UK Offshore Wind Farm Development Processes

Guidelines

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BVGAssociates

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BVG Associates provides independent strategy consulting in renewable energy. They help their clients to do new things, think in new ways and solve tough problems. Their practical thinking integrates the business, economics and technology of renewable energy generation systems. They combine deep wind industry knowledge with skills gained in the world of business consulting. Their purpose is to help clients succeed in a sustainable global electricity generation mix founded on renewables.

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List of Abbreviations

Abbreviations	Definitions
ANS	Artificial nesting structure
CES	Crown Estate Scotland
CIB	Clean Industry Bonus
CfD	Contract for Difference
DAERA	Department of Agriculture, Environment and Rural Affairs, Northern Ireland
DCO	Development Consent Order
DESNZ	Department of Energy Security and Net Zero
DfE	Department of Economy, Northern Ireland
DfI	Department for Infrastructure, Northern Ireland
DND	Detailed Network Design
EIA	Environmental Impact Assessment
EMR	Electricity Market Reform
EMRS	Electricity Market Reform Settlement Limited
GBE	Great British Energy
HND	Holistic Network Design
IC	Infrastructure Consent
IROPI	Imperative Reasons of Overriding Public Interest
ISOP	Independent System Operator and Planner
LCCC	Low Carbon Contracts Company
MCAA	Marine and Coastal Access Act
MCMS	Marine Case Management System
MCZ	Marine Conservation Zone
MDD	Milestone Delivery Date
MFD	Marine and Fisheries Division of DAERA
MLWS	Mean Low Water Springs
MMO	Marine Management Organisation
MPA	Marine Protected Area
MPI	Multi-purpose interconnector
MPS	Marine Policy Statement
MRF	Marine Recovery Fund
MSP	Marine spatial plan/planning
NESO	National Energy System Operator
NGESO	National Grid Electricity System Operator (replaced by NESO 1st October 2024)

Abbreviations	Definitions
NI	Northern Ireland
NIEN	Northern Ireland Electricity Networks
NM	Nautical mile
NRW	Natural Resources Wales
NSIP	Nationally Significant Infrastructure Project
Ofgem	Office of Gas and Electricity Markets
OFTO	Offshore transmission owner
OSW	Offshore wind
OWAT	Offshore Wind Acceleration Taskforce
PDAs	Project Development Areas
PDE	Product Design Envelope
PEDW	Planning and Environment Decisions Wales
PINS	The Planning Inspectorate
PPA	Power purchase agreement
REMA	Review of Electricity Market Arrangements
SACs	Special Areas of Conservation
SBTs	Science-Based Targets
SIP	Significant Infrastructure Project
SIRs	Sustainable Industry Rewards (now known as the Clean Industry Bonus)
SNCBs	Statutory Nature Conservation Bodies
SMP-OWE	Sectoral Marine Plan for Offshore Wind Energy
SONI	System Operator for Northern Ireland
SoS	Secretary of State for Energy Security and Net Zero
SPAs	Special Protection Areas
SSSI	Sites of Special Scientific Interest
TCE	The Crown Estate
TMO4+	Target Model Option 4+
TO	Transmission owners
TSO	Transmission system operator

Introduction

This guide explains the development processes needed to realise offshore wind farms in UK waters. Different processes are administered by different public bodies; some processes are administered UK-wide, and some are all devolved to England, Wales, Northern Ireland, and Scotland. Others are partly devolved especially to Scotland.

The applicable process applies to geographical areas. For example, a proposed wind farm in Scottish waters whose developer seeks to connect it to the grid network in England will need to get consent for the wind farm and export cable route in Scottish waters, and the cable route in English waters, and for the onshore cable route from the relevant English local planning authority.

In December 2024, the UK government published its Clean Power 2030 Action Plan that identified the reforms the UK will undertake to remove roadblocks to lower barriers to investment, development and deployment.[1] These are expected to result in changes to accelerate the current development processes rather than radical reform.

The UK Secretary of State for Energy Security and Net Zero has set a target of 43 GW to 50 GW of offshore wind installed before 2030 (also known as the Clean Power Capacity Range).[1] The past Conservative and current Labour UK governments both acknowledge the economic, social, and environmental benefits that offshore wind brings, including job creation, enhanced energy security, and alignment with climate targets.

Scotland has set its own target of 11 GW of offshore wind by the end of 2030.[2] The Scottish government is highly supportive of offshore wind. It is seen as a major economic opportunity for the country and the most promising sector of transition for the oil and gas workforce. The most recent ScotWind and INTOG leasing rounds launched in 2022 have leased seabed areas with a nominal combined total capacity of about 30 GW.

Over 15 GW of offshore wind is either operational or under construction in UK waters, with a further 32 GW consented. An additional 14 GW of projects have had consent applied for, and exclusive development rights have been granted to a further 32 GW.

BVG Associates forecasts that by the end of 2030, there will be about 38 GW of operating offshore wind in UK waters, including about 1.5 GW floating.

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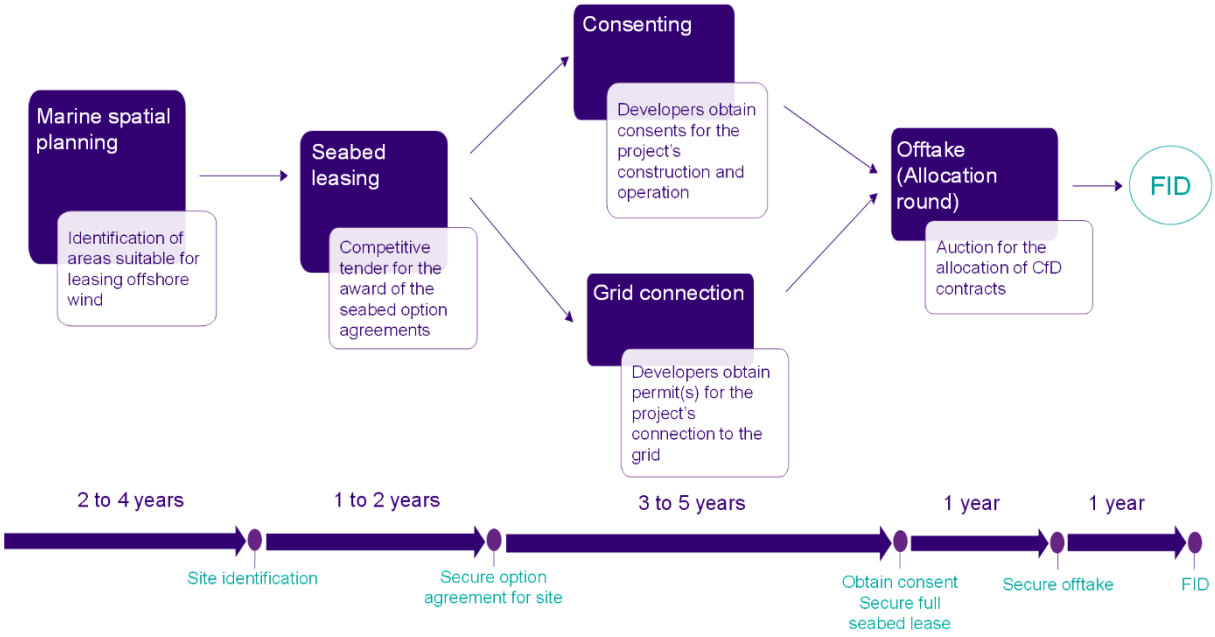
1 *Clean Power 2030 Action Plan: A new era of clean electricity*, Department for Energy Security and Net Zero, December 2024, available at https://www.gov.uk/government/publications/clean-power-2030-action-plan

2 *Increased offshore wind ambition by 2030*, Scottish Government, October 2020, available at https://www.gov.scot/news/increased-offshore-wind-ambition-by-2030/

1 Overview of the Offshore Wind Development Process

The UK processes for offshore wind development start with the identification of seabed areas, which are leased to developers to consent and obtain a grid connection offer. Developers then need to qualify for and seek a power offtake agreement in the form of a Contract for Difference (CfD), unless they are securing a power purchase agreement (PPA).[3] Once successful, the developers will confirm costing for the build, and where acceptable make the final investment decision, which normally triggers the start of construction. This is illustrated in Figure 1.

Figure 1: UK development process overview, showing their recent durations



Source: BVG Associates

Different government bodies are involved according to the process and the geographical location. Scotland is most devolved, with its bodies undertaking all the processes in its geographical area except for the awarding of CfDs and the grid connection process, which are done nationally. The responsibilities of each body are shown in Table 1.

Table 1: Organisation and jurisdiction administering each process

Process	England	Wales	Northern Ireland	Scotland
Marine Planning Authority	MMO	Welsh ministers	DAERA	Offshore Wind Directorate
Seabed Leasing	TCE	TCE	TCE	CES

[3] A PPA is a long-term contract between a generator and a purchaser (often a utility or large corporation), where the electricity is purchased at a predetermined price for a specified period.

Process	England	Wales	Northern Ireland	Scotland
Consenting	DESNZ SoS/PINS, MMO, LPAs	DESNZ SoS/PINS , MMO, NRW, LPAs, Welsh ministers/ PEDW	MMO, MFD of DAERA, DfI, DfE	Marine Directorate, Scottish ministers
Grid connection	NESO	NESO	SONI	NESO
Offtake	DESNZ SoS	DESNZ SoS	DESNZ SoS	DESNZ SoS

In 2022 the UK government recognised that the development process had significantly grown in duration, seriously affecting the timely delivery of offshore wind farms. It commissioned the Offshore Wind Acceleration Taskforce (OWAT), led by Tim Pick, to identify ways to shorten the >10 years period from the award of a seabed option or agreement for lease to FID. Figure 2 shows measures recommended by OWAT bringing the duration down to about five or six years.[4]

Figure 2: Indicative development timeline reductions sought by the Offshore Wind Acceleration Taskforce

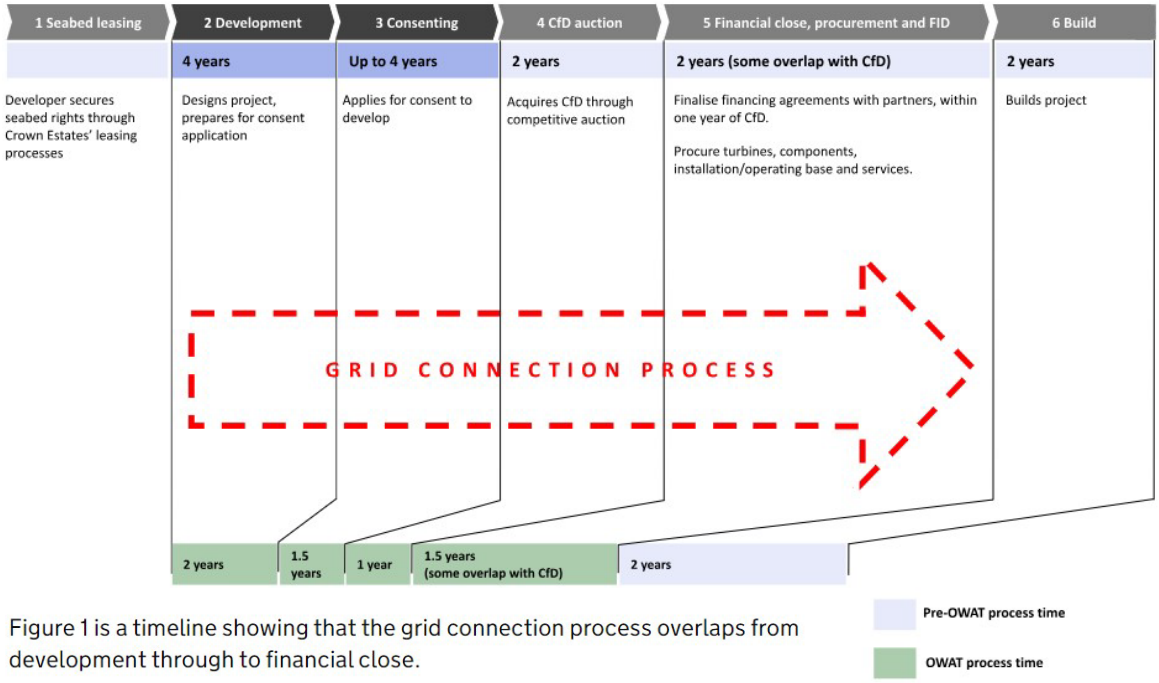


Figure 1 is a timeline showing that the grid connection process overlaps from development through to financial close.

Source: Independent report of the Offshore Wind Champion Seizing our Opportunities, March 2023, Page 12

[4] *Independent report of the Offshore Wind Champion Seizing our Opportunities,* Department for Energy Security and Net Zero, March 2023, available at https://www.gov.uk/government/publications/accelerating-deployment-of-offshore-wind-farms-uk-offshore-wind-champion-recommendations/seizing-our-opportunities-independent-report-of-the-offshore-wind-champion

The UK government also created Great British Energy in 2024, with a remit to accelerate development – see key message box below.

Great British Energy

A publicly-owned clean energy company formed in 2024 whose precise roles are being defined. It is expected to support the growth of the offshore wind industry through investments in projects and the supply chain, as well as by undertaking project development activities. A partnership between Great British Energy and The Crown Estate was announced in July 2024 to accelerate the delivery of clean energy infrastructure.[5] The partnership will facilitate early-stage development work for offshore wind projects, such as land assessments, environmental surveys, and securing planning consent and grid connections. This upfront work aims to de-risk projects, enabling faster construction and stimulating private investment. There is an ongoing discussion between DESNZ and the Scottish government regarding GBE's role in supporting the offshore wind industry in Scotland.

In December 2024, the UK government published its Clean Power 2030 Action Plan that identified the reforms the UK will undertake to remove roadblocks in part to achieve timeline reductions in:

- Planning and consenting,
- Electricity Networks and connections, and
- Renewable project delivery.

[5] *The Crown Estate to partner with Great British Energy*, The Crown Estate, July 2024, https://www.thecrownestate.co.uk/news/the-crown-estate-to-partner-with-great-british-energy

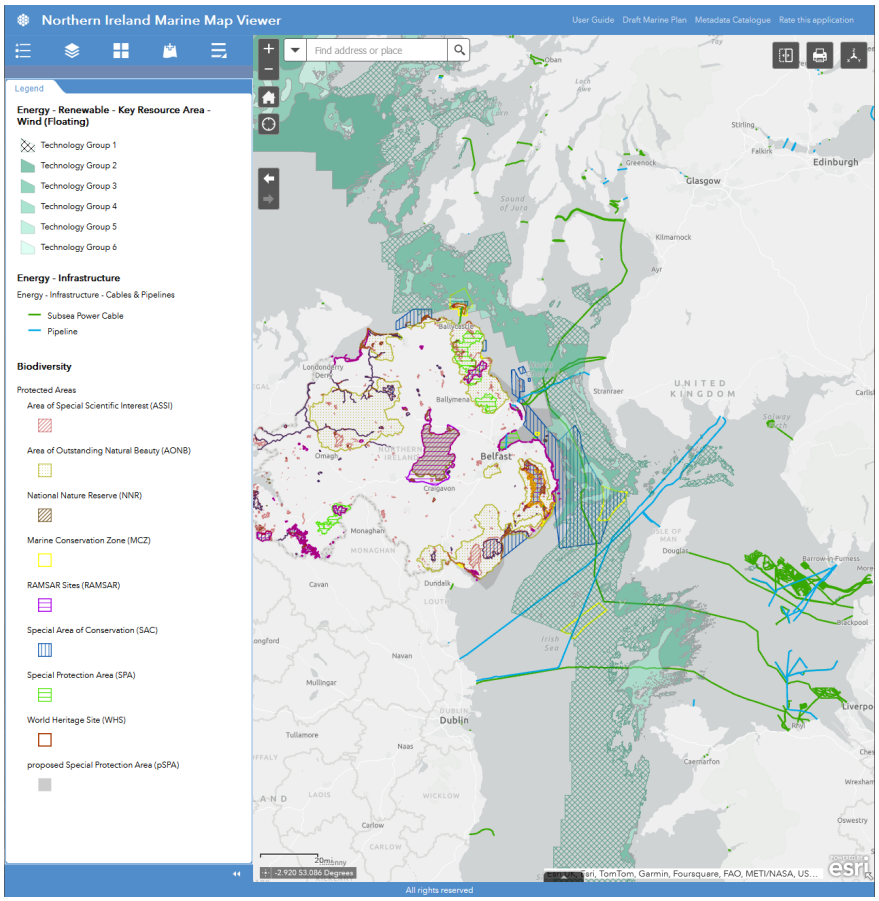
2 Marine Spatial Planning

2.1 Description

Marine spatial planning (MSP) is a government process that coordinates and prioritises the activities from cohabiting marine demand, including offshore energy production, fishing, shipping and marine ecosystem conservation. A marine plan guides what could be promoted or should be avoided for some locations, encouraging sustainable development while considering the environment, economy and the needs of society. The UK has a Marine Policy Statement (MPS) that sets the framework for preparing Marine Plans and making decisions affecting the marine environment.[6]

Figure 3 is an example of a marine spatial plan being made publicly accessible, enabling users to view the activities that occur in relation to each other, supporting the marine planning process. Datasets include those for aquaculture, shipping, tourism, and energy.

Figure 3: Northern Ireland Marine Map Viewer, with example layers selected



Source: Northern Ireland Marine Mapviewer, DAERA, 22 November 2024

6 *UK marine policy statement*, Department for Environment, Food & Rural Affairs, September 2020, https://www.gov.uk/government/publications/uk-marine-policy-statement

2.2 Responsible organisations

Table 2 lists the organisations responsible for marine spatial planning.

Table 2: Responsible organisations for OSW-specific marine spatial planning

Location	Organisation	Overview
England	Marine Management Organisation (MMO)	Policy is set out in the Marine Policy Statement 2011 There are 11 Marine Plan Areas in England.[7] Six regional marine spatial plans were published between 2014 and 2021 that provide a complete marine planning framework for England.[8]
Wales	Welsh ministers	Welsh Ministers must produce a Marine Plan under the Marine and Coastal Access Act (MCAA). The first Welsh National Marine Plan was published in November 2019 (which set out the next 20 years)
Northern Ireland	Department for Agriculture, Environment and Rural Affairs (DAERA)	The Marine and Coastal Access Act 2009 (MCAA) and the Marine Act (Northern Ireland) 2013 (The Marine Act), require DAERA as the Marine Plan Authority, to prepare marine plans.
Scotland	Offshore Wind Directorate	The Sectoral Marine Plan for Offshore Wind Energy (SMP-OWE) was published in 2020. It is in the process of being updated, having been consulted on, and is expected to be published in 2025.

Crown Estate Scotland for Scottish waters and The Crown Estate for the rest of the UK waters will ensure alignment with the current marine policy documents and marine plans in their decision-making when identifying areas suitable for lease for offshore wind development. Crown Estate Scotland and The Crown Estate will also consider many other inputs including existing use such as shipping lanes and military exclusion areas, wind resource, environmental sensitive areas, and proximity to existing infrastructure. For more detail on The Crown Estate's marine spatial mapping expertise and capability, refer to the Whole of Seabed Programme and Marine Delivery Routemap in section 2.3.

2.3 Activity

2.3.1 England, Wales and Northern Ireland

The Crown Estate in 2024 published detailed information on its approach to meeting its responsibilities as seabed landlord, working with industry and stakeholders to unlock the potential of the seabed around

[7] *Marine Plan Areas in England map*, Marine Management Organisation, 2014, available at https://assets.publishing.service.gov.uk/media/5a7de4d4ed915d74e33eeb82/marine_plan_areas.pdf

[8] *Marine plan areas in England*, Marine Management Organisation, June 2014, https://www.gov.uk/government/publications/marine-plan-areas-in-england

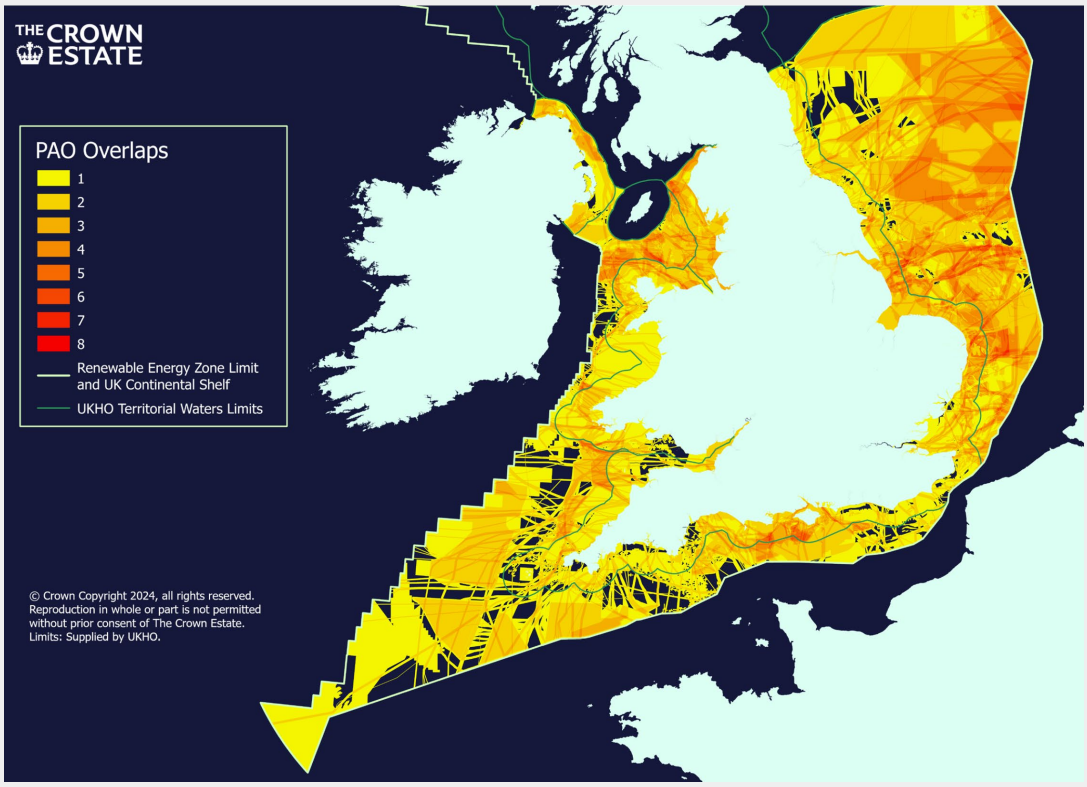
England, Wales and Northern Ireland; the Whole of Seabed Programme and the Marine Delivery Routemap.

Whole of Seabed Programme[9]

The Programme leverages The Crown Estate's spatial mapping expertise, digital tools, a comprehensive view of seabed demands across various sectors and the natural world, along with partner contributions, to digitally map the potential future uses of seabed resources. Future perspectives for each sector are combined into integrated scenarios for potential seabed usage through to 2050.

It was compiled from 250 sources of data and to date covers how 10 sectors (including offshore wind) will use the seabed. It will be continuously updated as new data, evidence, and information emerge.

The map below illustrates the overlap between Potential Areas of Opportunity (PAO) with significant potential for future development for different sectors, emphasising the need for crucial decisions regarding seabed development and usage, as well as the early identification of co-location possibilities. For instance, although the eastern region offers promising areas for relatively low-cost future offshore wind development, there is significant competition for space with environmental interests and other sectors.



[9] *Whole of Seabed Programme: Summary Methodology Report*, The Crown Estate, July 2024, available at https://www.thecrownestate.co.uk/our-business/marine/marine-overview

Marine Delivery Routemap[10]

This collaborative initiative by The Crown Estate aims to develop a long-term strategy for the marine space to deliver net zero and nature recovery. It is underpinned by a Whole of Seabed evidence base, to give holistic context across sectors and sea users to support and inform individual sector delivery planning.

The key benefits of this Routemap include:

- Spatial pathways for 2025 to enable the optimal use of the marine space, aligning with policy goals and sectoral needs,
- Delivery plans using the spatial pathways that create forward visibility and increased certainty for marine developers, stakeholders and sea users, and
- Foresight on the timing and location of crucial enabling investments (e.g. ports, supply chain, grid, nature), to support necessary anticipatory investments.

As part of the Routemap, The Crown Estate shared Future of Offshore Wind, outlining its plans for 20 GW to 30 GW more offshore wind brought to market by 2030.[11] Future reports are anticipated to focus on nature, carbon capture and storage, and marine aggregates.

2.3.2 England

In the first of a second generation of MSPs for English waters, MMO is replacing the East Inshore and East Offshore Marine Plans, with one new East Marine Plan. The first stage in this process was the publishing of the East Marine Plan Statement of Public Participation in April 2024, which formally launched the preparation of a new MSP.[12] Policy development and plan drafting is expected to be completed by the end of summer 2025, with adoption and publication of the plan targeted for winter 2026.[13]

2.3.3 Scotland

The Sectoral Marine Plan for Offshore Wind Energy (SMP-OWE), published in 2020, outlines the Scottish government's strategic vision for offshore wind development.[14] It identifies 15 Plan Options (POs) across

10 *Marine Delivery Routemap – Report*, The Crown Estate, September 2024, available at https://www.thecrownestate.co.uk/our-business/marine/Marine-Delivery-Routemap

11 *Future of Offshore Wind*, The Crown Estate, September 2024, available at https://www.datocms-assets.com/136653/1725984848-tce_future-offshore-wind.pdf

12 *East Inshore and Offshore Marine Plan* Areas, Marine Management Organisation, April 2024, available at https://www.gov.uk/government/publications/east-inshore-and-offshore-marine-plan-areas-statement-of-public-participation

13 *East Marine Plans: Call for issues – 27-09-24*, Marine Management Organisation, September 2024, available at https://www.youtube.com/watch?v=WGXh0VSWyv8

14 *Sectoral marine plan for offshore wind energy*, Scottish Government, October 2020, available at https://www.gov.scot/publications/sectoral-marine-plan-offshore-wind-energy/

four Scottish regions as suitable areas for commercial-scale offshore wind projects. Key actions arising from the plan include requirements for spatial planning within POs and ongoing research to address knowledge gaps, particularly those related to cumulative impacts on seabirds. An updated SMP-OWE, with consultation starting in spring 2024 and adoption expected by autumn 2025, will incorporate new elements, such as wet storage areas, and provide a framework for the INTOG lease round.

3 Seabed Leasing

3.1 Description

Seabed leasing is the first part of the UK's two-stage competition system, in which seabed leases and revenue support are awarded separately. Seabed agreements to lease or option agreements grant developers the rights to develop a project within a specific seabed area for a given duration. Then, a lease is signed granting the developer the rights to construct and operate; this is often after all the applicable consents have been awarded.

The Crown Estate and Crown Estate Scotland offer Agreements for Lease and Option Agreements, respectively, through competitive auctions known as leasing rounds. The Agreements set out the terms on which the lease is granted, if the developer succeeds in meeting all the regulatory milestones for its projects. Developers typically have ten years to secure the necessary consents, licences and finances to convert the Agreement into a full seabed lease. Full seabed leases are typically granted for 50 to 60 years.

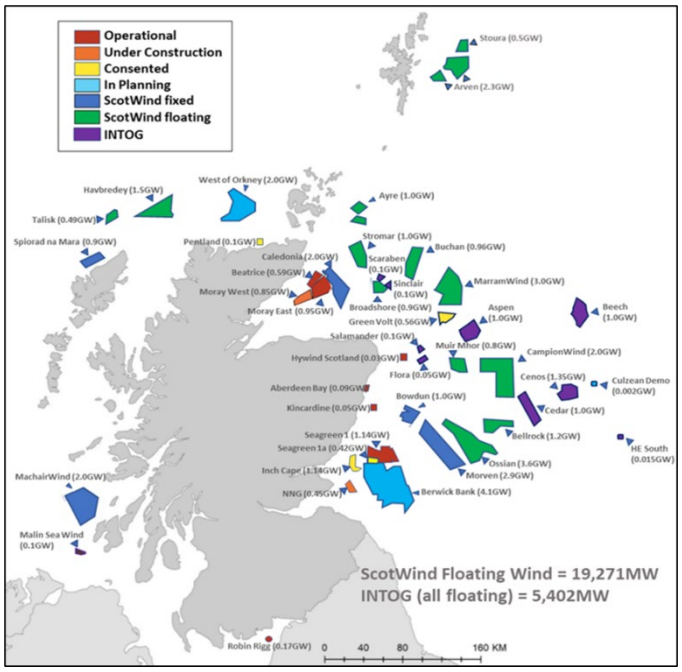
Leasing rounds take between one and two years. This typically includes a six-month application window and six months for the assessments of the applications by the organiser. To date, there have been nine leasing rounds:

- Round 1 Agreements for Lease were awarded in April 2001. A total of 18 sites were awarded, representing a combined capacity of about 1.5 GW. The agreements had a 22-year duration (plus one year for decommissioning).
- Round 2 Agreements for Lease were awarded in December 2003 and had a 50-year term (including decommissioning). In all, 15 sites were awarded, exceeding 7 GW of capacity.
- Round 3 Zone Development Agreements were awarded in January 2010. Developers were awarded exclusive rights to identify and develop multiple OSW project sites within the development zones. In all, nine zones were awarded, adding up to more than 32 GW.
- Project extension round 2010. Existing project owners were able to extend their projects, if they met given criteria. Four projects were awarded development rights representing a combined capacity of about 1.6 GW.
- FOW Test and Demonstration lease round 2013, granted leases to 12 small-scale projects of less than 100 MW across the UK for test and demonstration purposes.
- Project extension round 2017. Existing project owners were able to extend projects, if they met given criteria. Seven projects were awarded development rights representing a combined capacity of about 3 GW.
- Round 4 Agreements for Lease were awarded in January 2023. Developers were awarded a total of six projects in England and Wales, adding up to 8 GW.

ScotWind: Crown Estate Scotland offered Option Agreements for 28.6 GW of capacity in 17 projects in Scottish waters in January 2022.[15,16] This is significantly more than the 8-10 GW it was expected to deliver. Three more projects were offered Option Agreements through the clearing round, two of which merged into a single project, bringing the total to 19 projects and 30 GW, 19.27 GW (64%) of which are identified as floating.[17] (See Figure 4)

- Innovation and Targeted Oil & Gas (INTOG) Exclusivity Agreements were granted to 12 projects for about 5.4 GW of FOW capacity in Scottish waters.[18] Following the option period and subject to all conditions being satisfied (e.g. consents and finance being in place), Crown Estate Scotland intends to offer a seabed lease of 50 years for TOG projects and 25 years for IN projects.
- Celtic Sea FOW Leasing Round 5 is expected to grant 4.5 GW of capacity to three projects; the round is still ongoing. Projects must have floating turbine foundations and are not open to other deeper water solutions.

Figure 4: ScotWind and INTOG round lease areas



Source: Offshore Wind Scotland website.[19]

15 *Offshore wind: sector profile*, Crown Estate Scotland, May 2024, available at https://www.crownestatescotland.com/sites/default/files/2024-05/OSW-factsheet-May%2024-WEB-FINAL.pdf

16 Option agreements allow projects to move through the development stage, with full seabed leases granted once developers have secured the necessary consents, grid connection, and financing.

17 *ScotWind leasing round*, Offshore Wind Scotland, https://www.offshorewindscotland.org.uk/the-offshore-wind-market-in-scotland/scotwind-leasing-round/

18 Exclusivity Agreements will progress to Option Agreements when the updated Sectoral Marine Plan for Offshore Wind Energy is published (estimated Autumn 2025), as that provides the basis for the INTOG areas.

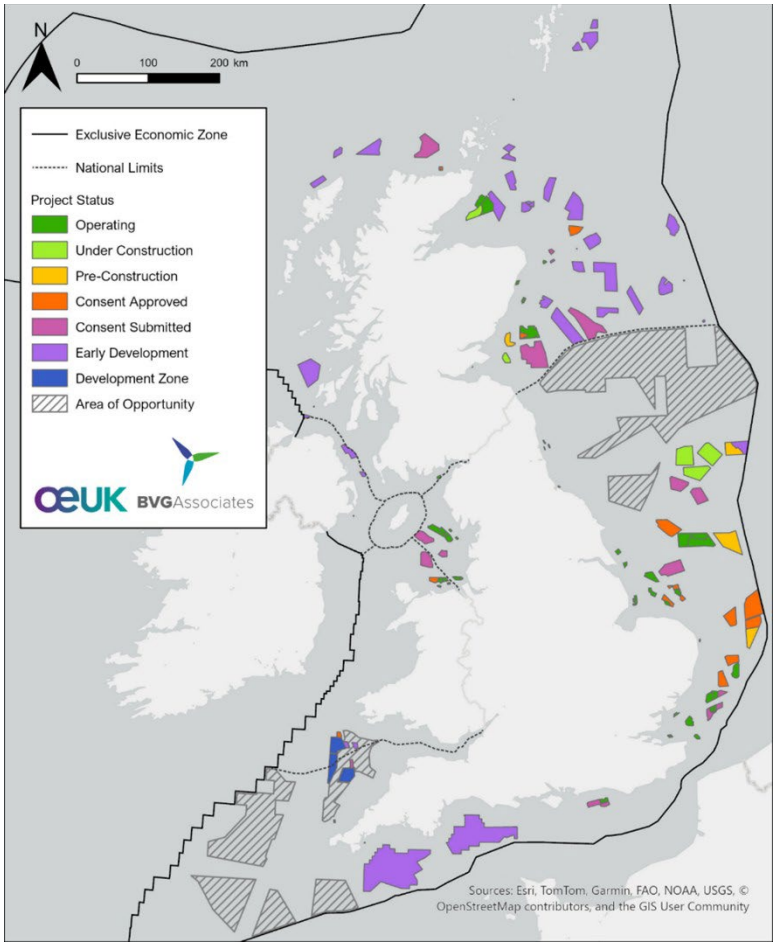
19 *Floating Wind in Scotland,* Offshore Wind Scotland, https://www.offshorewindscotland.org.uk/the-offshore-wind-market-in-scotland/floating-wind-in-scotland/

Previously, it was also possible for project developers to propose small-scale project lease areas on an ad-hoc basis rather than through a leasing round. Examples include the operating projects Kincardine (agreement to lease 2017 and lease signed May 2018) and Buchan Deep Demo (Hywind Scotland) (agreement to lease 2013 and lease signed May 2016).[20] This ad-hoc leasing is no longer possible in Scotland.

The nominal water depth where developers transition between using fixed and floating foundations has been increasing with time and is expected to continue to increase. Whether a site is designed with fixed or floating or a mix, will depend on the seabed conditions, the technologies available, overall cost benefit and cost certainty.

Figure 5 is a map of all OSW projects in the UK, coloured by development status, as of November 2024. Areas of Opportunity for offshore wind development are outlined by the Marine Delivery Routemap.

Figure 5: Map of OSW projects in the UK



Source: GIS layers from TGS 4C Offshore, 2025

[20] *Ref: 308 - Offshore Wind projects*, Crown Estate Scotland, https://www.crownestatescotland.com/news/ref-308-offshore-wind-projects

3.2 Responsible organisations

Table 3 shows the organisations responsible for seabed leasing and the general process taken.

Table 3: Responsible organisations for seabed leasing

Location	Organisation	Process
England, Wales, Northern Ireland	The Crown Estate	Models wind resources and other cost drivers to define the most favourable areas for offshore wind development. Excludes areas where development is not suitable, owing to conflicts with existing infrastructure and activities from other marine users. Refinement of the areas through a two-stage process that involves consultations with relevant stakeholders to determine lease areas. Designs and runs competitions for agreements to lease.
Scotland	Offshore Wind Directorate (Marine Scotland)	Undertakes marine spatial planning and identifies option areas for offshore wind.
	Crown Estate Scotland	Runs lease competition for the identified lease areas.

Source: BVG Associates

3.3 Activity

August 13, 2024, saw the launch of the second phase of the UK Celtic Sea Offshore Wind Leasing Round 5, known as Invitation to Tender Stage 1 (ITT1). During this phase, bidders outline their plans for delivering the new floating wind farms and detail how they will bring social and economic benefits for onshore communities. This phase follows the completion of the Pre-Qualification Questionnaire (PQQ) stage, which identified a pool of pre-qualified bidders and demonstrated a clear interest in Round 5. The general timeline for this leasing round is shown in Figure 6.

Figure 6: UK Round 5 (Celtic Sea) seabed leasing timeline

Source: A new approach to leasing, The Crown Estate, 5 February 2024

The Celtic Sea lease areas, also known as Project Development Areas (PDAs), were identified through a multi-stage process (Figure 7):

- Identified a Key Resource Area based on technical feasibility for floating wind
- Applied an Exclusions Model, removing areas unsuitable for development owing to hard constraints like existing infrastructure and safety zones
- Used a Restrictions Model, combined with stakeholder engagement, to assess the remaining area for soft constraints, such as fishing activity and environmental sensitivities, leading to the identification of five broad Areas of Search
- Narrowed down the Areas of Search through further spatial refinement, involving bilateral engagement with stakeholders on topics such as navigation, fisheries, and the environment, to five Refined Areas of Search
- Finally, considering factors such as grid connectivity, cable routes, and environmental designations, three final PDAs were selected

Figure 7: Celtic Sea (Round 5) example lease site identification

Source: Celtic Sea Floating Offshore Wind Leasing Round 5: Site Selection Methodology, The Crown Estate, December 2023

4 Consenting

4.1 Description

Consenting, or permitting, is the process through which the developers of offshore wind projects apply for and obtain the necessary legal permits to proceed with the projects' construction and operation.

The ability to consent is a key consideration in the iterative process shaping the initial project design envelope (PDE), including agreements to lease for cable routes and the onshore substation. The PDE and the agreements needed will be revised and refined throughout, and the engineering design progresses, until the project reaches design freeze. At that point, the developer will believe the project can obtain all the consents needed. Consenting ensures the project's final design, installation and operation comply with all the required environmental, social, and technical standards. It typically takes between three and five years for a project to obtain consent following its seabed lease award.

Project Design Envelope

A Project Design Envelope (often known as a "Rochdale Envelope") is an approach where the exact details of a project are not fully known at the time of a consent application, so a developer can instead specify a range of design parameters usually at the limit of what is reasonably anticipated. Such parameters include the number of turbines, turbine spacing and height, rotor diameter, potential routes of cables (offshore and onshore), and how cables will be installed (e.g. to avoid obstacles). It informs the EIA and HRA, most commonly by identifying the project parameters which represent the maximum design (or worst-case) scenarios for different receptors.

The PDE may still be refined throughout the consenting process and prior to the application. This could be due to the new information gathered from surveys (which often result in more certainty around project parameters), or the incorporation of new technological advancements, or adjustments made following stakeholder feedback.

The most common consents which are required are listed below. A more detailed breakdown of when these consents apply, and which authority can give them, is in Table 4.

- Consent under section 36, permit to construct and operate an electricity generating station, under the Electricity Act 1989.
- Development Consent Order (DCO), a permit to develop a Nationally Significant Infrastructure Project (NSIP), under the Planning Act 2008.[21]
- Marine Licence, for carrying out certain activities in the marine environment (e.g. dredging), under the Marine and Coastal Access Act (MCAA) 2009.

[21] An NSIP is a major infrastructure development which will have a significant impact on the economy, environment, and society.

- **Planning permission**, to carry out onshore works (such as matters relating to onshore substation land, cable landfall, and securing land rights).

Applications for the key planning consents and marine licences for offshore wind projects include these processes:

- **Stakeholder engagement**, ranging from dialogue at the site selection stage, to more formal consultation as part of carrying out various Environmental Impact Assessment methodologies. The developer must also actively engage in consultations with the appropriate authority, statutory nature conservation advisors, and other stakeholders throughout the HRA process. Note that facilitating public participation also promotes transparency and accountability.
- **Environmental Impact Assessment (EIA)**, which ensure that any potential physical, biological and human effects are systematically identified, assessed, and mitigated where possible. A developer will contract an EIA lead (who may contract out further, for example by contracting out geological assessments to a firm that specialises in geology) to conduct the assessments needed, producing an EIA report. There is guidance from public bodies on EIA methodologies, the receptors which should be included in the assessments, how to determine significance and who should be consulted (if applicable).[22] For the overall process of an EIA, see Figure 8.
- **Habitat Regulations Assessment (HRA)**, which focuses on potential impacts on Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites.[23] Plan-level HRAs consider the cumulative and in-combination effects of multiple projects or activities envisioned within a marine spatial plan. A project-level HRA must demonstrate that a project will not compromise the conservation objectives of designated sites (however, a project could still proceed for reasons of overriding public interest). Statutory Nature Conservation Bodies (SNCBs) provide statutory advice to the responsible authority conducting the assessment, but developers are responsible for providing the necessary information to the authority to inform their decision regarding a project's potential impact on protected sites (Figure 9).

Both EIAs and project-level HRAs are requirements for developers applying for consents for their project. Assessments for Marine Conservation Zone (MCZ), Marine Protected Area (MPA) or Sites of Special Scientific Interest (SSSI) may be required, depending on how close the project is to such sites, but these may be captured in the EIA.

[22] A receptor in an EIA is a component of the natural or human environment that is impacted by construction or operation of a project. For example, protected species, other marine users, or landscape.

[23] Other types of conservation sites (e.g., Marine Conservation Zones, Site of Special Scientific Interest) will have different assessment requirements.

Figure 8: EIA process

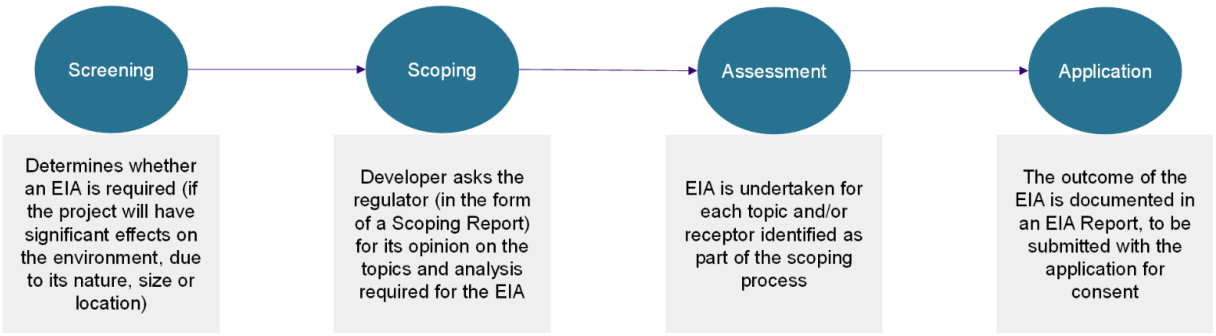
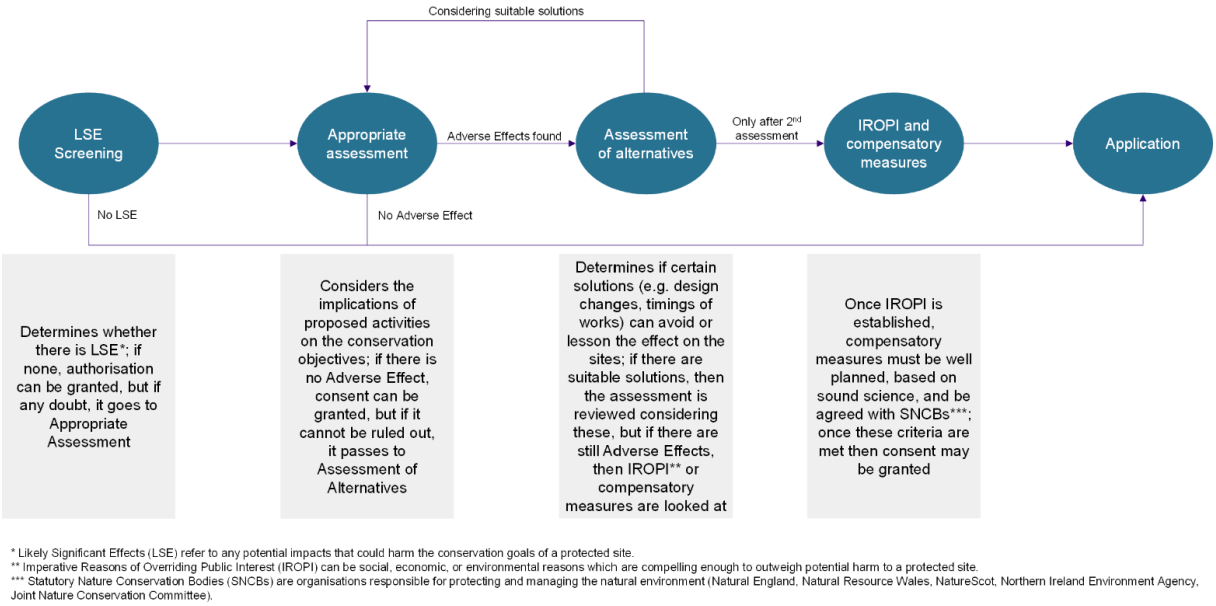


Figure 9: Project-level HRA process



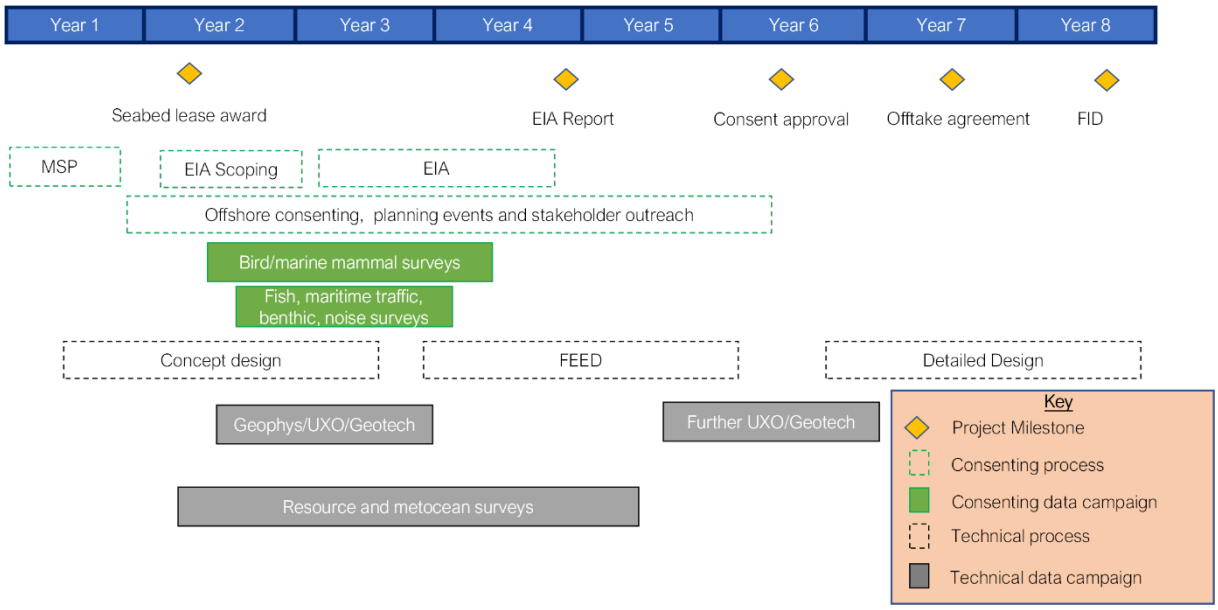
* Likely Significant Effects (LSE) refer to any potential impacts that could harm the conservation goals of a protected site.
** Imperative Reasons of Overriding Public Interest (IROPI) can be social, economic, or environmental reasons which are compelling enough to outweigh potential harm to a protected site.
*** Statutory Nature Conservation Bodies (SNCBs) are organisations responsible for protecting and managing the natural environment (Natural England, Natural Resource Wales, NatureScot, Northern Ireland Environment Agency, Joint Nature Conservation Committee).

These processes encompass both onshore and offshore construction and operation activities. Developers must demonstrate how their project will comply with national and international regulations and how they will mitigate or compensate for environmental impacts. For example, the DCO granted to Hornsea 3 Offshore Wind Farm in 2020 requires Ørsted to construct four artificial nesting structures (ANS) for kittiwake along the English east coast. This is sited as a compensation measure for the potential impacts of the wind farm on the endangered species in the Flamborough and Filey Coast Special Protection Area.[24] Three of the four ANS have been built, and the first kittiwake chick hatched in August 2024.[25] For the consenting process, see Figure 10.

[24] *All project updates*, Planning Inspectorate, https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010080/project-updates

[25] *First kittiwake chick hatches at Ørsted's artificial nesting site*, Ørsted, August 2024, https://hornseaproject3.co.uk/news/2024/08/first-kittiwake-chick-hatches-at-orsted-artificial-nesting-site

Figure 10: Main processes involved in offshore wind consenting with indicative timings



4.2 Responsible organisations

Table 4 shows the organisations responsible for consent-granting. They are supported by government entities that review the documentation within their area of expertise and provide their views on the application, including local government councils and statutory bodies. The consents required for a project often depend on the project's power generation capacity or where it is located in a particular jurisdiction.

Table 4: Responsible organisations for granting key consents for OSW

Location	Capacity and/or location, project element requiring consent	Key consent	Responsible organisation
England	<100 MW capacity, offshore	Marine Licence	Marine Management Organisation (MMO)
		Section 36 consent	MMO
	<100 MW capacity, onshore	Planning permission	Local planning authority/authorities (LPA)
	>100 MW capacity, offshore and onshore	Development Consent Order (DCO)	Secretary of State (SoS) following a recommendation

Location	Capacity and/or location, project element requiring consent	Key consent	Responsible organisation
			from Planning Inspectorate (PINS)[26]
	>100 MW capacity, offshore	Marine Licence	SoS following a recommendation from PINS (deemed from DCO) OR MMO (not-deemed from DCO)
Wales	<350 MW capacity, offshore	Marine Licence	Natural Resources Wales (NRW)
		Section 36 consent	Economy, Energy and Planning Cabinet Secretary following a recommendation from Planning and Environment Decisions Wales (PEDW)[27]
	<350 MW capacity, onshore	Planning permission	LPA
	>350 MW capacity, offshore	DCO	SoS following a recommendation from PINS
	>350 MW capacity, inshore	Marine Licence	NRW
	>350 MW capacity, offshore	Marine Licence	SoS following a recommendation from PINS (deemed from DCO) OR NRW (not-deemed from DCO)
England and Wales	>350 MW capacity, offshore English and Welsh waters	DCO	Secretary of State following a recommendation from PINS
	>350 MW capacity, offshore English waters	Marine Licence	SoS following a recommendation from PINS (deemed from DCO) OR MMO (not-deemed from DCO)
	>350 MW capacity, offshore Welsh waters	Marine Licence	NRW

[26] A Secretary of State is a senior minister who heads a major government department, responsible for significant areas of public policy, government functions, and expenditure. The relevant Secretary of State (SoS) heads the Department for Energy Security and Net Zero.

[27] The Planning Inspectorate Wales (PINS Wales) transitioned to Planning and Environment Decisions Wales (PEDW) on October 1, 2021. Refer to https://www.gov.wales/planning-and-environment-decisions-wales-html

Location	Capacity and/or location, project element requiring consent	Key consent	Responsible organisation
Northern Ireland	<12 NM location,[28] inshore	Marine Licence	Marine and Fisheries Division of Department of Agriculture, Environment and Rural Affairs (DAERA)
	<12 NM location, onshore	Planning permission	Strategic Planning Directorate in the Northern Ireland Department for Infrastructure
	>1 MW located seaward of MLWS or >10 MW located landward of MLWS	Article 39 consent	Department for the Economy (DfE)
	12 to 100 NM location, offshore	Marine Licence	MMO
	12 to 100 NM location, onshore	Planning permission	Strategic Planning Directorate in the Northern Ireland Department for Infrastructure
Scotland	<12 NM location, inshore	Marine Licence	Marine Directorate on behalf of Scottish Ministers
	<12 NM location and >1 MW capacity, inshore	Section 36 consent	Scottish Ministers
	<12 NM location, onshore	Planning permission	Scottish Ministers (deemed from Section 36 consent) OR LPA (not-deemed from Section 36 consent)
	12 to 200 NM location, offshore	Marine Licence	Marine Directorate on behalf of Scottish Ministers
	12 to 200 NM location and >50 MW capacity, offshore	Section 36 consent	Scottish Ministers
	12 to 200 NM location, onshore	Planning permission	Scottish Ministers (deemed from Section 36 consent) OR LPA (not-deemed from Section 36 consent)

[28] One nautical mile (NM) is equivalent to 1.852 km.

4.3 Streamlining activity

The main risk at the consenting stage lies with project developers. Delays in consenting can significantly delay the delivery of the project and negatively impact its financial viability. These delays may arise from additional environmental survey requirements if the content of the EIA is deemed insufficient, or if it conflicts with local communities and marine users, leading to legal challenges. To mitigate this risk, the government is focusing on fast-tracking the consenting process through clearer environmental guidelines, improved coordination between statutory bodies, and establishing expedited procedures for smaller projects.

4.3.1 UK

The Offshore Wind Environmental Improvement Package (OWEIP) was announced as part of the British Energy Security Strategy (BESS) in April 2022.

Offshore Wind Environmental Improvement Package (OWEIP)[29]

The OWEIP is designed to accelerate the deployment of offshore wind energy in the UK while maintaining robust environmental protections. The package aims to reduce the consenting time for offshore wind farms from four years to one year.

One of the primary challenges in streamlining the approval process for offshore wind farms lies in the complexity and time required for HRAs. The OWEIP seeks to address this challenge by granting the Secretary of State the power to tailor HRAs specifically for offshore wind projects and shifting the focus of compensatory measures from individual projects to a strategic, multi-project level.

The Marine Recovery Fund (MRF) is an industry-funded mechanism established by the UK government as part of the OWEIP. The MRF will function as an optional route for developers to fulfil their compensation obligations by paying into the fund, which will then be used by the government or a designated authority to implement approved Strategic Compensatory Measures. The MRF therefore provides a centralised mechanism for pooling resources and delivering compensatory measures strategically across multiple projects, thus reducing the time and resources required to navigate the compensation process, ultimately accelerating project approvals.

To further streamline the consenting process, Fast Track Development Consent Orders (DCOs) were introduced during spring 2024. A Fast Track DCO is a streamlined consenting process designed to accelerate the approval of eligible NSIPs, potentially reducing the total time from application acceptance to decision to as little as 12 months. This is achieved by setting a shorter statutory maximum

[29] *Energy Security Bill factsheet: Offshore wind environmental improvement package*, Department for Energy Security and Net Zero, September 2023, https://www.gov.uk/government/publications/energy-security-bill-factsheets/energy-security-bill-factsheet-offshore-wind-environmental-improvement-package

examination timescale of 4 months and encouraging expedited completion of pre-examination, reporting, and decision-making stages. This Fast Track procedure is available for projects which meet a three-part quality standard.[30]

The UK government outlines in The Clean Power 2030 Action Plan, published December 13, 2024, several reforms to the current consenting process for offshore wind.[1] These reforms include:

- Improving resourcing for key organisations involved in consenting, including expanding cost-recovery mechanisms and reviewing resourcing levels
- Updating National Policy Statements for greater clarity, providing enhanced pre-application support to developers, and standardising environmental data and modelling to ensure efficient assessment of impacts
- Exploring strategic compensation measures such as industry-funded Marine Recovery Funds to mitigate environmental concerns and reforming the judicial review process to minimise delays, and
- Implementing legislative reforms, including updates to the NSIP planning system and electricity infrastructure consenting in Scotland, and explore Judicial Review process reforms.

4.3.2 England

As part of its corporate plan in 2022, the MMO committed to streamlining the Marine Licensing Service and improving its online Marine Case Management System (MCMS) and making it simpler, more user-friendly and a more self-service driven system. In November 2024, MMO began carrying out research about user needs and how the service is used.[31] MMO is also reviewing charging schemes, including the charge ceiling for fixed-fee band licences and charges for post-consent monitoring.

4.3.3 England and Wales

TCE has conducted a plan-level HRA prior to the Celtic Sea Floating Offshore Wind Leasing Round 5, which concluded in February 2024. This meant the potential environmental impacts were assessed and mitigation measures considered during the site selection phase, and developers can bid knowing the potential environmental constraints and mitigation measures upfront. After the auction concludes in spring 2025, successful bidders will still be required to carry out the more detailed project-level HRA as part of the consent application process.

30 *Planning Act 2008: Fast-track process for Nationally Significant Infrastructure Projects*, Ministry of Housing, Communities & Local Government, April 2024, https://www.gov.uk/guidance/planning-act-2008-fast-track-process-for-nationally-significant-infrastructure-projects

31 *Help us improve the Marine Licensing Service*, Marine Management Organisation, November 2024, https://marinedevelopments.blog.gov.uk/2024/11/26/help-us-improve-the-marine-licensing-service/

4.3.4 Wales

The Infrastructure (Wales) Act 2024 introduces a new consenting process for Significant Infrastructure Project (SIP) development in Wales, which aims to create a unified consenting process by establishing a new consent called an Infrastructure Consent (IC).[32] The IC is intended to combine planning permissions, S36, deemed marine licences, and some other environmental permits, into one. Consultation on this simplified process took place between September 19 and December 13, 2024, and is now being reviewed.[33] The IC regime is expected to be applied to the consenting process from mid-2025.

4.3.5 Scotland

The recent DESNZ consultation, Electricity Infrastructure Consenting in Scotland, presented a series of reform proposals covering the entire consenting process.[34] The aim of the consultation was to test these proposals with stakeholders, ranging from communities hosting infrastructure to consent applicants. The consultation closed on 29th November 2024. DESNZ will work with the Scottish government to analyse the responses and refine the proposed reforms. The refined policy proposals will then be enacted through amendments to the Electricity Act 1989, and apply to all new applications for projects in Scotland.

32 More detail available at https://law.gov.wales/infrastructure-wales-act-2024-2

33 *Implementing the Infrastructure (Wales) Act 2024*, Welsh Government, December 2024, https://www.gov.wales/implementing-infrastructure-wales-act-2024

34 *Electricity Infrastructure Consenting in Scotland*, Department for Energy Security and Net Zero, October 2024, https://www.gov.uk/government/consultations/electricity-infrastructure-consenting-in-scotland?utm_source=pocket_saves

5 Export System and Grid Connection

5.1 Description

The grid or transmission connection process involves applying to the system operator for grid connection, securing permits, conducting grid impact studies, and installing both offshore and onshore transmission infrastructure.

In Great Britain grid connection applications need to be made to the National Energy System Operator (NESO), which is the transmission system operator (TSO) and therefore the strategic planner and coordinator, while Transmission Owners (TOs) are responsible for the physical delivery and operation of the transmission infrastructure.

National Energy System Operator (NESO)

National Energy System Operator, established by the UK's 2023 Energy Act, is the nationalised independent system planner and operator (ISOP). It replaced the National Grid Electricity System Operator (NGESO) on 1st October 2024, when the UK government acquired NGESO from National Grid for £630mn transferring it to public ownership. The establishment of NESO was driven by the need for a more strategic and integrated approach to energy planning, as the previously fragmented system was hindering the efficient development of a clean energy system.

Grid connection offers in Great Britain are made by NESO. The developer applies and pays an application fee to start the formal grid connection process. NESO is required to make an offer within three months, then the developer has a further three months to agree the contract. The developer is responsible for designing and constructing the export system and NESO is responsible for grid system connection works.

Although not part of the development process, once transmission assets rated over 100 MW are built, they are required to be sold to an Offshore Transmission Owner (OFTO). The OFTO tender process is managed by Ofgem, is a competitive bidding system where bidders compete to take over offshore transmission assets from wind farm developers.[35]

In Northern Ireland, grid connection applications are made to System Operator for Northern Ireland (SONI), the TSO for Northern Ireland. SONI applies to Northern Ireland Electricity Networks (NIE Networks) for an offer to build the transmission to a project. NIE Networks submits this construction offer to SONI, who incorporate this into their own connection offer to the developer.

Grid connection timelines vary significantly depending on the project location, complexity, and existing grid capacity. Typically, it takes up to 10 years from initial application to final connection. The UK

[35] *Offshore Electricity Transmission (OFTO)*, Ofgem, https://www.ofgem.gov.uk/energy-policy-and-regulation/policy-and-regulatory-programmes/offshore-electricity-transmission-ofto

government aims to reduce these timescales through regulatory reforms such as establishing NESO, and greater investment in grid infrastructure.

5.2 Responsible organisations

NESO manages the Great Britain connections application and offer process and progresses it with the relevant TO. In Scotland, this management in collaboration with Scottish Power Transmission and SSEN Transmission.

Northern Ireland is part of the Irish single electricity market for the island of Ireland. SONI is the transmission system operator for the electricity transmission system in Northern Ireland and manages the connections application and offer process; EirGrid is the transmission system operator for the Republic of Ireland. Together EirGrid and SONI jointly plan the transmission system for the island of Ireland and have published the Shaping Our Electricity Future (SOEF) roadmap.[36]

These key stakeholders and others are listed in Table 5.

Table 5: Key stakeholders in grid connectivity of offshore wind projects

Stakeholder	Purpose
NESO	Responsible for planning and managing connections to the onshore transmission grid directly in England and Wales
System Operator for Northern Ireland (SONI)	Responsible for the day-to-day operation of the electricity grid in Northern Ireland, planning the future of its grid, and managing the process for connecting new generators
EirGrid	Develops, manages and operates the electricity grid in the Republic of Ireland.
Transmission Owners (TOs) (National Grid, Scottish Power Transmission, SSEN Transmission, and Northern Ireland Electricity Networks)	Manage the onshore grid infrastructure
Ofgem	Regulates the electricity market to ensure a fair and efficient connection process
Developers	Responsible for securing grid connections and building offshore infrastructure
Local communities	Are involved in consultations, especially where onshore grid infrastructure impacts local areas

[36] *Shaping Our Electricity Future (SOEF)*, SONI, https://www.soni.ltd.uk/future-energy/shaping-our-electricity-future

5.3 Activity

5.3.1 Great Britain

5.3.1.1 Strategy

The Holistic Network Design (HND), published by NGESO (now NESO) in July 2022 as part of the Offshore Transmission Network Review (OTNR), provides a coordinated plan for connecting 23 GW of offshore wind farms to the onshore electricity grid. Building on the HND, NGESO published the Beyond 2030 report in March 2024, focussing on electricity network needs beyond 2030. Its two network designs are depicted in Figure 11 and Figure 12. It represents a shift towards a more centralised and strategic approach to network planning in the UK. The next steps involve TOs and developers driving the Detailed Network Design (DND) process for specific sections of the network, which will involve more detailed assessments, environmental impact studies, and community consultations.

Figure 11: Network infrastructure to be delivered by end of 2030

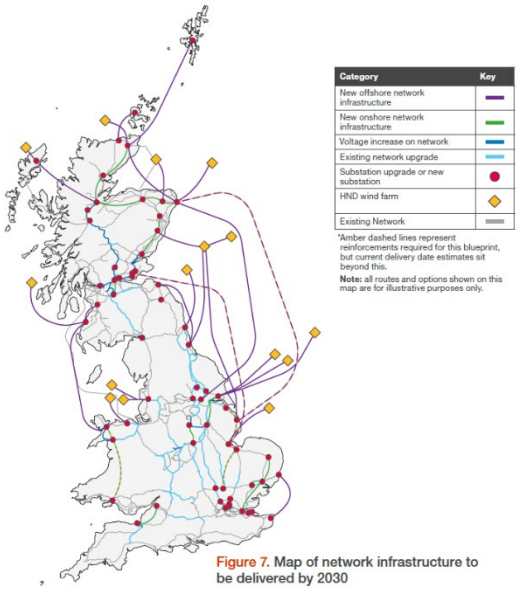


Figure 7. Map of network infrastructure to be delivered by 2030

Source: Beyond 2030 – A National Blueprint for a Decarbonised Electricity System in Great Britain

Figure 12: Network infrastructure to be delivered beyond 2030

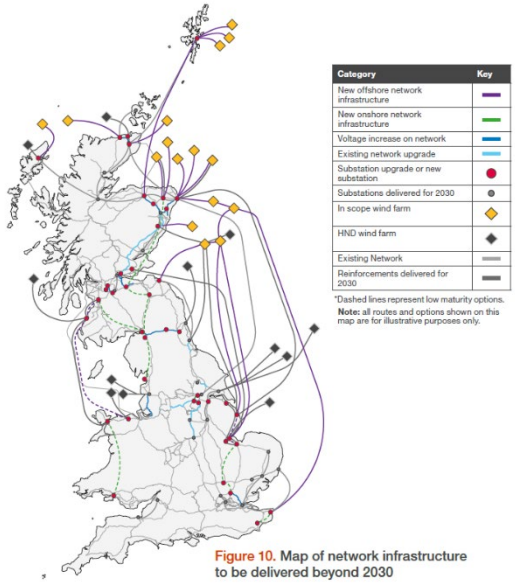


Figure 10. Map of network infrastructure to be delivered beyond 2030

Source: Beyond 2030 – A National Blueprint for a Decarbonised Electricity System in Great Britain

In November 2024, NESO published its first advisory document on how to achieve clean power by 2030, based on extensive analysis and stakeholder engagement.[37] This explored two different pathways to net zero carbon power network: New Dispatch, and Further Flex and Renewables. Both require significant

[37] *Our Clean Power 2030 advice to Government*, National Energy System Operator, November 2024, available at https://www.neso.energy/news/our-clean-power-2030-advice-government

growth in offshore wind capacity. Over the next few years, NESO will develop a Strategic Spatial Energy Plan (SSEP) and up to 13 regional energy system plans, laying out a coordinated approach for energy infrastructure development by mapping potential locations, quantities and types of electricity generation and storage infrastructure over time. This will feed into the Centralised Strategic Network Plan (CSNP), a high-level strategic plan mapping UK government targets across Great Britain, that will be published in 2026.

5.3.1.2 Connections reform

The Connections Reform in Great Britain aims to overhaul the process of connecting projects to the electricity grid, facilitating a faster and more efficient transition towards a clean power system. The reform introduces a new "gated" process called Target Model Option 4+ (TMO4+). TMO4+ focuses on prioritising projects which meet specific Gate 2 criteria, which demonstrate a project's readiness (e.g. securing land rights or progressing through the planning process) and strategic alignment with the Clean Power 2030 Action Plan.[38] The purpose of these criteria is to ensure that projects in the connections queue are prepared to proceed with development and contribute to the nation's clean energy goals. It is expected that existing projects in the connections queue will be required to submit evidence demonstrating whether they meet the Gate 2 criteria, from April 2025. The connections queue was about 800 GW at the end of 2024.

5.3.1.3 Multi-purpose interconnectors

A change to the Energy Security Bill in September 2023 introduced a new legal definition for multi-purpose interconnectors (MPIs) and created a new licensable activity of operating an MPI. It is expected to reduce the overall infrastructure needed to connect offshore wind farms to the grid. Using MPIs also enables a more integrated approach to network planning. This shift toward holistic planning started with the OTNR, launched in 2020, followed by establishing NESO to routinely engage in holistic energy planning, considering the broader energy landscape rather than focusing solely on electricity.

5.3.2 Northern Ireland

The Shaping Our Electricity Future (SOEF) Roadmap, published in July 2023, details how Ireland and Northern Ireland will reach 80% renewable electricity by 2030.[36] The plan involves reinforcing and expanding the electricity grid through 16 projects in Ireland and three in Northern Ireland, including upgrades to existing circuits and the implementation of new technologies. Alongside infrastructural improvements, the roadmap emphasises community engagement and the development of new operational tools and policies for managing a system with a high proportion of variable renewable energy sources.

[38] *Gate 2 Criteria Methodology*, NESO, November 2024, available at https://www.neso.energy/industry-information/connections/connections-reform

6 Supply chain requirements

6.1 Requirements for agreement to lease application

As part of the ScotWind lease process, developers were required to provide Supply Chain Development Statement (SCDS) Outlooks and update them at set periods throughout the development. SCDS Outlooks outline the developers' plans for sourcing products, materials, and labour for the construction, erection, and servicing of the ScotWind projects. The Outlooks are initial projections and are expected to evolve as the projects develop. The most recent Outlook updates were submitted in July 2023 for 17 projects. [39] The three projects that came through the clearing process submitted their first Outlook updates later in 2023.[40,41] The next updates are expected from the beginning of 2026.

6.2 Requirements for power offtake CfD contracts

6.2.1 Supply chain plans

Allocation rounds (AR) for power purchase or offtake contracts are the predominant way developers apply to get revenue for their offshore wind projects under the Contract for Difference (CfD) scheme (see Section 7).

To qualify for Allocation Round 3 (AR3) a satisfactory Supply Chain Plan (SCP) had to be submitted for each project over 300 MW. SCPs were introduced to encourage new companies into the supply chain and increase local content, namely the share of goods, services, and labour sourced within the UK. While new UK supply chain development was not mandated, to avoid concerns over state aid or subsidy, it was expected that any new supply chain and thus benefit would most likely arise in the UK.

The summary of allocation rounds and evolution of supply chain requirements is as follows:

- For Allocation Round 3 (AR3), which launched in May 2019, developers of projects over 300 MW were required to submit a Supply Chain Plan (SCP) that met specific requirements. If it achieved a pass, they would be eligible to bid into the CfD. [42]

[39] *ScotWind Leasing Supply Chain Development*, Crown Estate Scotland, July 2023, https://crownestatescotland.com/news/scotwind-leasing-supply-chain-development-statements-updated?utm_source=pocket_shared

[40] *Stoura Offshore Wind Supply Chain Development Statement*, Stoura Offshore Wind Farm, available at https://stouraoffshorewind.com/supplychain

[41] *2023 Arven and Arven South SCDS Outlook*, Arven Offshore Wind Farm, 2023, available at https://www.arvenoffshorewind.com/document-library/#1717430069632-ceb4e069-2a3c

[42] *Supply chain plan guidance: for projects of 300MW or more applying for a Contract for Difference*, Department for Energy Security and Net Zero, November 2018, available at https://www.gov.uk/government/publications/supply-chain-plan-guidance-contracts-for-difference-allocation-round-3

- AR4, also required for projects over 300 MW the submission of a SCP, in the form of a questionnaire focused on measurable commitments to UK industries and communities. [43] Developers that did not score at least half marks in each of the four sectors were 'unlikely to pass'.
- AR5 had no CfD awards for offshore wind, or the new category floating offshore wind.[44] Had the process been followed, applications required the completion of a UK content calculation and required the questionnaire to be completed for floating offshore wind projects below 300 MW. Sections were aligned with the contents of the government's central strategies, "Build Back Better: our plan for growth" and the Net Zero Strategy: Build Back Greener. [45]
- AR6, had SCP requirements in the form of questionnaires for projects over 300 MW and for floating projects. Both aligned sections with net-zero targets and supply chain resilience. [46]

For AR7, the Clean Industry Bonus (CIB) has been introduced with a minimum threshold. To qualify for AR7, due to launch in Summer 2025, developers of fixed bottom or floating offshore wind projects must provide NESO and Low Carbon Contracts Company (LCCC) with a CIB Statement. This statement, by DESNZ, shows that the application has met the CIB Minimum Standards, and details which of their CIB extra proposals have been awarded revenue support. Developers can submit between one and 10 CIB extra proposals. Developers must indicate intention to apply, within the five working days before the opening of the CIB application window, which is planned for February 13, 2025 and to last 22 days. The Secretary of State will issue a CIB statement within 50 working days of the application window closing. More details are available in the Clean Industry Bonus: allocation framework.[47]

Clean Industry Bonus (CIB)

The CfD CIB, formerly known as Sustainable Industry Reward (SIR), is a competitive allocation to provide additional revenue support to the main CfD auction, where developers choose to invest in more sustainable supply chains.

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43 *Supply Chain Plan guidance for projects of 300MW or more applying for a Contract for Difference*, Department for Energy Security and Net Zero, July 2022, available at https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-4-supply-chain-plan-questionnaire-and-guidance

44 The Administrative Strike Price for fixed-bottom was £44/MWh, and for floating was £116/MWh (in 2012 prices); the higher strike price for floating wind reflects the expected higher costs and greater risks associated with this emerging technology, therefore aiming to incentivise its development and deployment.

45 *Supply Chain Plan guidance for projects of 300MW or more, and for all floating offshore wind projects under 300MW applying for a Contract for Difference*, Department for Energy Security and Net Zero, August 2022, available at https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-5-supply-chain-plan-questionnaire-and-guidance

46 *Supply Chain Plan guidance for all eligible projects*, Department for Energy Security and Net Zero, July 2023, https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-6-supply-chain-plan-questionnaire-and-guidance

47 *Clean Industry Bonus: allocation framework, 2024 (updated 5 December 2024)*, Department for Energy Security and Net Zero, available at https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-7-clean-industry-bonus-framework-and-guidance

- The minimum criteria is £100mn/GW for fixed and £50mn/GW for floating, of investment in ports or facilities or firms manufacturing, assembling, or installing key OSW components. Scoring is based on the amounts above these minimums.
- CIB applications are ranked and allocated until all the budget is allocated.
- Any CIB award is temporary until a project is awarded a CfD in the round. If any CfD budget remains after the CfD award, those with a CFD with be able to bid for that remaining budget regardless of whether they bid for the CIB previously.

There are two elements to the CIB:

- All developers wishing to enter CfD Allocation Round 7 must gain a CIB statement, which confirms that it has met the minimum level of investment in UK supply chains ("CIB Minimum Standards"), and
- A developer can submit proposals that go above the minimum standards ("CIB extra proposals"), to compete for a limited budget. Such proposals must meet 1 of two criteria.
  - Shorter supply chains – eligible investment, such as in ports and facilities, in UK deprived areas as defined by specific deprivation indices,[48,49] and
  - Science based targets – investment in facilities or firms that are committed to Science-Based Targets for emission reduction.[50]

The CfD scheme has increasingly prioritised local content to drive economic growth and strengthen UK supply chains, in line with the offshore wind sector committing to increase UK content in the Offshore Wind Sector Deal of March 2019 from 50% to 60% lifetime UK content by 2030.[51] This requires more UK supply in the capital expenditure phase. The industry is making progress towards that, evidenced by the construction of both JDR's new subsea cable factory at Cambois, near Blyth, Northumberland and SeAH Wind's new monopile factory on the South Bank, Teesworks site, Redcar, North Yorkshire.

6.2.2 SCP and CIB monitoring and assessment

Developers are required to report on their progress to DESNZ against the commitments outlined in their SCP or CIB at key stages of the project:

48 Deprived areas are defined in paragraph 10.2 of the *Clean Industry Bonus: allocation framework, 2024 (updated 5 December 2024)*, Department for Energy Security and Net Zero, available at https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-7-clean-industry-bonus-framework-and-guidance

49 An interactive map of deprived areas is available at *The UK's Clean Industry Bonus*, BVG Associates, December 2024, available at https://bvgassociates.com/clean-industry-bonus/

50 Science-Based Targets are targets set in accordance with the Science Based Targets initiative, refer to https://sciencebasedtargets.org/

51 *Offshore wind Sector Deal*, Department for Energy Security and Net Zero, March 2020, https://www.gov.uk/government/publications/offshore-wind-sector-deal/offshore-wind-sector-deal

- Ongoing monitoring meetings, at least twice a year, when the developer will use a colour-coded RAG (red, amber, green) rating system to summarise their progress against each commitment
- SCPs only: At the midway point between the CfD award and the expected Milestone Delivery Date (MDD), when DESNZ issues a formal progress report to the developer, based on evidence presented in the monitoring meetings, and
- Application for a Supply Chain or CIB Implementation Statement from the SoS, which must incorporate any agreed amendments and supporting evidence to demonstrate how the developer has met or is on track to meet their commitments.

When the Supply Chain or CIB Implementation Statement is issued, LCCC is also notified, so that it may release the relevant payments. For more details on how CIB implementation is monitored, refer to Guidance for fixed bottom and floating offshore wind projects on monitoring the implementation of Clean Industry Bonus.[52]

There are implications if a developer does not meet its CIB commitments:

- Failure to meet CIB minimum standards results in performance related adjustments to CfD payments. The developer will not be paid for extra proposals even if those are delivered.
- Partial delivery of a CIB extra proposal results in only a partial CIB payment (proportionate to level of delivery).

[52] *Guidance for fixed bottom and floating offshore wind projects on monitoring the implementation of Clean Industry Bonus*, Department for Energy Security and Net Zero, December 2024, https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-7-clean-industry-bonus-framework-and-guidance/guidance-for-fixed-bottom-and-floating-offshore-wind-projects-on-monitoring-the-implementation-of-clean-industry-bonus

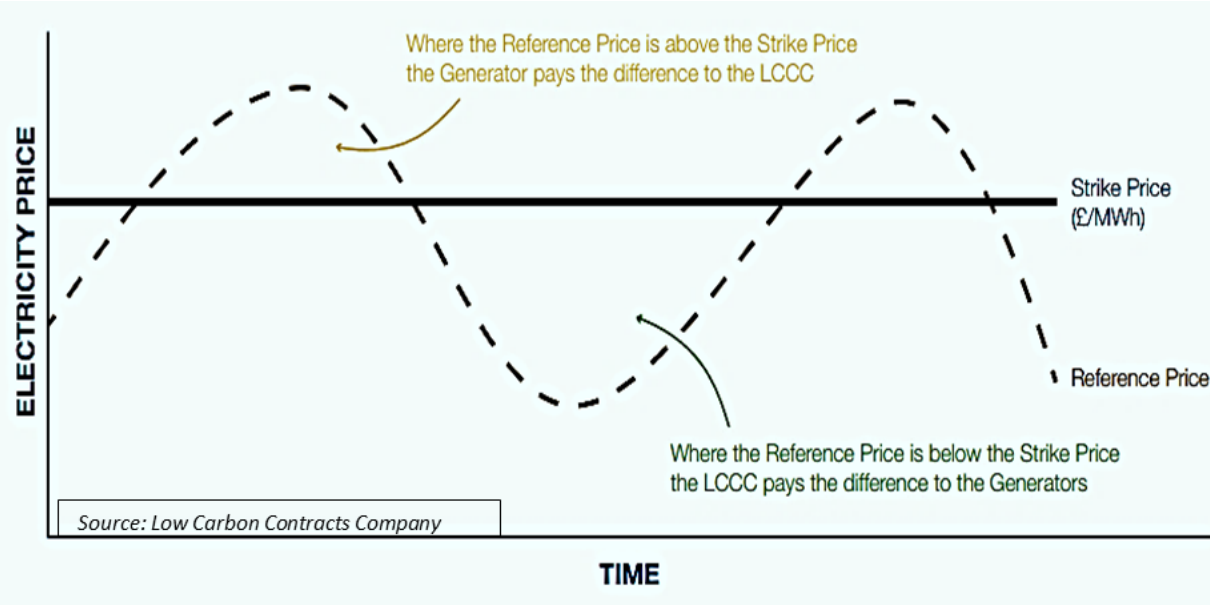
7 Offtake and Revenue

7.1 Description

Sufficient offtake and revenue arrangements are crucial if offshore wind projects are to be financially viable and attract investors. In the UK, developers primarily secure revenue support through the CfD scheme, managed by DESNZ.[53] CfDs provide developers with price stability, reducing exposure to market volatility by guaranteeing a fixed strike price per megawatt-hour (MWh) generated. All AR for power purchase contracts to date have resulted in auctions for CfD auctions. This mechanism fosters competition, ensuring cost-effective energy production while offering developers a bankable framework to support investment.

A CfD guarantees a predictable revenue, called the Strike Price, is received for the energy generated. When the Reference Price for the electricity generated by a CfD Generator (a project participating in the CfD scheme) is below the Strike Price set out in their contract, payments are made by the Low Carbon Contracts Company (LCCC) to the CfD Generator to make up the difference between the Reference Price and the Strike Price. When, however, the Reference Price is above the Strike Price, the CfD Generator pays LCCC the difference. The LCCC uses the Settlement Service Provider to calculate and process payments to and from CfD generators based on the difference between the market price and the strike price over set periods.[54]

Figure 13: Illustration of how a CfD works



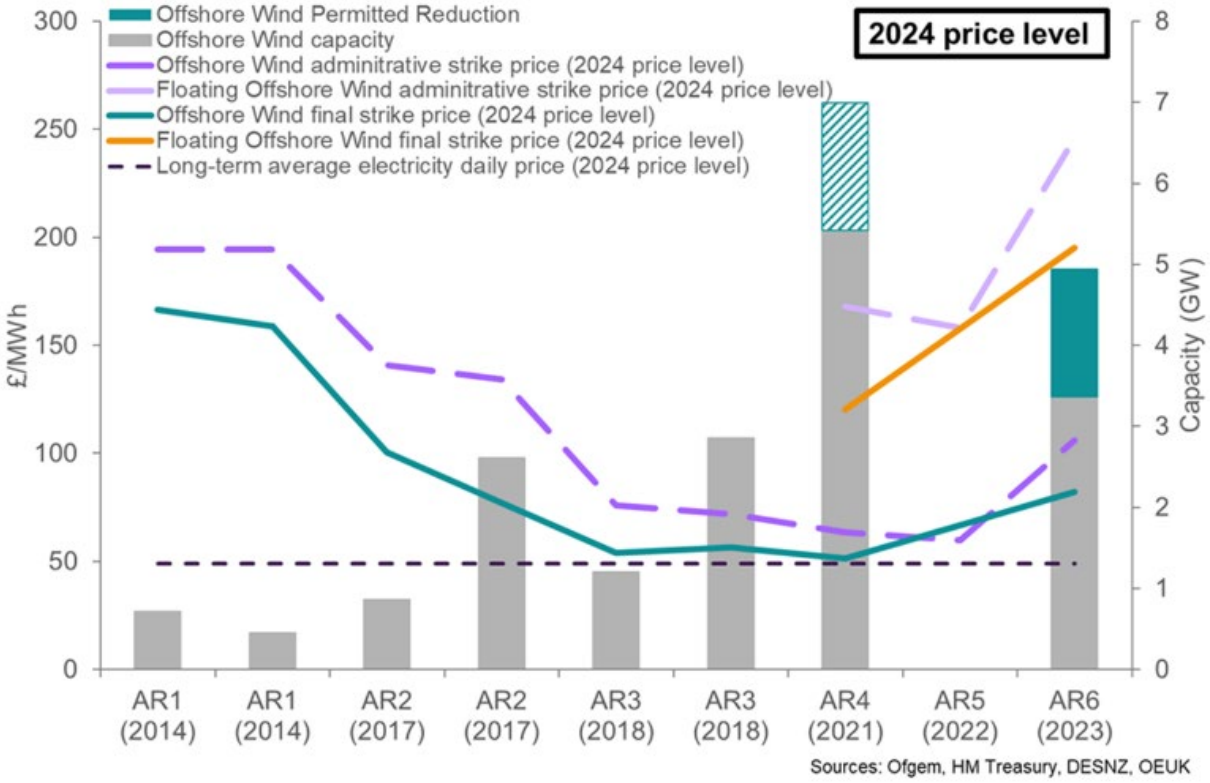
Source: Low Carbon Contracts Company

[53] *Allocation Round Resource Portal*, Contracts for Difference (CfD), https://www.cfdallocationround.uk/

[54] *Contracts for Difference*, EMRS Settlement, https://www.emrsettlement.co.uk/about-emr/contracts-for-difference/

Historic AR summary results are visible in Figure 14. A map of all AR results can be viewed through a dashboard on the LCCC website.[55]

Figure 14: Results of completed Auction Rounds[56]



7.2 Responsible organisations

Key stakeholders of the offtake and revenue process are listed in Table 6.

Table 6: Key stakeholders in offtake of wind projects

Stakeholder	Purpose
Department for Energy Security and Net Zero (DESNZ)	Oversees the allocation process for CfDs and manages revenue support across the UK. Designs and prepares the CfD auction policy and parameters.
National Energy System Operator (NESO)	Runs the CfD auction as an Electricity Market Reform (EMR) delivery body, including managing the application and auction portals.

[55] *Actuals Dashboard*, Low Carbon Contracts Company, https://www.lowcarboncontracts.uk/resources/scheme-dashboards/cfd-allocation-rounds/

[56] *Offshore Wind Insight – May 2024*, OEUK, May 2024, available at https://oeuk.org.uk/product/offshore-wind-insight-may-2024/

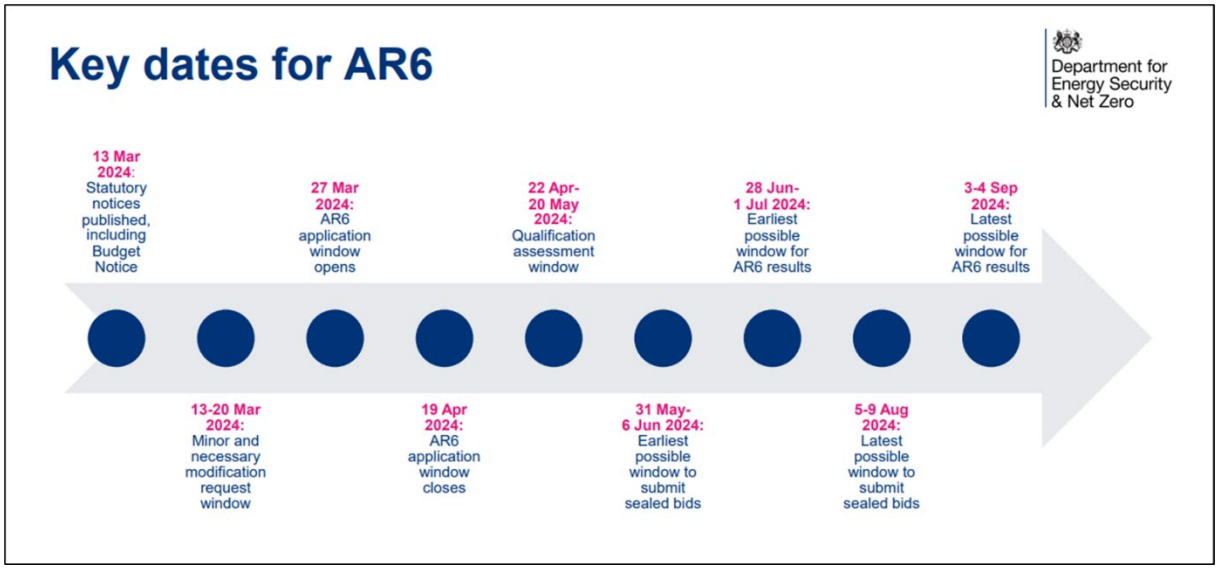
Stakeholder	Purpose
	Ensures grid connection for awarded projects.
Low Carbon Contracts Company (LCCC)	Administers CfD contracts on behalf of the government.
EMR Settlement Limited (EMRS)	EMRS is the Settlement Service Provider for CfDs on behalf of LCCC, so has the responsibility to run the CfD Settlement System and operate the processes to enable CfD payments to be calculated and settled.

7.3 Activity

The UK government is aiming to accelerate the deployment of offshore wind projects by having annual allocation rounds for CfDs. To achieve the Net Zero Power scenario, an average of 5.9 GW of offshore wind needs to clear in each of the auctions from AR6 to AR9.[57]

In AR6, conducted in 2024, the administrative strike price for fixed-bottom offshore wind was increased from AR5's £44/MWh to £73/MWh (in £2012) to address concerns over rising capital costs and attract greater participation. This adjustment was in response to the lack of offshore wind bids in AR5, which highlighted the need for change. The actual offshore wind strike price came in at £58.87/MWh (in £2012) for delivery year 28/29. The result window for AR6 was from July to September 2024, with a record number of projects securing contracts.[58] (See Figure 15)

Figure 15: Milestone dates for previous CfD Allocation Round 6



Source: https://www.cfdallocationround.uk/

[57] *Analysis for achieving a net zero power grid by 2030*, OEUK, July 2024, available at https://oeuk.org.uk/product/analysis-for-achieving-a-net-zero-power-grid-by-2030/

[58] *Contracts for Difference (CfD) Allocation Round 6: results*, September 2024, available at https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-6-results

AR7 is scheduled to open in Summer 2025 and will introduce the CIB, previously known as SIRs. The CIB will offer additional revenue support to projects demonstrating higher economic, environmental, and social sustainability standards (see Section 6). The allocation framework for CIBs and Guidance for monitoring implementation was updated by DESNZ on 5 December 2024.[47] Further updates and resources for AR7 can be found on the LCCC's CfD microsite.[53]

As well as reforms to consenting, the Clean Power 2030 Action Plan outlines several reforms to the CfD scheme.[1] The reforms under consideration include:

- Relaxing eligibility criteria for fixed-bottom offshore wind projects
- Providing greater transparency to the government over bid information
- Publishing a clear auction schedule, and
- Reviewing auction parameters, including the government's approach to setting reference prices.

In addition, the government is considering changes to the terms of CfD contracts that would give investors greater certainty, including extending the current 15-year contract term. The government plans to consult on these reforms in early 2025, in time for implementation in AR7.

The Autumn Update of the Review of Electricity Market Arrangements (REMA) programme was also published December 13, 2024.[59] REMA aims to reform the Great British electricity market to ensure that it is fit for purpose in the 2030s and beyond, by considering two primary options: zonal pricing and reformed national pricing.[60]

- Zonal pricing could promote efficiency by reflecting location-specific costs in electricity prices, while potentially increasing risk for generators, with a knock-on effect on CfD price.
- Reformed national pricing offers a less disruptive transition but may retain some existing market inefficiencies.

Post-Autumn Update, the government continues to assess the options and engage with stakeholders, but is planning to announce the final decisions and implementation timetable before AR7 opens.

[59] *Review of electricity market arrangements (REMA): autumn update, 2024*, Department for Energy Security and Net Zero, December 2024, available at https://www.gov.uk/government/publications/review-of-electricity-market-arrangements-rema-autumn-update-2024

[60] REMA is also considering appropriate levels of protection for legacy and transition CfD assets; further information is expected later this year.

OEUK.org.uk/guidelines

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