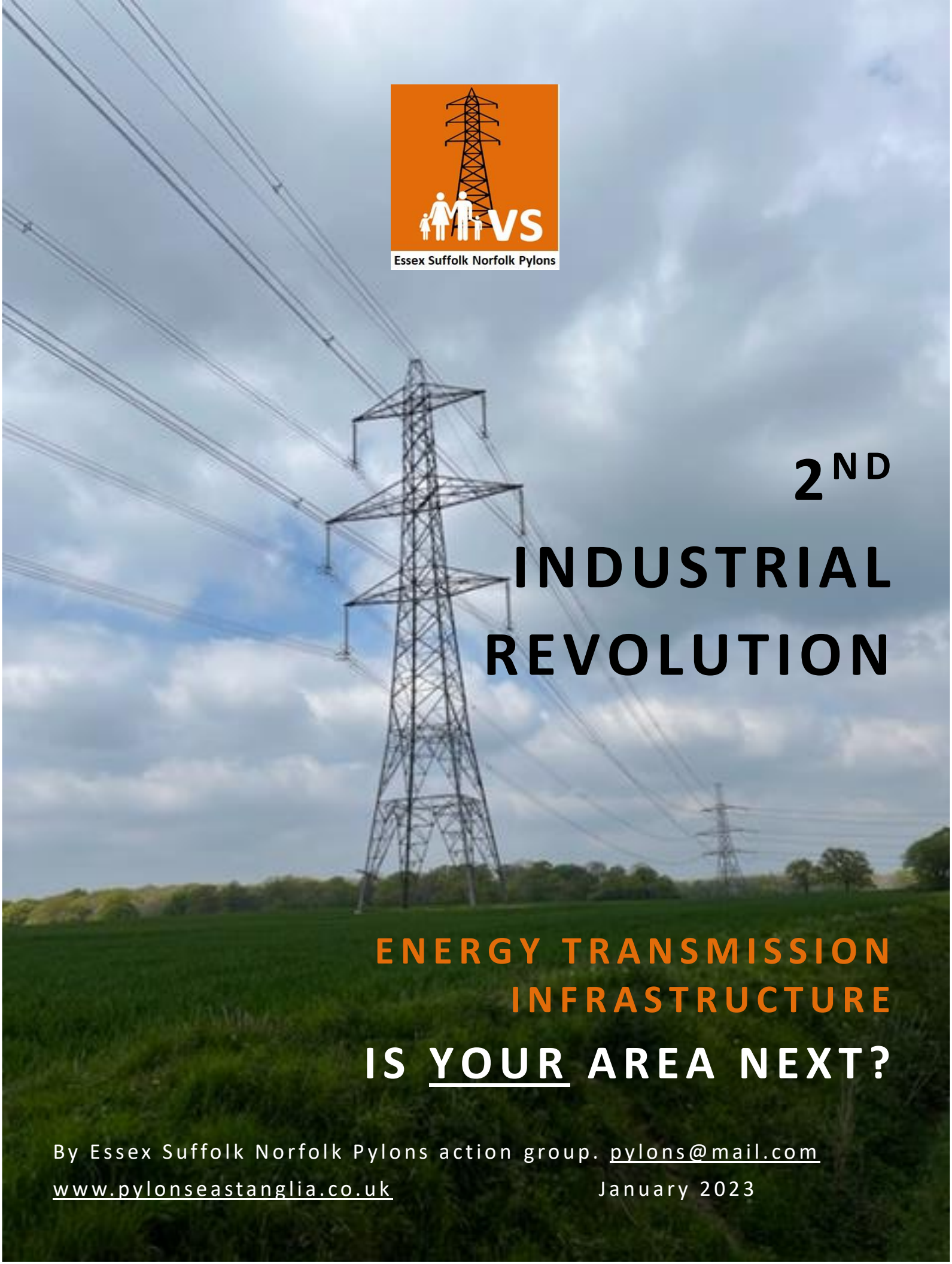


2ND INDUSTRIAL REVOLUTION

ENERGY TRANSMISSION INFRASTRUCTURE

IS YOUR AREA NEXT?

By Essex Suffolk Norfolk Pylons action group. pylons@mail.com
www.pylonseastanglia.co.uk

January 2023

CONTENTS

INTRODUCTION

The UK energy sector is in transition to renewable power, with the Government setting the target to reach 'Net Zero' by 2050.

The prospect of cleaner, renewable power is enticing, and will bring many benefits.

However, the delivery of this '**second industrial revolution**' also poses huge risks - to the environment, wildlife habitats, and our communities - which are not currently being addressed by government. Many of our landscapes have already been changed forever, by a tidal wave of battery stations, pylons, substations, converter stations and all the associated access infrastructure.

Green energy is NOT green if it is delivered destructively. And that is what is happening RIGHT NOW, with secret plans being made for energy infrastructure all over the UK.

COULD WHERE YOU LIVE BE NEXT?

Swathes of historic rural and coastal landscape will never be the same if we do not face up to, and act upon, the fact that "all haste, & no speed" can lead to regrettable and irrevocable decisions.

This report details why the public and the Government need to wake up NOW to the damage being caused by the renewable revolution. We take a close look at the regions most affected: the East of England, Wales and Scotland, with an additional example in Portsmouth.

There are ways to reduce the impact of this second industrialization, and we would be failing our future generations if we destroy everything that makes the UK so special.

We need to go green "the green way" - with a coordinated, offshore, grid.

WHAT'S DRIVING IT?

The UK has a target to reach Net Zero carbon emissions by 2050[i].

That means cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions to be re-absorbed by oceans & forests.

2ND INDUSTRIAL REVOLUTION

In November 2022, National Grid CEO John Pettigrew told the BBC[ii] that **by 2030, we will need to put in place more energy transmission infrastructure than has been built in the previous 32 years**.

It is essential that our economy transitions to renewable energy sources. But what is often overlooked is how the newly generated power gets from the source to the consumer.

INDECENT HASTE?

This rush to achieve 2050 net-zero commitments must not come at the high cost to the environment, countryside & communities that we are seeing now.

National Grid ESO said, in 2020[iii], *"One of the challenges to delivering the ambition in the timescales required will be ensuring that the offshore and onshore transmission network enables this growth in a way that is efficient for consumers and takes account of the impacts on coastal communities and the environment."*

MORE ENERGY INFRASTRUCTURE IN THE NEXT 7 YEARS THAN IN THE PREVIOUS 32.

WIND FARM EXPANSION

WHAT IS AN INTER-CONNECTOR?

A high voltage cable that connects the electricity systems of neighbouring countries.

The latest is called Viking. It will be 760km long & connect Denmark to the UK.

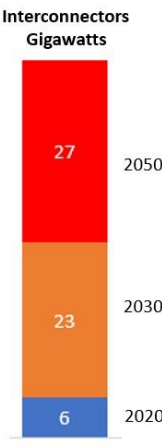
EIGHT FOLD INCREASE BY 2050

"Essex Suffolk Norfolk Pylons" supports the growth of wind power, with the proviso that it MUST be managed for the best outcomes - for consumers, communities, and the environment. The current model causes too great a harm to communities, habitats, and species when the windfarms & interconnectors make landfall. The East of England, where the present piecemeal system of connection creates maximum harm, is worst hit.

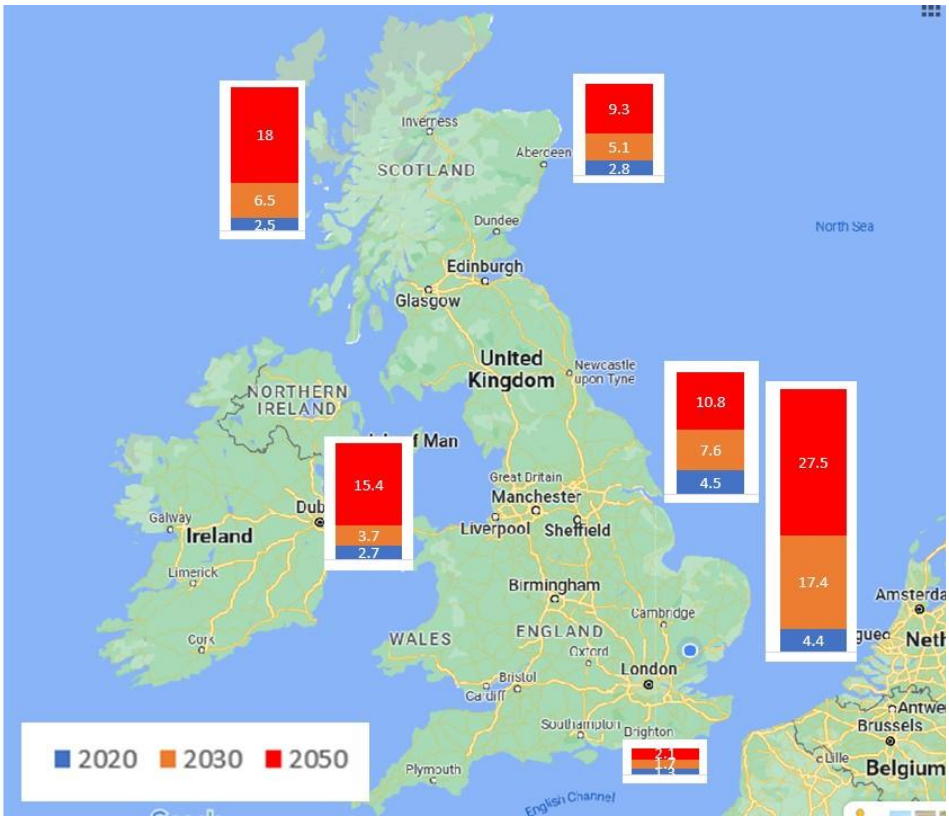
By 2050, according to National Grid ESO's 2020 report, **the UK will need to have a total of 83 Gigawatts (GW) of wind power connected to the grid**, to deliver the net zero greenhouse gas emissions target. That is from a base of 10GW in the past decade or so. A further 24GW of offshore wind will be transported as hydrogen, or stored offshore, or used to power offshore demand such as oil rigs. When included, that is a total of 108GW of offshore wind generation.

In addition**, interconnectors**, which carry power between countries, are also needed. Currently interconnectors carrying 6GW are in place. By 2030 this will grow to 23GW and by 2050, 27GW.

To prevent further harm to the environment and communities, the Government must ensure that a coordinated offshore grid is implemented as a matter of urgency.



Offshore wind capacity, Gigawatt



IT COMES AT A COST

DID YOU KNOW?

- A **substation** is where high-voltage electricity from power plants is converted to lower-voltage electricity for homes or factories.
- A **converter station** converts electricity between Alternating Current (AC) and Direct Current (DC). AC is used in each country's transmission system, while DC is used for sending electricity long distances along the subsea cables.
- A **sealing end compound** is where a high-voltage underground cable joins onto an overhead line. The overhead line finishes on a terminal tower.

It isn't green if it destroys habitats & countryside.

NO FREE LUNCH

All this additional infrastructure comes at a cost – to marine & terrestrial habitats and species, to our historic and beautiful countryside, and to communities. There will be incalculable tree and hedgerow loss, and countless bird strikes into power cables. All these issues are set out in the relevant National Policy Statements but, for now, 'need' trumps all.

PYLONS AND TRENCHES

Towering, 50-metre-high pylons will carry power lines across unspoiled countryside, disrupting businesses and ruining historic views. The cables are susceptible to extreme heat, wind & ice. Vast swathes of countryside will be dug up, with up to 100-metre-wide swathes for the installation of underground cables. Then it is all dug up again in 40 years to be replaced!

SUBSTATIONS & CONVERTERS

In addition, there is all the associated infrastructure, with substations, which can cover twelve hectares (like the one in Kent in the photo below), and converter stations, which are up to thirty metres high. Further industrialization occurs close to substations like this one, because solar farm operators seek to build enormous installations.

LAND GRAB

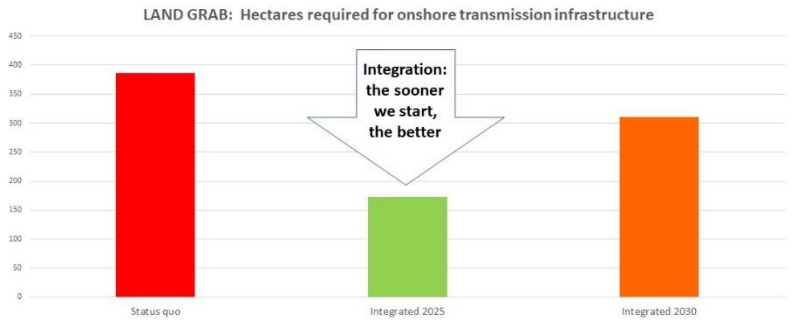
Under the current plans, the amount of land lost to energy transmission infrastructure will be **more than double** the area required if Government started right now on a national, coordinated approach.

Figures from National Grid ESO's 2020 report show that the current unplanned and piecemeal approach requires nearly 1000 acres/400 hectares for energy infrastructure. A coordinated approach would require only 400 acres/160 hectares if implemented by 2025.

"78% of respondents are suffering from mental health issues related to the pylons proposal."

Essex Suffolk Norfolk Pylons survey, 2022

Not just the visual impact: land grab



MENTAL HEALTH

The announcement of 180km of pylons in East Anglia had an immediate impact on mental health and well-being. People were being told that their businesses could be at risk, that their house-price might plummet or that their health might be jeopardized by electromagnetic radiation. In a survey[iv] we conducted, 78% of 2,500 respondents said their mental health was already suffering, even at this early stage of the proposed project.

BULLYING: DO NOT EXPECT GOOD TREATMENT

Do not expect to be treated well when energy infrastructure does end up near you.

Things can be so bad, that Liam Fox MP presented The Electricity and Gas Transmission (Compensation) Bill[v] in the House of Commons in the autumn 2022.

The Bill aims to establish an independent mechanism for people to appeal for fair compensation for disruptions caused to their property by the National Grid.

Mr. Fox explains, in a video[vi], that constituents in their droves have been unable to obtain fair compensation from National Grid. The Bill aims to establish an independent mechanism for people to appeal and get fair compensation. Mr. Fox is quoted as saying "I cannot abide bullying."

The second reading of the Bill took place on 25 November 2022.

Not beautiful enough?

UNFAIR: ONE RULE FOR THEM

Whilst much of the country will see unnecessary new pylons due to the lack of a coordinated offshore grid, others have been singled out for £500m of funding[vii] to **remove** pylons. Those areas are considered beautiful and include Somerset and the Lake District.

Other equally beautiful areas, such as East Anglia, painted by artists like Ravilious, Munnings, Gainsborough, and Constable **precisely because it IS beautiful,** are not so fortunate. The famous 'Gainsborough' railway line would be crisscrossed by the new pylons.

GREENWASH

The 180km pylons proposal for Essex, Suffolk, and Norfolk, has been misleadingly named 'East Anglia GREEN' by National Grid. The consultation material shows numerous photos of unspoiled countryside, with people walking and cycling. Barely a pylon features.

We have lodged a complaint with the Competition & Markets Authority about a breach of the Green Claims Code[viii] about East Anglia GREEN, which we believe breaches all the principles of the code.

SECRETARY OF STATE OVERRULES PLANNING INSPECTORS

In every case since 2017, when wind farms have been recommended for refusal by the INDEPENDENT Planning Inspectorate, the Secretary of State has overruled.

The planning system is stacked against objectors – even when they present valid and legitimate concerns to the Planning Inspectorate, via the Development Consent Order process that applies to Nationally Significant Infrastructure projects.

Nathan Bennett, Head of Public Affairs at Renewable UK, told the 1922 Backbench Committee on Business, Energy, and Industrial Strategy (BEIS) in its report launched in January 2023[ix] that, *"Since 2017, all offshore wind farms have been recommended for rejection by Planning Inspectors. In each case, the Secretary of State has had to overrule the inspector."*

That makes a mockery of the planning system, which is supposed to balance needs and harms. And it renders the Planning Inspectorate effectively redundant, if their every decision is over-ruled.

EAST OF ENGLAND

BEARING THE BRUNT

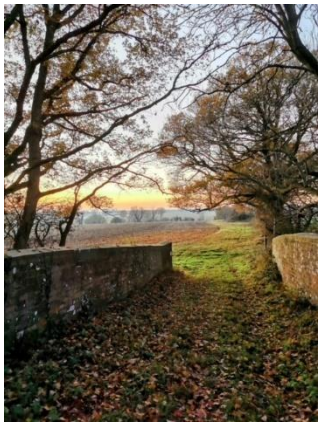
The East of England is bearing the unnecessary brunt of the expansion of wind power. The Government refuses to allow a coordinated offshore grid for the North Sea. Each wind farm plans its own route to shore and, when it makes landfall, it requires converter stations and trenching of cables to the designated substation. Sometimes those substations are tens of kilometers inland.

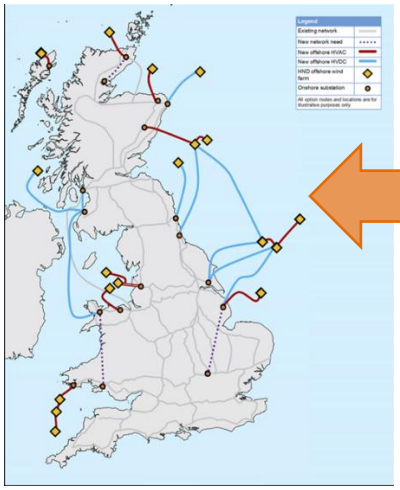
North Sea wind power must be transferred out of the region to London and the south where it is needed. East Anglia reaps the destruction, but none of the benefits. No doubt Londoners are blissfully unaware that East Anglian habitats, hedgerows and trees are being ripped up to get green power to them, and that birds are dying in cable strikes.

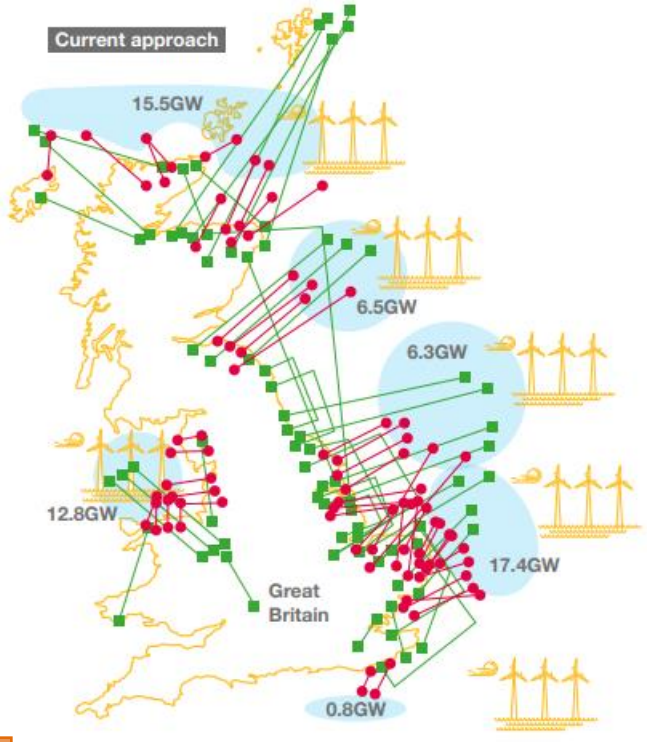
What this means radial, piecemeal, approach means by by 2050 is shown below:

OFFSET

MPs from across East Anglia have formed a group called the **Offshore Electricity Grid Task Force** (OffSET). This group, chaired by Sir Bernard Jenkin, has been actively lobbying government for a coordinated offshore grid.







Source: National Grid ESO

NORTH-SOUTH DIVIDE

Meanwhile, in Scotland, communities have been told that the cables will be placed offshore instead of on overhead lines, due to the impact of pylons on communities & the environment. The Holistic Network Design of 2022 included several offshore cables for Scotland and the north East to transport power to the south.

HOW REGIONAL RESIDENTS DESCRIBE THE PYLONS:

"Unnecessary, unwanted, unsightly"

"Brutal, destructive, permanent blight"

"Better Offshore"

"Detrimental Useless Draconian"

CASE STUDY 1: EAST ANGLIA'S 180km PYLON PROPOSAL

The East of England exports North Sea wind power to London and the south. Instead of a coordinated offshore grid known to bring many benefits, National Grid seeks to build **180km of 50-metre-high pylons[xi] from Norwich to Tilbury**.

The project cuts through the heart of East Anglia, crossing Norfolk, Suffolk, and Essex. Trees and hedgerows will be removed, businesses and homes blighted, historic views ruined, and birds at risk of striking cables.

When the cables cross the Dedham Vale AONB, they will be placed underground. This is scarcely preferable - a trench 100-metres-wide will be dug, with trees removed and not replanted. And, after 40 years, the entire process will have to be repeated.

Residents have concerns about Electromagnetic Fields (EMF). The World Health Organization acknowledges that such radiation may be carcinogenic, and that further research is required, yet under current planning guidelines, no minimum separation is required between overhead lines and homes.

National Grid misleadingly insists that planning policy requires pylons, whilst not seeing the irony that its own East Anglian 'Sea Link' project rejected pylons…

The pylons project is opposed by locals (22,000 of whom signed a petition calling for a coordinated offshore grid instead), by County and District Councils and by the OffSET MPs. Residents campaign as Essex Suffolk Norfolk Pylons[xii].

580 viewpoints considered important have been submitted into an interactive map[xiii] that has been sent to National Grid

:

"We are proud of having renewables at sea. We are very proud of it, but we believe that there are better solutions for the sub-stations, not just for habitats and the environment, but also for the local economy ..."

Fiona Gilmore,
Suffolk Energy Action Solutions[x] (SEAS)

There are 95 Parish Councils in the Norfolk Parishes Movement for an Offshore Transmission Network

CASE STUDY 2: SUFFOLK HERITAGE COAST

Current plans for multiple energy projects will effectively industrialize the Suffolk Coast and countryside with unnecessary onshore wind-farm infrastructure, having a devastating & cumulative economic, social, and environmental impact.

Scottish Power's EA1N/EA2, and National Grid's Nautilus, Sea Link and Eurolink projects would see repeated digging of multiple cable channel trenches, each over sixty metres wide, stretching over 9km, plus huge electrical substations & interconnectors, dominating deeply rural countryside and devastating nature reserves, rare habitats and AONB land.

In December 2022, Local MP and Secretary of State for the Environment, Thérèse Coffey[xiv], called on the Department for Business, Energy & Industrial Strategy (BEIS) and the National Grid to properly assess the environmental impact of a series of proposed onshore energy connections along the Suffolk coastline.

Campaigners are calling for an offshore grid along the North Sea corridor, with a full assessment of brownfield sites for the required onshore infrastructure.

CASE STUDY 3: NORFOLK & ITS HERITAGE COAST

Norfolk is on the front-line of the renewable energy revolution. A number of North Sea wind farms are set to come onshore at various points along this very special coast, with its saltmarshes and dunes a haven for birds.

The destruction wrought by the wind farms is dramatic – cable-paths, up to 60 metres wide and 60 kilometres in length, must be cut through the countryside. Huge sites are needed for the substations where the cables connect to the grid and, during construction, vast temporary sites are needed for storage and handling of materials. Construction traffic involves thousands of lorries through narrow village streets and winding country lanes.

An unprecedented 95 Parish Councils in the county have joined together to create the Norfolk Parishes Movement for an Offshore Transmission Network (grid). This group has campaigned for many years against the repeated digging up of cable paths through Norfolk and argued instead for an integrated offshore solution. Their representations have been completely ignored by government.

CASE STUDY 4: ESSEX COAST, TENDRING

Source: https://fiveestuaries.co.uk/

Two wind farms, North Falls and Five Estuaries, are at the preliminary stages of public consultation. The joint venture company owned equally by SSE Renewables and RWE has already been awarded a grid connection at Lawford, near Manningtree. This is quite some presumption, given that the pylons project ('East Anglia GREEN') it would depend upon for onward transmission of the generated power, has not even reached Statutory Consultation phase, let alone received planning permission.

It results in yet more unnecessary radial connections into East Anglia. The projects make landfall on the Tendring coast between Frinton-on-Sea and Clacton-on-Sea and require trenching across 20km of north Essex countryside.

How much better it would be for everyone – consumers, communities, wind farm operators, and the environment, if North Falls and Five Estuaries could connect into a coordinated grid in the North Sea…

CASE STUDY 5: LINCOLNSHIRE & HERTFORDSHIRE PYLONS

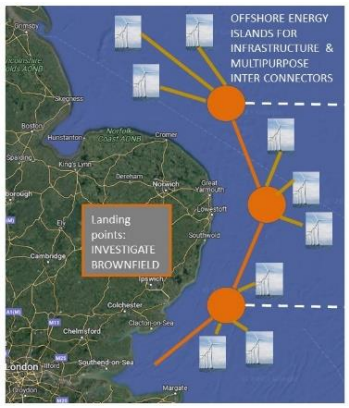
In spring 2023, thousands of residents of Lincolnshire and Hertfordshire living between the Wash and Luton, will receive a letter through their doors notifying them of the launch of a pylon proposal. As with the East Anglian proposal, the pylons will be 50-metres-high.

The proposal is known, in the secret circles in which these things are planned, as LRN4[xv]. It will be presented to the public with the word 'GREEN' in the title.

Lincolnshire's coastline is already seeing an onslaught of wind farm infrastructure, with five more planned, plus the Viking Interconnector.

When Lincolnshire Live[xvi] asked Leader of Lincolnshire County Council Martin Hill who the wind farms will help (1 Jan 2023), Mr. Hill said it was for population increases in the south of England, and stated *"our view is that the cables should go on the seabed, because the power is not for us."*

He went on to say, *"So there's a risk we'll end up with pylons running all the way through the Wolds, from the Humber all the way down to Peterborough. That will affect farming, because where there's a massive pylon, you can't farm."*



PYLONS NOT NEEDED: A COORDINATED OFFSHORE GRID IS THE SOLUTION

There is no need for this planned destruction of the region's habitats, landscapes, and historic views – those painted by the likes of Constable and Munnings. Our region is famed for its big skies. It is one of the big draws for tourists.

A coordinated offshore grid brings nothing but benefits to consumers, the environment, and communities – SEE PAGE 19 FOR A DETAILED EXPLANATION.

WALES

INTRODUCTION

TO 2050

Wales is a major exporter of power, and still will be in 2050. Wales generated a total of 27.1 Terawatt hours (TWh) of electricity in 2021, of which 7.7 TWh (28%) came from renewable sources. However, of that total, Wales only consumed about 14 TWh, with the balance (almost 50%) being used elsewhere in the UK. In Wales, the increase in electricity consumption will be mainly during the decade after 2030, with electricity consumption until then remaining relatively flat.

At least 15 GW offshore wind will be in northern Wales/Irish Sea. The Celtic Sea will have 5 GW to 25 GW.

The proportion of renewable generation to Welsh consumption was about 55%.

The main sources of renewable generation were onshore wind, offshore wind and solar. The main non-renewable generation was gas, mainly from Pembroke power station, the largest gas fired power station in Europe.

FROM 8TWh RENEWABLE TO 28TWh BY 2050

To reach net zero, Wales needs to generate up to 45 TWh of power.

38 TWh of this will need to be new, carbon free, generation.

To generate the additional 38 TWh, Wales will need an installed capacity of almost 9 GW offshore wind, a figure comfortably lower than the potential available. Wales can generate sufficient power to reach net zero using offshore wind alone, and still generate a significant excess for the rest of the UK.

TO 2030

The Welsh Government has a target of 70% of Welsh demand being sourced from Welsh renewables by 2030. (The goals may be shifting, however – on 25 January, Climate Change Minister Julie James, published[xvii] a consultation on 'ambitious but credible' targets for Wales to meet 100% of its electricity needs from renewable sources by 2035). Unlike Scotland, the Crown Estate is not devolved in Wales, and it is policy to allow large scale onshore wind across much of the country. The turbines being proposed are essentially "marine scale" with blade tip heights of up to 250 m.

Despite the Welsh Government target being achievable using offshore wind alone, there are currently approximately fifty proposals for onshore wind farms of various scales, with total capacity of about 2 GW.

"Wales is at the start of an absolute onslaught of development" says the Director of The Campaign for the Protection of Rural Wales (CPRW), Dr Jonathan Dean. That is because of the scale of renewable growth proposed, which Dr Dean supports, and because mid Wales has no transmission grid at all, and the distribution grid is at capacity with no firm plans yet for major upgrades.

"Wales is at the start of an absolute onslaught of development."

Dr Jonathan Dean, CPRW

CASE STUDY 6: BUTE ENERGY, SECRET PLANS

The problems with the grid have prompted wind farm developers such as Bute Energy to propose entirely new transmission connections, up to 100km long, across mid Wales. The impact of this new supply on the existing transmission system is unknown, since National Grid has assumed that onshore generation will feed the local distribution system.

A spokesperson for CPRW told the Pembrokeshire Herald on 16 January 2023[xviii] that this plan will scar the landscape as much as any wind farm: and said, *"These plans leaked from Bute Energy confirm our worst fears! Connecting any of the plethora of proposed projects in rural Wales was going to be at best a challenge, given that the Minister, Julie James, has said that the National Grid in Mid Wales is not-fit-for purpose, but building a transmission network across huge swathes of scenic countryside is simply unacceptable!"*

"This would leave a huge 60+ mile long transmission cable and pylons across the heart of Wales. Meanwhile, the National Grid are in the process of burying transmission cables in Gwynedd as they have accepted that they are an eyesore."

Anglesey: second row of pylons due here.

Photo - Cheryl Weaver


The Pembrokeshire Herald

HOME NEWS POLITICS FARMING EDUCATION COMMUNITY CYMRAEG FOOD GUIDE EXPERTS SPORT

NEWS

Outcry as leaked documents confirm plan to erect huge pylons across Wales

CASE STUDY 7: NORTH-SOUTH WALES PYLONS

Wales already has just over 1 GW of offshore wind. These wind farms connect via radial connections to the north Wales line built in the early 1960's to connect Wylfa and Trawsfynydd nuclear stations (both decommissioned) and their associated pumped hydro stations at Dinorwig and Ffestiniog.

A subsea HVDC connection (Western Link) brings wind power from Scotland into Deeside and an interconnector shares power with Ireland.

A further 2 GW of offshore wind power will be added before 2030 with the Awel y Môr and Mona wind farms. By 2030 National Grid believe Wales will be a net-exporter of electricity to England from offshore wind alone. The Holistic Network Design includes a second HVDC connection from Scotland to bring further Scottish wind power to north Wales, and a link from north Wales to south Wales to link two sections of the 400 kV transmission system.

200KM OF PYLONS SPRUNG UPON YOU

Connecting the north Wales line to the south Wales line makes sense, since most generation is in the north, whilst most of the demand is in the south.

The 2020 draft of the HND clearly indicated the north-south connection would be via a sub-sea cable. However, in the HND of 2022[xix], this was changed to a "400 kV double circuit".

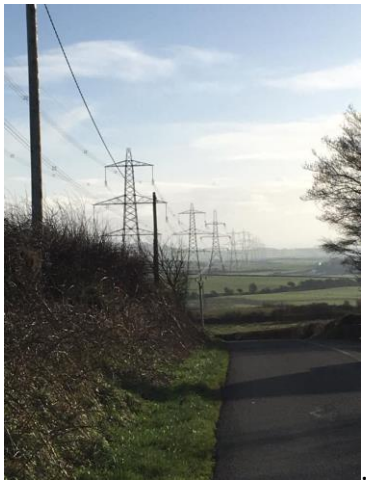
THAT MEANS PYLONS! Instead of being connected via a sub-sea grid, it is now planned that the Irish Sea wind farms will use radial connections into Bodelwyddan substation.

This new pylon route, concocted behind closed doors and without asking the people of Wales what they think, will be 200km in length and involve up to four hundred pylons, each 50-metres high.

Dr Dean told Nation Cymru on 4 January 2023[xx] that the plans had been sprung upon Wales: *"I would imagine they* [National Grid] *are working out the route as we speak and will come out with a public consultation with one option only to ask us what we think of it.*

"This is based on their behaviour elsewhere in the UK."

If the new line of pylons manages to avoid Eryri (Snowdonia) and Brecon Beacons National Parks, it will pass through the Cambrian Mountains, identified by Hobhouse in 1947 for protection and subject to a long running campaign for recognition as an AONB.



Anglesey: second row of pylons due here.

Photo - Jonathan Dean

NEWS

Fears that new electricity link plans could see pylons built all the way from north to south Wales

04 Jan 2023 4 minute read

CASE STUDY 8: OFFSHORE FLOATING WIND

The Crown Estate[xxi] will be leasing 5 GW capacity for floating offshore wind in the Celtic Sea in 2023, with the ambition this be commissioned by 2035. This is linked closely with the Milford Haven/Port Talbot freeport proposal and the Pembroke Net Zero Centre. The Celtic Sea has a potential of at least 25 GW.

In the HND (Holistic Network Design) the Celtic Sea capacity comes ashore in Pembroke. Here it joins the south Wales 400 kV twin double circuits. Pembroke now hosts the largest gas fired power station in Europe, which has plans for hydrogen conversion and CCS.

CAPACITY NOT ACCOUNTED FOR IN PLANS

The HND currently includes insufficient capacity for 5 GW of FLOW (Floating Offshore Wind). In addition, Pembroke is unlikely to be a sustainable landing point without a significant upgrade to the south Wales line. A third or fourth line may be required. Landing points at brownfield sites such as Aberthaw (former coal station with grid connection) and Port Talbot (steelworks) would give direct access to areas of high demand. The HND does not factor in growth beyond 2030.

CASE STUDY 9: ANGLESEY, PYLONS FOR NUCLEAR

Communities in Anglesey have been living under the shadow of a second run of pylons for 30km across the island and have formed a group[xxii] called

"Say No to Anglesey Pylons."

The British Energy Security Strategy includes building up to 24 GW of new nuclear capacity by 2050. Although not yet confirmed, this is likely to be at locations where nuclear stations are either currently operating or have been decommissioned. Wales has two such sites at Wylfa on Ynys Môn (Anglesey) and Trawsfynydd in Gwynedd.

Anglesey Says No To Pylons

A previous attempt at developing Wylfa was cancelled in 2019 when Hitachi pulled out, but not before confirming that a second 400 kV double circuit for 30 km across the island would be required, plus a 5 m diameter tunnel for 5 km under the Menai Strait (to avoid the AONB). All requests for a subsea connection were rejected.

The current ambition is for at least a GW scale station and possibly multiple Small Modular Reactors (SMRs). Trawsfynydd is touted as a location for at least one SMR.

None of these nuclear stations would be commissioned before 2030, and probably mid 2030's at the earliest, by which time the existing grid infrastructure will be at capacity from offshore wind, and Wales will be "self-sufficient" from renewables. This means that new grid infrastructure will be needed to take the entire output (maybe 5 GW) to Merseyside or south Wales for further transmission.

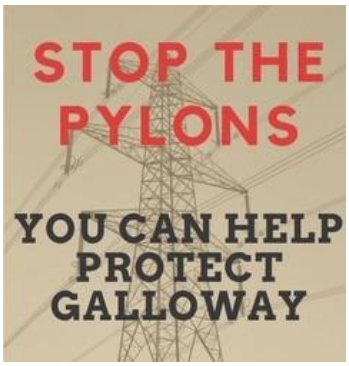
OFFSHORE TRANSMISSION GRID

A BETTER WAY TO TRANSMIT POWER

An offshore transmission grid would allow coastal nuclear energy production in north Wales to supply the highly populated areas of south Wales, northwest England or even Ireland.

Alternatively, the new nuclear stations could be built near the main centres of demand, to minimize grid infrastructure and facilitate the economic use of waste heat (thermal stations such as nuclear "waste" around 60% of the thermal output) for industrial and domestic heating.

SCOTLAND



Despite a number of offshore cables for electricity transmission, Scotland is not immune to the pylons onslaught. The similarities with East Anglia are striking, in the lack of alternatives presented for consultation.

CHEAPEST BUT MOST DEVASTATING ROUTE

Scottish Power Energy Networks (SPEN) have applied to install a 132kV overhead power line on pylons between Kendoon and Tongland in Dumfries and Galloway that will replace the existing line.

Galloway Without Pylons (GWP) has been fighting this project for the past 6 years.

GWP has no objection to the part of the line north of Glenlee because the route is close to the existing line. However, there is strong objection to the line between Glenlee and Tongland, which goes through the Galloway Forest Park - the most popular outdoor attraction in Dumfries & Galloway.

Devastating to wildlife, ancient and semi-natural woodland

The proposed route is the cheapest but the most devastating to wildlife, ancient and semi-natural woodland, and the general environment. The Galloway Forest Park is a haven for red squirrels and pine martens, and the RSPB have concerns for raptors including golden eagles, goshawk, osprey and red kites. 95% of the Scottish population of nightjars can be found in Dumfries & Galloway, and the Galloway Forest Park is the most important breeding area for these birds.

ALTERNATIVES NEEDED

Lochenbreck Loch. Red line shows the forest access track to a quarry and multiple pylons

GWP has been actively trying to persuade SPEN and the Scottish Government to underground the line. In October 2017 the Scottish Ministers stated that SPEN's Environmental Impact Assessment Report should *"include information on alternative measures, including undergrounding, which have been considered to avoid, prevent or reduce and if possible offset the likely significant adverse landscape and visual effects where these have been identified through consultation feedback from affected communities or the routing process e.g. 'pinch points' or cumulative effects on sensitive receptors."*

RSPB concerns for raptors including golden eagles, goshawk, osprey, and red kites.

UNDERGROUND CABLE STUDY

In July 2020 SPEN published their "Underground Cable Study" which analyzed a number of underground routes. It concluded the best underground route would be the one that more-or-less followed the existing pylon line.

SPEN's conclusion was that the underground route from Glenlee to Tongland was *"technically feasible and, on balance, environmentally preferable having regard to landscape and visual as well as forestry impacts. Nevertheless, the environmental benefits must also be balanced against the additional costs involved. SPEN does not consider that the environmental benefits of undergrounding any of the cable sections is outweighed by the substantial additional costs involved"*.

The main reason that SPEN gave for not following the existing route was that the new pylons would be 30m, which is 10m taller than the existing ones. This was of

concern for the white fronted geese that winter in the vicinity of the line and the consequent potential for collisions.
SPEN did not look at undergrounding that short section, nor did they produce details of collision risk mitigation in their Environmental Impact Assessment Report.

SPEN cites concerns about White Fronted Geese but the abundance of wildlife in the Galloway Forest Park is ignored.

Not a single representation in support

OBJECTIONS

The Scottish Government received 950 objections to the Glenlee-to-Tongland overhead line, with not a single representation in support. The communities impacted by the project are extremely concerned about the 5-year construction period involving heavy transport going through villages, using roads that are totally unsuitable, and feel that there is a great risk to health and safety.

SPEN did not even produce a cost benefit analysis for undergrounding in their planning application, and the cost of undergrounding was calculated by SPEN themselves. GWP believe that SPEN's application is seriously flawed because of their pursuit of the cheapest available option.

INTERCONNECTOR: AQUIND, PORTSMOUTH

The high profile, and controversial, AQUIND Interconnector proposal highlights the environmental and community impact of large energy transmission projects. It also illustrates how foreign money is in involved in these projects that have such a great impact. In this case, the energy transmitted will not be green – it is from French nuclear power stations.

The proposed route of the cables includes tunneling under important community facilities and protected habitats, plus deep and disruptive trenches gouging through vital road links, though dense urban areas, as well as areas for recreation and nature. There is also the temporary but deeply disruptive long-term use of carparks and other public spaces during the years of installation. For this incredibly disruptive project, an entire main road will be dug up, land will be compulsorily-purchased, and countryside trenched.

Stop AQUIND campaigners were therefore ecstatic in January 2022, when the then Secretary of State turned down AQUIND Limited's application for a Development Consent Order. The project they proposed would have been hugely damaging to our city and beyond.

AQUIND LTD V SECRETARY OF STATE FOR BEIS

AQUIND launched a judicial review to overturn that decision.
AQUIND Ltd v Secretary of State for BEIS hearings were held at the High Court on 22-23 November 2022. On 25 January, judgement[xxiii] was made in favour of AQUIND. Campaigners believe the judgement was flawed and will continue their battle.

SECRET PLANS: ARE YOU NEXT?

Energy infrastructure is sprung upon you "out of the blue" for "consultation," like those outlined above.

SPRUNG UPON YOU

Take, for example, East Anglia GREEN, the 180km pylon route proposed for Essex, Suffolk, and Norfolk. Although the powers-that-be had been in discussion for years about this route, no-one thought to ask the people who would be affected. The first anyone knew of it was when 50,000 letters dropped through peoples' doors, telling them they were in or adjacent to what fast-became known as the "purple swathe of doom."

Also consider the example in Wales, above, where the first thing residents knew about Bute Energy's secret, 60km pylons plan was when Bute wrote to landowners.

"The current proposal would be unacceptable in ANY part of the UK."

Resident of East Anglia

Abbey & Mill, Essex.
It's special, let's keep it that way.

Trenching up to 100m wide for undergrounding of cables.

NO OPTIONS FOR CONSULTATION

Members of the public have no way of knowing where energy transmission infrastructure is likely to pop up next. It is only when the wind farm operator has already been offered a connection point by National Grid that consultation starts, by which point it is too late for consultation to mean anything. This is contrary to the 'Gunning Principles', recognized in law, which state that proposals must be presented when they are still at a formative stage – and that consultation responses must be taken into account.

For example, consider wind farm operators Five Estuaries and North Falls, told where to connect by National Grid, without public consultation. Practically, they do not HAVE to come on shore in Tendring – there are many alternative options. The best of all options would be for them to connect into an offshore grid with energy islands, with infrastructure making landfall at brownfield sites.

Take, in fact, **ALL** the projects on a list of 'accelerated schemes' held by OFGEM[xxiv] (see table on next page). Unless you spend your life following the workings of OFGEM (and which normal person does?), you will be blissfully unaware of what they have planned for your region:

Near you soon?

Project	Description	TO	Optimal Date	Within ASTI scope	Comp exempt?
AENC	New 400kv double circuit north E.Anglia	NGET	2030	Yes	Yes
ATNC	New 400kv double circuit south E.Anglia	NGET	2030	Yes	Yes
OPN2	New 400kv double circuit Norton-Osbaldwick	NGET	2027	Yes	Yes
GWNC	New 400kv double circuit Humber-Lincolnshire	NGET	2030	Yes	Yes
CGNC	New 400kv double circuit Creyke Beck-Humber	NGET	2030	Yes	Yes
EDEU	400kv upgrade Brinsworth-Chesterfiled-High Marnam	NGET	2028	Yes	Yes
EDN2	New 400kv double circuit Chesterfield-Ratcliffe-on-Saur	NGET	2030	Yes	Yes
BTNO	New 400kv double circuit Bramford-Twinstead	NGET	2028	Yes	Yes
PTC1	Cable replacement Pentir-Trawsfynydd	NGET	2028	Yes	Yes
PTNO	North Wales reinforcement	NGET	2029	Yes	Yes
TKRE	Grain-Tilbury-Kingsnorth upgrade	NGET	2028	Yes	Yes
HWUP	Uprate Hackney, Tottenham & Waltham Cross	NGET	2027	Yes	Yes
SCD1	Suffolk-Kent offshore HVDC link	NGET	2030	Yes	Yes
BLN4	Beauly-Loch Buidhe 400kv reinforcement	SSE	2030	Yes	Yes
SLU4	Loch Buidhe-Spittal 400kv reinforcement	SSE	2030	Yes	Yes
BBNC	New 400kv double circuit Bealy-Blackhillock	SSE	2030	Yes	Yes
BPNC	New 400kv double circuit Blackhillock-Peterhead	SSE	2030	Yes	Yes
BDUP	Beauly-Denny 400kv uprating	SSE	2030	Yes	Yes
TKUP	East Coast onshore 400kv Phase 2 reinforcement	SSE/SPT	2030	Yes	Yes
PSDC	Spittal-Peterhead HVDC reinforcement	SSE	2030	Yes	Yes
E4D3	Peterhead-Drax HVDC	SSE/NGET	2029	Yes	Yes
E4L5	Peterhead-south Humber HVDC	SSE/NGET	2030	Yes	Yes
W.Isles	Arnish-Beauly HVDC	SSE	2030	Yes	Yes
DWNO	Denny-Wishaw 400kv reinforcement	SPT	2028	Yes	Yes
E2DC	Torness-Hawthorn Pit HVDC	SPT/NGET	2027	Yes	Yes
TGDC	East Scotland-south Humber HVDC	SPT/NGET	2030	Yes	Yes
LRN4	New South Lincolnshire to Hertfordshire double circuit	NGET	2030	PCF Only	No
PSNC	New North Wales to South Wales double circuit	NGET	2030	PCF Only	No
Aquila	Direct Current Switching Station (DCSS) at Peterhead	SSE	2030*	No	No
Additional projects following Asset classification process					
AC1	R4_2 to Lincolnshire	TBC	2030*	PCF Only	No
AC2	R4_1 to R4_2	TBC	2030*	PCF Only	No
AC3	Fetteresso to SW_E1a	TBC	2030*	PCF Only	No
AC4	SW_E1a to R4_1	TBC	2030*	PCF Only	No
AC5	Hunterston to T-point	TBC	2030*	PCF Only	No
AC6	Pentir to T-point	TBC	2030*	PCF Only	No

AUTOCRATIC & BROKEN PROMISES

When it comes to energy transmission infrastructure planning, it is autocratic, not democratic. Plans are presented to you and assumed to be a 'done deal'. Promises are broken, such as in Suffolk's Stour Valley, where redundant pylons were due to be removed when new pylons were installed. Now, however, National Grid has decided to leave the pylons in place…in case they are needed in the future?

It is imperative that communities are consulted at the very earliest stages of planning – long before decisions are made. That will lead to better and speedier outcomes.

IS YOUR COMMUNITY NEXT?

STRATEGIC OFFSHORE GRID

"The current proposal by National Grid is short-term, rather than long-term.

They should be planning to install a sustainable offshore grid network, to provide long-term savings to UK taxpayers."

Respondent to Essex Suffolk Norfolk Pylons group survey 2022

Much of the wind power generated in the north, east, and west of the UK is transferred to the south. As an island nation, it would make sense to transfer that power via **a coordinated offshore grid**.

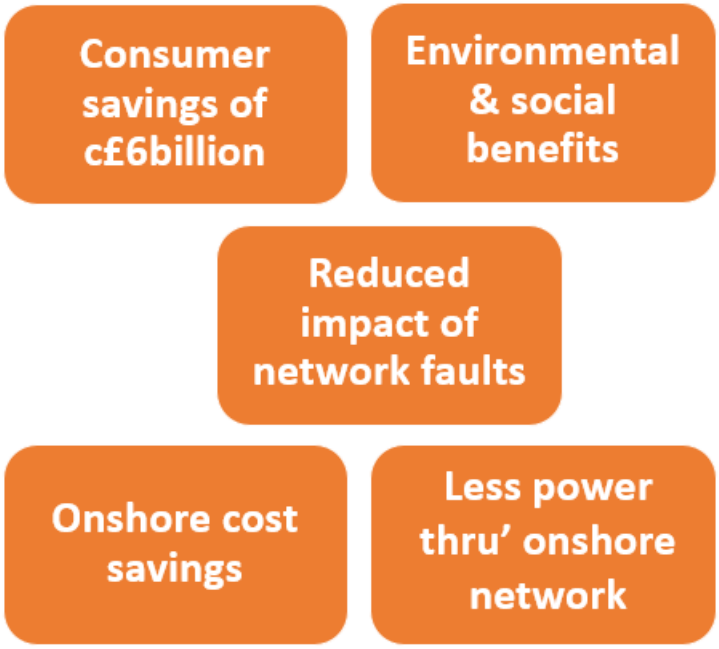
Our continental North Sea neighbours are well-advanced in creating such a grid. Denmark, the Netherlands and Germany are even building **offshore energy islands**[xxv].

The UK has belatedly signed a cooperation agreement[xxvi] with these neighbours. However, at home, our government is allowing far too many radial connections to continue.

AN OFFSHORE GRID IS WIDELY SUPPORTED

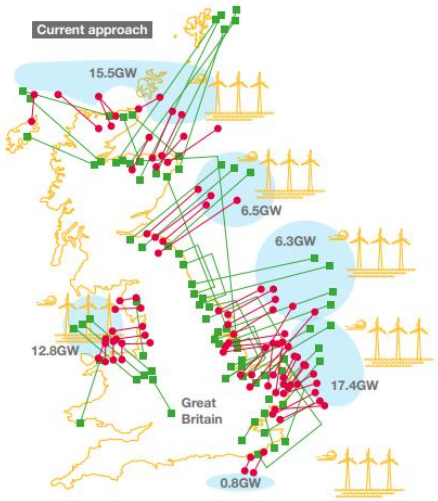
Government, communities, and industry all support a coordinated offshore grid.

The **National Grid ESO 2020** report found no "showstoppers" and the following **benefits** of an integrated approach instead of the current piecemeal, radial, approach:



WHAT IS A RADIAL CONNECTION?

Under the current model, each wind farm connects to shore via a separate connection. That is the 'status quo' modelled by National Grid ESO in 2020, which looks like this by 2050 and does unacceptable damage to coastlines, communities & countryside – changing landscapes forever and destroying habitats.



ADDITIONAL SUPPORTERS OF AN OFFSHORE GRID

Long before the National Grid ESO report in 2020, **cost savings of £3.5 billion from an integrated solution** were found.

Offshore Future Transmission Network System (OFTNS) report 2011[xxvii]

That cost saving rose to £5.6 billion by 2015. It was found that, ***"In no circumstance does the radial-connection design offer economic advantage, even when coupled with an £870m onshore reinforcement package."*** And that there were no technical barriers to an offshore transmission network.

Integrated Offshore Transmission Project[xxviii] (IOTP) in 2015

"This coordinated approach is likely to provide the highest degree of consumer, environmental, and community benefits."

Government, in its **Draft National Policy Statement** EN-1[xxix]

Recommendation that the UK develops a strategy to coordinate interconnectors and offshore networks for wind farms and their connections to the onshore network, as part of its advice to ministers on the volume of greenhouse gases the UK can emit during the period 2033-2037.

The Climate Change Committee's **Sixth Carbon Budget**, published in December 2020[xxx]

"As offshore wind continues to grow, more coordination is needed."

Daniel De Wijze, Policy Analyst at **Renewable UK** in a blog, 2021[xxxi]

"Recommendation 1.4. Develop an offshore ring main for offshore wind farms."

1922 Backbench Committee on Business, Energy, and Industrial Strategy, January 2023

ABANDONED TO THE CURRENT RADIAL MODEL

THE EAST OF ENGLAND THROWN UNDER A BUS

To the fury of residents and campaigners in the East of England, the entire region was 'scoped out' of the Holistic Network Design (HND) of summer 2022, run by the Government's Offshore Transmission Network Review panel.

Government has thrown the East of England under a bus.

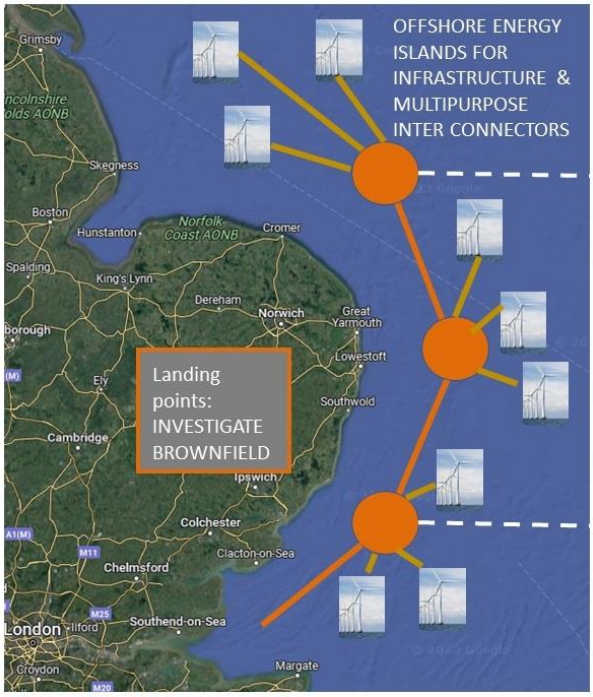
That is despite all the acknowledged benefits of a coordinated offshore grid and the many harms resulting from the current radial model.

Consumers everywhere should be outraged. Government has ignored the financial benefit to consumers of offshore coordination.

Worse still, the HND only looks as far as 2030. Government is storing up problems, as wind farm output in the North Sea grows to 38GW by 2050, creating ever more pressure on the environment and communities.

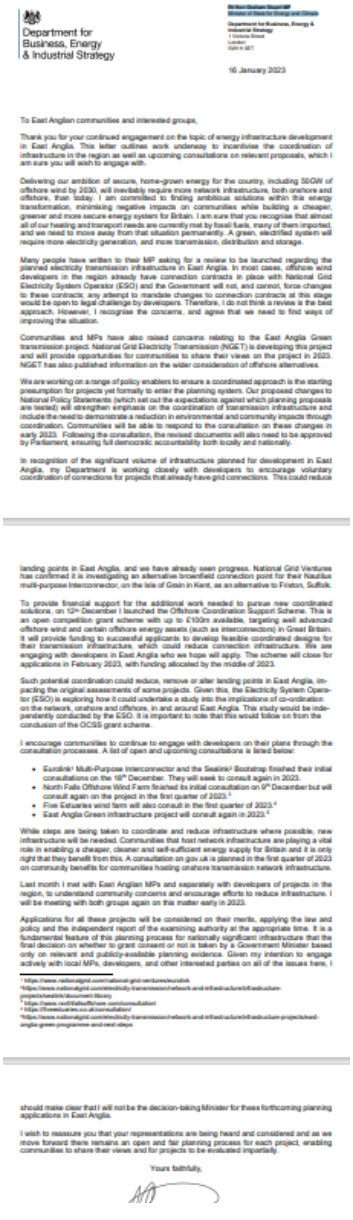
The East of England HND must be re-run, this time meeting its own Terms of Reference (TOR), which require it to balance equally communities, environment, deliverability, and financial viability. By ignoring the first two of these and scoping out The East, the HND 2022 fails against its own terms.

INSTEAD: A SOLUTION FOR 2050 IN THE NORTH SEA:



WALES – RADIAL MODEL CONTINUES

As demonstrated above, the situation in Wales is not much better. The radial approach continues apace. The HND proposed a subsea cable but that, without explanation, will now involve 200km of pylons and a continuation of radial connections for Irish Sea wind farms. The HND does not include capacity for the new floating offshore wind farms, nor does it look beyond 2030 to the dramatic growth expected by 2050.



Department for Business, Energy & Industrial Strategy

16 January 2023

To East Anglian communities and interested groups,

Thank you for your continued engagement on the topic of energy infrastructure development in East Anglia. This letter outlines work underway to incentivise the coordination of infrastructure in the region as well as upcoming consultations on relevant proposals, which I am sure you will wish to engage with.

Delivering our ambition of secure, home-grown energy for the country, including 50GW of offshore wind by 2030, will inevitably require more network infrastructure, both onshore and offshore, than today. I am committed to finding ambitious solutions within this energy transformation, minimising negative impacts on communities while building a cheaper, greener and more secure energy system for Britain. I am sure that you recognise that almost all of our heating and transport needs are currently met by fossil fuels, many of them imported, and we need to move away from that situation permanently. A green, electrified system will require more electricity generation, and more transmission, distribution and storage.

Many people have written to their MP asking for a review to be launched regarding the planned electricity transmission infrastructure in East Anglia. In most cases, offshore wind developers in the region already have connection contracts in place with National Grid Electricity System Operator (ESO) and the Government will not, and cannot, force changes to these contracts; any attempt to mandate changes to connection contracts at this stage would be open to legal challenge by developers. Therefore, I do not think a review is the best approach. However, I recognise the concerns, and agree that we need to find ways of improving the situation.

Communities and MPs have also raised concerns relating to the East Anglia Green transmission project. National Grid Electricity Transmission (NGET) is developing this project and will provide opportunities for communities to share their views on the project in 2023. NGET has also published information on the wider consideration of offshore alternatives.

We are working on a range of policy enablers to ensure a coordinated approach is the starting presumption for projects yet formally to enter the planning system. Our proposed changes to National Policy Statements (which set out the expectations against which planning proposals are tested) will strengthen emphasis on the coordination of transmission infrastructure and include the need to demonstrate a reduction in environmental and community impacts through coordination. Communities will be able to respond to the consultation on these changes in early 2023. Following the consultation, the revised documents will also need to be approved by Parliament, ensuring full democratic accountability both locally and nationally.

In recognition of the significant volume of infrastructure planned for development in East Anglia, my Department is working closely with developers to encourage voluntary coordination of connections for projects that already have grid connections. This could reduce

landing points in East Anglia, and we have already seen progress. National Grid Ventures has confirmed it is investigating an alternative brownfield connection point for their Nautilus multi-purpose Interconnector, on the Isle of Grain in Kent, as an alternative to Friston, Suffolk.

To provide financial support for the additional work needed to pursue new coordinated solutions, on 12th December I launched the Offshore Coordination Support Scheme. This is an open competition grant scheme with up to £100m available, targeting well advanced offshore wind and certain offshore energy assets (such as interconnectors) in Great Britain. It will provide funding to successful applicants to develop feasible coordinated designs for their transmission infrastructure, which could reduce connection infrastructure. We are engaging with developers in East Anglia who we hope will apply. The scheme will close for applications in February 2023, with funding allocated by the middle of 2023.

Such potential coordination could reduce, remove or alter landing points in East Anglia, impacting the original assessments of some projects. Given this, the Electricity System Operator (ESO) is exploring how it could undertake a study into the implications of co-ordination on the network, onshore and offshore, in and around East Anglia. This study would be independently conducted by the ESO. It is important to note that this would follow on from the conclusion of the OCSS grant scheme.

I encourage communities to continue to engage with developers on their plans through the consultation processes. A list of open and upcoming consultations is listed below:

- Eurolink's Multi-Purpose Interconnector and the Sealink/ Bootstrap finished their initial consultations on the 16th December. They will seek to consult again in 2023.
- North Falls Offshore Wind Farm finished its initial consultation on 9th December but will consult again on the project in the first quarter of 2023.[3]
- Five Estuaries wind farm will also consult in the first quarter of 2023.[4]
- East Anglia Green infrastructure project will consult again in 2023.[5]

While steps are being taken to coordinate and reduce infrastructure where possible, new infrastructure will be needed. Communities that host network infrastructure are playing a vital role in enabling a cheaper, cleaner and self-sufficient energy supply for Britain and it is only right that they benefit from this. A consultation on gov.uk is planned in the first quarter of 2023 on community benefits for communities hosting onshore transmission network infrastructure.

Last month I met with East Anglian MPs and separately with developers of projects in the region, to understand community concerns and encourage efforts to reduce infrastructure. I will be meeting with both groups again on this matter early in 2023.

Applications for all these projects will be considered on their merits, applying the law and policy and the independent report of the examining authority at the appropriate time. It is a fundamental feature of this planning process for nationally significant infrastructure that the final decision on whether to grant consent or not is taken by a Government Minister based only on relevant and publicly-available planning evidence. Given my intention to engage actively with local MPs, developers, and other interested parties on all of the issues here, I

should make clear that I will not be the decision-taking Minister for these forthcoming planning applications in East Anglia.

I wish to reassure you that your representations are being heard and considered and as we move forward there remains an open and fair planning process for each project, enabling communities to share their views and for projects to be evaluated impartially.

Yours faithfully,

NOT GOOD ENOUGH:

GOVERNMENT'S RESPONSE TO EAST ANGLIAN COMMUNITIES

In a letter[xxxii] to East Anglian communities and interested groups on 16 January 2023, (reproduced on this page - see left), the Rt Hon Graham Stuart MP, Minister of State for Energy and Climate attempted to address concerns. Communities were not appeased or reassured, and here is why:

- **Responding to consultations is not a solution.**

We are advised to respond to consultations. We already do, in considerable numbers. Yet the key problem with the 'secret plans' system in operation is that by the time a proposal is presented, it is viewed by National Grid, BEIS and OFGEM as a done deal.

We will, of course, continue to engage in the planning system throughout DCO's but we all do so in the knowledge that the Secretary of State has, on all occasions, overruled his own independent planning inspectors.

- **Government must go beyond encouraging cooperation.**

Whilst it is good that Government is encouraging energy transmission infrastructure providers to work together, this approach does not begin to address the scale of the current problem, nor that which will be faced by 2050. An integrated offshore grid must be mandated through a re-run of the HND.

- **Government must find a way around the contracts.**

That contracts have been signed is simply not a valid excuse. As set out in this report, Government has, since 2011, been all too aware of the benefits of an integrated offshore grid. It has had numerous opportunities to seize the bull by the horns, and it has ignored those opportunities. An integrated offshore grid is essential in areas of high electricity growth and must be implemented immediately, while there are still significant benefits to be had. The £100million fund allocated to encourage cooperation, should instead be targeted to compensate wind farm operators who may see a change in their connection to the grid. And Government must prepare a report which sets out the cost-savings to wind farm operators of a connection into an integrated offshore grid.

RECOMMENDATIONS

It is time for an offshore grid –

better for consumers, communities, and the environment.

www.pylonseastanglia.co.uk

A coordinated offshore approach offers many benefits, namely –

- Better for consumers all over the UK
- Better for the environment and communities
- Feasible and deliverable.
- Popular / a vote-winner
- Less likely to face legal challenge.
- Fair! Elsewhere money is being spent on offshore transmission and removing pylons…
- Better & faster delivery of transmission infrastructure, as desired by government.
- Meets Prime Minister Rishi Sunak's leadership campaign promises to redouble offshore efforts and reduce onshore infrastructure.

We therefore recommend…

1. An **immediate re-opening of the HND** and an insistence it is run to **meet its own four design objectives** in the Terms of Reference, with particular regard for communities, who must be consulted, and for the environment. Both were neglected in the 2022 HND.

2. An investigation into **offshore islands** for associated infrastructure, and a full survey of, and consultation on, **brownfield sites** for landing points.

3. Full consideration of alternatives ('optioneering') with stakeholders **including communities**, long before decisions are made about energy infrastructure.

4. **Look to 2050** – we must plan beyond 2030.

5. **Removal of the presumption in favour of overhead lines in the draft National Policy Statements**, followed by rapid publishing of the revised Statements.

6. Independent review of Planning Inspectorate decisions overruled by the Secretary of State, and immediate suspension of preparatory work on consented radial connection projects.

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www.pylonseastanglia.co.uk

Contact Rosie Pearson at pylons@mail.com January 2023