

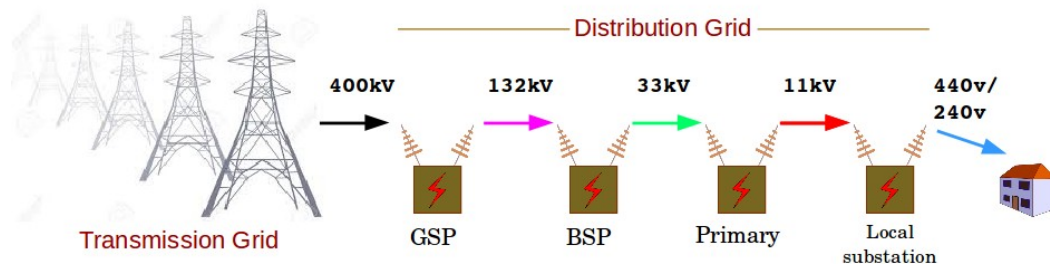
Public submission in respect of

**Planning Application 77576 to North Devon District Council  
WHITE CROSS WIND FARM**

**Some technical aspects have been obscured for reasons of national security.**

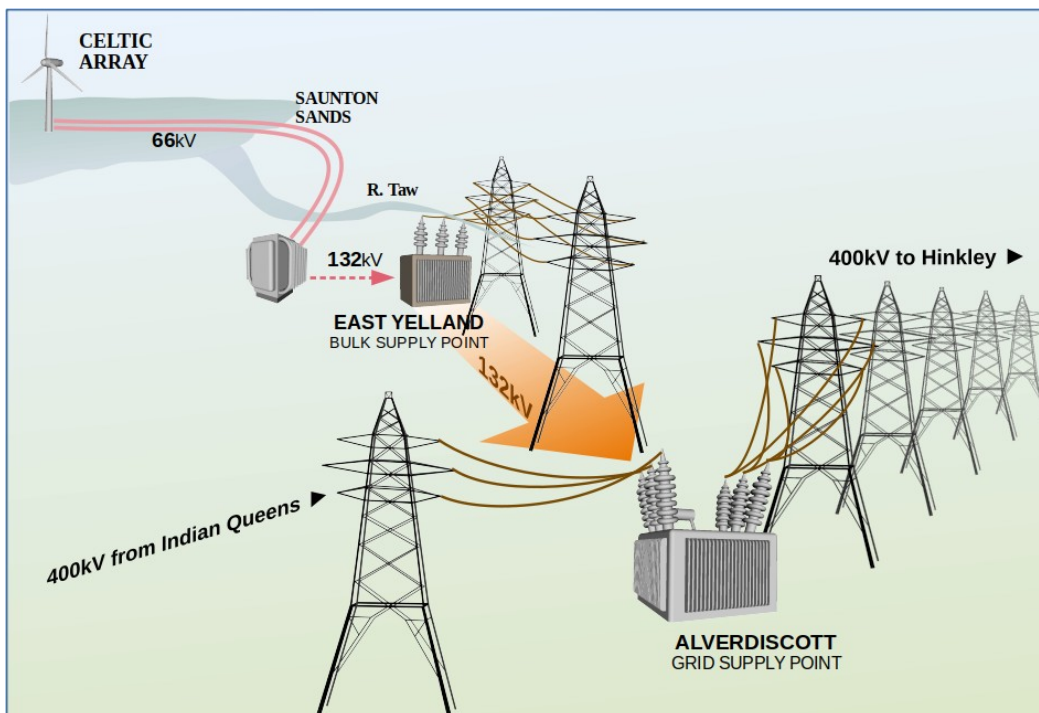
1. Great Britain has a national electricity transmission grid at 275kV and 400kV operated by National Grid Electricity Transmission (NGET).

This central **transmission grid** connects to the lower-voltage **distribution grids**, which are licensed to operators across fourteen regions. The Distribution Network Operator (DNO) for the South West England region is National Grid Electricity Distribution (NGED), formerly Western Power.



2: White Cross intends to position floating wind turbines in the Celtic sea. They seek a point at which their marine cable will make landfall and thence connect to the electricity grid.

White Cross' [planning application 77576](#) to North Devon Council proposes landfall at Saunton Sands, and an underground cable through a SSSI to connect at East Yelland.



East Yelland is an existing Bulk Supply Point, operating at 132kV. The capacity of the transformer and the overhead cabling to Alverdiscott is insufficient for Celtic Array Phase-1.

**3. Connecting the Celtic Array to the Distribution Grid at East Yelland is expensive.** The ongoing route from there to Alverdiscott must be funded by NGED.

On 3<sup>rd</sup> May 2022, Ofgem issued a [Significant Code Review for Access and Forward-looking Charges](#). The change in charging regime became effective 1<sup>st</sup> April 2023.

The SCR limits the contribution from the applicant for necessary grid infrastructure upgrades by the Regional Distribution Network Operator (DNO). The charge is now limited to a **High Cost Cap (HCC)** of £200/kW levy up to the point where there is a change in voltage.

The remainder of the infrastructure enhancements must be funded by the DNO from their revenue. That comes from a portion of consumer bills in that region. The SCR has adverse financial consequences for consumers in the region:

**3a. The Applicant can avoid paying towards network infrastructure upgrades by delivering their cable connection at a different voltage to that used by the existing grid transformers.**

In the case of White Cross they could bring the electricity ashore at 132kV. However, National Grid Electricity Distribution (NGED) would then charge White Cross for a greater contribution towards the replacement transformers and cabling between East Yelland and the Transmission Grid at Alverdiscott.

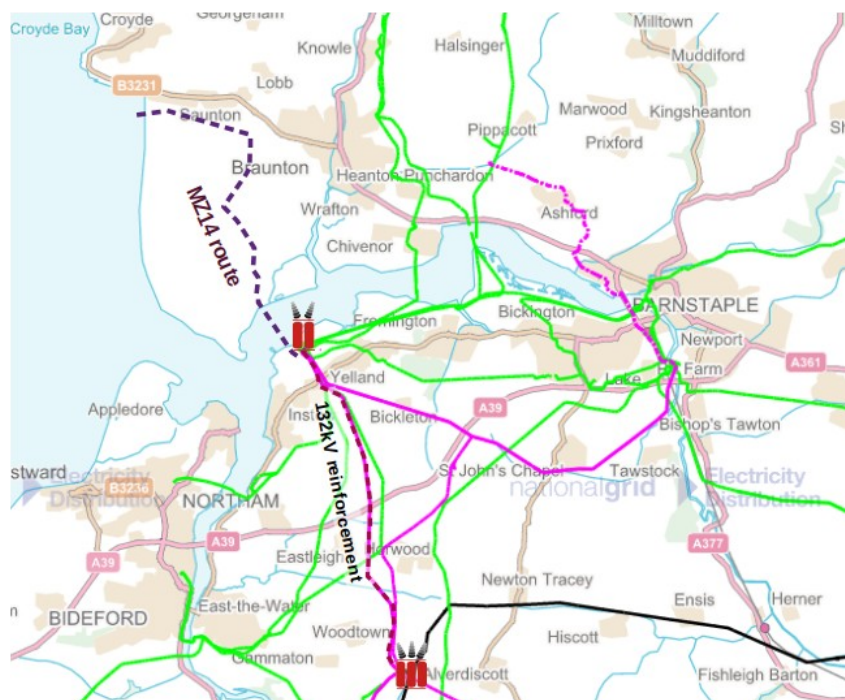
There is a financial incentive to deliver electricity to East Yelland at 66kV, even if that would require two marine cables instead of one.

By siting their connection point adjacent to the existing East Yelland BSP, White Cross will only be asked to pay towards the short cable run between their 66kV transformer and the BSP transformer.

That cost is capped at £20m for the 100MW generation they propose.

If planning approval is forthcoming, the DNO must fund the far greater reinforcement costs of the onward link to Alverdiscott without contribution from White Cross.

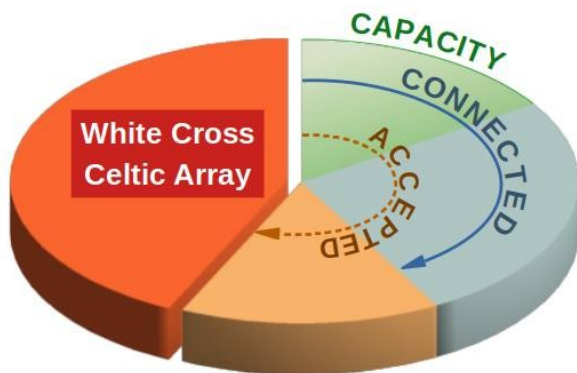
Those tens of £millions must be recouped from West Country residents via Daily Standing Charges and Distribution Use of Service (DuoS) charges.



**3b. The Applicant can apply for a connection at a grid point which has no available capacity or is already operating beyond its specified limits.**

East Yelland has a 60 MW transformer which already offers connections for renewable generation at more than 160% of its reverse-power capability.

The additional 100MW from White Cross is far beyond the operational limits of the East Yelland transformer and the overhead cable connections to Alverdiscott.



Substation name	East Yelland Bsp
Substation type	BSP
Substation number	260465

## Demand

Substation Firm Capacity	60.00 MVA
Substation Peak Demand	60.00 MVA

## Generation

Substation Reverse Power Capability	36.56 MVA
Connected Generation	60.99 MVA
Accepted not yet connected	35.25 MVA
Offered not yet accepted	0.01 MVA
 Substation Reverse Power Headroom	-41.24 MVA

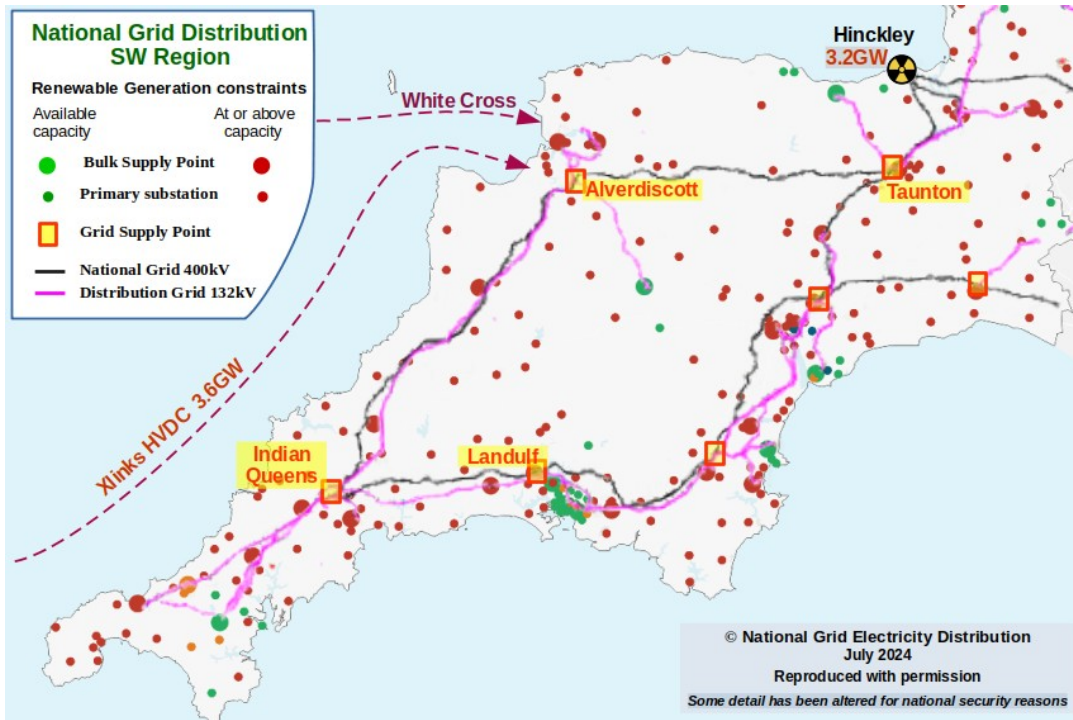
*NGED Network Capacity mapping*

### 3c: The energy from the Celtic Array isn't required for South West England.

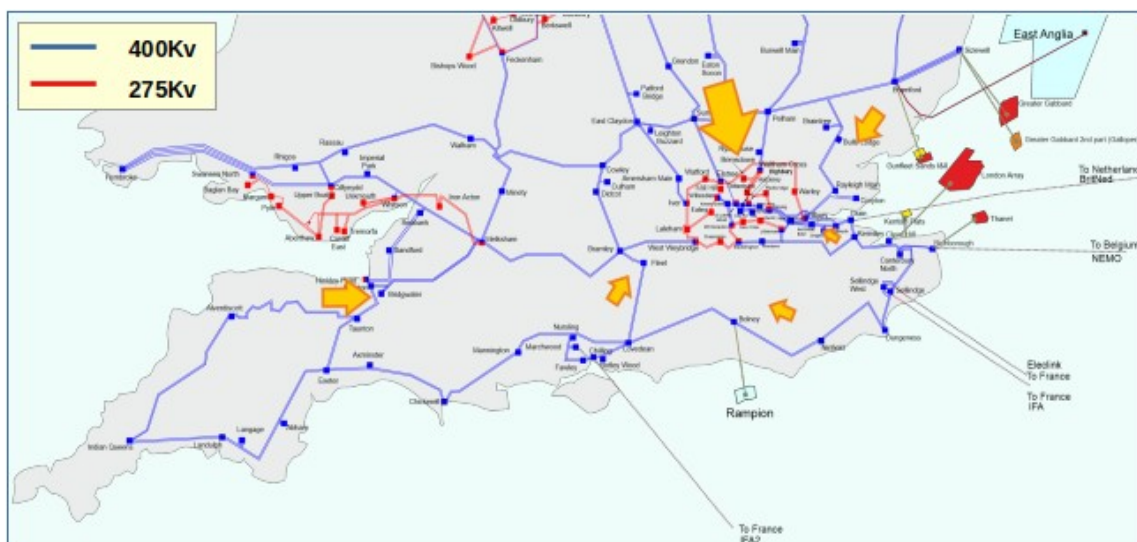
Infrastructure upgrades on the Distribution Grid must be paid for by consumers in the region where the grid reinforcement is to be undertaken...

... even if none of that electricity is to be utilised within the region.

South West England is already generating more electricity than is required in the region. The majority of the grid transformers are operating at or above capacity for generation.



The major grid flows in England are towards London and the South East. London has very little generation, and its electricity consumption per head is the highest in the UK.

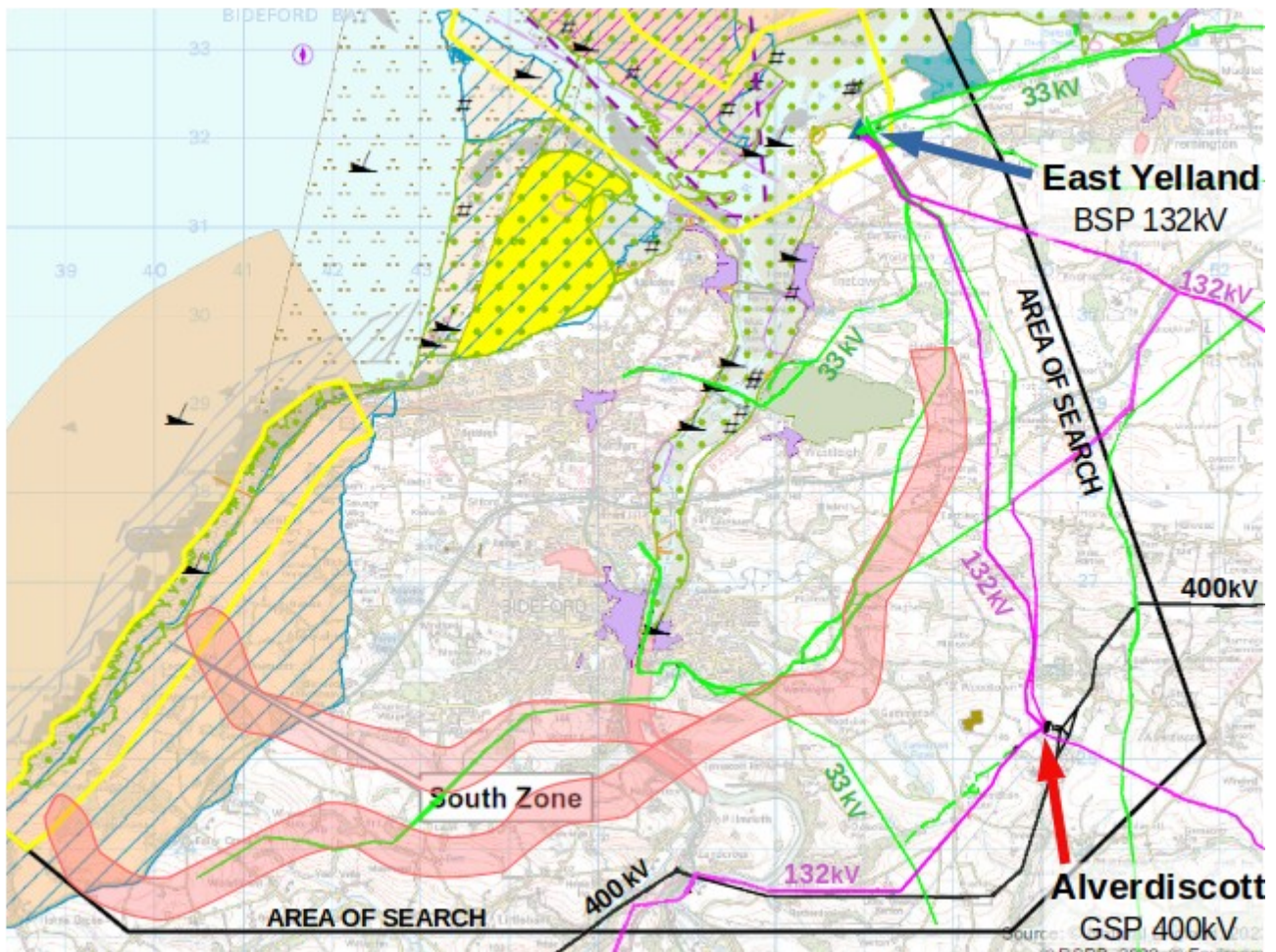


That places a disproportionate cost onto customers in regions which have greater renewable energy resources. They are required to pay for electricity to be transferred to London at no benefit to themselves.



**4: The Selection Site and Alternatives Assessment** (Chapter 4) is misleading.

The document starts by identifying East Yelland substation as the “*Potential Grid Connection Location*”. No other alternatives are referred to, despite Alverdiscott Grid Supply Point (GSP) being within the area of search.



Either of two main southern routes would be preferable if they had continued east to Alverdiscott instead turning north.

By ignoring Alverdiscott as the eventual destination for the electricity from the Celtic Array, the Applicant is creating a false argument... attempting to show that the onshore cable route would be much longer and more expensive if a southern option were considered.

That is disingenuous.

The Applicant appears to be favouring the route through Saunton Sands because

- more of the costs will have to borne by the DNO from increased consumer bills
- it is easier to run cables through open ground than to seek way-leaves for a route south of Bideford

5. The [Outline Cable Specification and Installation Plan](#) (WHX001-FLO-CON-ENV-PLN-0007) contains no information on the cable specification.

Appendix-A (p.33) is blank

Without having any information on the size and capacity of the proposed cable, it isn't possible to understand whether it is capable of carrying only that generation from Phase-1 of the Celtic Array turbines, or is adequately sized to accommodate additional generation in future.

That affects this application.

If the cable has only sufficient capacity for the initial group of turbines, then White Cross will need to seek additional cable routes for each successive expansion of the wind-farm. This application could set a precedent, resulting in further cables being routed through the same landscape in parallel to the initial pair.

6. The assessment of disturbance and damage caused by cable/duct laying operation concentrates on the narrow area directly affected by the cables themselves.

The greatest damage will be caused by the machinery being brought in to pull through ducts between the 1km sections, and the jointing of cables at those nodes.

**7. System Resilience.** Whether or not this Phase-1 of the White Cross array falls within the scope of an NSIC, it is clearly intended to form a strategic part of the future UK electricity supply network. It will be called upon by the National Energy Systems Operator (NESO) which does not yet have a licence to operate.

The Application fails to identify how the technology is to be managed post-construction. Is the Celtic Array to operate under remote control, and if so, then by whom and from where?

**Paul Richardson**

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