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Power to the people

Getting renewable energy from source to user

May 2024

Policy overview / update: offshore wind

- Offshore Transmission Network Review

- National Grid's *Holistic Network Design* – update

- The refreshed suite of National Policy Statements
  EN-3 and EN-5

- National Grid's *Beyond 2030* - future programme

Background to the ONTR

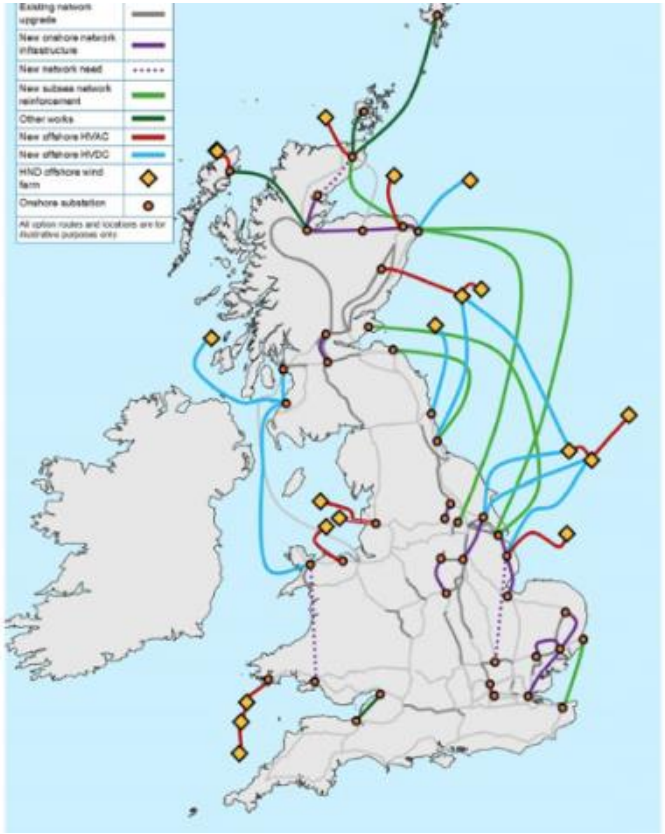
- Aim = 50GW of secure home-grown offshore wind by 2030
- Step change in speed and scale, to reinforce the onshore / offshore transmission network infrastructure from sea to consumers
- 2020 Government led review, alongside ESO, Ofgem etc, plus delivery partners.
- Outputs: HND Pathway (2022), Follow up (2023), Beyond 2030

HND's Pathway to 2030

Full set of recommendations connecting 18 new WFs with total capacity of 23GW

Co-ordinated connections and shared infrastructure

But, not fixed, detailed plans
For project promoter to consult and apply for DCO



HND update: from review to delivery

Specific:

ScotWind in scope projects have reached final recommended design stage

Celtic Sea in Final Strategic Options Appraisal process with enabling work studies

General:

Infrastructure Delivery Groups

- Detailed Network Design Phase
- Development of Impact Assessment process against design criteria

National Policy Statements: EN-3 / EN-5

EN-1	Infrastructure of ‘critical national priority’ where need case will outweigh residual effects in all but the most exceptional circumstances Nationally significant low carbon infrastructure: all onshore / offshore wind generation and all power lines within scope of EN-5
EN-3	Starting point, urgent need outweighing harm, exceptionality, VSCS. Primary consenting issue remains impacts on SPAs / SACs Acknowledges Offshore Wind Environmental Improvement Package (streamlining consenting process, reducing timelines, revising Habitats Regs / MCZ for offshore wind)
EN-5	All power lines and grid infrastructure classed as CNP

Beyond 2030

A national blueprint for a decarbonised system in Great Britain

- Rising electricity needs (+ 65% by 2035)
- Ambition to have fully decarbonised system by 2035
- Key part is efficient connection of offshore wind in a coordinated way

- Current electricity grid reaching capacity
- Transmission issues over last 10yrs; bottlenecks
- Occasional switch off of WFs to prevent grid overload

Beyond 2030

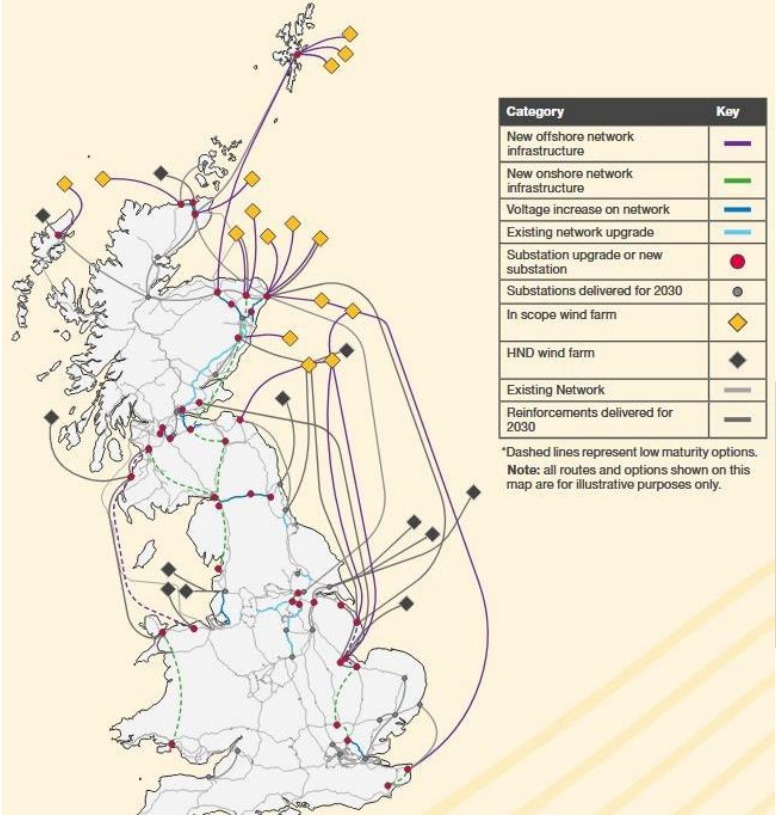
Capability to create up to 86GW of offshore wind by 2035

Additional 21GW from ScotWind alone

Single largest offshore wind fleet in Europe

900km existing network upgrades

3800km new offshore network recommendations



Beyond 2030

Cumulatively, proposed infrastructure could add up to £15 billion to the UK economy.

Could support over 20, 000 jobs each year (90% outside London / SE)

But, recommendation of additional £58 billion of direct investment in electricity networks

Once in a generation expansion of Britain’s electricity grid.

Beyond 2030: ESO

- ESO transitions to the National Energy System Operator in summer 2024 (Energy Act 2023)
- Additional capability to undertake strategic planning across multiple energy vectors
- Responsibility for producing a Centralised Strategic Network Plan
- Working with government to deliver a Strategic Spatial Energy Plan
- Delivery from 2025 onwards

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Making the Connection

Jonathan Clay

Cornerstone Climate Month - May 2024

Fiddling while the world burns

Electricity Use

UK electricity use expected to increase by 50% by 2035.

- EV use
- Domestic heat pumps

Lord Deben: “ the greatest obstacle to renewable energy generation is connection to the Grid”

Lord Deben was confirmed as Chairman of the UK’s independent Committee on Climate Change, in 2012.

The committee advises the UK Government on setting and meeting carbon budgets and on preparing for the impacts of climate change.

He stepped down at the end of June 2023.

The National Grid: current situation.....

- Outdated?
- Inadequate?
- In the wrong place?
- Grid Built to serve coal, gas and oil-fired power stations and generators; now hopelessly inadequate ?
- Major new transmission very controversial
- New Grid will take many years at current rate of development. Development already permitted may need to wait up to ten years to be connected.

New Homes need additional Grid capacity

Bicester: 7000 Homes on pause due to grid capacity problems

Cllr Susan Brown: Leader of Oxford City Council and Vice Chair of District Councils Network:

“The problem for developers is securing sufficient energy and the time it takes to connect to the grid.”

Stephen Spender “The Pylons”

The secret of these hills was stone, and cottages
Of that stone made,
And crumbling roads
That turned on sudden hidden villages

Now over these small hills, they have built the concrete
That trails black wire
Pylons, those pillars
Bare like nude giant girls that have no secret.

The National Grid: current situation….(cont'd)

- NB New NPS - EN1 - refers to solar for the first time; but is the DCO regime beginning to falter?
- Still no serious positive policy for onshore wind - any application needs community support and in the local plan: NPPF footnote 58
- <50 MW Solar is booming: 70% getting planning permission on section 78 appeal, but see shower of Ministerial 4/5 refusals in last two months.
- Few DCOs: Cleve Hill, Kent - largest in the country Substantial delays , 150 MW battery store refused February 2024. Longfield Essex 5 km connection search – seen as rule of thumb limit.

Cleve Hill Solar Park DCO

- Cleve Hill Solar Park, 350MW, first of its kind to be promoted
- Approved 2020.
- Unsubsidised. Large scale subsidy-free solar and battery storage,
- 491 hectares on Site in Kent Marshes near Faversham. Spare capacity at substation is principal driver in site selection.

- In a drive to boost clean energy production, the French Senate recently (2023) approved legislation that makes it mandatory for all existing and new car parks with 80 spaces or more to be covered by solar panels.

- Query: Why are we not following the French and putting up roofs and solar farms on our public car parks? Every supermarket in France now has them.

Latest hot news from France- 140m baguette

Result

Or bigger...

What is needed?

- New Grid to serve off-shore wind and to provide future (and existing) access for other renewables development.

- Policy to support development in locations that are close to existing infrastructure limited but some support in NPPF for development in the Green Belt:

- NPPF: 156 and 163. Footnote 58

What is needed? Continued

- Government Policy?
- Outdated Local Plans
- Outdated inadequate and poorly located infrastructure
- Poor choice and availability of sites
- Local objection/lack of community support
- Battery/storage capacity - need to diversify - hydrogen?

Green Belt

- Obvious location for solar farms - Open land close to communities. PDL in Green Belt obvious candidates.
- Reversible - most solar farms are time restricted - 30 or 40 years life
- Most applications are for < 49.9 MW (threshold for TCPA applications)
- Batteries supplying 100s MW

“Sunrush”

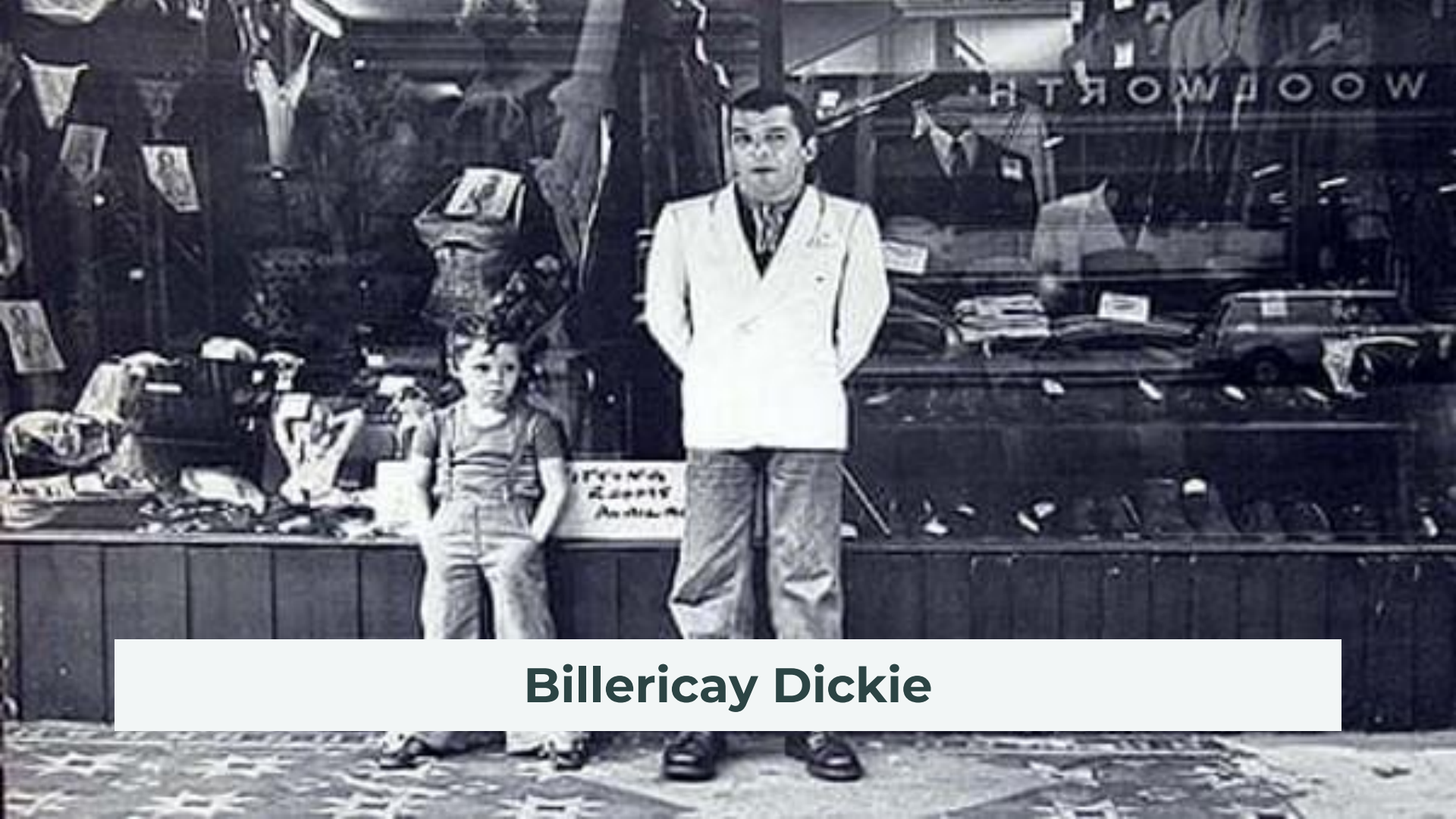
- ‘Sunrush' is how a recent explosion in interest in planning applications for solar energy farms has been dubbed.
- 5 decisions suggest solar farms not facing easy wins.
- 4/5 ministerial refusals

LPA	Type of scheme:	Location:	Type of land:	Scheme size:	Decision:	Inspector's recommendation:	Minister making decision:	Date of decision:
North Hertfordshire	Solar farm	Land at Graveley Lane, to the east of Great Wymondle	Green belt	49.99MW on 88 ha	Approved	Refuse	Simon Hoare	11/03/2024
West Northamptonshire	Solar farm	Milton Road, Gayton, Northampton	Non-green belt countryside	49.7MW on 77 ha	Refused	Approve	Simon Hoare	13/03/2024
Dorset Council	Solar farm	Cruxton Farm, Cruxton	AONB	11MW on 18 ha	Refused	Approve	Felicity Buchan	03/04/2024
Hertsmere	Solar farm and battery storage	Land north of Butterfly Lane, Aldenham, Hertfordshire	Green belt	49.9MW on 85 ha	Refused	Refuse	Lee Rowley	08/04/2024
South Buckinghamshire	Renewable energy park including combined solar and wind farm, plus a 416-bedroom hotel	Lake End Road, Dorney, Slough	Green belt	3.9 hectares	Refused	Refuse	Felicity Buchan	08/04/2024

Green Belts and inappropriate development

- NPPF (December 2023)

- “156. When located in the Green Belt, elements of many renewable energy projects will comprise inappropriate development. In such cases developers will need to demonstrate very special circumstances if projects are to proceed. Such very special circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources.”



Billericay Dickie

Cray Hall Farm, Billericay s 78 Appeal: Case study

- Appeal under section 78 for 25.6 MW solar farm in MGB in Essex
- Open arable countryside Green Belt but not “valued landscape” or national designated
- Would meet electrical needs of 12,585 homes in the district.
- Existing substation connection to the Grid in adjoining field.

Cray Hall – Green Belt section 78 case study

Main issues:

- Effect on openness of Green Belt
- Whether VSCs outweigh harm caused by inappropriate development and any other harm (principally impact on historic churches landscape character and visual amenity)
- Whether a section 106 is needed to make the development acceptable re farmland birds, healthcare decommissioning and monitoring (withdrawn by LPA during appeal hearing)

Cray Hall Billericay

Main findings:

1. NPPF para 156 (supra)
2. Harm to openness of GB for 40-year life of scheme “attracts substantial weight”.
3. Moderate adverse effect on landscape character.
4. Moderate to major adverse visual impact.
5. Cumulative landscape effect with adjacent earlier solar farm.
6. Harm to setting Grade II* church: substantial public benefits outweigh the harm
7. BNG: 94% (area-based habitats) and 53% (Linear habitats): significant positive weight

Very Special Circumstances

- “A number of circumstances combine….” [see *Basildon* case per Sullivan]
- The proximate grid connection
- Absence of BMV land
- No evidence of suitable available alternative sites
- Allows for continued use for agriculture – sheep!
- Economic benefits and increased business rates etc not VSC “could apply to any site”

Very Special Circumstances – Cray Hall

- “Potential energy generation together with the limited degree of harm to landscape character and visual amenity alone comprise the VSCs that outweigh the harm by reason of inappropriateness and the other harm identified that allow this project to proceed”.

- Planning permission granted with 40-year life condition.

Never turn your back on a Soay tup...

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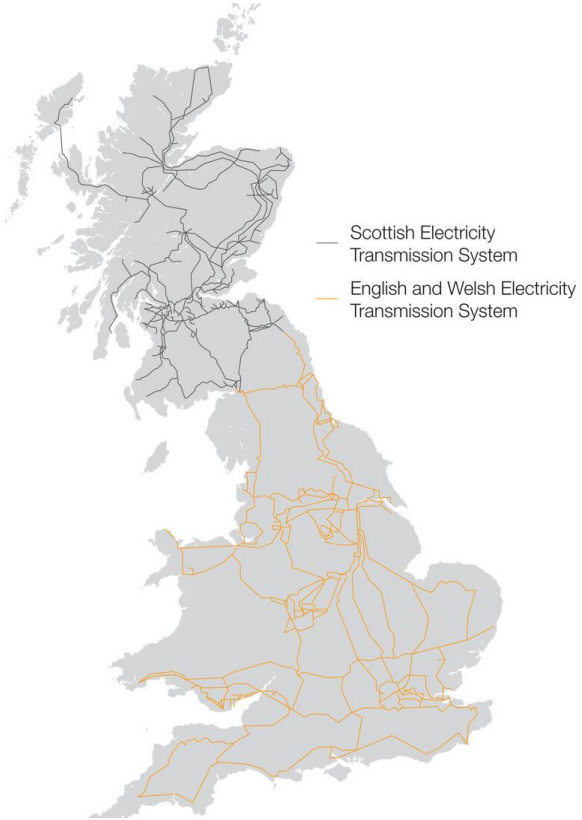
Key Players in the Connections World

The Electricity Supply Network

Transmission Systems	Distribution Networks
Long distance transfer of power from generating source via 400kV and 275 kV lines (the Grid) with a series of transmission substations within the system	Local distribution of power from transmission substations via 132 kV or 230V lines to end users



Transmission systems (England, Wales, and Scotland)

The National Grid (in England & Wales)

Owned and maintained by National Grid Electricity Transmission (NGET)

But NGET do not operate the system that they own and maintain

Operation of the Grid (moving electricity around so there is enough where and when it is needed) is dealt with by National Grid Electricity System Operator (ESO)

ESO is also responsible for planning what improvements are needed to the system (new lines and upgrades)

In summer 2024 ESO is to become the National Electricity System Operator (NESO), separate and independent from National Grid (NGET)

But we should not forget National Grid Ventures (NGV) which is a commercial business (in the UK and elsewhere) promoting new electricity infrastructure, such as interconnectors, and new generation sources, such as offshore wind

And (confusingly) there is also National Grid as one of the distribution network operators (formerly Western Power Distribution)…

National Grid reinforcement

Offshore Network Transmission Review (as above)

Holistic Network Design (as above)

Beyond 2030 (as above)

Transmission Acceleration Action Plan (published by DESNZ, November 2023)

Key aim of the TAAP

To *halve* the time taken to build new transmission infrastructure from 12-14 years to 7 years from identifying the need for new infrastructure to building and commissioning it so it is available for use

The TAAP sets out a detailed series of recommendations to achieve that aim, including reforms of the regulatory approvals and planning consent processes to reduce the time taken by these stages

Grid reinforcements already in the system

NGET

- Chesterfield to Willington (pre-app)
- Grimsby to Walpole (pre-app)
- North Humber to High Marnham (pre-app)
- Norwich to Tilbury (pre-app)
- Sea Link (pre-app)
- Bramford to Twinstead (recommendation)

NGV

- Continental Link Multi Purpose Interconnector (pre-app)
- Lion Link Multi Purpose Interconnector (pre-app)
- Nautilus Interconnector (pre-app)

Distribution Network Operators (UK and Eire)

The role of UKPN and other DNOs

UKPN (and the other Distribution Network Operators) own and maintain the lower voltage cables in their local areas that provide the delivery connections for power in the Grid to get from the transmission substations to the end users

UKPN covers London, the South East, and the East of England, so areas where there is the largest (and growing) demand for power

New developments (commercial or residential) require connections to the distribution network and some connections will require reinforcement/upgrading of that network

Typically, most new connections do not, but 11% to 15% of High Voltage connections will require reinforcement/upgrades

Delivery of upgrades has to be programmed and can have long lead-in times

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“Underground, overground, what is it to be?”

(with apologies to Mike Batt and the Wombles)

May 2024

Underground or overground?

No in principle objection to overhead power lines (EN-5 para 2.9.7)

Generally, a ‘strong starting presumption’ for the use of overhead lines (EN-5, para 2.9.20)

BUT that presumption is reversed in National Parks and National Landscapes and the Broads, where the ‘strong starting presumption’ is undergrounding

No similar reversal of the presumption in the Green Belt

Elsewhere, the presumption can be overcome if ‘high potential’ for ‘widespread’ and ‘significant’ adverse impacts, which may justify undergrounding sections of a route, subject to feasibility, cost, and the harms thereby caused (EN-5 para 2.9.23)

EN-5 also generally endorses the ‘Holford Rules’ on considerations in the siting and routing of overhead lines and the ‘Horlock Rules’ on considerations in the siting and design of substations

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Thank You

Asitha Ranatunga, Jonathan Clay and Michael Bedford KC

Cornerstone Barristers Climate Month May 2024