* and have a much stronger voice. Our ability to change the current policy and avert this disaster for Norfolk would be dramatically improved. Hence the reason for us writing to you now.

What can you do to help us?

We urge you to discuss this letter within your council and answer the following questions:

1. Do you agree that offshore wind energy is important to combat climate change?
2. Do you agree that multiple ad hoc radial connections through Norfolk make no sense?
3. Do you agree that our voice will be stronger if we all stick together and coordinate our objections?

4. Will you join with us in our campaign for the design and implementation of an OTN as soon as possible and for the halting of all radial connections until the OTN is developed? We will periodically ask you to support us by adding the name of your Parish Council to key letters, which will be shared with you in advance.

We really hope we can count on your support and we look forward to hearing back from you, as a matter of urgency, regarding our questions.

Of course, please contact us if you require further information or have comments.

Yours sincerely,

Alison Shaw

Oulton Parish Councillor and convener of the Norfolk parish movement for an OTN