Offshore Transmission Network Review (OTNR) Webinar

31 January 2022

Department for Business, Energy & Industrial Strategy

Agenda

Time	Subject	Speaker
12.00	Welcome	Chris Fox
12.05	Opening remarks from the Minister for Energy, Clean Growth and Climate Change	The Rt Hon Greg Hands MP
12.10	Strategic Context of OTNR within the Transition to Net Zero	Emily Bourne
12.15	Scotwind Leasing Round Announcement	Colin Maciver
12.20	OTNR Delivery Timeline	Mark Darby
12.30	Department for Business, Energy and Industrial Strategy Early Opportunities, Enduring Regime and Multi-Purpose Interconnectors (MPIs)	Safa Jahan Ewa Wolkowicz Rob Selbie
12.45	Ofgem Publication Update and Interconnector Policy Review	Stuart Borland Andrew Bullimore
13.00	National Grid ESO Holistic Network Design Timeline and Methodology, Generation Map, and Network Options Assessment Launch	Alice Etheridge
13.20	Marine Environment Protection Research	Will Apps
13.25	Q&A	Chris Fox
14.00	Close	Chris Fox

Opening Remarks

The Rt Hon Greg Hands MP, Minister for Energy, Clean Growth and Climate Change

Department for Business, Energy & Industrial Strategy

Strategic Context of OTNR within the Transition to Net Zero

Emily Bourne, Director, Energy Systems, Networks and Markets, BEIS

Scotwind Leasing Round Announcement

Colin Maciver, Head of Offshore Wind, Crown Estate Scotland

Crown Estate Scotland
Oighreachd a' Chrùin Alba

ScotWind Outcome

Colin Maciver, Head of Offshore Wind

January 2022

Department for Business, Energy & Industrial Strategy

Crown Estate Scotland
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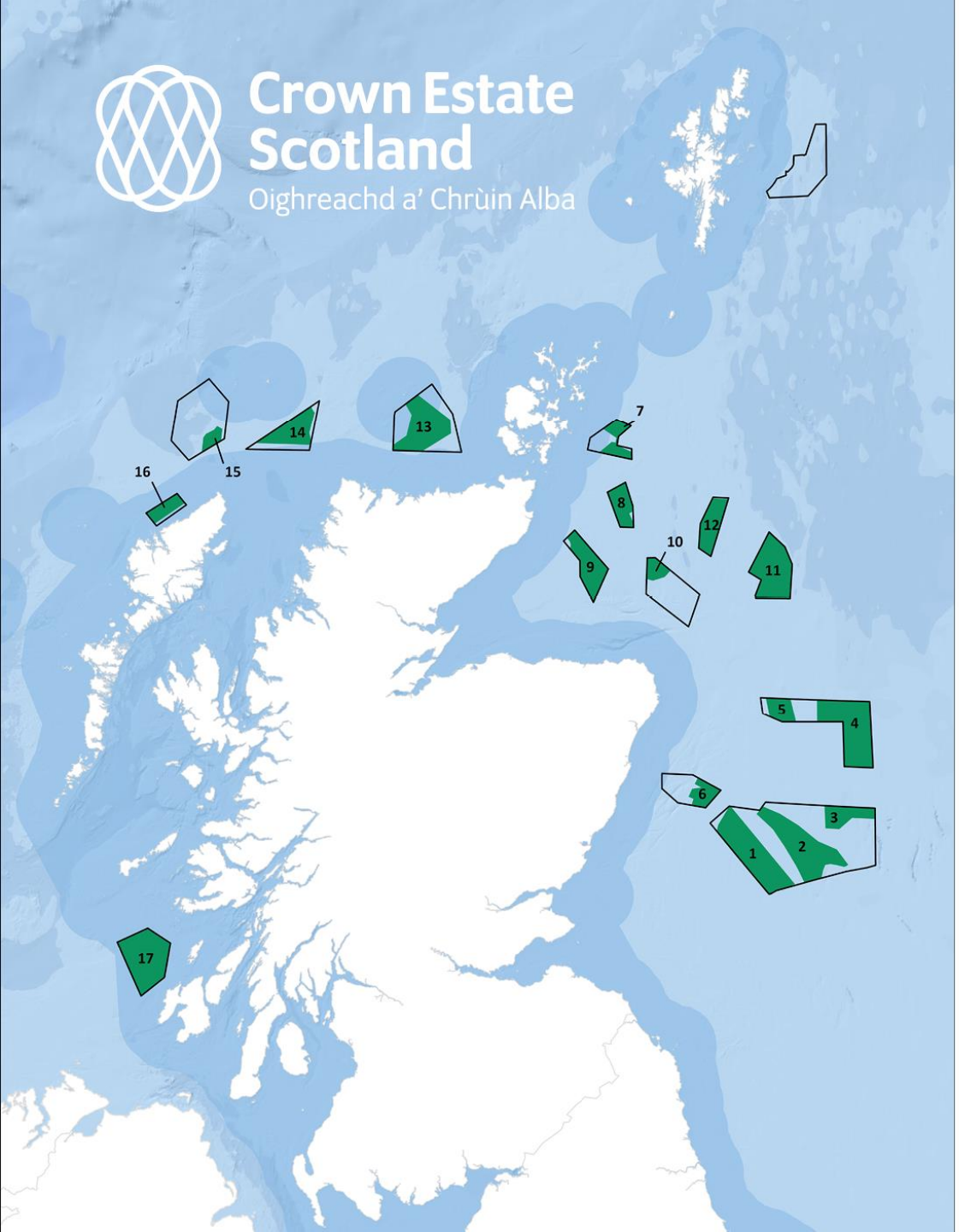


74
Applications from bidders

17
Projects selected

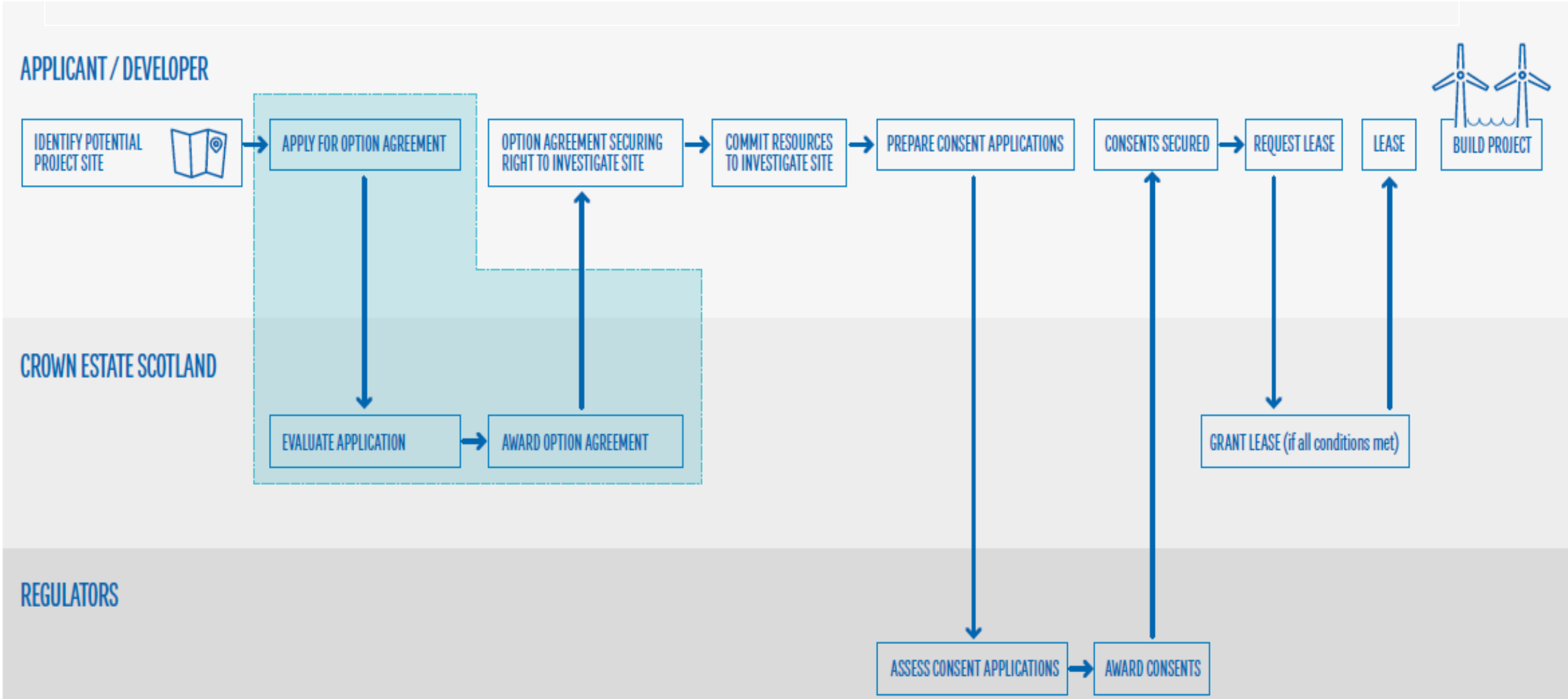
7,000km²
Total seabed area offered as options

Crown Estate Scotland
Oighreachd a' Chrùin Alba

£700m of option fees will go to public spending

£Billions of investment expected in Scottish supply chain

Next Steps

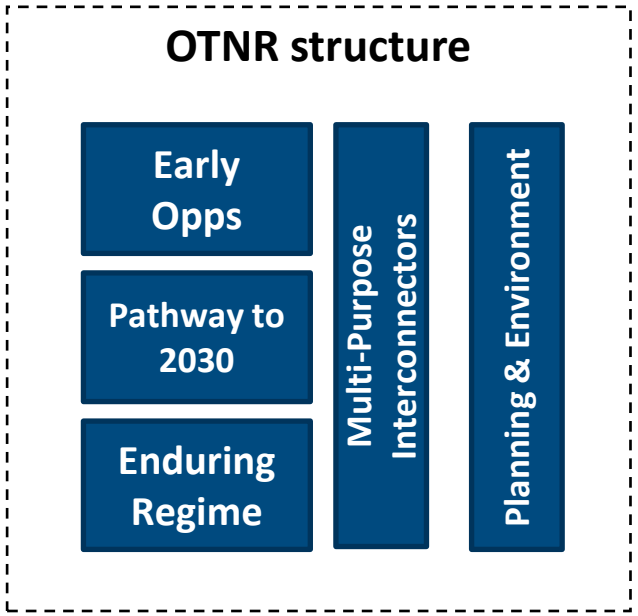

APPLICANT / DEVELOPER
IDENTIFY POTENTIAL PROJECT SITE
APPLY FOR OPTION AGREEMENT
OPTION AGREEMENT SECURING RIGHT TO INVESTIGATE SITE
COMMIT RESOURCES TO INVESTIGATE SITE
PREPARE CONSENT APPLICATIONS
CONSENTS SECURED
REQUEST LEASE
LEASE
BUILD PROJECT
CROWN ESTATE SCOTLAND
EVALUATE APPLICATION
AWARD OPTION AGREEMENT
GRANT LEASE (if all conditions met)
REGULATORS
ASSESS CONSENT APPLICATIONS
AWARD CONSENTS

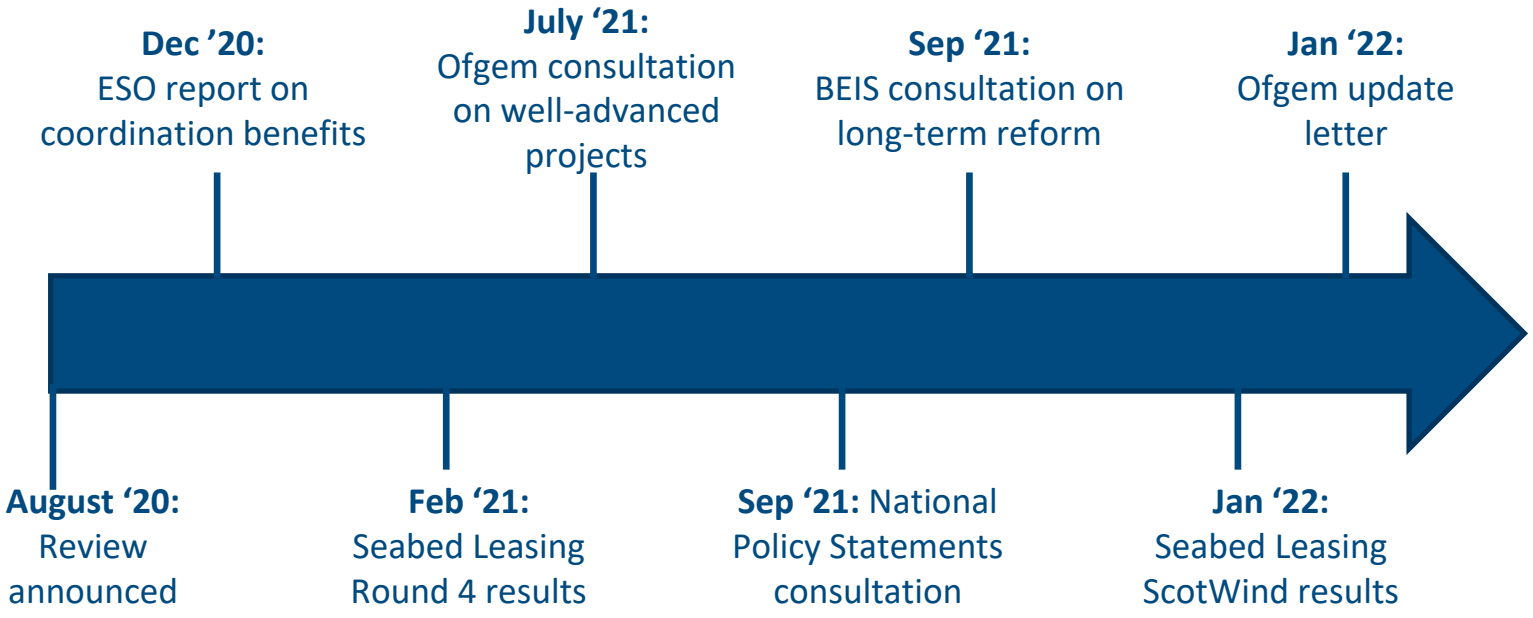
Delivery Timeline

Mark Darby, OTNR Project Manager, BEIS

Progress so far

- In **2021** we gathered evidence, made initial proposals and started reform
- In **2022** we will move firmly from 'reviewing' to 'delivering', focusing on the enabling policy/regulatory change, coordinated designs, and setting the long-term strategic direction
- We are balancing the need to move quickly with getting the detail right – a lot of people have an interest and decisions now impact infrastructure for decades





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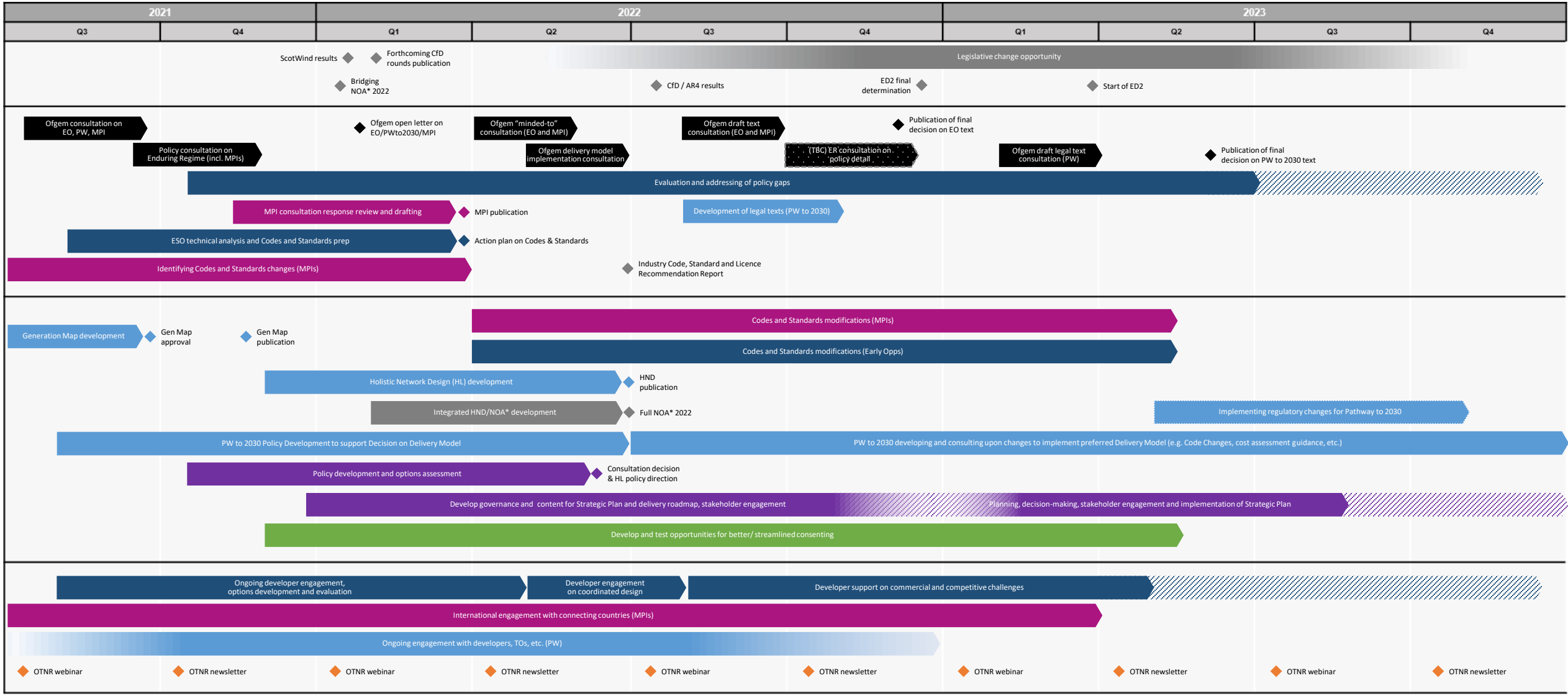
OTNR delivery timeline

Please note that the timings represented here are based on a number of assumptions and hence should be treated as indicative only



* NOA = Network Options Assessment

KEY	
External	External activities
CONS	Consultations
EO	Early Opportunities
PW	Pathway to 2030
ER	Enduring Regime
MPI	Multipurpose Interconnectors
P&E	Planning and Environment
ENG	Engagement and Comms

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Early Opportunities, Enduring Regime and Multi-Purpose Interconnectors

Safa Jahan, Early Opportunities, BEIS

Ewa Wolkowicz, Enduring Regime, BEIS

Rob Selbie, Multi-Purpose Interconnectors, BEIS

Early Opportunities – upcoming activity

- Since our joint BEIS/Ofgem **Open Letter** was published in August 2020 inviting stakeholders to submit early opportunities for coordination, we have received **16 proposals** across most major developers.
- The **six concepts for coordination** that formed these proposals were included in Ofgem's consultation published in July 2021.
- Some proposals offer a good level of coordination and could **progress** their designs once **enabling changes** are made.
- Others, particularly those located in **East Anglia**, could potentially go further and we will soon be launching a **program of activity** facilitated by RenewableUK to explore more regional coordinated solutions.
- This program will be delivered in **three phases:**

Phase 1	Agree success criteria and generate options for coordination
Phase 2	Assess options against barriers to coordination
Phase 3	Agree preferred options and address barriers to coordination

Enduring regime – key themes from consultation responses

We received 57 consultation responses from a wide range of stakeholders. An overwhelming majority welcomed our proposals for taking a more strategic approach to development and delivery of future offshore wind and associated infrastructure, whilst noting important considerations for successful implementation.

Strategic planning framework

- Strong support for taking a more strategic approach
- Broad support for the proposed 9 elements of scope
- BEIS as a preferred lead organisation
- Stakeholder engagement essential throughout
- Balancing long-term stability vs near term flexibility

Holistic Network Design

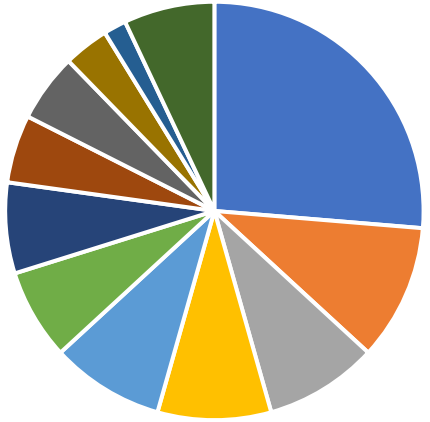
- Strong support for HND in enduring regime
- Strong support to include onshore transmission
- Interactions with existing network planning processes need to be clearly set out
- FSO suggested to lead on future strategic network planning

Delivery models

- Different preferences in different stakeholder groups
- Opportunity for alignment across onshore and offshore should be leveraged
- Phased approach and careful transition from PW2030 encouraged
- Amended/new options proposed for consideration

Transmission delivery timing

- Support for early planning and construction at the ‘right time’
- Risk of stranded asset a key consideration – timing transmission asset delivery to need



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MPIs – key themes from consultation responses

Three questions on Multi-Purpose Interconnection (MPI), i.e. assets which combine market-to-market interconnection and offshore transmission. Of the 57 responses to our September consultation, 21 responses specifically addressed the MPI questions (questions 12 to 14). Broad agreement that our current legal and regulatory framework does not provide an adequate enduring solution for the regulation of MPIs. Overall, the consultation supports the case for change. We will continue to review the stakeholder feedback with a view to make use of upcoming opportunities for legislative change.

Current legal and regulatory framework

- Broad support of the case for change.
- 90% of respondents believe the current legal and regulatory framework is unsuitable.
- Alignment with existing licensing and code conditions

A separate MPI asset class

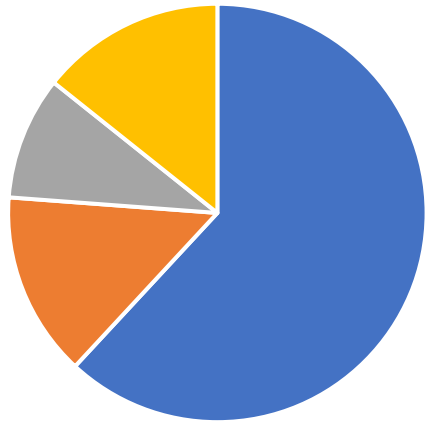
- 86% of respondents were not opposed to creating a new MPI asset class, 48% of respondents were directly supportive of creating a new MPI asset class
- 14% of respondents were opposed to creating a new MPI asset class

Regulatory developments elsewhere

- A number of respondents highlighted the implementation of the Trade and Cooperation Agreement to enable efficient electricity trading between UK and the EU.
- Coherence with EU arrangements

Delivery considerations

- Timeline of implementation
- Coherence with EU arrangements
- Funding regimes for MPIs
- Capacity Market and Contracts for Difference considerations



Next steps

Early Opps	Enduring Regime	MPIs
• Progress enabling **changes to facilitate pathfinder proposals** that offer a good level of coordination • Launch program to explore more ambitious changes in East Anglia	• Drafting of **consultation decision** and associated recommendations – publication planned for Q2 • Ongoing **policy development** in key areas (strategic planning framework, delivery models), through established working groups, informed by stakeholder feedback • **Alignment with key change programmes** across different policy areas and partner organisations	• Make use of opportunities for **legislative change** to provide an **enduring solution** for the **regulation of MPIs** • Drafting of **consultation decision** and associated recommendations – publication planned for late Q1 • Ongoing **MPI policy development** across different temporal workstreams, through established working groups, informed by stakeholder feedback
• Shift towards **collaborative development and delivery**, including planning the required **stakeholder engagement** throughout this process		

Publication Update and Interconnector Policy Review

Stuart Borland, Head of Interconnectors and Offshore Coordination, Ofgem

Andrew Bullimore, Senior Manager Interconnectors, Ofgem

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Ofgem publication update

Stuart Borland and Andrew Bullimore
31/01/2022

Ofgem work to date

- Consultation analysis

- Summary of responses and next steps
  - Early opportunities
  - Pathway to 2030
  - Multi-Purpose Interconnectors (MPIs)

- Continuing policy development work

Aim of January publication and key messages

Our January 2022 publication summarises the consultation responses and sets out more detail on next steps for each workstream prior to our decisions in Spring 2022.

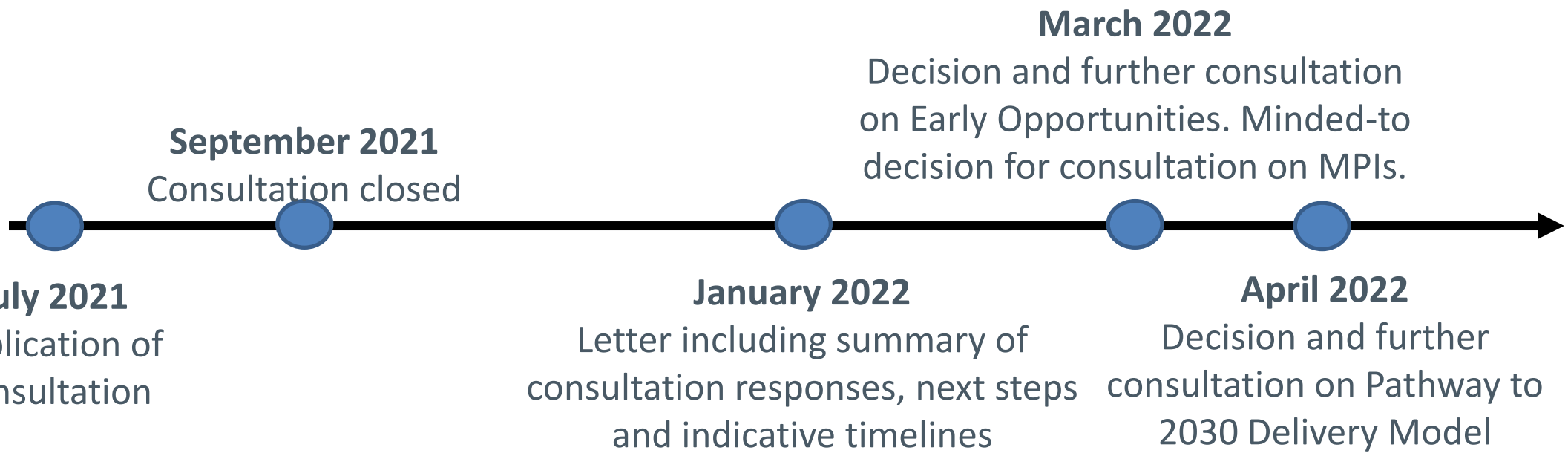
Workstream	Key messages
Early opportunities	We are developing changes to facilitate anticipatory investment which would advance the aims of the OTNR, subject to a cost-benefit analysis and more detailed proposals on when such investment would be appropriate and how the risks to consumers can be minimised.
Pathway to 2030	We are narrowing the range of options on the models for delivery of coordinated offshore transmission assets for ScotWind and Crown Estate Leasing Round 4 projects. We are discounting models that would likely delay delivery against government's target of 40GW of offshore wind by 2030.
MPIs	Taking account of feedback and analysis, we intend to publish a minded-to decision in Spring 2022 setting how we think we can adapt the existing licensing framework for MPIs on an interim basis. Assuming this is feasible, this will be followed by an implementation consultation in due course. In parallel, we continue to ensure alignment with the recent conclusions of our Interconnector Policy Review and with BEIS in respect of considerations for a possible enduring MPI framework.

Summary of responses

Workstream	High level Response summaries
Early opportunities	• Broad support for the concepts identified but also recognition of need for flexibility to combine concepts and support additional activities, such as coordinated construction. • Majority of respondents supported sharing anticipatory investment risk between offshore wind developers and consumers. Anticipatory investment ≠ Highly anticipatory investment. • Little appetite for SCR for early opportunities given timing constraints but need for collaborative approach to code changes.
Pathway to 2030	• Majority of stakeholders agreed with a holistic design and planned offshore detailed design. No consensus was formed on who should deliver the latter. • Vast majority agreed with the retaining of developer led model for HND indicated radial connections. • No model was favoured outright by respondents.
MPIs	• Broad support for IC and OFTO-led models at this stage – be open to other models if needed. Mixed views if MPIs could evolve from pre-existing assets in operation today. • Support to use existing framework for an interim regime. No opposition to licensing an asset on primary activity, while it undertakes an additional secondary activity. • Model preference driven by commercial, regulatory and operational arrangements. Clarity sought on impact of market arrangements and EU Regulations on MPIs.

Next steps and timelines

The timeline below provides an indicative summary of the key stages of our next steps for the relevant workstream areas.



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Interconnector policy review (ICPR)

OFG1161

Context

The primary objective of the interconnector policy review was **to establish whether there is a need for further GB interconnection capacity** beyond those projects currently with regulatory approval. If so, the secondary objective was **to consider Ofgem's approach to the regulation of future GB interconnection**. Alongside this we also considered our regulatory approach to multiple-purpose interconnectors (MPIs).

4 GW → **7.4 GW** → **8.5 GW** → **15.9 GW** → **TBC…**

IC capacity prior to C&F regime

IC capacity now

IC capacity incl. projects under construction and development with Ofgem approval

IC capacity incl. projects with Ofgem approval

Department for Business, Energy & Industrial Strategy

Energy White Paper (Dec 2020) sets an ambition to realise at least **18GW by 2030**. Highlights contribution of ICs to decarbonisation.

Climate Change Committee

6th Carbon Budget (Dec 2020) highlights role of interconnectors as enabler for Net Zero.

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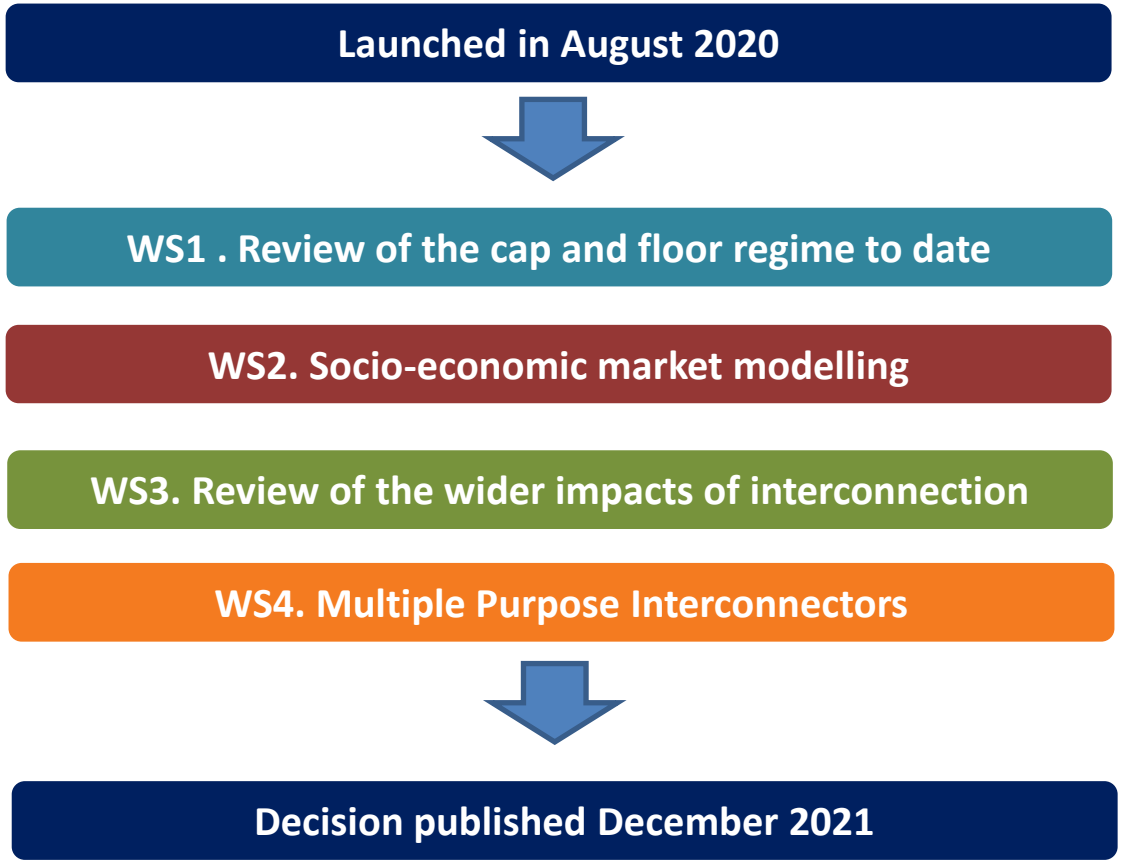
NOA 2021: Optimal range of **16.9 GW to 27.7 GW** of interconnection in 2040.

Developers: Pipeline of **32GW** of connection offers in NGESO IC register.

ICPR approach and conclusions



Key ICPR conclusions

- We think the cap and floor regime has met its objectives to date.
- We think further interconnection is likely in consumer's interests.
- We think the cap and floor regime is the right regime for the future, albeit with some changes.
- We think the cap and floor regime is, in principle, a suitable framework for regulating MPIs.

We will now act on these conclusions during an implementation period over the coming months.

Future interconnector application windows

We think there is value in further interconnection. However we recognise that as interconnector capacity increases the incremental benefits marginalise. We therefore want to ensure that our application framework brings forward the right projects, in the right places, at the right time for consumers when thinking about the whole system. **Therefore, in response to the ICPR conclusions we will**:

* INDICATIVE ONLY!

W1 (2015), W2 (2017) - Nine projects approved to Belgium, France, Norway, Denmark, Ireland and Germany.

Near-term - Open a third cap and floor application window in mid-2022. This will be targeted and informed in part by forward-looking analysis and engagement. We will enhance our CBA to reflect the wider impacts of interconnection and implement some changes to our cap and floor framework.

Far-term (2024+) - Consider cyclical application windows that are informed by regular outputs from strategic network planning. We will work with the relevant teams in Ofgem and government to ensure that interconnector regulation is factored into the development of future planning frameworks.

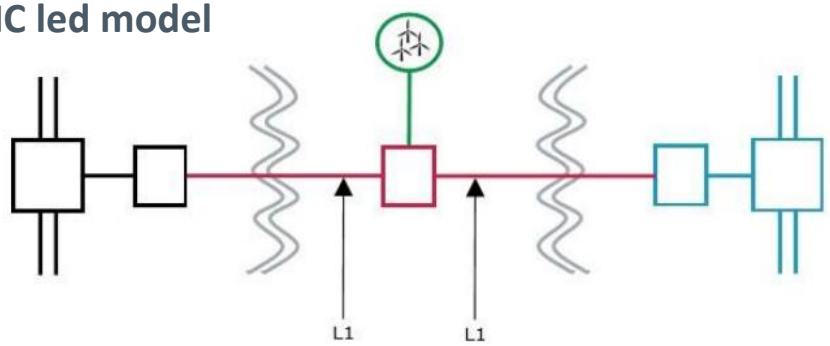
Multiple-purpose Interconnectors

We think that MPIs likely have an important role to play in supporting the decarbonisation agenda, government ambitions, and subsequently are likely to have positive impacts for consumers. **We therefore support the development of MPIs.**

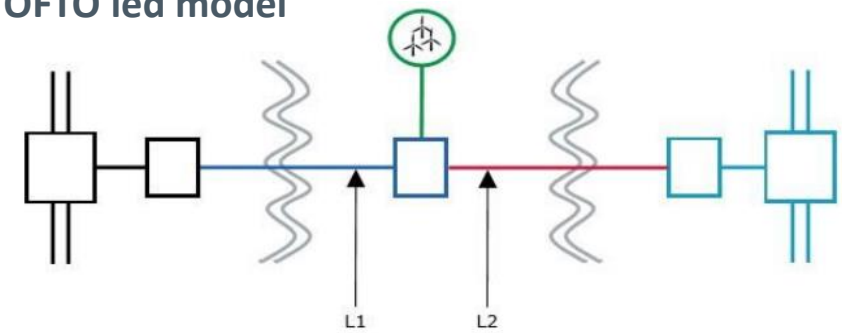
We think that **the cap and floor regime is in principle a suitable regime** to apply to MPIs, subject to there being an appropriate legal framework which is being considered through the Offshore Network Transmission Planning Review (OTNR).

We want to maintain the momentum in industry and unlock uncertainty over regulatory approach by **running a pilot cap and floor process for MPIs alongside our near-term application window for interconnectors in 2022**.

IC led model



OFTO led model



MPIs present a complex regulatory challenge, we will therefore:

- Continue to engage with stakeholders and provide clarity at the earliest opportunity.
- Continue to work with OTNR colleagues in Ofgem, BEIS and ESO to ensure alignment in our workstreams.

Interaction with the OTNR

MPI pilot – Run by Ofgem and launching mid-2022 with the aim of working closely with successful project(s) as we develop a cap and floor regime for MPIs.

Complimentary workstreams for delivering early MPIs, with the MPI pilot focussing on a revenue regime and the OTNR on regulatory compliance and the legal framework.

Interim regime – Delivered under the OTNR MPI workstream with a focus on facilitating MPIs in the near term, including classification, licencing, and ownership.

BEIS and Ofgem will need to consider a suitable approach in transitioning from any interim regime to an enduring one (if progressed) that delivers for industry and consumers, without penalising early MPI projects.

Enduring regime – Delivered under the OTNR, exploring the need for and benefit of legislative change, with a view to potentially creating an enduring MPI regime.

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Our core purpose is to ensure that all consumers can get good value and service from the energy market. In support of this we favour market solutions where practical, incentive regulation for monopolies and an approach that seeks to enable innovation and beneficial change whilst protecting consumers.

We will ensure that Ofgem will operate as an efficient organisation, driven by skilled and empowered staff, that will act quickly, predictably and effectively in the consumer interest, based on independent and transparent insight into consumers' experiences and the operation of energy systems and markets.

www.ofgem.gov.uk

Offshore Coordination Update

Alice Etheridge, Offshore Coordination Senior Manager, National Grid ESO

ESO Offshore Coordination Update

January 2022

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Agenda

1. Holistic Network Design Timeline
2. OTNR Generation Map
3. Holistic Network Design Methodology
4. Network Options Assessment 2021/22
5. Other key project updates including:
    - Open letter on the Pathway to 2030 Connection Contract Update Programme
    - Industry codes engagement
6. How to stay in touch and find out more

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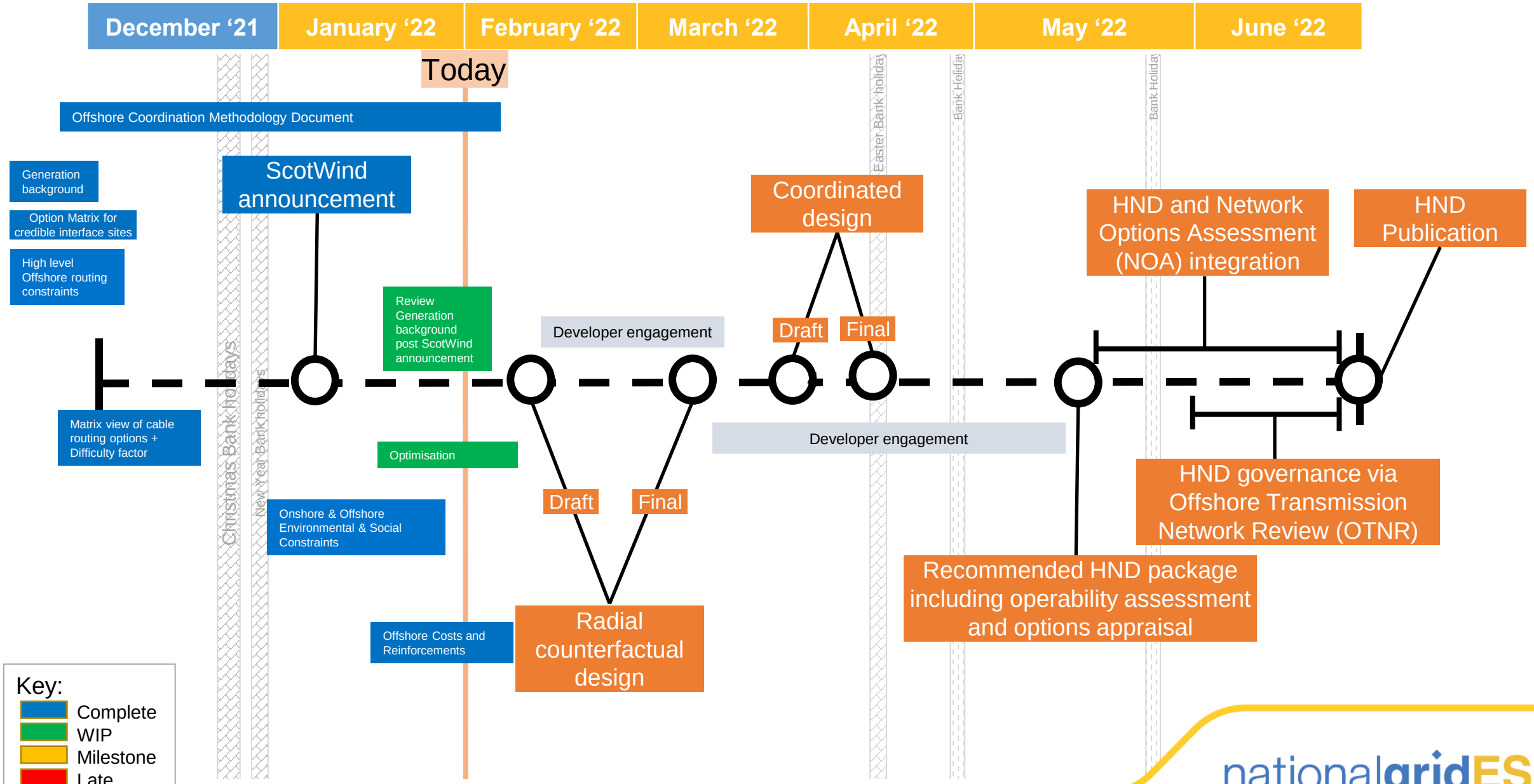
ESO Offshore Coordination Project:
Pathway to 2030 Holistic Network Design (HND) High level plan

Version 1.0 as at 14 Dec 21



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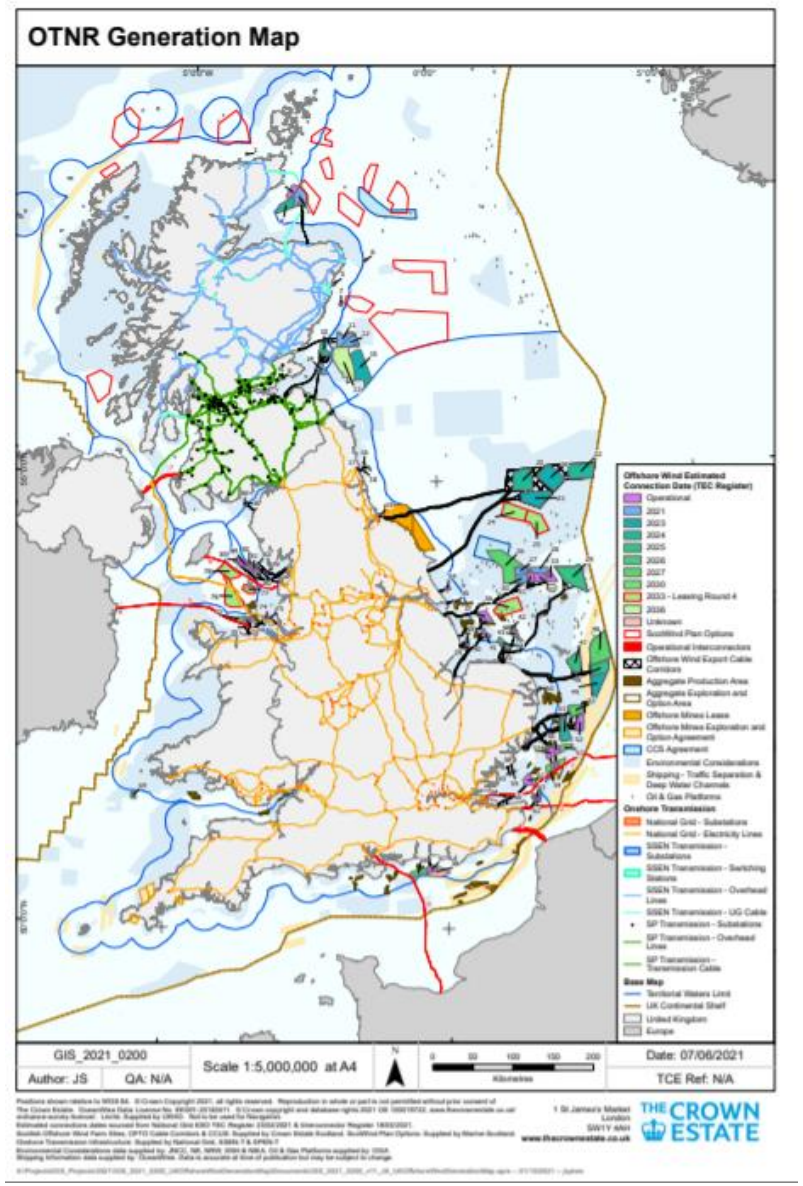

OTNR Generation Map

- Developed by The Crown Estate in summer 2021 and published in November 2021
- Bespoke map – potential development pathway for offshore wind projects in GB over the next decade based on publicly available data
- Includes a range of other data including:
  - existing and planned export cable corridors (where possible)
  - cable routes for operational interconnectors
  - onshore transmission system in GB (overhead lines and substations)
  - environmental designations in the offshore area.
- One of the inputs to the HND
- The Crown Estate will update the map periodically with input from relevant stakeholders
- Available on the BEIS website

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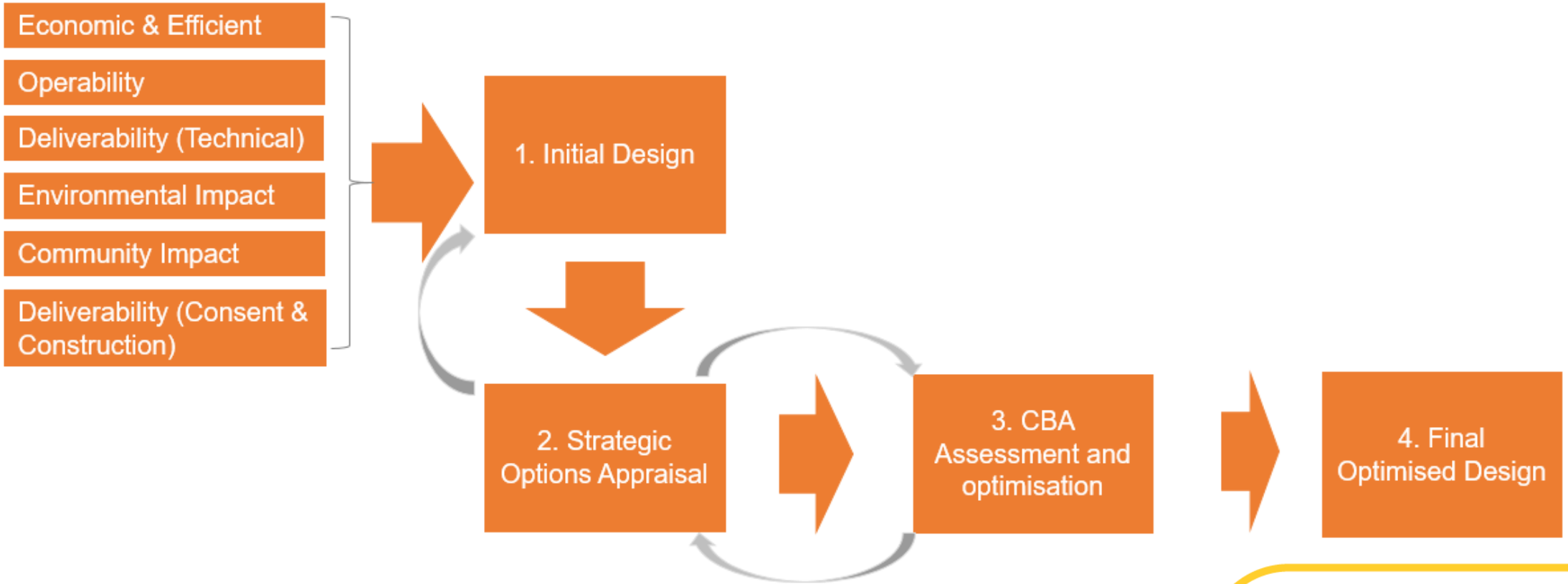
Holistic Network Design (HND) Methodology

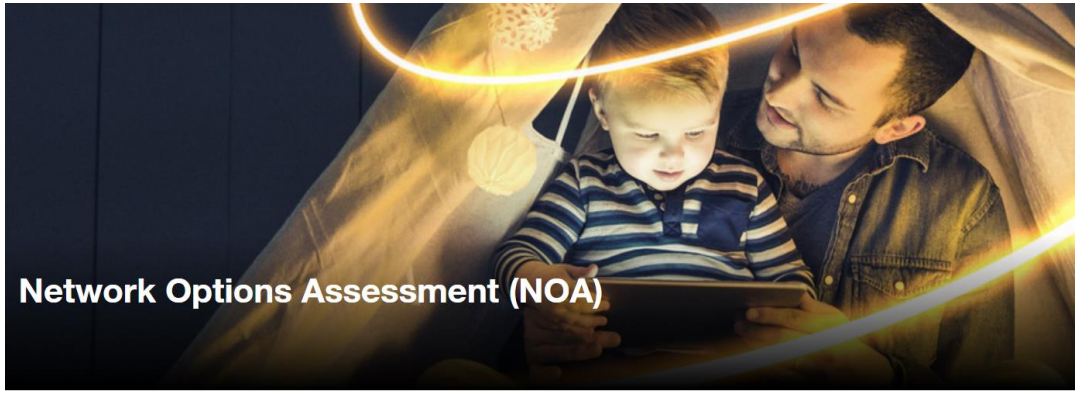
- The objective of the HND is to provide an economic, efficient, sustainable and coordinated National Electricity Transmission System to deliver 2030 offshore wind targets.



Network Options Assessment 2021/22

Published 31st January 2022 (search: ESO NOA)

- Provides an annual assessment of Electricity Transmission investments within GB to deliver the Future Energy Scenarios
- This year, provides a bridge to the Holistic Network Design publication in Summer 2022
- NOA for Interconnectors assesses the benefit of potential interconnector between GB and Europe



Open letter on the Pathway to 2030 Connection Contract Update Programme

- Open letter published on our website on 14 January
- Provides an update to relevant offshore developers and other interested stakeholders on our plans to update connection contracts to reflect Pathway to 2030 developments
- Available on ESO website

  https://www.nationalgrideso.com/document/230851/download

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Website Publication

National Grid ESO
Faraday House
Gallows Hill
Warwick
CV34 6DA

14 January 2022

www.nationalgrideso.com

Pathway to 2030 Connection Contract Update Programme

Dear colleagues,

One of the key areas of regulatory development at this time is the effort to bring about greater coordination in the development of the offshore transmission system via the Offshore Transmission Network Review (OTNR). The OTNR was launched in July 2020 by the Minister of State for Business, Energy and Clean Growth to support the Government's offshore wind target of 40GW by 2030 and the delivery of net zero by 2050[1].

Within the OTNR we are working collaboratively with stakeholders, including the Transmission Owners (TOs). We have published this letter in our role as the chair of the Central Design Group (CDG) within the OTNR Pathway to 2030 workstream. It has been drafted in collaboration with the TOs and the content is supported by Scottish and Southern Electricity Networks Transmission (SSEN-T), Scottish Power Energy Networks (SPEN) and National Grid Electricity Transmission (NGET) as key members of the CDG.

In our open letter[2] published in September 2021 I said that we would provide relevant developers with a more robust and granular plan in relation to the connection contract update programme. This letter provides further information on the connection contract update programme within the Pathway to 2030 workstream.

The content of this letter is based upon the recently updated timeline[3] for the Holistic Network Design (HND). An updated timeline based on the content of this letter can be found in Appendix 1.

The two major pre-requisites for connection contracts being updated are the outcome of the HND and a decision from Ofgem on a preferred offshore delivery model as detailed within their recent consultation[4].

It is worth noting that our approach to updating or providing connection contracts will be different depending on whether a developer currently holds a connection contract with us and whether they have been successful in a leasing round. Therefore, our approach to different sets of developers will be different as follows.

Projects with connection contracts, including developers which are successful in the ScotWind leasing round

We expect that the HND will deliver sufficient design work to enable us to update existing connection contracts for these projects. Once the HND is available and we have the Ofgem decision on delivery models we will start the preparatory work for updating these existing connection contracts. Our current expectation is that we will start to discuss updating connection contracts with relevant developers between June 2022 and August 2022.

We expect that connection contracts will then be updated through an Agreement to Vary once the exact nature and implications of the changes become clearer, including any changes to the interface point or connection date. As usual we expect that connection dates will continue to remain subject to consenting and regulatory approval processes. We are planning for a reasonable period of time (which could be three months) for discussion and acceptance of the Agreement to Vary once it is made available.

As usual, we would expect that any Agreement to Vary will be able to be referred to Ofgem.

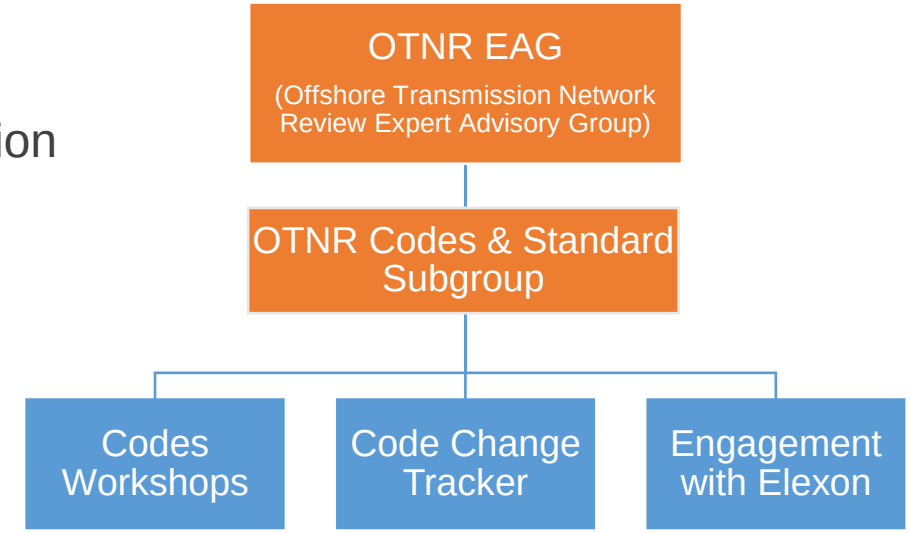
[1] www.gov.uk/government/groups/offshore-transmission-network-review
[2] www.nationalgrideso.com/document/211251/download
[3] www.nationalgrideso.com/document/230901/download
[4] www.ofgem.gov.uk/publications/consultation-changes-intended-bring-about-greater-coordination-development-offshore-energy-networks

National Grid Electricity System Operator Limited
Company number 11014226
Registered office address 1-3 Strand, London, WC2N 5EH

Industry codes engagement

In November 2021, we hosted five workshops covering the Connection and Use of System Code (CUSC) , Security and Quality of Supply Standard (SQSS), Grid Code and System Operator Transmission Owner Code (STC) to:

- share our initial views on the challenges and opportunities
- commence discussion with industry
- establish next steps and the priority of topics.



Industry views collated at the workshop are helping shape the work on codes and standards.

- We set up a Codes and Standards subgroup in November 2021 to project manage the work relating to codes and standards.
- We will publish an *Industry Code, Standard and Licence Recommendation Report* in parallel with the HND, to outline our recommendations on changes needed to the Codes, Standards and Licences to facilitate the HND.

How to stay in touch and find out more

Meetings and workshops

We will continue to hold meetings and workshops with stakeholders

Email us

If you have questions or feedback, please get in touch via our email address

box.OffshoreCoord@nationalgridESO.com

Subscribe to our mailing list

You can stay in touch by signing up to receive updates from us (link available from website).

Visit our website:

https://www.nationalgrideso.com/future-energy/projects/offshore-coordination-project

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Marine Environment Protection Research

Will Apps, Head of Marine Development, The Crown Estate

Offshore Wind Evidence + Change Programme

THE CROWN ESTATE

An introduction: Offshore Wind Evidence and Change Programme

Will Apps, Head of Marine Development, The Crown Estate

31 January 2022

Offshore Wind Evidence + Change Programme

Programme Mission Statement

To facilitate the sustainable and coordinated expansion of offshore wind to help meet the UK's commitments to low carbon energy transition whilst supporting clean, healthy, productive and biologically diverse seas.

In our first year…

Over £20.8 million invested in 25 projects

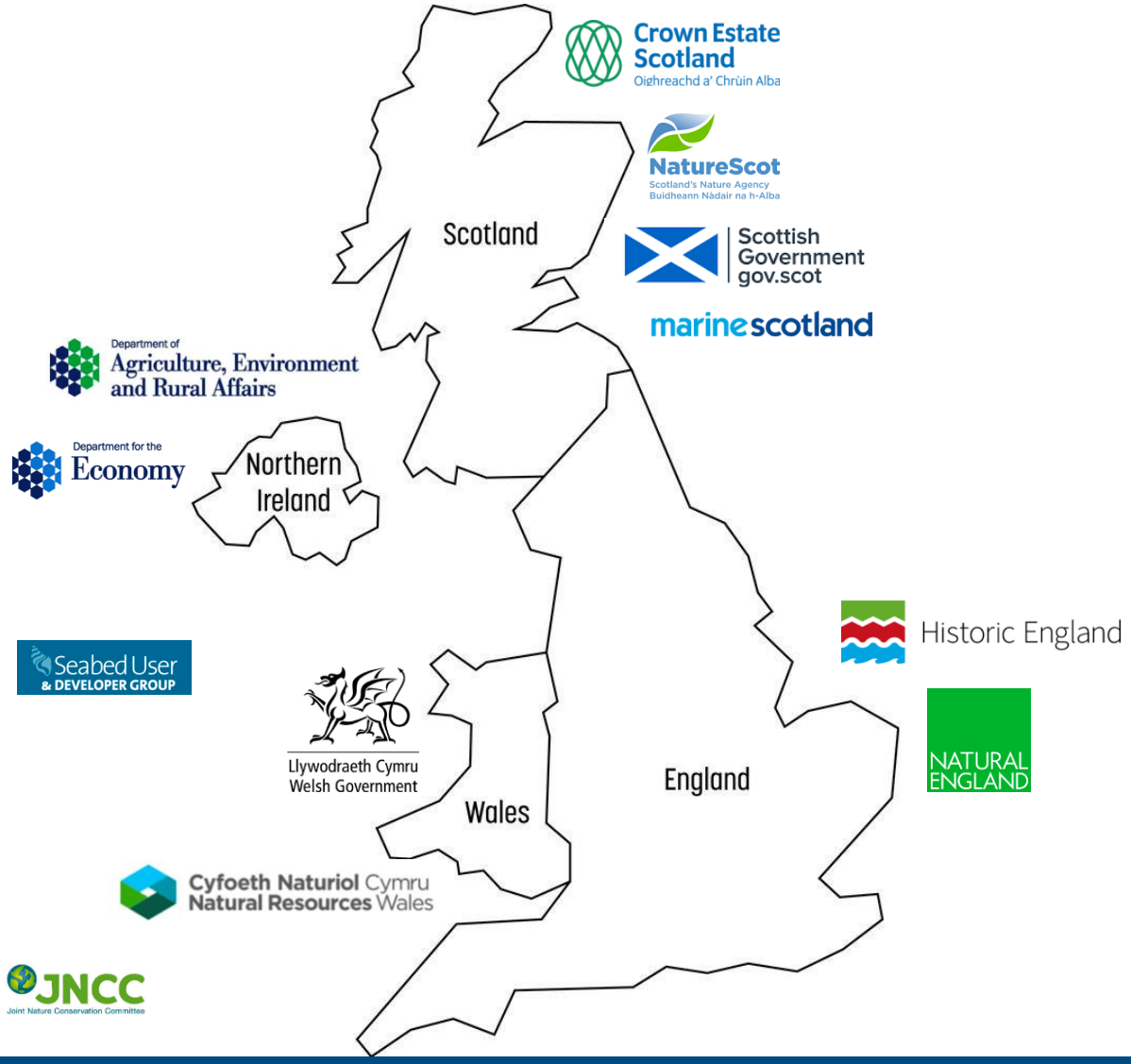
3 projects completed

13 projects underway

27 member organisations in the Programme Steering Group including Scottish, Welsh and Northern Ireland government bodies, regulators, NGOs and industry

Who is involved?

- **Lead organisation** THE CROWN ESTATE
- **Programme partners** Department for Business, Energy & Industrial Strategy; Department for Environment Food & Rural Affairs
- **Devolved governments**
- **Industry representatives** renewableUK; nationalgridESO; Offshore Wind Industry Council; ofgem; nationalgrid; Seabed User & Developer Group
- **Non Governmental Organisations** RSPB; The Wildlife Trusts
- **Public bodies** Marine Management Organisation; Maritime & Coastguard Agency; Planning Inspectorate; Cefas; Trinity House; JNCC Joint Nature Conservation Committee



Department for Business, Energy & Industrial Strategy

Strategic East Coast Grid Spatial Study

Purpose

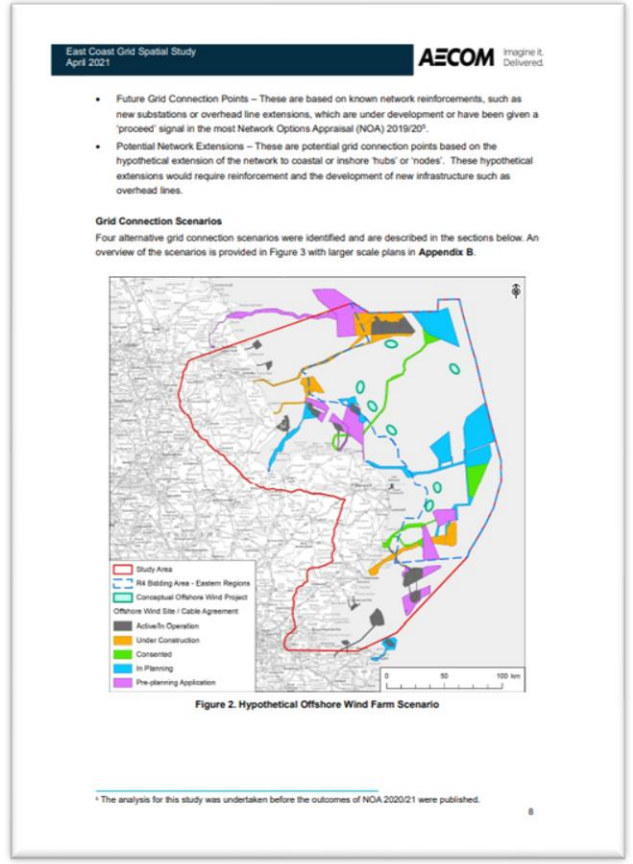
To develop a deeper understanding of potential terrestrial and marine constraints that future offshore wind development in the east of England could encounter; to assess the risks and issues to offshore wind deployment driven by those constraints; and to assess if coordinated grid connection solutions could mitigate these risks and issues.

Output

Authoritative report published – summary report and detail version

Outcome

Support the evolution of policy and regulatory arrangements for offshore transmission infrastructure by providing greater evidence and a deeper understanding of the marine spatial context for future offshore development activity.



Department for Business, Energy & Industrial Strategy

Q&A

Chris Fox, Head of Europe & Offshore, BEIS

Keep in touch

Offshore transmission network review on GOV.UK

https://www.gov.uk/government/groups/offshore-transmission-network-review