orrick

Orrick Global Offshore Wind Report 2026

A Jurisdiction By Jurisdiction Update and Outlook

2026

Orrick's Offshore Wind Team
Recent Experience

1 United States

Several offshore wind projects off the coasts of:

- Massachusetts
- Rhode Island
- New York
- New Jersey
- Delaware
- Maryland
- California

2 United Kingdom

- Barrow
- Beatrice
- Burbo Bank
- Burbo Bank Extension
- Dogger Bank A, B & C
- Dudgeon
- East Anglia 1
- East Anglia 3
- Galloper
- Gunfleet Sands 1, 2, & 3
- Gwent y Môr
- Hornsea 1
- Hornsea 2
- Hornsea 3
- Kinkardine
- Lincs
- London Array 1
- Moray Firth
- Neart Na Gaoithe
- Ormonde
- Pentland
- Race Bank
- Seagreen
- Sheringham Shoal
- Sofia
- Walney 1 & 2
- Walney Extension
- West of Duddon Sands
- Westermost Rough
- Various ScotWind Projects

3 Belgium

- Belwind I
- Thornton Bank I, II & III

4 Estonia

- Liivi 1
- Liivi 2

5 Finland

- Halla
- Laine
- Tyrsky

6 France

- AO3 (Dunkerque)
- AO4 (Centre-Manche 1)
- AO5 (Bretagne Sud 1)
- AO6 (Méditerranée 1)
- AO7 (Sud-Atlantique)
- AO8 (Centre-Manche 2)
- AO9 (Bretagne Sud 2 and Méditerranée 2)

7 Germany

- Albatros
- Arkona
- Baltic II
- Borkum Riffgrund 2
- Butendiek
- Delta (N-3.7)
- EnBW Baltic
- Global Tech I & II
- Gode Wind I, II & III
- Hohe See
- Kaskasi
- Meerwind
- Merkur
- Nordsee Two (N-3.8)
- Nordsee Three (N-3.5)
- Trianel Windpark Borkum II
- Veja Mate

8 Greece

- Greek offshore wind project

9 Ireland

- 2 offshore wind sites in Ireland

10 Italy

- Several floating offshore wind projects

11 Netherlands

- Hollandse Kust West
- Borssele 1&2
- Ijmuiden Ver

12 Sweden

- Galatea-Galene
- Triton
- Aurora

13 Poland

- BC-Wind

14 Japan

- Shizuoka
- Wakayama
- Ishikari
- Kanagawa
- Tsugaru
- Yamagata Yuza

15 S. Korea

- Jeonnam 1
- Nakwol
- MunmuBaram

16 Taiwan

- Changfang & Xidao
- Fengmiao 1
- Hai Long
- Zhong Neng
- Greater Changhua 1
- Greater Changhua 4
- Formosa 2
- Formosa 3
- Round 3 projects
- Yunlin

17 Vietnam

- La Gan
- Thang Long

18 Australia

- Star of the South

Offshore Wind at Orrick

Chambers AND PARTNERS Legal500

Top Ranked

49 individuals ranked globally for
Energy & Infrastructure (*2026*)
35 directories rankings globally

IJGlobal AWARDS

ESG Renewable Deal of the Year
APAC Fengmiao Offshore Windfarm, *2025*

Energy Transition Deal of the Year
Carrington Liquid Air Demonstration Energy Storage Project, *2024*

Legal500

Tier 1
Energy (Worldwide)
2025

Chambers TOP RANKED USA 2025

Energy & Projects Law Firm of the Year, USA, *2024*

Band 1 (USA)
Power & Renewables:
Transactional
Energy Transition
PPP
Renewables & Alternative Energy

Chambers TOP RANKED UK 2026 Orrick, Herrington & Sutcliffe LLP

Chambers RANKED IN Europe 2025 Orrick, Herrington & Sutcliffe LLP

Top Ranked
Energy & Natural Resources: Power, Renewables & Alternative Energy (UK)
Oil & Gas (UK)
Projects & Energy: Domestic, International, Public Law, M&A (France)

Chambers RANKED IN Asia-Pacific 2026 Orrick, Herrington & Sutcliffe LLP

Top Ranked
Projects & Infrastructure (Asia-Pacific Region)
Singapore: India Projects & Energy (International Firms), *2025*
Japan Projects & Energy: International, *2025*

Legal500

Tier 1
Energy: Renewable/Alternative (US)
Project Finance: Infrastructure and PPP (US)

Legal500

Tier 1
Renewables (UK), Power (UK), Oil & Gas (UK)
Infrastructure: Project Finance & Project Development (UK)
Project Finance, Industry Focus: Energy (France)
Power (London)
Energy: Firms to Watch (Germany)

Legal500

Projects and Energy (Japan)
Energy: Foreign Firms (Singapore)

LAW360

Practice Group of the Year
Energy *2025*
Construction *2025*, *2024*
Technology *2024*

Tamarindo

Legal Advisor of the Year
Wind Investment Awards *2023*

FT FINANCIAL TIMES

20 FT Innovation Awards
For energy sector (*2010-2025*)

inspiratia

No. 1
PPA Legal Advisor Globally, North America, Europe and Asia
FY *2024*

Vault TOP RANKED 2026

Top 2
Clean Tech/Renewable Energy *2026*

IJInvestor AWARDS

Legal Advisor of the Year
North America *2024*
Europe *2023*

Contents

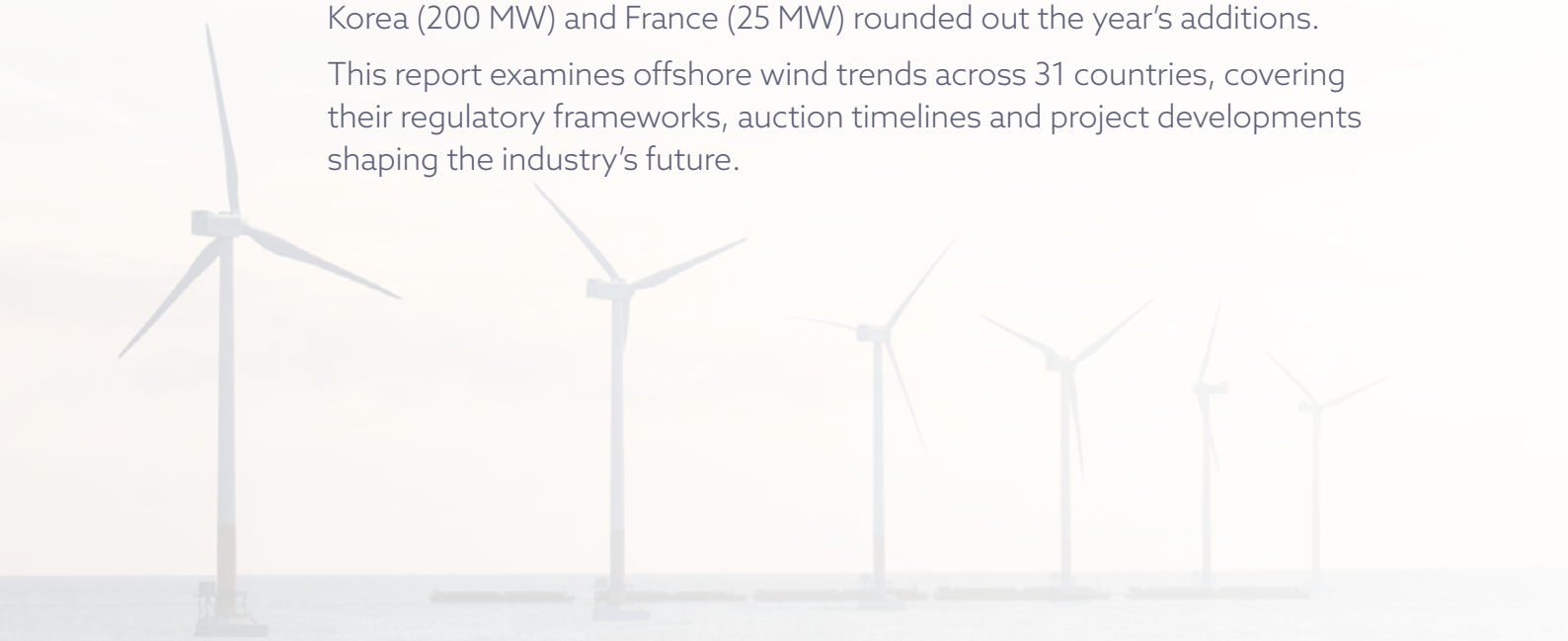
INTRODUCTION

Orrick's Global Offshore Wind Report: 2026 Edition

Global offshore wind reached 89.2 GW of installed capacity in 2025 as developers navigated an increasingly complex landscape of regional opportunities and policy frameworks and in the context of political and economic turbulence.

China led with 6 GW commissioned - its fifth consecutive year delivering over half of global additions - bringing its share to 52% of worldwide capacity. The UK (1.3 GW), Taiwan (935 MW), Germany (253 MW), South Korea (200 MW) and France (25 MW) rounded out the year's additions.

This report examines offshore wind trends across 31 countries, covering their regulatory frameworks, auction timelines and project developments shaping the industry's future.



> **...WE COVER MULTIPLE WINDFARMS AND PF DEALS AROUND THE WORLD. WE GET ADVICE FROM SEVERAL DIFFERENT LLAS. ORRICK HAS PROVEN, IN MY EYES, TO BE A CUT ABOVE THE REST. TIMELY, RELIABLE WITH CLEAR ADVICE THAT TAKES INTO ACCOUNT THE COMMERCIAL NEEDS OF THE LENDING PARTIES.**
>
> CLIENT QUOTE - EUROPEAN ECA, 2025

Asia-Pacific continues to grow

With significant capacity expected to be auctioned in 2026, the region's momentum continues. Key developments in Asia-Pacific during 2025 included:

- Taiwan continued to lead the way with 20 projects awarded with grid capacity and seven operational offshore windfarms.
- South Korea accelerated its offshore wind ambitions by enacting the dedicated "OSW Promotion Act" and awarded a further 689 MW of capacity through competitive auctions. 2026 should see further projects reach financial close.
- The Philippines launched its first auction dedicated to offshore wind (GEA-5), which will award 3.3 GW of capacity in 2026.
- India advanced its early steps toward its 37 GW of offshore capacity target for 2030, building on its 52 GW of installed onshore wind capacity.
- Vietnam established new offshore wind regulations, enabling corporate PPA frameworks and regional pricing structures, replacing the discontinued Feed-in-Tariff regime.

Europe and the Americas in transition

Activity across Europe and the Americas advanced at varying speeds in 2025.

Europe:

- The North Sea Summit (a meeting between the UK and European governments and industry leaders focused on offshore wind collaboration) brought together leaders to reaffirm their commitment to offshore wind, emphasizing its crucial role in strengthening the UK and Europe's energy security, reducing reliance on fossil fuels, and driving down costs through regional cooperation and innovation.
- UK awarded CfDs for 8.4GW of offshore wind (fixed and floating) in its latest allocation round, exceeding the previous record of 7.0GW.
- Netherlands adjusted its 2040 target while vowing to introduce CfD instruments and other supportive measures for future projects.
- Belgium advanced its second offshore wind phase, targeting 5.8 GW total capacity by 2030.
- France awarded two 250 MW floating projects in the Mediterranean and a 1.5 GW fixed-bottom project off Normandy, France's largest renewable energy project to date.
- Germany brought two 900+ MW projects into operation while RWE and TotalEnergies submitted plans for 4GW of new capacity, though rising costs led to the sector's first zero-bid auction. Looking ahead, Germany is set to advance to a CfD regime to re-ignite investment in the sector.

Americas:

- U.S. faced regulatory uncertainty following policy changes, though project financing continued on certain projects.
- Brazil's offshore wind law took effect, establishing a regulatory framework for seabed rights.
- Colombia relaunched its second offshore wind tender after limited participation in the first round.
- Uruguay developed its H2U Offshore program linking offshore wind to green hydrogen exports.

In this report

Our report details market-specific regulatory frameworks, licensing and permitting requirements, and gives investors, developers and other market participants information on:

- Energy innovation goals, incentive schemes and auction and tender rounds
- Project overviews across Asia-Pacific, Europe and the Americas
- Grid connections, green hydrogen opportunities and broader market trends

We cover global developments, from offshore wind pioneers like Denmark to development leaders like the United Kingdom to more recent market entrants like Colombia, Vietnam and Philippines.

Orrick's Offshore Wind Practice

Our **global offshore wind team** advises on projects across Asia, Europe and the Americas, handling development, construction, M&A, partnerships, financing, tax and regulatory matters across the full project life cycle.

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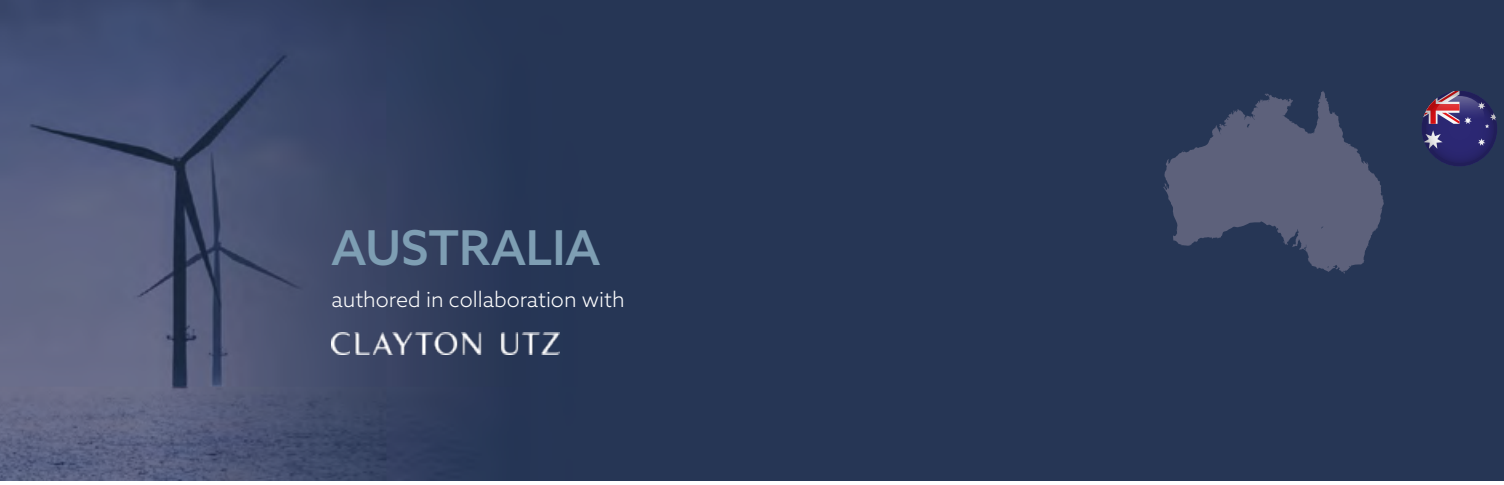


AUSTRALIA

authored in collaboration with

CLAYTON UTZ

Authored by Adam Smith (Orrick), Oliver Sikora (Orrick), Alexander Danne (Clayton Utz), Stuart MacGregor (Clayton Utz), Tim Stanton (Clayton Utz), Claire Smith (Clayton Utz), Damien Gardiner (Clayton Utz), Susan Taylor (Clayton Utz), Joanna Pugsley (Clayton Utz) – refer to page 140 for contact details.

Introduction

Australia, like many other countries around the world, has pledged to be net zero by 2050. However, Australia is a country rich in coal and has historically been reliant on thermal coal as its primary source of power generation. The current strategy for decarbonizing the energy sector and to replace its aging coal-fired generation fleet is through a mix of renewable generation, storage (battery energy storage systems and pumped hydro), expansion of its existing hydro generation and gas peaking to firm power supply. Offshore wind has, to date, been a central part of this strategy for the existing Labor government in Australia.

Offshore wind has significant potential in Australia. With vast wind resources, similar to the UK's North Sea, and an estimated 2,000 GW of capacity for offshore wind projects within 100 km of the coastline, Australia is well-positioned to take advantage of offshore wind technology. Furthermore, Australia has a substantial offshore oil and gas industry with workers skilled in developing major offshore projects. Australia's legislative framework for offshore wind, passed in November 2021, has further paved the way for Australia to take advantage of its offshore wind potential and sparked a wave of activity in the sector over the past few years.

However, despite strong political support and favorable conditions for renewables, the offshore wind sector in Australia has encountered notable challenges in recent years. Delays in the anticipated contract for difference auction and difficult project economics have led some developers to hand back feasibility licenses and abandon their projects.

The offshore wind industry in Australia now stands at a critical juncture, with 2026 shaping up to be a decisive year. Government intervention in the form of revenue support will be essential to unlock the sector's potential, but the specifics of such support remain uncertain. Delays are proving costly, and with some developers already exiting the market, the coming years will be critical in determining the industry's success in Australia.

Federal and state regulation

Offshore Electricity Infrastructure Act and Regulations

The *Offshore Electricity Infrastructure Act 2021* (the "**OEI Act**") and *Offshore Electricity Infrastructure Regulations 2022* (the "**OEI Regulations**") establish the regulatory regime for the licensing, construction, operation, maintenance and decommissioning of offshore wind farms in Australia. Importantly, the OEI Act empowers the Minister for Climate Change and Energy (the "**Minister**") to declare an area suitable for the development of offshore wind projects following a period of public consultation and sets out the different types of licenses that can be obtained. Six offshore wind zones have been declared suitable for development under the OEI Act (see further below). The most advanced zone (and the one with the highest development potential) is the Gippsland region in Victoria, which at the date of publication has nine feasibility licenses on foot and several developers undertaking environmental, seabed and wind resource studies.

Licenses under the OEI Act

There are four types of licenses under the OEI Act:

1. Feasibility licenses, which provide a developer with an exclusive right to assess the feasibility of a proposed offshore wind farm for a specified period of up to seven years within the license area, which can be up to 700 km^2. All licenses currently issued under the OEI Act are feasibility licenses allowing developers to undertake necessary studies to progress their projects to the commercial phase.
2. Commercial licenses, which can only be granted to a holder of a feasibility license and authorize the holder to construct, install, commission, operate, maintain and decommission an offshore wind farm in the licensed area for up to 40 years, with an option to extend subject to ministerial approval.
3. Research and demonstration ("**R&D**") licenses, intended for small-scale projects to undertake research and to test or demonstrate emerging technologies such as wave, tidal or ocean thermal. R&D licenses may be granted for a maximum of 10 years with the possibility of extension.
4. Transmission and infrastructure ("**T&I**") licenses, which allow for the development of transmission and other ancillary infrastructure within or through a license area. These licenses will allow offshore generated electricity to be connected to onshore grid infrastructure or other end users.

Of interest to most developers is the pathway towards a commercial license under the OEI Act. The process begins with securing a feasibility license, which is awarded through a competitive process run by the Offshore Infrastructure Registrar (the "**Regulator**"), and decided by the Minister based on certain merit criteria. The Regulator administers the license application process and, importantly, provides additional guidance to prospective applicants.

Once a feasibility license is obtained and the developer has completed necessary feasibility studies to proceed with a commercial project, the license holder can apply for a commercial license. Merit criteria will apply, including that the license holder must have the technical and financial capability to carry out the project and the project is likely to be viable.

Cost of licenses

When compared to other jurisdictions, the cost of obtaining and maintaining seabed rights for the development of offshore wind in Australia is relatively modest. There is no financial tender for seabed rights, rather projects competing for feasibility licenses are assessed on specified merit criteria—levies are charged only to recover the costs of administering and regulating the new offshore industry. This approach makes Australia an attractive destination for global offshore wind developers.

Furthermore, in response to recent challenges within the offshore wind sector, including news of some developers abandoning their projects (see further in section Declared zones and successful projects), the Federal Government has introduced a temporary two-year financial relief for levies and fees associated with offshore wind licenses. This includes a waiver of the annual levies aimed at reducing holding costs for developers.

The licensing framework also allows for a financial offer process to resolve overlapping license applications that are deemed to be of equal merit. In such cases, the successful applicant would be determined by the highest financial offer. To date, no financial offer process has been required.

Change in control and trailing liability

An important consideration for international developers under the OEI Act is the change in control restrictions that apply to license holders. The threshold for change in control is set at 20% of the voting rights or issued securities in the license holder, which mirrors similar provisions in the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (the "**OPGGSA**"), the primary legislation for offshore gas and petroleum production in Australia.

Whilst the OEI Act parallels the OPGGSA in respect of the change in control provisions and in many other respects, interestingly it has omitted the OPGGSA's trailing liability regime which was introduced in 2022. Under the OPGGSA, NOPSEMA (which also administers the functions of the Regulator) is empowered to issue remedial directions extending liability to former titleholders of offshore petroleum assets. Liability may also extend to any other person who:

1. has or could have significantly benefitted from the operation of the asset;
2. has been in a position to influence the extent of another person's compliance with the OPGGSA; or
3. has acted jointly with a titleholder in operating the relevant asset.

These powers are intended to be used as a last resort when the asset's current titleholder cannot fulfil its obligation to decommission the asset but their broad ambit captures, and exposes to liability, a wide range of non-titleholder parties. Whether a similar trailing liabilities regime makes its way into the OEI Act is an issue offshore wind developers should watch keenly although, at least for now, it is not proposed on the basis that it may deter investment.

Management plans

Under the OEI Act, license holders must have a management plan in place and approved by the Regulator before construction or installation of offshore renewable energy infrastructure. Management plans are a key feature of the regulatory framework and must address various matters including how the license holder will carry out offshore infrastructure activities (for example, construction methods, operation and maintenance schedules and work health and safety obligations), environmental management, how the license holder will comply with its decommissioning obligations and the financial security that must be maintained by the license holder.

The OEI Regulations were amended in December 2024 to provide further detail on management plans and other operational aspects of the regulatory framework, including financial security obligations and the process for notification and approval of final project design.

The OEI Regulations are, in part, based upon the equivalent regulations for petroleum titles in Australia. This offers some benefits for industry participants and the Regulator who are already familiar with the management plan approval process in the context of petroleum titles.

Financial security and decommissioning

The OEI Act requires license holders with a management plan in place to provide financial security to the Commonwealth of Australia ("**Commonwealth**"). The financial security must be sufficient to cover certain costs, expenses, liabilities and debts, including those that might arise in relation to decommissioning of infrastructure, removal of property and remediation of the license area and any other affected areas. The amended OEI Regulations provide detail regarding financial security requirements under the OEI Act, including the amount and form of financial security.

The default standard for decommissioning is removal of all structures, equipment and other property from the license area although this is subject to the agreed management plan which may provide for a different approach to decommissioning with approval of the Regulator. This is one aspect of the current regulation which may need to be revised as global 'best practices' for offshore wind decommissioning are developed.

Environmental legislation

Prospective offshore wind developers must also navigate Australia's environmental legislation. The *Environment Protection and Biodiversity Conservation Act 1999* (the "**EPBC Act**") is Australia's national environmental legislation. It prohibits certain actions, known as "controlled actions", being taken where they relate to matters of national environmental significance ("**MNES**"). Offshore wind proposals in Commonwealth waters generally trigger the EPBC Act because they may affect one or more MNES, most commonly:

- Commonwealth marine areas;
- Listed threatened and migratory species; and
- Ramsar wetlands and, in some locations, World/National Heritage values.

Typical actions that can require environmental assessment and approval if they are likely to have a significant impact on MNES include marine, geotechnical and other early works surveys as well as assessment for the wind turbine infrastructure installation and associated offshore electricity cables. Any EPBC Act approval will have MNES-focused conditions (*e.g.*, seasonal restrictions, monitoring, adaptive management for marine fauna).

The EPBC Act was substantially amended at the end of 2025 with the aim of streamlining approval processes and improving environmental protections and outcomes. During the course of 2026, new National Environmental Standards will be prepared that will outline specific outcomes, objectives or processes that will guide decision-making and assessment. Any action or decision taken under the reformed EPBC Act will now generally have to satisfy three tests:

- an approval must be consistent with the new National Environmental Standards;
- an action must not have an unacceptable impact on MNES. Offshore wind developers will need to avoid or mitigate impacts so that they do not represent 'unacceptable impacts.' Notably, the definition of an "unacceptable impact" varies depending on which MNES it relates to;
- an action must pass the "net gain" test. Offshore wind developers will need to demonstrate that any residual impacts on MNES are offset in a manner that results in a net gain for the MNES in question. Actions will achieve "net gain" if they are conditioned as requiring an offset and/or payment of a restoration contribution charge into an offset fund that results in a "net gain" for the impacted MNES.

Developers will need to understand the detail of the new National Environmental Standards, unacceptable impact and net gain tests in the design of their projects and re-assess approval strategies. Environmental assessments will continue to focus on key impacts to marine fauna and flora such as underwater noise, turbine interactions, electromagnetic fields, disturbance of underwater cultural heritage, vessel interactions and invasive marine species.

There will be a new streamlined assessment process and the establishment of a new national environmental protection agency in charge of regulatory enforcement as well as an agency tasked with holding and improving the availability and accessibility of high-quality environmental data that will be available to project developers.

The ocean surrounding Australia's coastlines is protected from waste and pollution dumped at sea by the *Environment Protection (Sea Dumping) Act 1981* (the "**Sea Dumping Act**"). The Sea Dumping Act regulates the loading and dumping of waste at sea to promote compliance with Australia's obligations under 1977 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter. Proponents will need to be aware of the requirements under the Sea Dumping Act as it applies to all vessels, aircraft and platforms in Australian waters. The Sea Dumping Act is administered by the Department of Climate Change, Energy, the Environment and Water ("**DCCEEW**") and there may be additional Commonwealth approvals necessary subject to location and nature of activities. Further to this, the *Underwater Cultural Heritage Act 2018* (the "**UCH Act**"), also administered by DCCEEW, is aimed at protecting Australia's underwater cultural heritage such as that of shipwrecks, sunken aircrafts and other forms of underwater heritage in Commonwealth waters. Requirements under the UCH Act may also lead to additional Commonwealth approvals, again depending on the location of the project and proposed activities.

State regulation

Whilst a federal offshore wind regulatory framework is now firmly in place, a gap exists when it comes to state legislation as any offshore wind projects or associated infrastructure within three nautical miles of the coastline will be governed by the relevant state's legislation. In essence, the further development of state-level regulatory frameworks will be essential to govern the construction and maintenance of both onshore and offshore transmission infrastructure and for operation of offshore wind farms when constructed.

The government of the state of Victoria ("**Victorian Government**") has announced its intention to implement legislative reform to support the offshore wind industry and, in May 2024, passed legislation to enable OEI Act feasibility license holders to conduct investigations in state coastal waters and on public land. The Victorian Government continues to assess the legislative changes needed to facilitate development of offshore wind in the state. At this stage, the other states with offshore wind potential (NSW, Western Australia and Tasmania) are yet to announce any reforms directed at offshore wind.

In addition to federal environmental approvals, projects will also require state environmental approval for infrastructure and activities located in coastal waters and onshore. For example, projects in the state of Victoria will require approval under the *Environment Effects Act 1978* which will involve preparing an Environmental Effects Statement and a public review process before the project can be approved.

Declared zones and successful projects

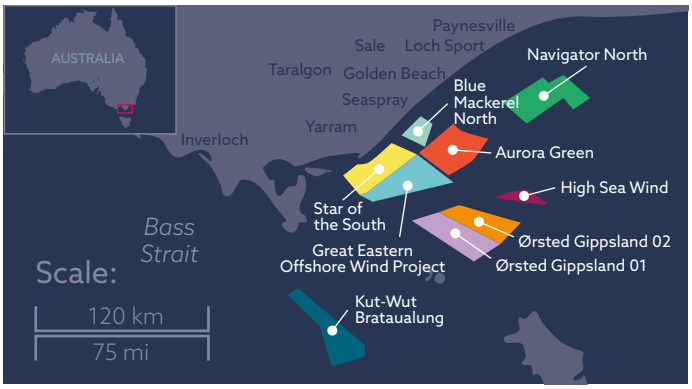
Since the OEI Act entered into force in June 2022, the Federal Government has moved at pace to declare six zones across the country as suitable for offshore wind development and progressed the crucial feasibility license processes for the declared zones. However, the Federal Government has only issued feasibility licenses in three of these zones, due in part to several developers terminating projects in the New South Wales regions of Hunter and Illawarra, and a lack of competitive bids in Tasmania's Bass Strait zone. As a result, the focus for developers is now firmly on the Gippsland Region in Victoria, and the remaining declared areas of the Southern Ocean Region and Indian Ocean off Bunbury, Western Australia. We have outlined the status of licenses in each of these regions below.

Gippsland, Victoria

The Gippsland zone is the most advanced in Australia with 12 feasibility licenses awarded during 2024, representing a total potential generation capacity of 25 GW. The shallow coastal waters that extend 20 to 35 km from the coast makes fixed-bottom offshore wind development possible in the Gippsland zone. In 2025, however, three of these licenses were surrendered, being the Gippsland Dawn project developed by Blue Float Energy, the Kent Offshore Wind project developed by RWE and the Gippsland Skies project developed by AGL, with the developers citing rising supply chain costs and prioritization of other energy projects as reasons for their respective withdrawals.

The below graphic shows the declared zones for Gippsland, Victoria, and the current license holders in each area:

Map 1: Declared zones for Gippsland, Victoria, and the current license holders in each area



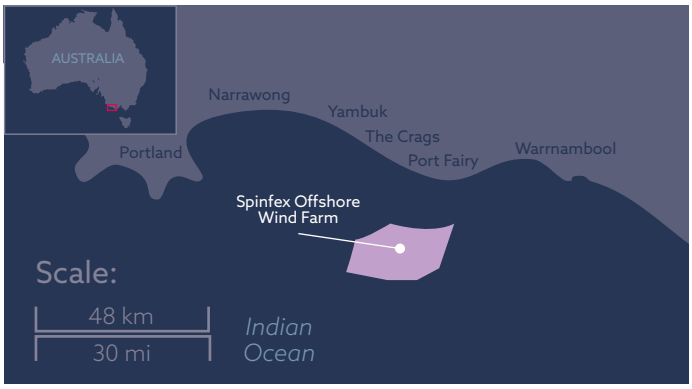
Source: Australian Department of Climate Change, Energy, the Environment and Water – "Gippsland, Victoria declared offshore wind area" at https://www.dcceew.gov.au/energy/renewable/offshore-wind/areas/gippsland#toc_2

Southern Ocean region off Victoria

The Southern Ocean region features ideal conditions for offshore wind, with strong winds and water depths suitable to fixed-bottom offshore wind development in parts of the declared zone. It is also the home of Australia's second largest aluminum smelter meaning the declared zone is adjacent to significant electricity load. In this region, only the Spinifex project developed by Alinta Energy and Parkwind has been awarded a feasibility license for the development of a 1.2 GW offshore wind farm.

The below graphic shows the declared zone for the Southern Ocean region, Victoria:

Map 2: Declared zone for the Southern Ocean region, Victoria



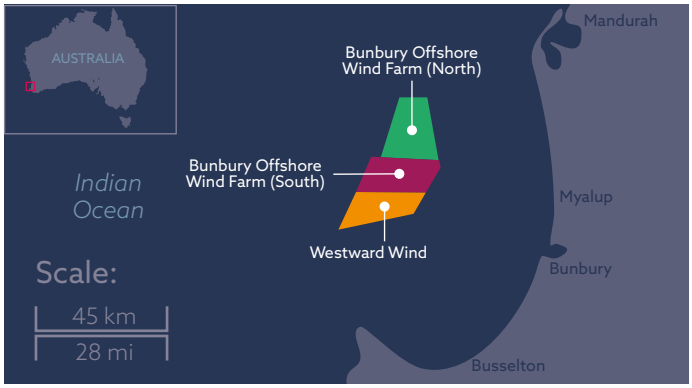
Source: Australian Department of Climate Change, Energy, the Environment and Water – "Southern Ocean region off Victoria, declared offshore wind area" at https://www.dcceew.gov.au/energy/renewable/offshore-wind/areas/southern-ocean-region

Indian Ocean off Bunbury, Western Australia

This zone has strong offshore wind resources and areas suitable for fixed-bottom foundations. The declared zone has a maximum size of 3,995 km and potential capacity of 11.4 GW. The Federal Government has offered three feasibility licenses in the region. Two of these licenses were awarded for the Bunbury Offshore Wind Project, comprising of two separate wind farms developed by EDF Power Solutions Australia (a subsidiary of the French government-owned EDF Group). The final license was issued to the Westward Wind Project developed by Ocean Winds (a 50-50 joint venture between the Spanish-based EDP Renewables and French multinational Engie).

The below graphic shows the declared zones for the Indian Ocean off the Bunbury region, Western Australia:

Map 3: Declared zones for the Indian Ocean off the Bunbury region



Source: Australian Department of Climate Change, Energy, the Environment and Water – " Indian Ocean off the Bunbury region, Western Australia declared offshore wind area" at https://www.dcceew.gov.au/energy/renewable/offshore-wind/areas/bunbury

Victoria's offshore wind strategy

Legislated offshore wind targets

Victoria is the only state in Australia to have legislated offshore wind generation targets which form part of the state government's energy transition plan. The following three staged targets were legislated:

1. 2 GW by 2032;
2. 4 GW by 2035; and
3. 9 GW by 2040.

To provide certainty and to facilitate ongoing collaboration with communities, local government, unions and investors, the Victorian government releases periodic Offshore Wind Implementation Statements, with the fourth and most recent being released in April 2025. The Offshore Wind Implementation Statement provides essential guidance regarding Victoria's renewable generation targets, revenue support, workforce development and transmission plans.

In addition to its ambitious generation targets outlined above, the Victorian government is increasing the state's renewable energy targets to 65% by 2030 and 95% by 2035. Offshore wind has a large role to play in realizing Victoria's ambitious goals.

Revenue support

The Victorian Government has recognized the need for financial support to make offshore wind a reality and is currently developing a contract for difference ("**CFD**") scheme to support the first tranche of offshore wind projects in the state.

The details of the scheme remain subject to consideration by the Victorian Government, however, based on information released to date it is understood the CFDs will be awarded through a competitive tender process. The CFDs are expected to provide revenue support for up to 20 years and the Victorian Government has suggested that an 'availability style' payment may be considered which would be a shift from traditional government support contracts for renewables in Australia that are typically tied to generation rather than plant availability.

The Victorian Government initiated a registration of interest process for the CFD auction in early 2025, however, the process was subsequently paused, with no new timeline initially set, due to industry setbacks and global uncertainty in the offshore wind sector. In late January 2026, the Victorian Government announced the recommencement of the auction process, with requests for tender for 2 GW of capacity scheduled to open in August this year.

This marks a very significant and positive development for the offshore wind industry, particularly in a challenging commercial environment. It signals a renewed commitment to Victoria's offshore wind targets and provides a much-needed boost to the sector after a period of uncertainty.

One key focus for developers is the local content requirements imposed on CFD recipients. As of October 2025, the Victorian Government has outlined expectations for developers to maximize local content during the development and construction phases of offshore wind projects. Additionally, developers will need to demonstrate plans to achieve a minimum of 80% local content during the 30-year operations and maintenance phase, averaged over that period. Proponents are keenly monitoring local content requirements and the impact on their project costings.

General risk allocation issues such as grid curtailment, delays to connection and transmission infrastructure, negative price risk, minimum generation requirements and termination payments (especially in the case of termination for convenience) will also be key considerations for developers to ensure project bankability.

At this stage, no revenue support scheme specifically targeting offshore wind has been proposed by other states or the Federal Government. The Federal Government currently operates the Capacity Investment Scheme ("**CIS**"), which aims to accelerate renewable energy generation and battery storage projects, however the CIS does not specifically target offshore wind. The Federal Government is also developing a new market mechanism known as the 'Electricity Services Entry Mechanism' to replace the CIS when it expires in 2027, and it remains to be seen whether this new scheme will include targeted support for offshore wind.

Transmission

VicGrid, a department within the Victorian Department of Energy, Environment and Climate Action, is leading the development of transmission infrastructure in the state and will coordinate offshore wind connections. Relevant to offshore wind developers is the Gippsland transmission project involving the proposed development of a new transmission corridor from existing grid infrastructure near Loy Yang Power Station in the Latrobe Valley to the Gippsland coast, which will support the first 2 GW of offshore wind.

A competitive tender process is currently underway to select a private sector developer to build, own and operate the shared transmission infrastructure under a PPP model, with three consortia having been shortlisted and a development partner expected to be appointed in 2026.

Whilst VicGrid will coordinate the rollout of onshore transmission, it is expected that offshore wind projects will be responsible for constructing their own offshore transmission infrastructure (including offshore substations and export cables) up to the common connection point at the proposed Giffard connection hub. This means that each project will have their own offshore transmission infrastructure and landing sites to develop.

The proposed Giffard connection hub will be situated within a designated Gippsland Shoreline Renewable Energy Zone ("**Gippsland REZ**"), a designated area that will enable offshore wind developers to determine suitable routes to the connection hub. The proposed Gippsland REZ will operate under an access scheme which sets out the process for allocating access to the intended 2 GW hosting capacity. The Victorian Government is expected to consult on the draft access scheme once the Gippsland REZ is formally declared (which is still yet to occur, with the feedback process to conclude in early 2026). Importantly, the access scheme is expected to provide offshore wind projects with a degree of certainty in relation to curtailment risk (*i.e.*, the risk that a project is unable to export its full generation capacity to the grid) that exists for renewable projects in Australia.

Port infrastructure

Significant redevelopment of port infrastructure is required to support the offshore wind industry in Australia and is a key dependency for the early projects. Existing ports are not currently equipped to handle the turbines and specialized vessels required for offshore wind projects and so port redevelopment is critical to the industry's success.

The Port of Hastings was originally selected by the Victorian Government as the preferred assembly port for offshore wind projects, however, the redevelopment of the Port of Hastings, known as the 'Victorian Renewable Energy Terminal' project, has suffered setbacks due to environmental concerns. Alternatives are being assessed such as the Port of Geelong in Victoria and the Port of Bell Bay in Tasmania, which have both announced redevelopment plans and have the potential to act as hubs for construction and maintenance of offshore wind farms in the region. Given the scale of development required to support up to 25 GW of offshore wind projects in the Gippsland region, it is likely that a multi-port solution will be necessary.

In addition, the Port of Portland in Victoria has expressed interest in catering to the needs of the offshore wind sector, and NSW Ports has announced plans to develop an offshore wind port facility at Port Kembla. These developments could also play a role in supporting offshore wind projects across the broader region.

As of late 2025, there has been limited progress in finalizing port infrastructure plans, and the Victorian Government is still evaluating its strategy for procuring the necessary port facilities to meet its ambitious offshore wind targets. Further details on the state's approach to port infrastructure development are expected in the coming months, and the industry is closely monitoring these developments.

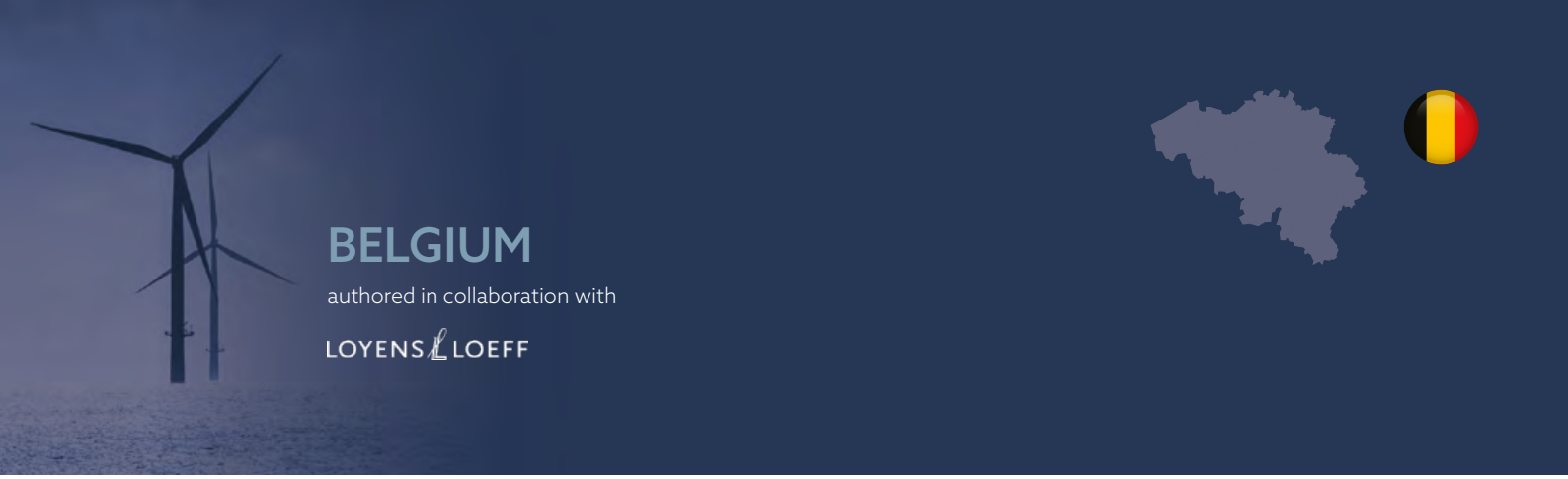
Financing offshore wind in Australia

We anticipate the first offshore wind projects to be developed and commercialized in Australia will be financed using a mix of government and private funding.

A range of government funding options are available for offshore wind projects in Australia. The Australian Renewable Energy Agency ("**ARENA**") can provide early-stage grant funding for renewable development activities, while the Clean Energy Finance Corporation ("**CEFC**"), Australia's green bank, provides both debt and equity finance to renewable projects across the country and is expected to play a key role in the financing of Australia's first offshore wind projects. Other state-based financing bodies provide targeted support for the clean energy sector such as the Victorian State Electricity Commission and the New South Wales Energy Security Corporation.

Australia also benefits from a well-established financing market for renewables consisting of local and international banks and export credit agencies. Renewables are typically financed on a limited recourse basis, and we expect offshore wind will also be financed in this way subject to certain bankability issues being resolved. In particular, the disaggregated contracting model which is commonplace for offshore wind projects globally is relatively new to the Australian market. The resulting interface risk will need to be managed with financiers and appropriate contingencies, coordination arrangements and/or sponsor support put in place to address these concerns. Financiers are also monitoring key bankability risks such as availability of CFD support and the development of necessary port and transmission infrastructure which are outside the control of the offshore wind developers.

With the support of government funding bodies like ARENA and the CEFC, combined with a mature renewables financing market with a history of supporting large-scale renewable projects across the country, Australia is well-positioned to locally finance the first offshore wind projects as they move from feasibility towards commercialization.



BELGIUM

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Belgium remains one of the most active European countries in the offshore wind sector. The total installed capacity of offshore wind in Belgium amounts to approximately 2.3 GW. In 2024, all Belgian offshore wind farms together injected 7 TWh of electricity into the transmission grid, representing 9.2% of total electricity consumption in Belgium that year. There are currently nine operational wind farms in the Belgian part of the North Sea, operated by eight different entities. In 2024, the "second offshore wind phase" was launched with the publication of tender documents for the development of a new wind farm in the first out of three plots in the Princes Elisabeth Zone. With the "second offshore wind phase," up to 3.5 GW additional capacity will be installed, bringing Belgium's total installed offshore wind capacity to up to 5.8 GW by the end of 2030.

The first offshore wind phase

Belgium's first offshore wind zone (the "**Eastern Zone**") was completed and became fully operational by the end of 2020 (see Map 4).

This Eastern Zone comprises nine wind farms in total.

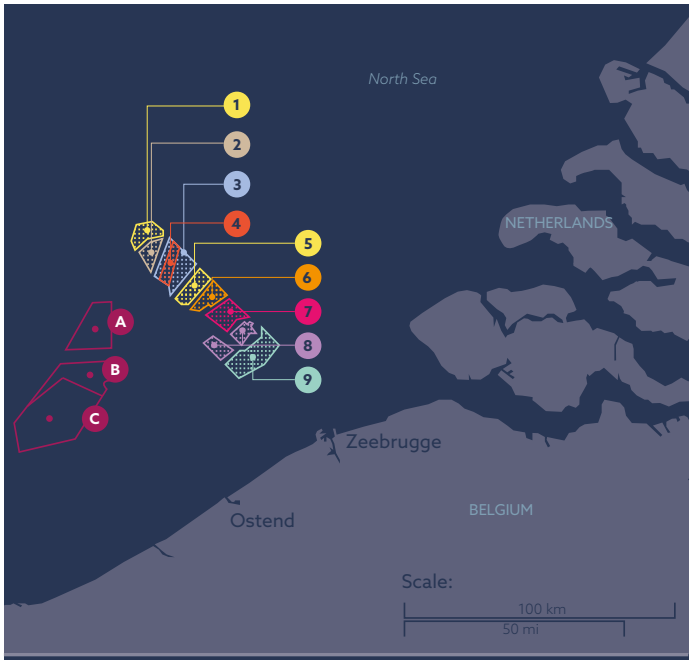
Whilst C-Power, Belwind, Northwind, Nobelwind and Norther are connected directly to the onshore transmission system by using a dedicated cable (this is also called radial connection), Northwester 2, Rentel and the two SeaMade wind farms (Seastar and Mermaid) are connected with the Modular Offshore Grid (hereinafter "**MOG I**"), developed by the Belgian transmission system operator ("**TSO**"), Elia.

MOG I is an offshore platform that connects the above-mentioned offshore wind farms to the Belgian onshore grid through various undersea cables.

MOG I has been operational since 2019 and secures the transport of the energy generated by these global exchange wind farms to the mainland.

Upon its commissioning in 2018, the Rentel wind farm still operated with a single cable connecting its platform to the mainland, a configuration known as a "radial" connection. When Elia developed a meshed transmission grid for the subsequent wind farms, it incorporated Rentel's export cable into the MOG I system.

Map 4: Belgium's offshore wind zones



Key

Eastern Zone

1. **SeaMade (Zone Mermaid 2020):** Otary, Ocean Winds and Eneco Wind Belgium SA – 487 MW Capacity
2. **Northwester 2 (2020):** Parkwind/Sumitomo Corporation - 219 MW Capacity
3. **Nobelwind (2017):** Parkwind, Sumitomo Corporation and Meewind – 165 MW Capacity
4. **Belwind (2010):** Parkwind, Sumitomo Corporation and Meewind – 171 MW Capacity
5. **Seastar:** Otary, Ocean Winds and Eneco Wind Belgium SA – 487 MW Capacity
6. **Northwind (2014):** Aspiravi Offshore and Sumitomo Corporation – 216 MW Capacity
7. **Rentel (2018):** Aspiravi Offshore, DEME Group, Elicio, Green Offshore, Power@Sea, Socofe, SRIW, and Z-Kracht – 309 MW Capacity
8. **Thornton Bank (2009-2013):** DEME Concessions, SRIW, Socofe, Z-Kracht, Nuhma, Flemish Energy Holding (VEH), RWE Renewables and EDF Renewables – 325 MW Capacity
9. **Norther (2019):** Elicio/Eneco/Diamond Generating Europe - 370 MW Capacity

Princess Elisabeth Zone

- A – Fairybank - up to 1,400 MW
- B – Noordhinder Noord - up to 1,225 MW
- C – Noordhinder Zuid - up to 700 MW

Current Belgium Wind Farm Zones

The second offshore wind phase

The Belgian government's maritime spatial plan for the period of 2020-2026 established the second offshore wind zone called the "Princess Elisabeth Zone" ("**PEZ**"). The upcoming Maritime Spatial Plan for the period 2026–2034 maintains the delineation of the maritime zones and is expected to be adopted by Royal Decree around mid-2026. The objective of the new MSP is to optimize the eastern zone (the already operational offshore wind energy zone) in the context of repowering, refurbishment and decommissioning, as well as to implement multiple-use spatial planning within this zone. The PEZ is divided into three plots. There is one plot for the development of a 700 MW offshore wind project, and there are two plots for the development of a 1,225 to 1,400 MW offshore wind project each.

The concessions have a term of 40 years (this includes the construction phase, operational phase and decommissioning phase) and will be awarded to the winning bidder pursuant to a competitive tender procedure.

The federal government adopted the Royal Decree of 3 June 2024 on the tendering procedure and criteria of the tender in the Belgian Law Gazette on 1 July 2024.

On 25 November 2024, the tender for the first plot in the PEZ was published, with a target commissioning date for the project of 2029. However, in the course of 2025, the federal government decided to put the tender for the first plot on hold to evaluate and adapt the current tender criteria.

The current timeline for the tendering procedure for the first plot is expected to become clearer in Q1 2026.

When identifying the current PEZ tender criteria, the Belgian federal government was guided by five core principles, which should ensure that the development of the PEZ maximally secures social welfare gains: (i) ensuring the highest possible injection of renewable energy into the Belgian grid, (ii) limiting the risks for investors so that energy can be produced at the lowest possible cost, (iii) having the lowest possible energy price with the possibility of fixed-price Power Purchase Agreements (PPAs), (iv) enabling citizen participation and (v) avoiding windfall profits.

All three tender procedures for the PEZ will be based on the same principles. However, with the first tender put on hold, it remains to be seen whether the principles will be subject to change.

Admissibility criteria

To participate in a tender in the PEZ, a prospective bidder must meet eight admissibility criteria which are set out in detail in the Royal Decree of 3 June 2024, which is now in the process of being amended.

These conditions relate to (i) the possession of technical capabilities; (ii) financial strength and stability; (iii) compliance with technical requirements for the grid connection; (iv) a maximum strike price (the maximum strike price implies that bids with a strike price exceeding this amount will be automatically rejected); (v) a description of the design of the production plant showing that the requested technical and functional specifications will be met and that the minimum installed capacity of 695 MW for plot 1 and 1225 MW for plot 2 and plot 3 will be achieved; (vi) the absence of certain exclusion grounds and (vii) at least 1% of the CAPEX of the project must be allocated to citizen participation.

The citizen participation requirement is subject to ongoing discussion giving rise to the prospect that this criterion may be excluded from the award criteria once the amended set of documents is decided.

Award criteria

The existing award criteria contemplates qualifying bids being assessed based on the following two award criteria: (i) strike price level for 90% of the assessment whereby the bidder with the lowest strike price will get the maximum of 90 points and (ii) the level of citizen participation for 10% of the assessment.

The award criteria are currently subject to an amendment of the Royal Decree of 3 June 2024, however, and (as noted above) the criterion with regard to the level of citizen participation may yet be excluded as an award criterion.

Support schemes

Existing offshore wind projects

For the existing wind farms, the traditional Belgian renewable energy support schemes remain in place and consist essentially of a system of green certificates as well as a cable subsidy. Offshore wind farm operators have three or four revenue streams, namely:

- Revenue from the sale of electricity under a power purchase agreement;
- Revenue from the green certificates. These certificates are issued by the federal regulator at a rate of one certificate per MWh and can be sold to Elia at a guaranteed price. Elia recovers the associated costs through a surcharge on its network tariffs. Unlike certificates awarded to onshore wind farms, there is currently no functional market for certificates granted to offshore wind farms. As a result, Elia effectively serves as the "purchaser of last resort." This mechanism has generally ensured adequate and predictable revenue streams for the projects.
- Revenue from the sale of guarantees of origin; and
- Potentially, revenue from the provision of ancillary services to Elia.

The subsidy level is governed by the rules on the guaranteed certificate price.

For the first four projects (Belwind, Nobelwind, Northwind and C-Power), the price is set directly by law, namely at EUR 107 per MWh for the electricity generated from the first 216 MW of the installed capacity, and EUR 90 per MWh for the electricity generated from additional installed capacity. The minimum price applies for a period of 20 years from commissioning of each installation.

For the five latest "phase 1" projects, the price formula is calculated on the basis of a levelized cost of energy (hereinafter "**LCOE**").

For Rental and Norther, a corrected electricity reference price was implemented. The electricity reference price is "corrected" by factoring in (i) the revenue from guarantees of origin, (ii) the effect of energy losses between production and injection into the transmission grid and (iii) a correction factor (which as a rule equals 0.10 but which the CREG must periodically adapt for each concession, in principle in the light of the PPA selling price). The LCOE for Rentel is EUR 129.8/MWh. For Norther this is EUR 124.00/MWh. However, during certain periods of negative imbalance or day-ahead prices, the certificates price is set at zero. The support term is 19 years from commissioning of each installation.

For Northwester 2, Seastar and Mermaid, the LCOE is EUR 79/MWh. The key novelty for these three projects is a system of monthly prepayments and of *ex post* settlements, which should ensure a more stable revenue stream. The subsidy term is 17 years from commissioning of each installation or 31 December 2037 if this is earlier. The support is also limited to 63,000 full load hours of electricity production at wind farm level. The same rule on zero-pricing of certificates in case of negative imbalance and day-ahead prices applies as for Rentel and Norther.

In addition to the above, existing offshore wind projects have previously received a cable subsidy, whereby Elia funds part of the cable required to connect an offshore wind project to the transmission system. For wind projects C-Power, Belwind, Nobelwind and Northwind, a subsidy of EUR 25 million, spread over five years, was provided for the connection installation between the wind project and the onshore substation. For the other "first phase" wind projects, these were connected to MOG I and the minimum price for the purchase of green certificates was increased by an amount to cover and finance the total cost of the undersea cable.

The initial subsidy scheme for offshore wind farms in Belgium closely resembled a one-sided contract-for-difference ("**CfD**"), which guaranteed operators a fixed price for the energy they injected into the grid. However, during the energy crisis that commenced in 2022, the Belgian federal government amended the subsidy mechanism for the five latest offshore wind farms – Rentel, Norther, Seastar, Mermaid and Northwester 2 – by introducing a two-sided CfD mechanism based on the LCOE for each project.

The changes established different indexation mechanisms depending on the date of the financial close for each wind farm:

- Rentel and Norther (with financial close between 1 May 2016 and 30 June 2018): 30% of the LCOE will be indexed to the consumption price index, but only when this index exceeds 2.19% per year;
- Seastar, Mermaid and Northwester 2 (with financial close after 1 July 2018): the LCOE is indexed in relation to the consumption price index, but the threshold for indexation is when the index exceeds 2% per year.

Under this (revised) system, the operator receives a payment from the TSO if the reference price (market price) is lower than the LCOE. Conversely, if the reference price exceeds the LCOE, the operator is required to make a payment to the TSO.

Unlike the initial one-sided CfD mechanism, which was based on a guaranteed price, the revised two-sided CfD introduces a balancing mechanism in order to avoid windfall profits. Here, the key determinant of payments or contributions is the difference between the reference price and the LCOE.

In summary, the amendment of the support mechanism shifts the financial relationship between operators and the TSO, making it dependent on market conditions (reference price vs. LCOE) and incorporating a balancing component where operators may both receive payments or make payments, depending on how the market compares to the LCOE.

PEZ offshore wind projects

For the PEZ projects, two-sided CfD support mechanism will be applied. The support mechanism contemplates that the concession holder receives additional compensation from the Belgian State if the market price is below a certain strike price, but it also entails a payment obligation for the concession holder in case of energy prices which exceed the strike price (thereby avoiding excessive windfall profits). All revenues in excess of the strike price will then have to be transferred to the Belgian State.

The compensation amount is determined monthly, based on the difference between the strike price offered by the concession holder and the electricity reference price (which is multiplied with a correction factor). A positive compensation amount thus results in a payment from the Belgian State to the concession holder and a negative compensation amount in a payment from the concession holder to the Belgian State.

The total government support under the mechanism is capped at a maximum volume of electricity corresponding to 80,000 full-load hours of production by all installations in the concession area, within the 20-year subsidy period starting from the project's commissioning date.

There are two indexation possibilities for the strike price. A one-time indexation of 100% of the strike price based on interest rates and raw materials as at the point at which the project reaches financial close or, at the latest, one year after the award of the domain concession and an annual indexation of a portion of 30% of the strike price corresponding to the operation and maintenance of the project based on the consumption price index.

In addition, a carve-out or opt-out can be applied for a long-term PPA. In a period of three years after the final installation of the wind farm, the concession holder will be allowed to carve out up to 50% of the total electricity production from the two-sided CfD mechanism, provided this portion of the electricity production is contracted through a PPA with a fixed price that does not exceed the strike price with more than EUR 3/MWh (subject to the same partial indexation as under the CfD regime).

Any other ancillary services, such as guarantees of origin and balancing costs, can be agreed separately subject to a market-based price and to be assessed by the authorities. An additional 25% of the electricity produced can be carved out for "pay as produced" PPAs with citizens and SMEs, local authorities, including municipalities, educational institutions and associations subject to application of the conditions for direct citizen participation and other conditions. A one-time opt-in in the two-sided CfD can be applied in the event such PPA is terminated before the end of the subsidy scheme.

In view of the forthcoming amendments to the Royal Decree on the tender procedure and the potential new notification of state aid to the European Commission, it remains reasonable to expect that the fundamental principles outlined above regarding the two-sided CfD mechanism will continue to apply to the new tender, which is yet to be launched.

(Inter)connecting the new offshore wind farms

Elia is working on the necessary reinforcement of both the offshore and onshore grids to ensure that increasing volumes of electricity generated offshore can be transported efficiently and can be injected into the onshore grid without (structural) congestion.

The PEZ projects will be connected to the onshore transmission grid via a second Modular Offshore Grid ("**MOG II**"), which will be realized by the construction of the Princess Elisabeth Island. The commissioning of the Princess Elisabeth Island is expected in the course of 2028, with the PEZ's first wind projects to be operational soon after (as noted above).

The Princess Elisabeth Island is set to become a "power hub" in the North Sea and will facilitate the transmission of electricity from offshore wind farms to Belgium.

The intention is also to connect the Princess Elisabeth Island with other countries, such as the United Kingdom, Norway and Denmark. At present, studies are still being conducted on the financial feasibility of (hybrid) interconnectors with Norway and Denmark. The hybrid interconnector with the United Kingdom, however, is more concretely on the agenda, making its realization more certain. It is seen as one of the flagship projects of the previous federal government's energy policy: 12 hectares of new Belgian territory off the coast, constructed by renowned Belgian dredging giants Deme and De Nul.

Recent controversy has, however, emerged in the media and political sphere regarding the cost increase of MOG II and whether this additional cost will be passed on to end-customers through Elia's grid charges. Despite this debate, MOG II is still expected to serve as the infrastructure for connecting the PEZ wind farms.

Elia is, however, considering postponing the next phase in the construction of the Princess Elisabeth Island (the construction of the direct current infrastructure), which accounts for approximately 40% of the island's planned capacity and which would be the final and most expensive phase. Alternative scenarios are also currently being explored, including potentially delaying the development of direct current infrastructure. However, Elia has emphasized that other construction plans for the Princess Elisabeth Island are not affected – the alternating current infrastructure, which will transmit electricity from the first two offshore wind farms to the Princess Elisabeth Island, remains unchanged (the relevant contracts relating thereto, accounting for about 60% of the island's total capacity, have already been approved, and construction is underway).

No further update is available as at the date of publication of this Report.

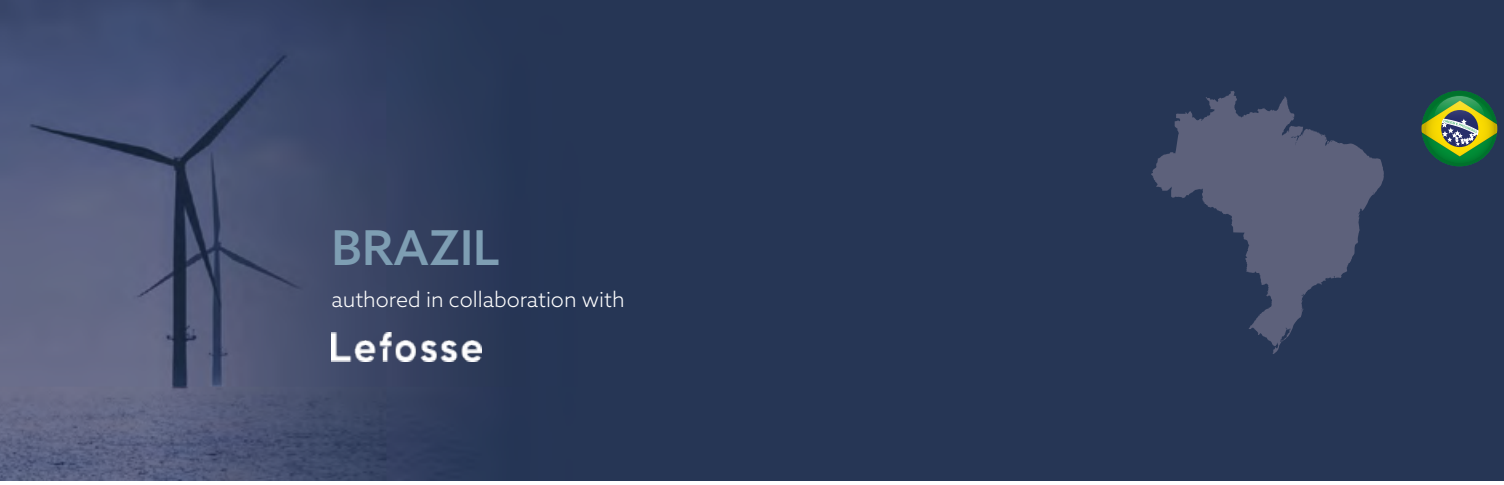
In order to accommodate the future inflow of offshore generated electricity, not only MOG II is of importance. The onshore grid will also have to be reinforced. Elia plans to achieve this principally by means of the Ventilus and Boucle-du-Hainaut projects. Ventilus is located on Flemish territory and is therefore subject to Flemish regional planning and permits decisions, whereas Boucle-du-Hainaut is located in the Walloon region and is therefore subject to Walloon regional planning and permit decisions.

Conclusion

Belgium is a country with long-standing energy production from offshore wind, as seen by its completion of the first offshore wind phase. The federal government fully supports the further roll out of offshore wind.

The "second offshore wind phase" promises continued levels of power generation, with a tender process that has adapted to the new reality of offshore wind tender processes.

Belgium's ambitious timeline for the realization of the PEZ projects will be highly dependent upon the implementation of necessary grid reinforcements (both MOG 2 and onshore, as noted above). Such reinforcements are therefore crucial to ensuring that Belgium's "second offshore wind phase" is as successful as the first.



BRAZIL

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Brazilian offshore market

With almost 7,500 km of coastline and rich offshore wind resources, Brazil is set to pioneer the development of offshore wind in Latin America. Over the past year, the Brazilian offshore wind market has continued to pick up momentum, including taking the progressing establishment of a clear regulatory framework with the publication of a legal framework regulating the granting of seabed rights for offshore wind power generation projects.

Big potential – potential for 700 GW?

According to some officials and members of the current Brazilian government, Brazil has the potential to build up to 700 GW of offshore wind capacity. Brazil's potential for offshore wind development is based on the length of its coastline, the depth of waters available and the strength of the winds that blow off its coastline, especially in waters adjacent to Brazil's northeast states. Even though offshore wind electricity generation is not expected to effectively start until 2028, the current projects under review have already positioned Brazil among the world's leading powers in the sector.

Although the offshore wind installation capex is not yet as competitive as other consolidated power generation sources in Brazil (such as onshore wind and solar), as the offshore industry and technologies evolve and become more mature, it is expected that such capex costs will drop, as seen in other offshore wind markets. In this regard, observations from other, more mature, offshore wind markets demonstrate that incentives (including subsidies and tax credits) and macro support programs will be key for Brazil's offshore wind market to be successful.

A legislative and regulatory journey that has finally begun

On 25 January 2022, the Brazilian government published the initial guidelines for offshore power generation—namely, Federal Decree No. 10.946/2022 (the "**Federal Decree**")—known as the Regulatory Framework for Offshore Energy. This long-awaited framework was a key first step for facilitating an investment boost that will hopefully meet the country's ambitions regarding offshore wind power.

The Federal Decree created a landmark piece of legislation in Brazil, through prescribing the conditions for the leasing of seabed in inland waters, territorial seas and on the continental shelf for offshore power generation projects. The Federal Decree took effect on 15 June 2022.

Subsequently, on 20 October 2022, the Ministry of Mines and Energy (the "**MME**") published two ordinances to regulate the provisions of the aforementioned Decree: (i) The Ordinance No. 52/GN/MME (Ordinance No. 52); and (ii) The Ordinance No. 3/MME/MMA (Ordinance No. 3). This regulatory initiative has been well received by market players. In an offshore wind market that is still taking its initial steps, visibility and clarity from a regulatory standpoint are key to enabling and fostering investment.

Since the publication of the Federal Decree, various developers and investors have announced their plans for several GW-scale offshore wind farms in Brazil.

Based on information disclosed by the Brazilian Institute of Environment and Renewable Natural Resources ("**IBAMA**"), as of March 2025, the list of offshore wind power projects undergoing environmental licensing includes 104 projects, totaling roughly 247 GW of capacity.

Approval of a legal framework for offshore wind

The Federal Decree and the Ordinances, although well received, did not attain the status of a law.

In this context, it is worth mentioning that, simultaneously with the issuance of the aforementioned regulations, the National Congress was discussing Bill of Law No. 576/2021 ("**PL 576**"), which also aimed at offshore energy resources.

In 2022, as PL 576 was still navigating the lengthy legislative process within the National Congress, the former administration introduced the Federal Decree and Ordinances No. 52 and No. 03, aiming to expedite the creation of a Brazilian offshore regulatory framework.

Thus, up until recently, offshore wind power regulation was progressing on two fronts: (i) by means of sublegal instruments (such as the Federal Decree and the Ordinances No. 52 and No. 03) and (ii) through the Brazilian National Congress, by means of PL. 576/2021.

This situation persisted until January 2025, when PL 576 was finally signed by Brazilian President Luiz Inacio Lula da Silva and enacted into Law No.15,097, of 10 January 2025 ("**Law 15,097**").

Law 15,097 points that are worth noting

- Akin to the Federal Decree, Law 15,097 also addresses the assignment of offshore spaces, including inland waters under federal jurisdiction, the territorial sea, the exclusive economic zone and the continental shelf).
- Law 15,097 provides for two types of Seabed Rights Assignment Procedures, with two different legal regimes (authorization or concession):
  a. The permanent offer: the granting authority designates zones for use based on the requests from project developers, and the seabed rights will be granted through an authorization; and
  b. The planned offer: the granting authority provides pre- defined energy prisms in accordance with the government's spatial planning, through a bidding procedure (thus, the seabed rights will be granted to the winner through a concession agreement).
- Without prejudice to other criteria defined in the bidding notice, Law 15,097 establishes that the winner will be defined according to the highest value offered as governmental participation.
- According to Law 15,097, governmental participation comprises the payment of (i) a signature bonus (payment offered for the grant, set out in the respective bidding notice and grant); (ii) an area occupancy fee, calculated in Brazilian reals per square kilometer (BRL/km^2), payable annually; and (iii) a proportional participation, which shall be paid monthly, according to the percentage to be established in the bidding notice of the energy effectively generated and traded relative to each energy.

It is worth noting that the draft of Law 15,097, as approved by the Senate, contained several "jabutis" (*i.e.*, provisions that are not related to the main subject of the text and that marked the text during its legislative process), which provided for obligations to contract energy in fixed amounts or tax incentives that could result in an increase in electricity tariffs, as well as the contracting of coal-fired thermoelectric plants, natural gas and small hydroelectric plants ("**SHPs**") These provisions were vetoed by President Lula when signing Law 15,097.

Though the suppression of the "jabutis" was well received by the market, these vetoes were partially overturned in June 2025 while four vetoes are still pending review by the Brazilian Congress.

Power Purchase Agreements

In Brazil, Power Purchase Agreements ("**PPAs**") can either be entered into as a result of: (i) generators bidding into an auction in the regulated market with the lowest bidders winning the offtake capacity (in this case the PPA is a standard form agreement and the buyer is any distributor or a party accredited in the auction to buy energy); or (ii) wholesale energy trading in the free market (in this case, the PPA is not a standard form agreement but rather an agreement that follows certain rules prescribed in legislation).

For auction-based PPAs, one of the main challenges to offshore wind projects in Brazil is that the power which is generated from an offshore wind project in Brazil would be more expensive than the energy generated by other renewable energy projects (*e.g.*, solar).

As such, offshore wind projects would currently lose out in the power auctions mentioned above (as cheaper sources of renewable power are available).

On the bright side, however, Law 15,097 provides for the possibility of specific energy auctions for offshore projects, at the government's discretion—the Brazilian government has not yet disclosed whether and when such auctions will occur.

What's next?

The MME is pushing forward with the necessary technical discussions to regulate and complement Law 15,097 in order to implement the Seabed Assignment Procedures and effectively promote the development of the Brazilian offshore potential.

On 11 July 2025, MME launched a public consultation on a proposed methodology to select areas for offshore wind generation in Brazil. The consultation sought input from stakeholders on criteria and procedures for identifying, prioritizing, and allocating maritime zones suitable for development.

The final regulation continues to depend on the analysis of the contributions by a working group established by the MME dedicated to offshore wind regulation. The group's findings are expected to be published before September 2026 and will inform the technical parameters and institutional arrangements that underpin area selection and subsequent licensing steps.

Green hydrogen in Brazil – a USD 200 billion investment opportunity over the next 20 years

Brazil has the opportunity to become one of the world leaders in the production of green hydrogen. The total opportunity will amount to USD 15–20 billion in revenue by 2040, with the majority (USD 10–12 billion) of such green hydrogen being used to serve the domestic market, especially trucking, steel production and other energy-intensive industries. Another USD 4–6 billion could come from exports of green hydrogen-derivatives, such as ammonia, to the United States and Europe, as the landed costs of Brazilian green hydrogen would be competitive compared to exports from other countries.[1]

In 2022, the Brazilian government took initial steps towards the development of its hydrogen market and industry, by creating the Brazilian Hydrogen Program (the "**PNH2**") to develop studies, produce technical reports and provide relevant strategic insights to the consolidation of a competitive hydrogen market in the country.

In 2024, the National Congress enacted the long-awaited Law No. 14,948, of 2 August 2024, known as the Low Carbon Hydrogen Legal Framework ("**Low Carbon Hydrogen Law**").

The new rules focus on promoting the low-carbon hydrogen industry in Brazil, and stimulating actions focused on research and development of new technologies.

According to the MME, the green hydrogen projects already registered total R$ 212 billion in investments, mostly in the Northeast region.

1. Source: article published by McKinsey & Company on 25 November 2021.

Low Carbon Hydrogen Law points that are worth noting

- The Low Carbon Hydrogen Law lays the foundations for structuring the National Low Carbon Hydrogen Policy (the "**Policy**"), which aims to promote the development of the low carbon hydrogen industry and enhance its role as a driver for the energy transition. The Policy includes instruments such as the PNH2, the creation of the Low Carbon Hydrogen Development Program ("**PHBC**") and the Brazilian Hydrogen Certification System ("**SBCH2**"). These measures should contribute to the definition of efficient public policies and boost the long-term development of the industry.
- The Low Carbon Hydrogen Law adopted the principle of technological neutrality and did not restrict any production route, in line with the objective of encouraging the various low carbon hydrogen production methodologies and valuing the multiple alternatives that exist in the country.
- The Low Carbon Hydrogen Law also established tax incentives by creating the Special Incentive Regime for Low Carbon Hydrogen Production ("**REHIDRO**"). Companies benefiting from REHIDRO will be able to take advantage of the suspension of PIS/Cofins and PIS/Cofins-Import on local purchases and imports of new machinery, apparatus, instruments and equipment, as well as construction materials and services for use or incorporation in infrastructure works associated with hydrogen projects. The incentives will be valid for five years, starting on 1 January 2025.

MME is expected to publish a decree soon to operationalize PNH2, PHBC and REHIDRO, providing clear rules, legal certainty and predictability to investors in Brazil's hydrogen industry.

Conclusion

Throughout 2024, the Brazilian government took significant strides to advance its offshore energy and hydrogen markets. In 2025, Brazil advanced its offshore wind and hydrogen agendas, by consolidating this effort through structured stakeholder engagement, laying the groundwork for new regulatory frameworks. As we enter 2026, the Brazilian government is expected to intensify its commitment to develop and consolidate its legal and regulatory framework while promoting investment to key projects.

Such framework is pivotal for a sustainable energy future and for combating climate change. It attracts investments while ensuring environmental and safety standards and facilitating the integration of clean energy into the broader energy system.

To achieve this, Brazil must focus on immediate actions, including the ongoing development of regulatory frameworks and the establishment of long-term domestic and international demand to secure project funding.

Specifically for the offshore wind framework, further implementing the infralegal framework will be crucial to provide the industry with the legal certainty, clarity and guidance needed to attract stakeholders and investors.

In parallel, regulating the Low Carbon Hydrogen Law and developing a green hydrogen industry will require a collaborative effort—from both the private and public sectors, in order to establish and consolidate a competitive hydrogen market.

By nurturing such a robust regulatory framework and fostering meaningful dialogues, the Brazilian government can craft a comprehensive national long-term strategy. This strategy will not only secure Brazil's position as a global leader in sustainable offshore energy and green hydrogen technologies but also contribute significantly to a cleaner and greener future.

1. Source: article published by McKinsey & Company on 25 November 2021.

CANADA

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Introduction

Canada has the longest coastline in the world. Coupled with consistently high wind speeds, leadership in renewable energy and strong government support, there is enormous potential for Canada to break into the offshore wind market. Although the country currently has no installed or operational offshore wind projects, the Government of Canada has developed new regulations and incentives intended to stimulate the sector, and proponents are developing proposals. These developments are consistent with the Government of Canada's overall commitment to green energy and focus on rapidly building major projects.

To date, Canada has been a significant player in onshore wind energy, generating over 18 GW across all ten of Canada's provinces and representing 6% of Canada's electricity generation.[1] In the development of offshore capacity, the Province of Nova Scotia is leading the charge by setting a target to permit 5 GW of offshore wind power by 2030 and administering the country's first competitive licensing process for offshore wind. Further potential exists on both Canada's Atlantic and Pacific coastlines, influenced by proximity to existing or future port, transmission and hydrogen production capacity.

While a late entrant to the offshore wind market, Canada has recently gained the regulatory frameworks, financial schemes and industry enthusiasm necessary to set its first projects in motion.

Federal and provincial regulation

Federally regulated areas

The Canada Energy Regulator is the primary life cycle regulator for offshore renewable energy projects in Canada, including wind, wave and tidal energy production, except for areas that are jointly regulated with provincial governments or projects entirely within provincial jurisdiction.[2] In December 2024, the new *Canada Offshore Renewable Energy Regulations* came into force establishing comprehensive safety, security and environmental protection requirements for offshore renewable energy projects and offshore power lines in Canada's federally regulated offshore areas.[3] These regulations cover the entire lifecycle of an offshore wind project, including site selection and planning, design, fabrication and construction, operations and maintenance, and decommissioning and abandonment. In some instances, they also cover the reliability of electricity grids to which the offshore wind project is connected.

A separate federal government body, Public Services and Procurement Canada, administers the licenses for the use of federal submerged lands for offshore renewable energy development.[4] However, the Government of Canada is contemplating transferring this authority to Natural Resources Canada for a more streamlined process.[5]

Another federal government body, the Impact Assessment Agency of Canada, must provide approval for new offshore renewable energy projects with 10 or more turbines and other designated projects.[6] If a project is required, a joint review process will be administered to ensure the project meets the requirements of both the *Canadian Energy Regulator Act* and the *Impact Assessment Act*. This review covers a proposed project's environmental, social and economic impacts, focusing on significant adverse effects within federal jurisdiction, impacts on Indigenous Peoples and rights, sustainability contributions and mitigation measures.

1. "Renewable Energy in Canada: Current Status and Near-Term Developments in Canada" Canada Energy Regulator (2025): https://www.cer-rec.gc.ca/en/data-analysis/energy-commodities/electricity/report/canadas-renewable-power/provinces/renewable-power-canada-canada.html.
2. *Canadian Energy Regulator Act* (S.C. 2019, c. 28, s. 10) at Part 5: Offshore Renewable Energy Projects and Offshore Power Lines.
3. *Canada Offshore Renewable Energy Regulations*: SOR/2024-272, Canada Gazette, Part II, Volume 159, Number 1 (16 December 2024).
4. *Federal Real Properties and Federal Immovables Act* (S.C. 1991, c. 50).
5. *Discussion Paper: Canada's Approach to Offshore Renewable Energy Regulations*, Natural Resources Canada (2022): https://natural-resources.canada.ca/sites/nrcan/files/public-consultation/orer-paper-accessible-pdf-fip-wm-en.pdf; *Impact Evaluation of the Renewable Energy Deployment Program*, Natural Resources Canada (30 December 2020): https://natural-resources.canada.ca/corporate/planning-reporting/audit-evaluation/impact-evaluation-renewable-energy-deployment-red-program.
6. *Impact Assessment Act* (SC 2019, C. 28, s. 1); *Physical Activities Regulations*: SOR/2019-285, Canada Gazette Part II, Volume 153, Number 17 at s. 44-45 (8 August 2019).

Jointly regulated areas

Following a jurisdictional dispute in the 1980s between the federal and provincial governments over the ownership of offshore petroleum resources in the Atlantic Ocean, the governments agreed to jointly manage and share the revenues associated with two offshore areas: the area offshore of the Province of Nova Scotia and the area offshore of the Province of Newfoundland and Labrador. Since 1986, the petroleum resources in these two areas have been subject to legislation and regulatory bodies that are co-managed by the federal and provincial governments.

In October 2024, the Government of Canada passed Bill C-49 to modernize and expand the mandates of the two Atlantic offshore energy regulators beyond petroleum to include renewable energy, and the two provinces enacted corresponding implementing legislation.[7] The Canada-Nova Scotia Offshore Energy Regulator and the Canada-Newfoundland and Labrador Offshore Energy Regulator are now the primary life cycle regulators for offshore renewable energy projects in the two jointly regulated areas. Offshore wind projects off the coasts of Nova Scotia or Newfoundland and Labrador must therefore meet distinct safety, security and environmental protection requirements.

These two Atlantic regulators are responsible for issuing submerged land licenses for offshore wind development in those areas, as they did previously for petroleum exploration. However, unlike petroleum exploration licenses that grant the right to explore and drill for a limited period, offshore wind submerged land licenses are longer term (35+ years) and generally last for the project's entire lifespan from construction to decommissioning. A submerged land license is a specific legal instrument that grants a developer the exclusive property right to use a portion of the seabed for its project. Importantly, a submerged land license does not grant the holder the right to construct and develop over the licensed area, but it does convey the exclusive right to apply for the necessary construction and environmental approvals without fear of a competitor claiming the same site.

The Government of Canada made a similar agreement with the Province of Quebec for the joint management of offshore resources in the Gulf of St. Lawrence, which was adopted in 2011 to provide revenue-sharing of oil and gas activities. Like the Atlantic regime, this agreement with Quebec could be similarly expanded for the purpose of jointly regulating offshore renewable energy projects.[8]

In the jointly regulated offshore areas, each new offshore renewable energy project with 10 or more turbines, or other designated projects, requires approval by the Impact Assessment Agency of Canada. In January 2025, the Agency and provinces finalized generic regional assessment reports on offshore wind development in Nova Scotia and Newfoundland and Labrador, respectively.[9] These reports are intended to anticipate impacts of potential offshore wind projects in those regions, address gaps in science and data, and suggest mitigation measures to improve the efficiency of project-specific reviews when they arise.

Provincially regulated areas

For wind projects on inland waters, such as inland seas and freshwater lakes, provincial governments are primarily responsible for offshore renewable energy projects, although in some cases federal regulations also apply. To date, there has been very limited activity in the sector. For example, despite considerable interest, and at least one major project at an advanced stage, the Province of Ontario imposed a moratorium on offshore wind projects in the Great Lakes in 2011, citing the need for more environmental studies and research.[10] There have been no signals since that the province has changed its position.

The Province of British Columbia, which has a long seacoast, has the jurisdiction to regulate offshore renewable energy projects where the province holds the seabed title, such as certain areas between Vancouver Island, Haida Gwaii and the mainland. However, the province does not currently have a policy framework to guide decisions on ocean-based renewable energy.[11] In July 2025, British Columbia brought a new *Renewable Energy Projects Act* into force to simplify approvals that would apply to offshore wind projects.[12]

For projects proposed in inland seas or lakes, federal approvals may still be required if a provincial, territorial or international border is crossed, or due to impacts on fisheries, at-risk species, waters navigable by vessels and migratory birds.

Environmental permits and conditions

In addition to regulatory approvals, there are several subject-specific federal environmental permits that may be required for an offshore wind project to proceed. These include authorizations under the *Fisheries Act*, *Species at Risk Act*, *Canadian Navigable Waters Act*, *Migratory Birds Convention Act*, in addition to conditions imposed on approvals made by the life cycle energy regulators or following an impact assessment. Provincial environmental assessments, utility licenses and other permits may also be required, depending on the project's location, features and grid connections. In many cases, these environmental permits and conditions will require the regular collection of data as well as ongoing monitoring and reporting to the relevant government department.

Indigenous consultation

In Canada, federal and provincial governments have a constitutionally mandated legal duty to consult and, where appropriate, accommodate Indigenous Peoples whose rights may be impacted by a proposed project. The process requires meaningful, two-way dialogue with Indigenous Peoples potentially impacted by development, aiming to address their concerns and, where appropriate provide accommodation. Governments often delegate to proponents some aspects of this process.

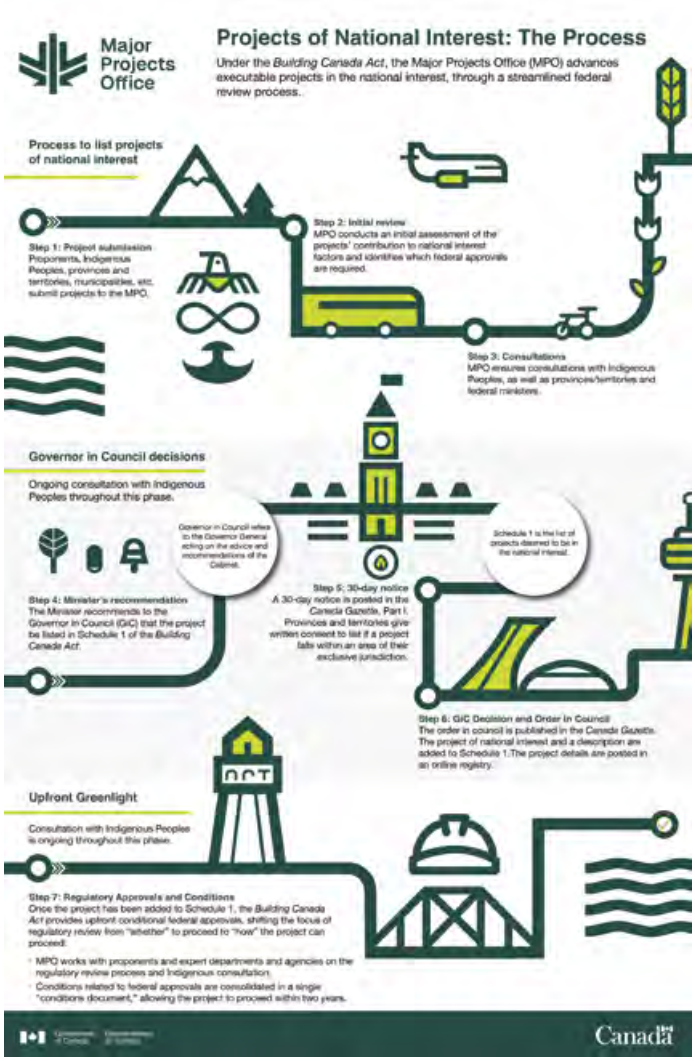
7. Bill C-49, *An Act to amend the Canada—Newfoundland and Labrador Atlantic Accord Implementation Act and the Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act and to make consequential amendments to other Acts* (3 October 2024); *Bill 471, Advancing Nova Scotia Opportunities Act, SNS 2024, c 5 (20 September 2024); Bill 90, Canada–Newfoundland and Labrador Atlantic Accord Implementation (Amendment) Act*, SNL 2025 (March 2025).
8. Canada-Quebec Accord (24 March 2011). We are not aware of any active discussions in that regard.
9. Regional Assessment of Offshore Wind Development in Nova Scotia, Impact Assessment Agency of Canada (23 January 2025): https://iaac-aeic.gc.ca/050/documents/p83514/160595E.pdf; Regional Assessment of Offshore Wind Development in Newfoundland and Labrador, Impact Assessment Agency of Canada (23 January 2025): https://iaac-aeic.gc.ca/050/documents/p84343/160594E.pdf;
10. Ontario Rules Out Offshore Wind Projects, Province of Ontario Newsroom (11 February 2011): https://news.ontario.ca/en/release/16973/ontario-rules-out-offshore-wind-projects.
11. A Coastal Marine Strategy for British Columbia, Policy Intentions Paper (December 2022): https://engage.gov.bc.ca/app/uploads/sites/121/2022/12/Coastal-Marine-Strategy-Intentions-Paper.pdf.
12. *Renewable Energy Projects (Streamlined Permitting) Act*, SBC 2025, c 12 (British Columbia).

To obtain and maintain regulatory approvals, as well as avoid legal disputes, project proponents are typically required to engage meaningfully with local Indigenous groups early in the project development process. As part of these regimes or on a voluntary basis, project proponents often also consider opportunities for accommodation, benefit-sharing or business partnerships with Indigenous Peoples, which may align interests and expedite obtaining approvals.

Fast-tracking initiatives

In August 2025, the Government of Canada launched a new Major Projects Office aimed at accelerating nationally significant projects by streamlining federal approvals, coordinating financing and acting as a single point of contact for proponents, governments and Indigenous Peoples. The federal government has since begun referring individual projects to the office and tasking it with developing transformative strategies for energy, resource and infrastructure development.[13] Among those strategies is "Wind West Atlantic Energy," an initiative to harness wind power in offshore Nova Scotia, as well as develop further hydropower and transmission lines across Atlantic Canada with an estimated capital cost of approximately CAD$60 billion. With the Major Project Office's help, offshore wind projects in Atlantic Canada are expected to undergo expedited approval processes and government support to reach commercial viability.

Also in 2025, the Government of Canada passed the *Building Canada Act*, which not only established the Major Projects Office, but also allows the federal government to designate projects as being in the national interest to fast-track, or in some cases bypass, federal approvals and permits. To date, no project has been designated under the *Building Canada Act*; however, such regulatory streamlining initiatives are sending a positive signal to investors in energy projects across Canada.



Designated areas and proposed projects

Offshore Nova Scotia

Informed by the regional assessment report completed in January 2025, Canada and Nova Scotia conducted an extensive consultation and designated four Wind Energy Areas in offshore Nova Scotia in July 2025: French Bank, Middle Bank, Sable Island Bank and Sydney Bright.[14] These designations narrow the geography for the Canada-Nova Scotia Offshore Energy Regulator's first call for bids and will help determine parcel configurations for licensing.

On 18 September 2025, the responsible federal and provincial ministers, supported by Natural Resources Canada and Nova Scotia Energy, gave joint direction for the Canada-Nova Scotia Offshore Energy Regulator to commence the land tenure process.[15]

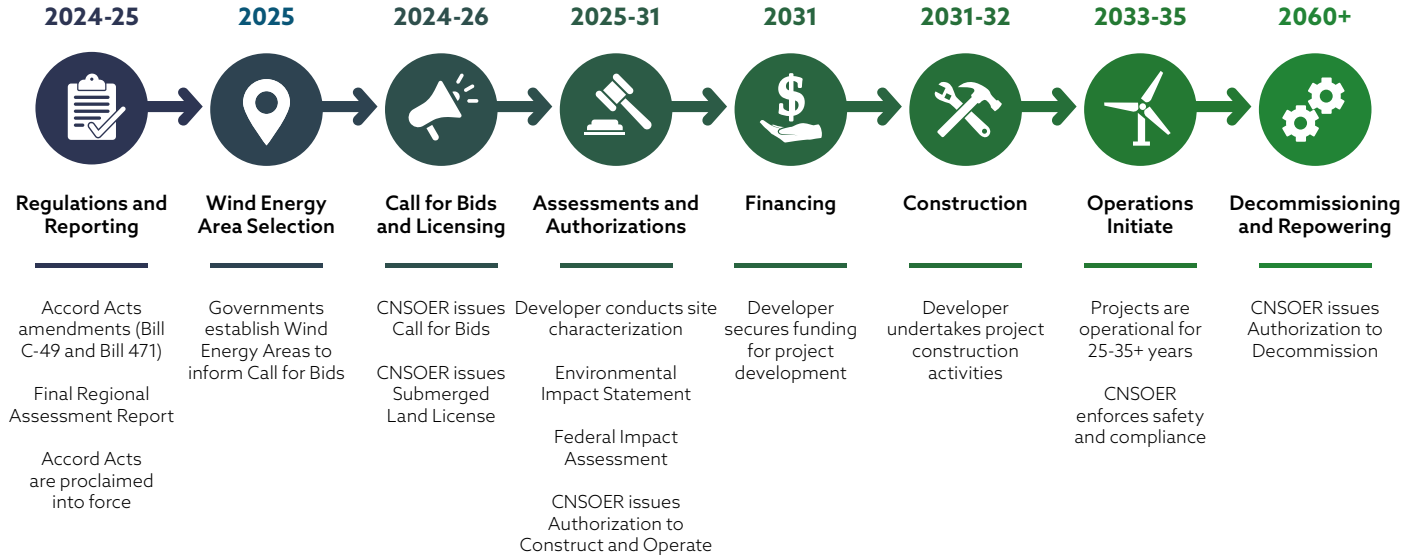
This included direction on how parcels for offshore wind projects should be formed in each of the Wind Energy Areas:

- For Sydney Bright, at least one parcel should be identified, in an area suitable for fixed-bottom offshore wind development, that is large enough to accommodate a project with a generating capacity up to 500 MW;
- For Middle Bank, at least two parcels should be identified with each parcel being large enough to accommodate projects with generating capacities of up to 1,000 MW;
- For French Bank, at least one parcel should be identified, in an area suitable for floating offshore wind development, that is large enough to accommodate a project with a generating capacity of up to 500 MW;
- For Sable Island Bank, there is no minimum number of parcels required and the governments recommend considering this area in subsequent land tenure process.

13. Prime Minister Carney announces first projects to be reviewed by the Major Projects Office, Office of the Prime Minister of Canada Newsroom (September 11, 2025): https://www.pm.gc.ca/en/news/news-releases/2025/09/11/prime-minister-carney-announces-first-projects-be-reviewed-new.
14. Nova Scotia Offshore Wind Roadmap, Government of Nova Scotia (July 2025): https://novascotia.ca/offshore-wind/docs/offshore-wind-roadmap-module-3.pdf.
15. Letter to the Canada-Nova Scotia Offshore Energy Regulator, Natural Resources Canada and Nova Scotia Energy (September 18, 2025): https://cdn.cnsoer.ca/sites/default/files/2025-09/Offshore%20Wind%20Strategic%20Direction%20Letter%20-%20Sept%2018%202025.pdf.

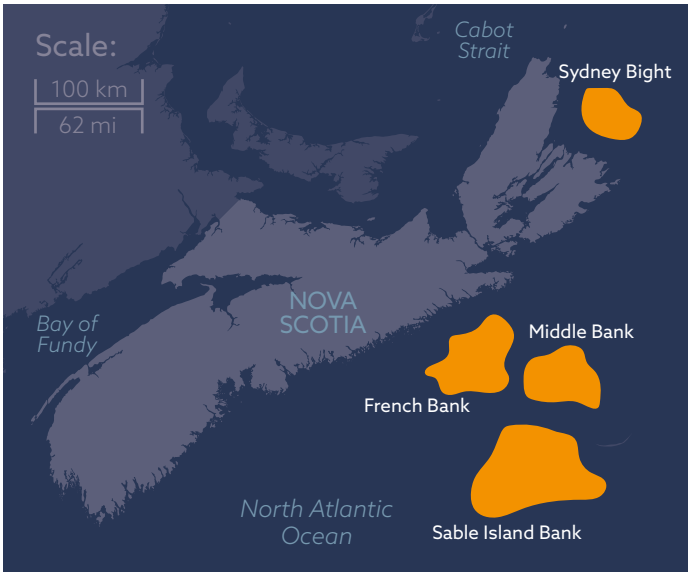
Approximate timeline for offshore wind development in Nova Scotia

Final Report for the Regional Assessment of Offshore Wind Development, January 2025



Additionally, the direction set out preliminary information regarding licensing fees, namely that (i) a fixed annual rental fee will be required based on the spatial area of submerged land license of approximately CAD$1,500 CAD per km^2 per year; and (ii) a levy will also be required based on the nameplate capacity and/or percentage of gross revenue once the project starts producing electricity.

Map 5: Canada's offshore wind energy areas



On 16 October 2025, Canada-Nova Scotia Offshore Energy Regulator commenced its first Call for Information and Prequalification processes, both of which were open until 13 January 2026. During this time, the Regulator engaged with stakeholders, fishers, and Indigenous groups on the locations of potential parcels within the Wind Energy Areas and the proposed criteria and assessment approach for the "Call for Bids". At the same time, the Regulator is working to identify eligible companies to "prequalify", meaning they can participate in the upcoming "Call for Bids".

In 2026, submerged land licenses are expected to receive ministerial approval before being issued to the successful bidders. The ministers' decisions are made based on the Regulator's recommendations and will be made public. Once licenses are issued, project proponents can proceed with seeking authorizations to construct and operate, an impact assessment decision and other environmental permits, which according to the regional assessment for Nova Scotia is expected to take approximately five years.[16] Assuming financing is secured and construction of the first turbines takes place in the early 2030s, Nova Scotia's offshore could see operational turbines by 2033, with projects expected to be operational for 25-35+ years.

Offshore Newfoundland and Labrador

Following the regional assessment completed in January 2025, the Canada-Newfoundland and Labrador Offshore Energy Regulator has not yet designated any Wind Energy Areas, determined parcel configurations, or opened a call for bids. At this stage, a "focus area" has been identified where future offshore wind development activities may be technically and economically feasible, based on current and foreseeable technologies, and where the development of 10 turbines or more is likely in the foreseeable future.[17] Public and Indigenous consultations regarding designated areas for offshore wind in Newfoundland and Labrador are ongoing.

16. Regional Assessment of Offshore Wind Development in Nova Scotia, Impact Assessment Agency of Canada (January 23, 2025): https://iaac-aeic.gc.ca/050/documents/p83514/160595E.pdf.
17. Regional Assessment of Offshore Wind Development in Newfoundland and Labrador, Impact Assessment Agency of Canada (January 23, 2025): https://iaac-aeic.gc.ca/050/documents/p84343/160594E.pdf.

Offshore British Columbia

Although British Columbia has vast offshore wind potential, particularly along the north coast where the seabed is flat and the winds are strong, no regional assessment on offshore wind development has been prepared and no designated areas have been established. Projects are nonetheless being proposed, such as:

- NaiKun Offshore Wind, a 396 MW offshore wind energy project located in the Hecate Strait off the eastern coast of Haida Gwaii and connecting to a mainland grid near Prince Rupert. This project received a provincial environmental assessment certificate in 2019 that is now expired; however, renewed investment interest may bring this project back to life.
- Oceanic Wind, also to be located in the Hecate Strait, is a partnership with the Coast Tsimshian Enterprises for a 600 MW wind farm that has obtained a provincial investigative use license.
- Allan Array Floating Wind Farm, proposed for Queen Charlotte Sound, with potential for 10 GW of fixed-bottom and 7 GW of floating offshore wind capacity for global export. This project is currently under development by Enterprise Renewables and obtained a provincial investigative use license.

Financing offshore wind in Canada

Recent years have seen a significant increase in government financing for green energy development in Canada, improving the overall capital stack for investors in offshore wind. These incentives include:

- a series of clean economy investment tax credits injecting tens of billions into Canada's economy over the next decade, with eligibility in the areas of clean technology, hydrogen and electricity, among others;
- over CAD$4 billion to support electricity grid modernization, energy storage and renewable energy projects in a program expected to terminate in 2036;
- over CAD$10 billion in innovative financing support for clean energy projects through the Canada Infrastructure Bank;
- a national industrial carbon pricing regime intended to make low-carbon electricity more competitive for heavy industry;
- a modest Offshore Wind Predevelopment Program to support marine data collection efforts and the engagement of Indigenous and coastal communities in offshore wind development, particularly off the coasts of Nova Scotia and Newfoundland and Labrador;
- a modest Participant Funding Program providing financial assistance to Indigenous groups and rights holders, the fishing sector, the public and other stakeholders to support participation in the call for bids process in Nova Scotia.

Beyond government financing, the market for offshore wind project financing in Canada shows promise and is dominated by private renewable energy developers and joint ventures, in some cases backed by institutional investors and asset managers. Given the potential impacts of these projects on Indigenous communities, there may also be opportunities for Indigenous equity and other partnerships.

The primary challenge for investors in Canadian offshore wind is uncertainty regarding finding an appropriate offtake partner. To the extent that offtake partners can be found, corporate power purchase agreements are becoming more commonplace in Canada as the market for renewable energy projects grow and provincial governments legislate their inclusion in their electricity regimes. Although the Province of Alberta has dominated in the use of CPPAs due to its deregulated electricity market, other provinces like Ontario and Nova Scotia have recently adopted regulations to explicitly include of power purchase agreements in their electricity procurement frameworks.

Building offshore wind projects in Canada is expensive. Unlike other jurisdictions with well-developed offshore wind supply chains and more proximate infrastructure, projects in Canada must spend considerable amounts sourcing materials and connecting to distribution ports and transmission lines. Long distances to existing electricity grids and limited high-voltage transmission capacity in more remote parts of the country make that infrastructure investment more challenging. Despite these challenges, Canada will benefit from global supply chains expanding and the cost of floating platforms and turbines steadily declining as the technology scales.

Conclusion

While a late entrant to the global offshore market, Canada's offshore wind sector is poised for rapid and sustainable growth. The country's deep expertise in renewables combined with emerging investor enthusiasm are perfectly timed with the rise of government incentives and regulatory reform. With some of the world's most promising offshore wind resources, the opportunities on both the Atlantic and Pacific coasts are plentiful despite challenges around the cost of associated infrastructure remaining. Overall, Canada is making significant efforts to enter this market and expects to see its first installed offshore wind farms within the next decade.

18. Electricity Act, SO 1998, C.15, Sched. A at s. 25.33 (Ontario); Ontario Regulation 429/04 (July 1, 2025); *Energy Reform Act*, SNS 2024, c.2 (Nova Scotia).

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Introduction

The Colombian Government has pledged to be net-zero by 2050 and be at the forefront of the energy transition in Latin and South America. This ambition has been reflected in Colombia's inaugural offshore wind leasing round, which has now been completed and resulted in a single successful participant, Copenhagen Infrastructure Partners. Following the conclusion of this first round, the Colombian Government has indicated that the possibility of future offshore wind leasing rounds is under consideration.

Colombia has huge potential for offshore wind, with not only an estimated 109 GW of capacity for offshore wind projects in the country, but also high wind speeds, particularly in the La Guajira region where wind speeds consistently exceed 10 m/s and estimated net capacity factors approach 70%. However, Colombia's coast has a number of protected environments, busy shipping routes and a number of hydrogen activities. As such, it is estimated that the potential development capability is more in the region of approximately 50 GW.

This potential will not be realized overnight, and Colombia has only started to implement legislation aimed at developing its offshore wind resources in 2022, following the release of the offshore wind roadmap for Colombia. The completion of Colombia's inaugural offshore wind leasing round illustrates that Colombia has begun to take concrete steps towards unlocking its offshore wind potential.

Legislation

In 2022, the Colombian Government, with the support of the World Bank, released its offshore wind roadmap, which targets between 3 GW and 9 GW of installed capacity between 2030 and 2050.

Shortly after the release of the roadmap, the Colombian Government (through the Ministry of Mines and Energy and the General Maritime Directorate ("**DIMAR**")) subsequently published a resolution (Resolution 40284, as amended) which defines the framework for the competitive allocation of areas for designated offshore wind development.

The framework is a two-step process inspired by the Danish model for granting of permits and licenses and is divided into: (i) a temporary occupation permit of sea spaces and (ii) a concrete offshore wind concession application process. The Colombian National Hydrocarbons Agency ("**ANH**"), in cooperation with DIMAR, is responsible for advancing any seabed leasing rounds, and DIMAR will grant the permits and licenses to successful bidders. The ANH harnesses its substantial experience in bidding rounds for offshore hydrocarbons concessions.

The framework enables temporary occupation permits to be granted for areas designated for offshore wind development. The permits grant developers the exclusive right to determine the feasibility of selected projects for a maximum of eight years. The temporary occupation permits are issued by DIMAR in respect of areas designated by DIMAR as part of a competitive awarding process.

Following the grant of temporary occupation permits, developers can (but are not obliged to) request a maritime concession from DIMAR in respect of the relevant area to construct and operate a wind farm for up to 30 years. Maritime concessions are granted only if the developer has complied with the requirements set out in the relevant temporary occupation permit and has submitted all requisite documentation and legal permits to DIMAR.

Under a maritime concession, there are a number of obligations that must be satisfied, most notably the obligation to comply with the Curve S (a graphical representation of the accumulated progress of the activities of the construction stage during the maritime concession as a function of time, which allows comparing the actual progress with the progress planned in the schedule, with the purpose of establishing project deviations and taking timely corrective actions) and the timeline set out in the conditions of the concession.

Compliance with obligations both under the temporary occupation permit and the maritime concession are guaranteed through a performance bond with a value proportional to the estimated capital expenditures of the project.

Developers must also obtain permits from a number of other authorities to conduct activities and develop an offshore wind farm. Colombia's legal system obligates the state to conduct thorough environmental impact assessments to mitigate risks and also to respect the rights of ethnic communities. The Colombian Constitutional Court has protected rights of artisanal fishermen, in particular the right to participation and spaces for consultation in the design of "megaprojects." Therefore, obtaining the necessary consents and permits for developing an offshore wind farm in Colombia may not be straightforward.

Round 1

The announcement of the regulatory framework was coupled with the announcement on 5 December 2023 of Colombia's first leasing round to license maritime blocks to developers of offshore wind farms. The areas offered in the auction are located in the Central Caribbean, near the Colombian provinces of Magdalena, Atlantico, Bolivar and Sucre.

Under the leasing rules, developers were required to submit a development plan for their offshore wind farm within 10 years from

the grant of the temporary occupation permit, and each offshore wind farm was required to have a minimum installed capacity of 200 MW.

Eight bidders, including both local and international companies, successfully prequalified to submit bids in December 2024. The deadline for bid submissions was 29 May 2025. Successful bidders would acquire an exclusive right over the awarded area for eight years to conduct feasibility studies for their project. Upon confirmation of project feasibility, the temporary permit will be converted into a 30-year concession.

In March 2025, the Colombian Government announced that it had received nominations for 69 potential sites from the prequalified companies as part of the leasing process.

However, despite the initial level of interest, the ANH subsequently confirmed that only one bid was ultimately submitted in the context of the first offshore wind leasing round. The sole bid was submitted by CI GMF COÖPERATIEF U.A., a subsidiary of the Danish group Copenhagen Infrastructure Partners ("**CIP**"), one of the world's largest investment funds focused on renewable energy projects.

DIMAR is expected to issue the administrative act that grants the temporary occupancy permit to CIP between mid-February and mid-May 2026.

Following the outcome of the first leasing round, the ANH has indicated that it is exploring the possibility of launching a new offshore wind leasing round, with potential adjustments to the scope and design of the process in order to increase market participation.

Offtake

While the adaptation of Colombia's existing offtake models to offshore wind is still evolving, the offshore wind roadmap indicates that the Ministry of Mines and Energy is tasked with analyzing potential support mechanisms suitable for offshore wind projects, including power purchase agreements, contracts for differences and bilateral agreements with corporate entities, as well as defining the processes for awarding such offtake arrangements.

Under Law 1955 of 2019, and associated regulations such as Decree 1091 of 2025, energy traders must source no less than 10% of their energy needs from non-conventional renewable energy sources through long-term PPAs assigned pursuant to certain market mechanisms (such as auction rounds) that are established under applicable regulation (this encourages transparent and efficient price formation and allows for efficient costs to be passed through to regulated end users).

As a result, the Colombian Government has organized long-term renewable energy PPAs where project developers and energy distributors/traders commit to 15-year PPAs, which is a mechanism that could be used again to ensure offtake of energy produced by future offshore wind projects.

Offshore wind projects could also qualify for fixed payments under the government's existing reliability charge scheme, in proportion to the firm energy they can deliver to the system over a period of 20 years. The reliability charge scheme provides a fixed payment amount to generators for the firm energy that it would be able to provide to the system in the event there is a scarcity in supply of energy. During scarcity events, plants under the reliability charge scheme must generate their firm energy commitments, such energy being paid at a capped price in the spot market.

Further to the mechanisms contemplated in the roadmap, in 2025, the Ministry of Mines and Energy issued Resolution 40337 of 2025, which introduced a Pay-as-Bid Contracts for Differences (CfD) scheme aimed at stabilizing revenues and prices through fixed-price contracts settled against the wholesale electricity market. While the scheme is not specifically tailored to offshore wind projects, it represents a relevant regulatory development and may provide an additional offtake pathway for large-scale wind and solar projects in Colombia.

Constraints facing the development of Colombia's offshore wind industry

In addition to the issues noted above in relation to permitting and the final outcome of Round 1, there are a number of constraints facing the development of Colombia's offshore wind industry.

- **Tax Incentives:** While Colombia has published resolutions which establishes the licensing regime for the development of offshore wind, there are currently no government subsidies or revenue support schemes that apply. However, there are powerful tax incentives for non-conventional renewable energy projects. It is critically important when structuring an offshore wind project to optimize the use of these incentives.
- **Grid:** One major constraint facing the development of offshore wind farms in Colombia, as identified in the roadmap, is the limited onshore transmission capacity, particularly in the La Guajira region where there is no surplus capacity. The development of offshore wind farms in such regions would require enhancements to the grid infrastructure to take on this additional power.

  This, in turn, requires free prior and informed consent ("**FPIC**") processes with ethnic groups that could cause delays. Coordinating the commissioning of transmission capacity and generation projects remains a challenge.

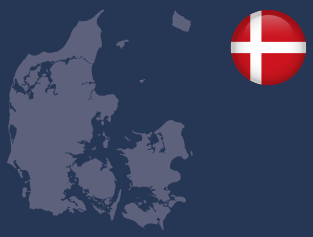
However, the Energy and Gas Regulatory Commission ("**CREG**") recently issued Resolution 101 094 of 2025 which established a temporary mechanism allowing project developers to voluntarily relinquish previously assigned connection points. This mechanism was enabled for a one-month window, from 2 December 2025 to 2 January 2026, and seeks to facilitate the release of transmission capacity associated with projects that will not ultimately make use of such capacity, thereby improving capacity availability and potentially enabling the entry of new generation projects.

Conclusion

It is clear that Colombia has great potential for offshore wind, and could, alongside Brazil, play a leading role in offshore wind in South and Latin America. The legislative regime and the infrastructure for offshore wind are still under development; however, the publication of the offshore wind roadmap and the subsequent issuance of Resolution 40284 indicate that Colombia has begun to put in place the necessary regulatory framework. The completion of Colombia's inaugural offshore wind leasing round, which resulted in a single successful participant, demonstrates initial market engagement with the regulatory process.

Colombia will now need to take further steps to continue to develop the regulatory framework to establish a subsidy regime and to improve the current infrastructure.

DENMARK



Authored by Adam Smith (Orrick) and Philippa Bourke (Orrick) – refer to page 141 for contact details.

A true pioneer

Denmark was the first country in the world to complete an offshore wind project in 1991. The Vindeby offshore wind project totaled 5 MW, representing a new frontier at a time when offshore wind was still very much an unfamiliar concept. In June 2020, the Danish government announced a new climate package, which included the creation of two offshore energy islands that would act as hubs to connect several offshore wind projects. The two energy islands would consist of the natural island of Bornholm in the Baltic Sea and an artificial island to be created in the North Sea. Although the projects have since been delayed, the islands are expected to host an aggregate electrical capacity of at least 5 GW, with the potential to increase this to 12 GW in the future.

Among other developments, the past year has also seen: (i) Denmark cancel its 6 GW offshore wind tendering process after receiving no bids for the first three of the six offered sites in December 2024, following which the Danish government relaunched a new tender in November 2025 for at least 2.8 GW of offshore wind across three sites, using a two-sided contract for difference ("**CfD**") model; (ii) numerous projects being progressed to varying degrees; (iii) a number of Denmark's oldest offshore wind projects (including the 40 MW Middelgrunden project, 166 MW Nysted project and 23 MW Samsø project, which were commissioned between 2001 and 2003) being granted lifetime extensions, with a number of other older projects also seeking lifetime extensions (including the 160 MW Horns Rev 1 project and the 8 MW Rønland project, which were commissioned between 2002 and 2003); and (iv) continued activity in the Power-to-X space.

North Sea Energy Island

The Danish government approved plans to construct an artificial multi-phase North Sea Energy Island in February 2021, to be located 80 km off Denmark's west coast. The government planned to take a minimum 50.1% stake in the project, with a legal framework to be developed to tender the remaining 49.9% stake. Construction of the island was originally expected to start in 2026, with the island expected to begin to be operable by 2033 (parties to the green sub-agreement to the Finance Act 2022, signed in December 2021, have agreed to develop the North Sea Energy Island to its full capacity as soon as possible, with 2040 as the target point). The first phase incorporates 3 GW of renewable energy capacity, and it is envisaged that eventually, the North Sea Energy Island will connect and distribute power from surrounding offshore wind farms, incorporating up to 10 GW of renewable energy capacity. The North Sea Energy Island may also connect to various European countries, including Belgium, the Netherlands and Germany. These potential cross-border connections are expected to be further facilitated by new legislative changes, including a draft bill submitted by the Danish government for public consultation at the end of 2025. The bill, overviewed below, aims to allow offshore wind farms in Danish waters to be licensed for export to neighboring countries and enable foreign transmission system operators to participate in grid infrastructure.

Following an initial delay of almost a year, the official tender for the project was due to be launched by Q2 2023. However, the Danish government announced in June 2023 that it was delaying the commencement of the tender process to allow time for the project to be more closely examined, given the high projected costs of the scheme and subsequently announced that it was exploring whether the energy island should be established on a foundation made up of several large platforms rather than a single artificial energy island. In August 2024, the Danish government announced a further delay by at least three more years, again citing rising costs as well as high interest rates. As at the date of this report, no further details have been published.

Bornholm Energy Island

The Bornholm Energy Island will be located on the island of Bornholm in the Baltic Sea. Technical facilities on the island will serve as a hub for offshore wind farms off the coast, supplying at least 3 GW of energy (with overplanting (*i.e.*, installing additional capacity beyond the minimum), the aggregate capacity of the energy island could reach 3.8 GW). The offshore wind farms that will connect to the island will be constructed approximately 20 km to the south and south-west of Bornholm. The Danish parliament has set a target of 2030 to carry out these activities. In May 2024, the Danish Energy Agency (the "**DEA**") published its "Plan for Program Bornholm Energy Island," outlining the framework for the future energy island and the adjacent coastal areas.

Similar to the North Sea Energy Island, neighboring European countries could benefit from the Bornholm Energy Island. In June 2023, an agreement was signed between Denmark and Germany to establish a connection between the countries premised on the island.

The German transmission system operator ("**TSO**"), 50Hertz, and the Danish TSO, Energinet, have agreed to collaborate on the project. The German and Danish grids would therefore be connected by way of an interconnector. The two TSOs began the tendering process for key technologies in November 2023. 50Hertz is currently awaiting permitting and expects to then be able to commence construction. Energinet is currently awaiting environmental permits and the results of archaeological excavations.

The tender process for the development of the energy island was expected to be announced in Q2 2024. However, in June 2024, the DEA announced adjustments to the tender process for the project, citing a strained supplier market for both offshore wind and electrical infrastructure. In January 2025, the Danish government informed the relevant stakeholders that the legal framework to execute the next stage of the Bornholm Energy Island was not in place and that restarting negotiations in this regard was subject to the need for political regulation between each of Denmark and Germany.

In September 2025, the Danish government officially ended its pause on the project following a substantial display of support from the EU (with approximately EUR 645 million allocated to the project through the Connecting Europe Facility program in February 2025), as well as the signing of several key agreements, including a contract with Siemens Energy for advanced high-voltage equipment and a contract with NKT to deliver a high-voltage, direct-current power cable system.

Energinet and 50Hertz have since commenced the approval procedure for the part of the project located in Denmark, with the public consultation phase of the necessary environmental assessment process having begun in November 2025. This assessment is carried out by the Danish Agency for Green Land Use and Aquatic Environment ("**SGAV**"). In Germany, there have been a number of public consultation formats throughout 2025, with 50Hertz having started early public participation and also informed the local population and authorities of the planned location for a new substation with a converter in the municipality of Kemnitz in the Vorpommern-Greifswald district.

Project pipeline

From cancelled tenders to a new approach

As well as the energy islands, several offshore wind projects are currently in the pipeline in Denmark. In line with the Energy Agreement of 29 June 2018, the Danish government set a target of approximately 55% of Danish energy consumption to be derived from renewable energy by 2030. Pursuant to the Climate Agreement on Green Power and Heat of 25 June 2022, the Financial Act 2022 and supplementary political agreements signed on 30 May 2023, 19 May 2025 and 7 November 2025, approximately 9 GW of additional offshore wind is targeted for tendering under the current policy framework, although actual tendering and construction timelines now extend beyond 2030.

As well as the (at least) 3 GW of offshore wind planned for Bornholm Energy Island, the 9 GW target includes 6 GW that was previously intended to be delivered across six new projects pursuant to two tender processes, each of which was suspended by the Danish government in December 2024 and January 2025, respectively, following a zero-bid initial tender. Industry participants described the lack of participation as disappointing but unsurprising, citing bidding parameters that did not reflect current market realities.

As previewed above, this process has since been replaced by a new tender, launched in November 2025, for three offshore wind areas that will together house a minimum of 2.8 GW of installed capacity. The tendered project sites are "North Sea Mid" and "North Sea South," each set to accommodate at least 1 GW, as well as "Hesselø" (in the Kattegat), which will support a minimum of 800 MW. Each project also has an option for overplanting, with overplanting at Hesselø capped at 400 MW.

Pursuant to the political agreement dated 19 May 2025 (as amended on 7 November 2025), the Danish government has stated that the other pre-surveyed offshore wind sites from the cancelled tenders will be offered to the market when conditions are optimal for investment and development.

Map 6 below, illustrates the proposed locations of the projects forming part of the new tender process.

Map 6: Denmark's offshore wind projects – new tender sites

In light of the cancellation of the previous two tender rounds, the new framework has undergone a comprehensive overhaul shaped by the political agreement reached in May 2025 and steered by discussions in the summer of 2025 between the Danish government and 17 key industry stakeholders. These discussions revealed that the previous unsuccessful process was a result of escalating costs and the prospect of low, unpredictable returns in the Danish electricity market, compounded by limited sales opportunities and broader uncertainties in the electricity and hydrogen markets. The revised approach is notably more developer-friendly and aims to address market realities such as rising costs and uncertain revenue prospects. A key feature is the introduction of a state-backed, two-sided CfD support scheme with a payment cap of approximately EUR 7.4 billion, under which the state guarantees a minimum price for electricity produced, providing revenue stability for developers over a 20-year period. Unlike the previous "pay-to-play" model, the new process no longer requires 20% state co-ownership in the project undertakings developing the offshore wind farms, giving tenderers more flexibility in how they conduct business and manage assets. The Danish state will also assume the costs for preliminary site investigations and defense mitigation measures in order to reduce upfront financial burdens for developers.

In addition, the framework includes detailed sustainability and social responsibility obligations, such as third-party life cycle assessments, environmental product declarations, requirements for recyclable turbine blades and mandatory monitoring of the wind farm's environmental and social impacts throughout its operational life.

For the North Sea Central and Hesselø projects, the deadline for tender submissions is 20 May 2026, with concession awards expected on 4 August 2026. Developers are required to commence offshore construction by 31 December 2031, and the minimum capacity for each project must be operational by 31 December 2032. Where overplanting capacity is applicable, it must be commissioned within two years of the minimum capacity deadline. The process also features a revised penalty regime, including capped liquidated damages for delays and more lenient terms in the first two years, as well as provisions for time extensions in the event of delays outside the developer's control, such as grid connection or hydrogen infrastructure setbacks.

For the North Sea South project, the deadline for tender submissions is 23 October 2028, with concession awards expected on 3 January 2029. Offshore construction must begin by 31 December 2033, and the minimum capacity must be operational by 31 December 2034. Overplanting capacity, if applicable, must also be commissioned within two years of the minimum capacity deadline. The penalty regime and provisions for time extensions are consistent with those applicable to North Sea Central and Hesselø, offering developers greater flexibility in the event of delays beyond their control.

In November 2025, a group of Danish onshore developers (led by Eurowind and European Energy) announced their intention to file a formal complaint with the European Commission and potentially appeal to the European Court of Justice regarding the CfD provisions in the ongoing offshore wind tender. The main objections concern the granting of state aid for production during negative price periods, which developers argue does not comply with the EU's Clean Industrial Deal State Aid Framework and could undermine the economic viability of unsubsidized renewables.

In December 2025, a number of additional Danish renewable energy developers joined the informal complaint. The DEA has responded that the tender's support schemes are in line with EU state aid regulations, emphasizing that the structure of the aid does not incentivize electricity generation during periods of negative prices. The DEA has also indicated that it is maintaining a constructive dialogue with the European Commission and anticipates a decision on the scheme prior to the tender deadlines. As of the date of this report, no further updates have been published.

Other Key Ongoing and Upcoming Offshore Wind Projects

Ongoing offshore wind projects include Thor, which was announced by the DEA in February 2019 and will be located in the North Sea, west of Nissum Fjord and 22 km from the shore of Jutland. It will have a capacity of up to 1.1 GW and is expected to be connected to the grid between 2025 and 2027. The DEA received a total of six applications from consortia and companies that qualified to participate in the tender process. RWE was announced as the winner of a lottery draw in December 2021. While the TSO had responsibility for offshore grid connections for earlier projects, RWE will also be responsible for developing and constructing access to the Danish electricity grid. In June 2024, it was announced that the European Investment Bank has committed to providing a EUR 1.2 billion loan to support RWE's development of the project. In October 2024, the project was granted a construction permit, following which RWE commenced construction in early 2025.

The Thor project is subject to a two-sided CfD model under which RWE is entitled to receive a price premium equal to the difference between its tendered bid price (DKK 0.01/kWh) and the reference price (the spot price of electricity in the relevant area) in years when the bid price exceeds the reference price. Conversely, in years when the reference price is higher than the bid price, RWE will pay the Danish state the difference, subject to a cap of DKK 2.8 billion. Given RWE's bid price of 0.01/kWh, the project will, in practice, receive no financial assistance from the state. As a result, the wind farm will be run on purely commercial terms, with power sold to the grid on a merchant basis or through corporate power purchase agreements.

In addition to the projects discussed above, a number of other projects are also continuing to move forward. In May 2025, the Danish Energy Complaints Board (the "**DECB**") rejected appeals against the construction permits for the 240 MW Jammerland Bugt offshore wind project and 165 MW Lillebaelt South nearshore wind project, confirming that they can proceed as planned. Lillebaelt South was granted a construction permit in November 2024, and Jammerland Bugt received its construction permit in December 2024. Both projects launched their geotechnical surveys during the summer of 2025 and are scheduled to begin construction in 2027 and commercial operations in 2029.

Permits and Licenses

Until recently, there were two procedures for obtaining permits to construct and operate offshore wind projects in Denmark: (i) tenders announced via the Danish government and (ii) the 'open-door' procedure (for projects not already reserved under the Danish government's spatial plan for tenders). In December 2023, the Danish government announced that the "open-door" scheme would be closed to new applicants, meaning 24 of the 33 projects proposed under the scheme would be cancelled and that the three applications awaiting determination (Vikinge Banke, Kadet Banke and Paludan Flak) would be rejected. This followed the scheme's suspension by the Danish government in February 2023 due to potential conflicts with EU state aid rules. The move was widely criticized by industry participants, some of which brought successful appeals to the DECB. In May 2024, the DECB ruled against the DEA's rejection of European Energy's five offshore wind projects that were proposed as part of the "open-door" scheme, as well as seven other participating projects that also appealed to the DECB following their cancellation, each of which was sent back to the DEA for reconsideration. Additionally, in June 2024, the DECB referred the DEA's decision to reject a feasibility study permit for the Kadet Banke, Paludan Flak and Vikinge Banke projects back to the DEA for reconsideration. However, in September 2025, the DEA announced that, after reconsidering all pending applications for feasibility study permits under the "open-door" scheme (37 in total), it had maintained its definitive rejection of all applications. The DEA concluded that granting such permits would constitute illegal state aid under EU law, as the permits confer exclusive rights of value to applicants without competition or payment to the state. The DEA also confirmed that these rejections have no impact on the recently launched offshore wind tender process.

For future projects, it is now only possible to obtain permits to construct and operate offshore wind projects in Denmark through the government-led tendering processes. Tenders are run by the DEA for larger-scale offshore wind projects in a designated, pre-surveyed location with a specific capacity. The DEA is responsible for assessing and issuing all licenses. Three licenses are required throughout the project life cycle: (i) a license to carry out preliminary investigations, (ii) a license for construction of the offshore wind project, and (iii) a license for the utilization of energy.

As noted above, a draft bill released for public consultation by the Danish Government in November 2025 (and expected to be presented to Parliament in 2026) proposes further changes for offshore wind projects, particularly those intended for export or involving hybrid connections (*i.e.*, projects connected to grids in multiple countries). Under the proposed rules, offshore wind farms in Danish waters and the Danish Exclusive Economic Zone may be licensed for electricity production intended for export to neighboring countries, and foreign transmission system operators may own and operate/maintain cables on Danish territory connected to overseas grids. Hybrid projects may also benefit from extended electricity production licenses to cover longer test phases. Certain issues, such as risk sharing and compensation, will be managed through intergovernmental agreements between Denmark and the relevant foreign authorities. The new rules are expected to come into force on 1 July 2026, following the public consultation process and parliamentary approval.

ESTONIA

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Introduction

With an estimated 7 GW of potential offshore wind capacity, Estonia's offshore wind sector is developing quickly, as the country seeks to diversify its energy sources, reduce greenhouse gas emissions and meet its ambitious climate and renewable energy targets. During 2025, the Estonian government has taken steps to make Estonia's offshore wind policy more flexible and pragmatic while still maintaining ambitious goals and moving forward with project permitting.

Transition to a market-driven energy system

ENMAK (National Energy Sector Development Plan) 2035—currently at the approval stage—establishes a strategic shift in Estonia's energy system toward a market-based model, gradually phasing out operational subsidies and relying on long-term (at least 30-year) financing solutions for large-scale projects such as offshore wind farms, pumped-hydro storage and a potential nuclear plant. The plan focuses on strengthening energy security, modernizing critical infrastructure and ensuring that renewable electricity becomes market-competitive after 2030.

By 2035, Estonia aims to achieve 1,200–1,600 MW of dispatchable generation capacity, up from the current 1,000 MW, which requires the development of new firm capacity. Onshore wind development will continue to receive support, whereas offshore wind will depend entirely on market conditions. The renewable energy surcharge will remain at the 2025 level and is expected to be phased out by the mid-2040s.

Also by 2035, Estonia seeks to balance electricity imports and exports, compared to the current net import level of 35.6%. Estonia has set annual targets for the period from 2026 to 2035 and estimates that achieving these targets will require EUR 5.4–10.1 billion in investments and up to EUR 1.5 billion in national support measures. Investment needs vary by technology: approximately EUR 1.2 million per MW for onshore wind, EUR 3 million per MW for offshore wind, and EUR 0.26 million per MW for solar. By 2035, the plan forecasts 1,300–1,800 MW of new onshore wind, up to 1,000 MW of offshore wind, 290–790 MW of solar capacity, and 1,000–1,300 MW of storage capacity.

The former goal of 100% renewable electricity by 2030 has been replaced with a new target: 80% clean electricity by 2035. "Clean" electricity now includes renewables, nuclear energy and hydrogen-based generation.

Current status

The Maritime Spatial Plan, adopted in May 2022, sets out various areas that are potentially suitable for construction of offshore wind parks and cables in the Estonia Exclusive Economic Zone. Since the adoption of the Maritime Spatial Plan, activity in the Estonian offshore wind market has accelerated.

Prior to December 2023, Estonia had adopted a developer-led approach to offshore wind site exclusivity selection. Site exclusivity for three offshore wind projects was awarded to developers during this stage, including: (i) the 1.4 GW Saaremaa project, under development by Saare Wind Energy and Van Oord; (ii) the 1.2 GW Saare-Liivi project, under development by Utilitas; and (iii) the 2 GW Liivi lahe project, under development by Enefit Green.

Between December 2023 and June 2024, the Estonian government conducted auctions for four successful additional offshore wind sites: (i) the Liivi 1 and Liiv 2 sites, which were both awarded to a consortium comprising Ignitis Renewables and Copenhagen Infrastructure Partners; and (ii) the Saare 2.1 and Saare 2.2 sites, which were both awarded to Norway's Deep Wind. The auction winners are proceeding with the superficies license proceedings and environmental impact assessments in relation to the auctioned projects.

Estonia's offshore wind auction experience has not been all smooth sailing. In January 2024, the Saare 1 auction received no bids and neither did the Saare 3 auction in July 2024. However, in January 2025, the new Saare 1 auction was won by the French company Oxan Energy. The Saare 7 auction for offshore wind development, which took place in June 2025, also failed as neither of the bidders—Sunly Wind OÜ nor Utilitas Wind OÜ—met the qualification criteria.

The Maritime Spatial Plan also introduced a special Innovation Area, primarily intended for projects with floating foundations, whose environmental impact is equivalent to or smaller than conventional solutions. In October 2023, Poland's Respect Energy Holding announced a cooperation with BaltiConnect to develop an 820 MW floating offshore wind project in the Innovation Area, which will also comprise a pilot deployment of foundation technology with hydrogen and ammonia production.

Table 1: Existing pipeline

Developers	Project	Capacity MW	Area km²	Initiation of proceedings	Estimated date of commissioning
Saare Wind Energy OÜ and Van Oord	Saaremaa	1400	197,5	2020	2031
Utilitas Wind OÜ	Saare-Liivi	1200	301,01	2021	2030
Enefit Green	Liivi lahe	1000	183	2010	2030
Enefit Green	Loode-Eesti (Hiiu)	1100	174	2006	2032
Ignitis Renewables and Copenhagen Infrastructure Partners	Liivi 1	900	77,7	2024	N/A
Ignitis Renewables and Copenhagen Infrastructure Partners	Liivi 2	1400	114,9	2024	N/A
Deep Wind Offshore AS	Saare 2.1	1560	163,8	2024	2033
Deep Wind Offshore AS	Saare 2.2	840	88,5	2024	2033
Oxan Energy	Saare 1	900	88	2025	N/A
Respect Energy Holding and BaltiConnect	Pilot	820	TBC	TBC	2032

In May 2025 the Government approved a draft decision granting Estonia's first superficies license for the construction of an offshore wind farm—to Saare Wind Energy OÜ. The superficies license would allow for an offshore wind farm of up to 100 turbines located at least 11 km off the western coast of Saaremaa. The decision allows the developer to proceed with further permitting procedures, including application for a construction permit within two years (permits are generally valid for five years).

In addition to the above projects, early-stage development work and legislative planning is being undertaken by the Estonian government, in partnership with the Latvian government, in relation to the proposed 1 GW cross-border offshore wind project named "ELWIND." This project is intended to increase the region's energy independence and security and improve interstate electricity connectivity as between Latvia and Estonia. The project aims to create a high capacity (at least 700-1000 MW, over 3 TWh per year) offshore wind park by 2030. In July 2023, ELWIND received funding in the amount of EUR 18.8 million to carry out environmental impact assessment studies, which are already underway. After the superficies license is issued, the state will organize an auction or selection procedure, giving all developers the opportunity to obtain the ELWIND area superficies license and construct the planned offshore wind farm.

Other features of regulatory regime and market

Offshore wind farms are subject to the following fees and charges:

- The owner or authorized user of the wind farm must pay a fee of 0.5% of revenue from electricity generation to the local government unit within the impact area of the offshore wind farm (if applicable) and compensate fishermen for any reduction in catch caused by the wind farm. The fee is calculated as follows: 0.5% [(MWh of electricity produced by the wind farm (but not less than 70% of the rated capacity of the wind farm) x 1000) x (the arithmetic average day-ahead market electricity price in the Estonian price area for the relevant quarter)].
- A developer must pay an annual seabed lease fee for the sea area. The fee is calculated as follows: 1.5% [(MWh of electricity produced by the wind farm (but not less than 70% of the rated capacity of the wind farm) x 4000) x (average day-ahead price of electricity in Estonian price area of Nord Pool)].

As the offshore wind projects in Estonia are in the early stages of development, there are no corporate PPAs for these projects at this stage. However, the renewables corporate PPA market in Estonia is developing, and several renewable energy developers already employ corporate PPA agreements for other technologies. While it remains to be seen how the offtake market for offshore wind projects in Estonia will develop, the expectation is that corporate PPAs will have a key role to play.

Finally, and similar to Latvia and other countries in the Baltic region, interconnection is a key feature of Estonia's offshore wind plans. In addition to the ELWIND offshore wind project (mentioned above), Estonia is a member of the Baltic Energy Market Interconnection Plan (intended to support the energy transition of the Baltic Sea region and aims to achieve an open and integrated energy market amongst in the EU countries of the Baltic region) and is also participating in the development of the Nordic-Baltic Hydrogen Corridor for the transportation of green hydrogen (which is expected to transport up to 2.7 million tons of renewable hydrogen annually between the participating countries by 2040).

Measures to accelerate project development

In 2023, the Estonian government published the results of an audit on accelerating the development of renewable energy projects in Estonia. One of the main goals was to accelerate the permit procedures related to the development of wind parks. Building on the recommendations set out in the audit results, in May 2024 the Estonian parliament passed legislation to accelerate the processes of the deployment of renewable energy. The legislation establishes the superficies license as a new type of license for offshore wind farms, and introduced a streamlined process for obtaining environmental and building permits specifically created for offshore wind farms. This consolidated approach is expected to significantly reduce the time required for administrative proceedings, making the process of obtaining the necessary permits easier and faster.

The Estonian Parliament is currently reading a comprehensive draft act that transposes the updated EU Renewable Energy Directive and updates several energy and environmental laws. The most significant change is the introduction of a new permitting framework for renewable energy projects, which consolidates the permitting process into a single contact point, enables a unified environmental impact assessment and sets binding deadlines for the permitting of wind (up to 2 years onshore, up to 3 years offshore, and up to 1 year in priority development areas). New renewable energy zones and priority areas will be established, where initiating a separate environmental impact assessment is generally excluded because the key impacts have already been assessed at the planning stage.

Transition from a subsidy-based energy policy to market-driven, state-backed investments

Estonia's energy policy is gradually shifting from a subsidy-based system toward a framework driven by market-based investments. The government has abandoned previously planned operational subsidies (contracts for difference) for new offshore wind farms and has cancelled the planned reverse auction scheme for offshore wind development under which selected projects would receive revenue support at EUR 65 per MW/h for a 20-year period, which would have cost the state an estimated EUR 2.6 billion. The state aid approval previously granted by the European Commission for this support scheme expired in April 2025.

To facilitate strategically significant, capital-intensive investments, such as offshore wind developments, pumped-storage facilities, a potential nuclear plant and energy-intensive industrial projects, the state has held negotiations with financing institutions. As a result, the state has decided to design a loan-guarantee mechanism (suretyship) intended to absorb a portion of project-related financial risk and thereby enhance bankability. The mechanism would rely on a guarantee issued through the Estonian Business and Innovation Agency, supplemented by bonds to be issued by the developer to the state, with no direct financial transfers envisaged. Its application presupposes that developers first secure co-investors and commercial lenders, and each project will require state-aid clearance from the European Commission. The measure remains under preparation, with technical parameters expected to crystallize during 2026. ENMAK 2035 envisages long-term—at least 30-year—financing arrangements to replace direct subsidies for large-scale infrastructure.

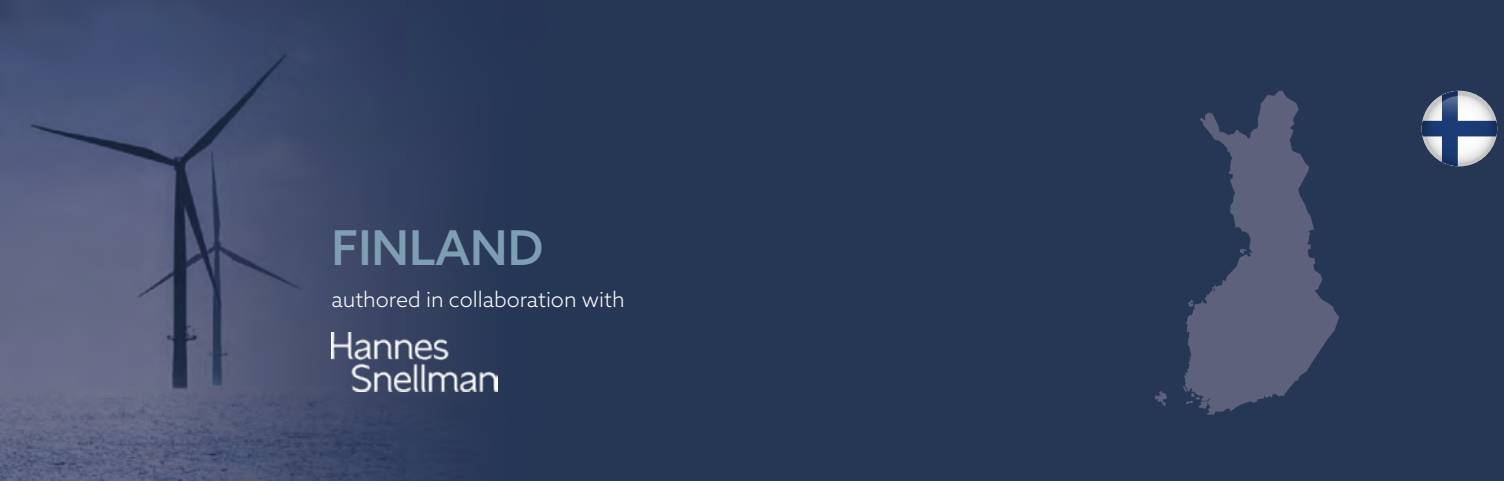
Challenges

The main challenges for offshore wind development in Estonia include slow planning and permit processes, geopolitical risks and uncertainty regarding the availability of grid connection capacity.

The integration of large renewable projects requires upgrades to grid infrastructure, which could lead to delays and/or additional costs. In 2023, a security deposit of 70% of the connection fee or €38,000 per MVa was introduced to discourage so-called "phantom" connections. However, in 2025, this has been replaced with a new fixed-fee system for connecting to the transmission grid. The connection fee can include a cost-based component, a fixed grid-reinforcement fee (€/MVA), a grid-connection fee covering required substation works, and procedural and project-management costs. Under this system, a generating facility connecting to the grid must pay the fixed, average-price cost of establishing the connection point, together with 50% of the grid-reinforcement costs. These reinforcement costs are estimated at approximately EUR 12,000 per MVA in the 330 kV network and EUR 65,000 per MVA in the 110 kV network. The entire amount is paid in a single instalment following the execution of the connection agreement.

In the wake of Sweden's decision to stop issuing licenses for offshore wind farms around its coast in November 2024 (citing security concerns), it was feared that Estonia's defense radar operations will be a hindering factor in Estonia's offshore wind ambitions. It is still not clear what this will mean for developers (for example, whether radar design compensation measures (and associated cost sharing arrangements) will be a feature of projects as the market continues to develop). However, developers and policymakers appear undaunted, as demonstrated by the project developments during 2025 described above.

Despite this progress in developing a positive offshore wind regulatory framework, work remains to be done. Additionally, market conditions remain challenging for participants. In February 2025, Enefit Green announced that it would begin developing the Liivi Bay offshore wind farm together with the international investment company Sumitomo Corporation, under an agreement pursuant to which Sumitomo would acquire 50% of Liivi Offshore, the project company for the planned 1,000 MW wind farm. However, in August 2025 it was publicly announced that the transaction had fallen through, with the parties citing the offshore wind outlook in Estonia following an assessment of the current market and regulatory conditions. Enefit Green has, however, stated that it will complete the permitting and environmental impact assessment process of the project.



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Introduction

The onshore wind power sector has been a cornerstone in Finnish electricity production for years, with onshore wind power comprising the second largest source of electricity production in Finland in 2024, and likely also in 2025. As of June 2025, the cumulative installed capacity of wind power was approximately 8,900 MW. The only operational offshore wind farm in Finland is the Tahkoluoto offshore wind farm, located in the Gulf of Bothnia, which became operational in 2017. This offshore wind farm was the world's first wind farm to be constructed and operated in frozen sea conditions, serving as a demonstration project. With a capacity of approximately 44 MW and comprising 11 wind turbines, the Tahkoluoto offshore wind farm marked an important milestone in Finland's offshore wind journey, providing essential insights for future projects, as during an average winter, all the near coastal areas in Finland become frozen.

The Finnish coastline, especially the western sea areas of Finland, have been identified as being particularly well-suited for extensive offshore wind power production. Accordingly, Finland is actively advancing its offshore wind power sector with the aim of establishing it as an integral part of its energy production mix. The Finnish Government has set ambitious targets for offshore wind power capacity by 2035 and is working to create a competitive advantage for Finland in the Baltic Sea region in the energy transition, including the promotion of offshore wind power. Following the publication of the Government's targets in 2023, the operating environment has evolved. Nevertheless, the development of offshore wind power in Finland is still expected to grow during this decade, with initiatives for Finnish territorial waters still being aimed to be reopened after the completion of the second tendering process in 2025 without selection of a partner, initiatives for Finland's exclusive economic zone ("**EEZ**") being further developed, and areas in the Åland Islands targeted for auction in 2026.

Despite the ambitious goals set for offshore wind, the Finnish (and global) renewable energy sector has encountered certain challenges and constraints in recent years. The prolonged difficulties following the onset of the Ukraine war have slowed down market activity in general. Increased interest rates, inflation, and rising costs have negatively impacted the economics of these CAPEX-intensive projects. Additionally, relatively low but fluctuating electricity prices and an uncertain outlook for growth in electricity demand in Finland have also contributed to the postponement of investment decisions regarding renewable energy projects in general, including offshore wind.

Allocation of rights in the territorial waters and EEZ

It is important for potential developers looking at developing offshore wind projects in Finland to understand that there are separate regimes which apply depending on whether such offshore wind project is to be developed in the territorial waters of mainland Finland or the Åland Islands, or in Finland's EEZ. The regime applicable in the Finnish autonomous region of the Åland Islands has not been covered by this report.

Offshore wind in the Finnish territorial waters

Finland's territorial waters are the property of the Finnish State. An exception to this are the water areas owned by the Finnish autonomous region of the Åland Islands, located between Finland and Sweden. Metsähallitus is a Finnish state-owned enterprise which is responsible for managing Finland's territorial waters. As part of this role, Metsähallitus is responsible for carrying out the initial development of offshore wind power projects within Finland's territorial waters, which it will then auction, with the successful bidders being granted rights of use in that specific site for the purposes of offshore wind power development.

At the end of 2023, the Finnish Government selected five offshore wind power areas for future auctions, following which Metsähallitus initiated the auction processes for two of these areas, which have an approximate aggregate installed capacity of 3,000 MW. The auction processes for these projects were completed without Metsähallitus selecting a commercial partner for the projects. However, Metsähallitus will continue with project development and planning, and the project rights and commercial implementation will be re-auctioned at a later stage. Auctions for the remaining three areas are expected to follow. Please see Map 7 on page 39, for an overview of these five areas.

The auctions are open to everyone in the international market, with both domestic and foreign operators welcomed to participate with the auction processes focusing on a number of objective criteria *e.g.*, financial criteria, expertise, and ESG practices. Metsähallitus will execute, amongst others, a right of use agreement with the investor winning the auction process. Such investor is responsible for, *inter alia*, obtaining necessary permits needed to develop offshore wind in the auctioned area.

Offshore wind development in the Åland Islands is also progressing, and the aim is for the Government of Åland to initiate an auction process during 2026. The timeline and scope of the auction will be detailed in due course.

Offshore wind in the Finnish exclusive economic zone

The new Offshore Wind Power Act entered into force on 1 January 2025, establishing a comprehensive regulatory framework for offshore wind power in Finland's EEZ and aiming to create a predictable and encouraging operating environment, *e.g.*, by streamlining the development process and ensuring fair competition.

Under the Offshore Wind Power Act, exclusivity for wind power production in Finland's EEZ is granted through a three-step process. First, the Finnish Government selects an area for offshore wind development within the EEZ. A draft Government Decision on offshore wind power areas in Finland's EEZ was published in October 2025, with the Ministry of Economic Affairs and Employment proposing four areas in Finland's EEZ to be designated for wind power exploitation (please see Map 7 on page 39). The final Government Decision regarding the areas is targeted for the first half of 2026, following a comment period until December 2025. Thereafter, the Energy Authority arranges a tender process to grant developers an exclusive right to apply for an exploitation permit for the selected seabed area. Finally, the winning bidder is entitled to apply for an exploitation permit. Should the winning bidder not apply for the exploitation permit, the runner-up is entitled to apply for it under the same terms.

The evaluation in the tender process is based on both the price offered (*i.e.*, exploitation fee payable once the wind farm has been commissioned for its intended use) and qualitative factors such as financial capabilities, expertise, and environmental impacts. Further provisions on the competitive tendering process, conditions for participation, criteria for selecting winner and securities to be issued will be clarified in a Government Decree based on the Offshore Wind Power Act. The draft Government Decree was submitted for comments in the late summer of 2025, with the intention being that the decree is finalized by the end of 2025. The first competitive tender is expected to commence in spring or early summer 2026.

Incentive schemes and taxation

There is no incentive scheme in Finland for offshore wind power or related grid arrangements, and it is not expected that such incentive schemes for offshore wind power would be implemented during the tenure of the current Finnish Government. However, there are existing subsidy schemes for projects that utilize renewable electricity, and some new subsidies are planned to support the clean transition.

The Finnish Government is progressing an initiative to further improve Finland's investment attractiveness by clarifying the taxation of offshore wind farms in Finland's EEZ. The Finnish Real Estate Tax Act does not currently apply in Finland's EEZ, whilst, due to the absence of an explicit definition of Finnish territory in the Finnish Income Tax Act, the application of the law in Finland's EEZ is unclear. Therefore, according to the draft Government Proposal, the aim is to make use of Finland's taxation right in Finland's EEZ, within the limits of the United Nations Convention on the Law of the Sea, with regard to property and income taxation. Further, clarification of the regulation aims to improve investment certainty for offshore wind projects planned in Finland's EEZ. Furthermore, the aim is to ensure that buildings and structures located in Finland's EEZ, and activities carried out in the EEZ, are subject to property and income tax legislation. Property tax is proposed to be paid on buildings and structures within Finland's EEZ to the extent they are valued as buildings or structures for property tax purposes. Additionally, a definition of Finland's territory is proposed to be added to the Finnish Income Tax Act.

In addition, the draft Government Proposal aims to bring the tax burden on offshore wind farms more in line with that of onshore wind farms. The draft proposal recognizes that construction of an offshore wind farm is generally more expensive than for an onshore wind farm, as an offshore wind farm's investment and project costs are higher due to the requirements imposed by marine conditions. The replacement value of offshore wind farms under the Finnish Valuation Act is proposed to be set at 35% of construction costs, while onshore wind farms would be valued at 75% of construction costs.

The new legislation is proposed to enter into force on 1 January 2026. The amendments to the Finnish Valuation Act would apply for the first time when assessing the taxation value for 2025. However, to allow sufficient time for the Finnish Tax Administration to plan and implement necessary changes, amendments to the Finnish Real Estate Tax Act would apply for the first time in the taxation carried out for the tax year 2030. Based on the draft Government Proposal, property tax revenues are indeed expected to accrue from Finland's EEZ starting from the 2030s.

Permitting

Overview of the permitting process

In Finland, the permitting of an offshore wind power project differs depending on whether the project is located in the territorial waters of mainland Finland or the Åland Islands, or in Finland's EEZ. The permitting scheme in the Åland Islands, which to some extent differs from that of mainland Finland, is not addressed in this report.

As a preliminary phase, before or in connection with its planning and permitting process, if a proposed project consists of at least ten wind turbines or has a capacity of at least 45 MW, it will require an environmental impact assessment ("**EIA**") to be carried out, as well as potentially a Natura assessment. From 1 January 2026 onward, this threshold will decrease to five wind turbines or a capacity of at least 45 MW. An EIA may also be required for smaller projects on a case-by-case basis. Both the EIA and Natura assessment are currently coordinated by the regional Center for Economic Development, Transport and the Environment ("**ELY Centre**"), but from 1 January 2026 onward, as part of a reform of state regional administration, the ELY Centres will be merged into a national Permit and Supervisory Authority, which will assume these responsibilities. Where a project is likely to cause significant adverse transboundary impacts, the coordinating authority is the Finnish Environment Institute.

In addition to an EIA, the construction of an offshore wind power project in the territorial waters requires a land use plan (a "partial master plan") for the project area. The municipality is responsible for the master planning process, which is typically carried out at the same time as the EIA. The master plan serves as a basis for the building permit, which is applied for from the municipality. There is no planning in Finland's EEZ, and thus no building permit is needed. Exclusive right for offshore wind development in Finland's EEZ is established through an exploitation permit, granted via a tendering process organized by the Energy Authority. One of the purposes of the new EEZ legislation has been to make the permitting for offshore wind in the territorial waters and EEZ as similar as possible.

In addition, the construction of an offshore wind power project always requires a water permit issued by the Regional State Administrative Agency (from 1 January 2026 onward, the new Permit and Supervisory Authority). Additional permits may also be required, including flight obstacle permits by the Finnish Transport and Communications Agency, expropriation and project permits for power lines, a statement from the Border Guard, as well as approvals by the Defence Forces and the Defence Command regarding the placement of the wind turbine generators, exploration of territorial waters, and measurements on the topography of the seabed.

Main challenges and ongoing streamlining of the permitting processes

The permitting processes for wind power projects are well established in Finland, and the administration is generally considered to function in a professional and predictable manner. However, occasionally lengthy land use planning, permitting, and administrative court processes are considered to hinder and slow down the implementation of new projects, including offshore wind power projects. Municipalities, which are responsible for land use planning processes and granting of building permits, play a significant role in the implementation of offshore wind power projects in Finnish territorial waters. Consequently, changes in the political power relations of the municipal decision-making bodies may impact project development.

Currently, offshore wind projects can take advantage of a temporary legislative scheme, pursuant to which the permitting authority must grant priority over other permit applications to environmental and water permit for certain green transition projects, including renewable energy plants, offshore wind power plants and related water management projects. The priority also applies to the handling of appeals regarding said permits at the appeal courts.

In addition, two legislative reforms aim to streamline Finnish permitting processes and to unify permitting and supervisory practices. The first reform, previously mentioned in this report, establishes a new national Permit and Supervisory Authority, replacing the Regional State Administrative Agencies and the ELY Centers. This change is intended to improve efficiency and simplify permitting processes by providing a one-stop-shop for permitting, centralizing permitting expertise under one national authority and promoting more consistent administrative practices. The second reform concerns the handling of certain environmental matters at the new Permit and Supervisory Authority, and provides, among other things, a target handling time of (no more than) 12 months for certain green transition projects, including offshore wind power plants. This reform also extends the above-mentioned priority treatment of certain environmental and water permit applications until the end of year 2030 at the permit authority and until the end of year 2032 at the appeal courts. These legislative reforms will enter into force on 1 January 2026.

Grid connection

In Finland, grid operators have, under the Finnish Electricity Market Act, a responsibility to develop the grid and an obligation to connect, upon request and for a reasonable fee, electricity consumption sites, power plants, including offshore wind farms, and energy storage facilities meeting the technical requirements within their operating area. In practice, offshore wind farms located in the territorial waters can only be connected to the main grid operated by Fingrid, the Finnish transmission system operator, due to their size and certain legislative restrictions. The Finnish Electricity Market Act has been recently amended to allow for additional alternatives, including direct connections from electricity production facilities to end-user facilities on the mainland, the possibility for electricity producers under certain conditions to construct and operate joint networks connecting their electricity production to the grid without a power network license, the construction and operation of regional or local 400 kV networks by distribution system operators, and extending Fingrid's obligation to connect offshore wind farms located in Finland's EEZ to further promote the utilization of offshore wind power. The amendments will enter into force at the beginning of 2026.

Currently, there is no grid in the maritime area, and thus, as is the case elsewhere in the world, offshore wind developers would need to construct the power lines connecting their offshore wind projects to the grid themselves at designated connection points on the mainland. In addition, the west coast of Finland, which is where most offshore wind projects are expected to be located, requires significant reinforcement of the transmission infrastructure. In its published development plan, Fingrid has identified plans to strengthen the transmission grid by adding new 400 kV transmission connections from Finland's west coast to major electricity consumption centers. Furthermore, Fingrid has identified seven preliminary areas where large offshore wind farms could be connected to the main grid in the future. The realization of these connections will require technical upgrades and expansion of the transmission infrastructure, as well as careful coordination with the progress of offshore wind projects and other industrial developments in the area. Therefore, the timing and scope of the grid reinforcements will depend on the advancement of these projects and the evolving needs of the electricity system, ensuring that the grid can reliably support the increasing share of renewable energy and maintain system stability.

Innovations and links to other sectors; overview of offtake market

Power purchase agreements

The power purchase agreement ("**PPA**") market in Finland has been growing in the recent years, driven by corporate demand, for both virtual and physical long-term renewable energy power supply contracts. Companies across various sectors—particularly manufacturing and energy-intensive industries—or companies with high targets to reduce their carbon footprint have increasingly sought PPAs to meet sustainability goals, stabilize energy costs, and enhance their ESG performance. Finland's appeal has been further strengthened by the growth of the data center industry, which is expected to continue in the future.

Whilst an offshore wind PPA market has yet to emerge in Finland, growing interest from data center operators and large corporations indicates that demand for long-term PPAs is likely to develop. Long-term PPAs are expected to become an important factor in securing the bankability of offshore wind projects. Given the potentially significant energy output of offshore wind, potential offtakers for physical PPAs are speculated to include manufacturing industries, the power-to-x sector, and data centers with energy-intensive operations.

Hydrogen economy

Finland is aiming for Europe's leading position in the hydrogen economy throughout the entire value chain. According to the current Finnish Government program, Finland aims to account for 10% of EU's emissions-free hydrogen production and for at least the same percentage of hydrogen use. The wind power capacity, in addition to a reliable and predictable operating environment, makes Finland an attractive investment environment for hydrogen operators. Furthermore, due to the forest industry and use of bioenergy, Finland has a competitive advantage when it comes to the capture and utilization of bio-based carbon dioxide.

The hydrogen-related regulatory framework is finally mostly in place at the EU level, and thus the focus is shifting to the national implementation of the respective requirements. The amended Finnish Act on the Promotion of the Use of Renewable Fuels in Transport, including more ambitious targets for renewable hydrogen-based fuels than required by the respective EU Renewable Energy Directive, entered into force on 1 January 2025. Moreover, national Hydrogen Market Act is expected to be adopted in 2026, in addition to which several other amendments to various legislative instruments are expected to be made.

Numerous hydrogen development projects have been announced with an aggregate investment value of several billion euros. Furthermore, the Finnish Government has mandated Gasgrid Finland Oy, a Finnish state-owned enterprise and the Finnish natural gas transmission system operator, to promote the development of the national and regional hydrogen infrastructure. Three cross-border hydrogen pipeline projects under planning by Gasgrid Finland Oy and its partners have been included on the Projects of Common Interest list by the European Commission. The potential for co-location of power-to-x projects with offshore wind projects in Finland is therefore great.

Data centers

Finland is emerging as a key player in the growing global data center market, driven by increasing demand for cloud services, artificial intelligence and data processing. Data center projects are currently increasing at a record pace in Finland where the strategic location, renewable energy resources and advanced infrastructure make the country an attractive investment destination for global operators. To further secure Finland's share of the upcoming investments, the Finnish Government published in 2025 a national roadmap for data centers, including proposals for regulatory framework amendments and other measures to enhance Finland's competitiveness in attracting data center investments with varying timeline suggestions. The roadmap acknowledges the interdependence between the realization of renewable energy projects, including wind and solar power and progress of high-consumption investments, such as data centers. There are already several large-scale data center investments in Finland by major international companies, including Google and Microsoft.

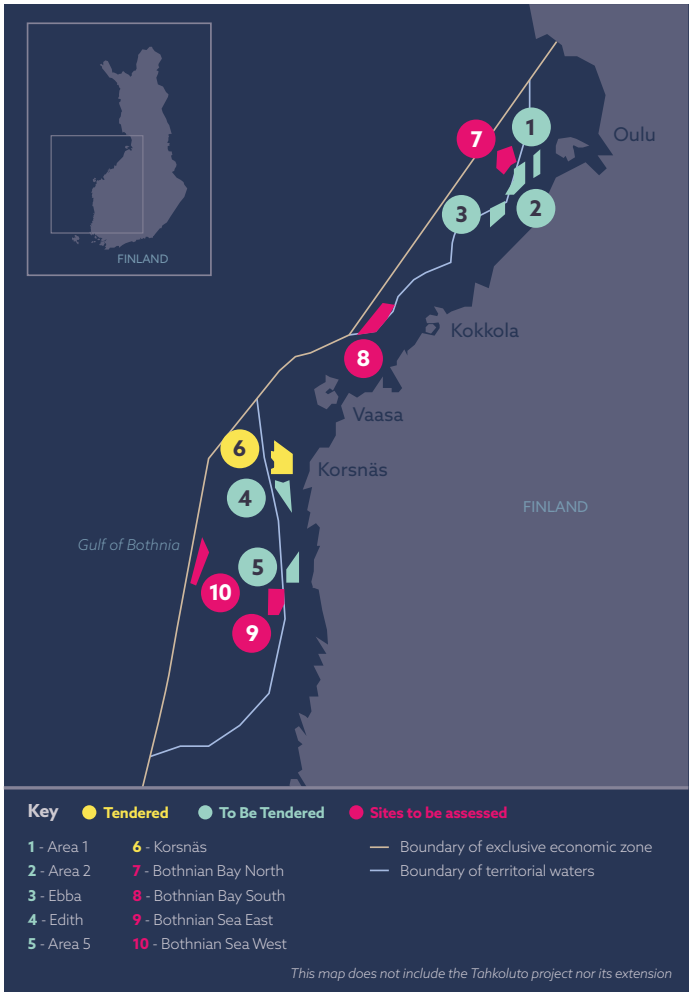
Finland's cold climate offers a natural advantage for energy-efficient cooling solutions in data centers, significantly reducing operational costs and contributing to sustainability goals. Furthermore, Finland's advanced district heating network creates excellent conditions for cost-effectively transferring waste heat generated in the data centers to the district heating network. As mentioned above, there is therefore abundant opportunity for offshore wind developers to explore the sale of their power to such data centers.

Conclusions

Despite the challenges posed by global economic pressures impacting the financial viability of green transition projects, including offshore wind projects, Finland's commitment to become a leader in clean energy remains steadfast. Recently adopted legislation and subsidies to green transition projects, including measures to clarify the legal framework in the EEZ, the streamlining of the Finnish permitting process and the RRF energy investment aid, are some of the measures that highlight the governmental efforts at advancing offshore wind in Finland, with more legislative initiatives upcoming.

Collaborative efforts of the Finnish Government, municipalities, developers and other stakeholders will be crucial in realizing the full potential of offshore wind energy in Finland. At the same time, expanding sectors and innovations—including data centers as the global demand for data center capacity increases, the industrial sectors that are expected to require significant volumes of green energy in order for them to achieve carbon neutrality targets and hydrogen technologies—present great offtake opportunities and thus underline further possibilities for offshore wind development in Finland.

Map 7: Wind power areas in the territorial waters approved by the Finnish Government and areas proposed for wind power in the EEZ



FRANCE

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The French offshore wind market has a growing pipeline of projects stemming from ambitious objectives set by the French government.

These new projects will not only benefit from the experiences gained during the development of France's first generation of offshore wind projects, but also from government reforms aimed at simplifying, clarifying and speeding up the competitive bidding process.

French offshore wind sector – a top national priority

The multiannual energy plan (*Programmation pluriannuelle de l'énergie*) ("**PPE**") for the period 2019–2028 published by Decree No. 2020 456 of 21 April 2020 sets ambitious objectives for 2.4 GW of additional offshore wind capacity by 2023 and 5.6 GW to 6.2 GW by 2028. In the draft French strategy for energy and climate dated March 2025, the French government published a draft of the third multiannual energy plan (2025-2030, 2031-2035), which aims at achieving at least 18 GW of offshore wind capacity by 2035, 26 GW by 2040, and 45 GW by 2050.[1]

The projects launched or to be launched are both fixed-bottom and floating offshore wind farms.

France is reported to have the second-largest offshore wind resource in Europe, and it has been made clear that the ambition of the French government is to develop a strong offshore wind sector.

The French President, Emmanuel Macron, indicated that the objective is to implement fifty (50) offshore wind farms by 2050.

To reach these objectives, the draft third PPE mentions the organization of "*one or more multi-GW tenders, while creating the conditions for the continuation of ambitious development in the following years.*"

Accordingly, development of the French offshore wind sector could continue with the implementation of fixed-bottom offshore wind farms and the development of several floating offshore wind farms in the coming years.

The continuation of the development of fixed-bottom offshore wind farms

The development of additional fixed-bottom offshore wind farms is expected to continue with several new projects tendered (see below).

The development of commercial offshore floating wind farms

Floating wind turbines can generate power in deep water where wind may be stronger and more consistent. Furthermore, the installation of floating wind turbines does not require the developer to build heavy foundations integrated into the seabed or use special construction vessels needed for fixed-bottom offshore wind turbines.

Following the successful launch of several pilot projects by the French Environmental and Energy Management Agency ("**ADEME**") and given the promising nature of floating wind technology, the French government showed its support for this technology by including floating offshore wind turbines in the PPE for the period 2019–2028.

As detailed below, three calls for tenders have been launched for offshore floating wind farms: (i) a first call for tenders was launched in April 2021 for a 250 MW floating offshore wind project in Brittany; (ii) a second call for tenders was launched in March 2022 for two floating 250 MW offshore wind farms in the Mediterranean Sea; and (iii) a third call for tenders was launched in July 2024 for three floating offshore wind farms: one located in Southern Brittany with a capacity of between 400 MW and 550 MW (Sud-Bretagne 2), and two farms located in the Mediterranean Sea with a capacity between 400 and 550 MW each (Méditerranée 2).

Retrospective and overview of the existing French offshore wind farms pipeline

The French offshore wind project pipeline is busy with six new tenders launched in the last five years.

Tender rounds 1 and 2 and the FIT – a challenging start

Offshore wind projects have been developed in France since 2011, when the French government launched its first call for tenders for up to a maximum capacity of 3 GW spread over five zones: (i) Dieppe-Le Tréport (500 MW); (ii) Fécamp (500 MW); (iii) Courseulles-sur-Mer (450 MW); (iv) Saint-Brieuc (500 MW); and (v) Saint-Nazaire (480 MW).

A second call for tenders was launched in March 2013 and targeted two zones: Le Tréport (500 MW) and a zone between the islands of Yeu and Noirmoutier (500 MW).

1. French strategy for the energy and the climate (in French, *Stratégie française pour l'énergie et le climat*), March 2025, p. 100, available (in French) at the following address: https://www.consultations-publiques.developpement-durable.gouv.fr/IMG/pdf/02__projet_de_ppe_3.pdf. Please note that this document remains a draft and was submitted for public consultation between 7 March 2025 and 5 April 2025.

These projects were awarded feed-in tariffs ("**FiTs**"), as opposed to a contract for difference ("**CfD**") (see below).

The procedures for these tenders experienced various issues, including challenges before the French administrative courts. These disputes led to significant delays in the construction of the projects. For instance, the final authorizations for the Fécamp and Courseulles-sur-Mer projects, the Saint-Nazaire project, the Saint-Brieuc project and the Dieppe-Le Tréport project were only determined by the highest French Administrative Court, the Council of State ("*Conseil d'État*"), on 24 July 2019, 7 June 2019, 3 December 2020, and 28 December 2022 respectively.

In addition, the FiTs resulting from these tenders were high when compared to the decreasing construction costs of offshore wind farms (the FiTs awarded ranged between €180 and €230/MWh at the time). This discrepancy led the French government to reconsider continuing these projects. However, the abandonment of the projects was avoided thanks to a renegotiation of the FiTs between the French government and the developers (leading FiTs in the range of €131/MWh and €155/MWh). The newly agreed FiTs were validated by the European Commission on 26 July 2019, and the development of these projects was able to continue.

The Saint-Nazaire project reached financial close in September 2019, the Fécamp project at the end of May 2020, the Courseulles-sur-Mer project in February 2021, and the Dieppe-Le Tréport and Yeu-Noirmoutier project in April 2023.

In November 2022, the Saint-Nazaire project was the first French offshore wind farm to be commissioned. The Fécamp and Saint-Brieuc projects were commissioned in May 2024. Meanwhile, the Yeu-Noirmoutier, Dieppe-Le Tréport, and Courseulles-sur-Mer projects are still under construction and are expected to be commissioned in early 2026, late 2026 and in 2027, respectively.

Tender round 3 – a move to competitive dialogue procedure and transition to CfDs

The third call for tenders was launched on 15 December 2016 for the 600 MW Dunkerque offshore wind project, which was awarded on 14 June 2019 to a consortium comprising EDF, Innogy and Enbridge.

This call for tenders was the first one to be carried out through a competitive dialogue ("*dialogue concurrentiel*"), meaning that the French government and the bidders discussed certain terms and conditions of the project before the French government issued the final version of the project's tender specifications ("*cahier des charges*"). Since Round 3, the competitive dialogue procedure has been the French Government's preferred approach to awarding projects, but this may change in the future (see below).

Round 3 has been a cornerstone for subsequent rounds as it provided, for the first time, for the conclusion of a CfD rather than awarding a FiT (in contrast with Tender Rounds 1 and 2). A CfD grants the project a "premium" based on the spot electricity price, a reference electricity tariff (proposed by the winning developer during the competitive process), and the reference market price. In respect of the Dunkerque project (Round 3), the CfD reference electricity tariff is €44/MWh.

Tender rounds 4, 5 and 6 – confirmation of France's offshore wind momentum

An additional fixed-bottom offshore project was tendered on 15 January 2021 in the French exclusive economic zone ("**EEZ**"), near the coast of Normandy for a total installed capacity of 1 GW (Round 4 or "Centre Manche 1" project).[2]

Round 4 was awarded on 27 March 2023 to Eoliennes en Mer Manche Normandie, a company owned by EDF Renewables and Maple Power. The CfD reference electricity tariff is set at €44.9/MWh.

Additionally, for the first time, a commercial floating wind farm project, with a total installed capacity of 250 MW, near the coast of Brittany was launched in April 2021 (Round 5 or "Sud-Bretagne 1").[3] Round 5 was awarded on 24 May 2024 to Pennavel SAS, a company owned by Elicio France SAS and BayWa r.e. France SAS. The CfD reference electricity tariff is set at €86.45/MWh.

Round 6 was launched in March 2022 and aimed, as indicated above, at awarding two offshore floating wind farms in the Mediterranean Sea.

One interesting aspect of Round 6 is that a unique competitive procedure was launched for the award of both projects (each project being a separate lot), and the same candidate was not allowed to be awarded both projects.

The Round 6 projects were awarded in December 2024. The farm located in the Narbonne area was awarded to a consortium comprising of Ocean Winds (a company owned by Engie and EDPR) and Eolien en Mer Participations (a company owned by the Banque des Territoires), with a CfD reference electricity tariff set at €92.70/MWh. The wind farm located in the Golfe de Fos area was awarded to Eoliennes Méditerranée Grand Large, a company owned by EDF Renewables and Maple Power, with a CfD reference electricity tariff set at €85.90/MWh.

Tender rounds 7 and 8 – continuation of France's offshore wind momentum

Round 7 and Round 8 were confirmed by the French Government during summer 2022.

Round 7 (or "Oléron 1") relates to the implementation of a fixed-bottom offshore wind farm near the Island of Oléron, for an installed capacity ranging between 500 MW and 1 GW. The Round 7 tender was declared unsuccessful by the French government in an official press release issued on 24 September 2025,[4] as no bids were received.

Round 8 (or "Centre Manche 2") relates to the implementation of a fixed-bottom offshore wind farm for an installed capacity of at least 1.5 GW in Normandy, adjacent to the Centre Manche 1 project (Round 4).

One interesting point to note is that the Round 8 project will benefit from two different interconnection points and will share the offshore substation with the Centre Manche 1 project (Round 4).

Round 8 was awarded on 23 September 2025 to Cotentin Energies Marines, a consortium between TotalEnergies and RWE. The CfD reference electricity tariff is set at €66/MWh. The commissioning of this farm is expected in 2033.

2. The public debate started on 15 November 2019, and, while it was intended to last four months, it did not complete until 19 August 2020 due to delays caused by the COVID-19 pandemic.
3. Although floating wind turbines have been installed in France since 2018, these projects were pilot projects and only concerned a limited number of turbines.
4. French Government press release dated 24 September 2025, available (in French) at the following address: https://presse.economie.gouv.fr/designation-du-laureat-de-lappel-doffres-eolien-en-mer-centre-manche-2-ao8-et-infructuosite-de-lappel-doffres-oleron-1-ao7/

Tender round 9 and onwards – acceleration of France's offshore wind development

To accelerate the development of the energy transition and reach the objective to have 50 offshore wind farms, with a total capacity of 45 GW by 2050, the French government recently announced the launch of bigger tendering rounds.

A new tendering round (Round 9), which is one of the largest yet with three projects[5] adjacent to those of Rounds 5 and 6, for a total capacity of more than 1.5 GW, was launched in July 2024. A total of 12 developers met the pre-qualification requirements, or criteria provided for by the pre-qualification document, and have been selected to participate in the competitive dialogue.[6] The competitive dialogue procedure is ongoing and results of this tender are expected at the end of 2026.

Note that Round 9 projects should be subject to a diversification requirement, which means that a single candidate cannot be awarded more than one project out of the three projects of Round 9.

These projects could also be the first French offshore wind projects implementing selection criteria based on the EU Net Zero Industry Act, and may also include reinforced criteria relating to the carbon content of offshore wind projects.

An 8 to 10 GW call for tenders (Round 10) including multiple projects is planned for 2026, with the aim of being awarded before 2027.

Brief description of the French competitive process

The delays and difficulties experienced in the first calls for tenders led the French government to modify the regulatory framework to promote and simplify the development of future projects. The implementation of an offshore wind project in France still requires several authorizations, but many of them have been adapted to solve the difficulties experienced in the previous tenders.

As noted above, the development of an offshore wind project in France requires the developer to win a tender. The tenders are launched by the minister in charge of energy based on tender specifications drawn up with the CRE. This procedure may take the form of a competitive dialogue ("*dialogue concurrentiel*") or a bidding procedure ("*appel d'offres*"). Since Round 3, the competitive dialogue procedure has always been chosen by the French government for all tender rounds. However, the large number of planned projects and the maturity of the industry, particularly for fixed-bottom wind farms, could lead the French government to standardize procedures and switch to a streamlined version of this procedure, or even a bidding procedure for some future projects.

Permitting

Developer's permits

When a project is built within the public maritime domain,[7] winning a tender allows the developer to be issued an operating permit ("*autorisation d'exploiter*") as well as the right to conclude a CfD (as explained above). It should, however, be highlighted that an operating permit is not required when the installed capacity of an offshore wind project is less than or equal to 1 GW and, in any case, such authorization is deemed granted with the award decision of the tender.

In addition to the operating permit, the operator must obtain two main authorizations when the project is located within the public maritime domain: (i) an environmental authorization and (ii) an authorization to occupy the public domain. The duration of the authorization to occupy the public domain was initially set at a maximum of 40 years, but was increased to 50 years by Decree No. 2023-1419 of 29 December 2023.

A single authorization is required when the project is built within the French EEZ, pursuant to the provisions of Ordinance No. 2016-1687 of 8 December 2016 and Decree No. 2013-611 of 10 July 2013.[8] The maximum duration of such authorization was initially set at 40 years, but Decree No. 2023-1419 of 29 December 2023 has also extended this maximum duration up to 50 years.

One significant aspect to bear in mind is that, save for the operating permit, these authorizations are obtained through application to the relevant authority (and not through a competitive process) after being awarded the project.

Grid connection permits

The grid connection permits are the responsibility of the French operator of the public power transmission system, *Réseau de Transport d'Electricité* ("**RTE**").

Furthermore, the expenses related to the grid connection have been borne by RTE since 2017 (see below).

5. Please note that Round 9 originally included four projects, with one project (1 GW) located adjacent to "Oléron 1" (Round 7). However, this fourth project, known as "Oléron 2," was withdrawn following the competitive dialogue, so only three projects now remain in Round 9.
6. The selected developers are: (i) BayWa r.e., (ii) a consortium between Elicio, Q ENERGY and Kansai Electric, (iii) EnBW Valeco Offshore, (iv) Les Eoliennes du Grand Large, a company owned byEDF Renewables and Maple Power), (v) Iberdrola, (vi) a consortium between Ocean Winds and Banque des Territoires, (vii) a consortium between Oxan Energy and Ingka Investments, (viii) a consortium between Plenitude and Qair, (ix) Parkwind, (x) RWE Eolien en Mer France, (xi) a consortium between Skyborn and Octopus, et (xii) TotalEnergies
7. The public maritime domain ("**DPM**") corresponds essentially to the territorial sea. It is made up of land historically covered by the sea but from which it has retreated, as well as land still under water between the seashore and the limit of territorial waters. The DPM is subject to a special regulatory regime under French law.
8. As defined by the so-called Montego Bay Convention, the exclusive economic zone is "*an area beyond and adjacent to the territorial sea, subject to the specific legal regime established in this part, under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provision of this Convention*". (art. 55). French law provisions with respect to the use and occupation of the French exclusive economic zone are set forth in the abovementioned Ordinance no. 2016-1687.

Reforms

Considering the experiences derived from the previous call for tenders, several amendments to the regulatory regime are worth noting.

Grid connection

As highlighted above, the French government decided to reform the regulations relating to the grid connection of electricity production facilities. Pursuant to Law No. 2017-1839 of 30 December 2017, RTE carries out, at its own expense, the grid connection of offshore wind projects pursuant to a strict timetable set out in the specifications of the call for tenders of each project. Therefore, the costs of the grid connection are no longer borne by the developers, which has led to a significant decrease in the reference electricity tariff proposed by the developers since the Dunkerque project (Round 3).

Insurance

Offshore wind projects have been added to the "major risks" identified in Article L. 111-6 of the French Insurance Code to promote their insurability. This means that offshore wind projects are exempted from a mandatory requirement to insure for terrorism and natural disasters. The exclusion of both requirements does not mean that these risks cannot be insured, but rather that the project and insurers are now free to insure these risks on their own terms (rather than being required to do so).

"Envelope permit"

To enable the developer to benefit from the latest technological developments and construction techniques, Law No. 2018-727 of 10 August 2018 created the "envelope permit." The "envelope permit" allows the developer to obtain an authorization for a project with variable characteristics. Accordingly, the developer may modify certain characteristics of the project, within the limits of the "envelope permit," to benefit from the latest technological developments without modifying the authorizations granted. Without this legislative flexibility, an offshore wind developer would need to seek consent from the relevant authorities each time there was a change to the characteristics or technologies adopted by an offshore wind project during its development and construction, which would lead to delays in the completion of the relevant project.

Simplifying the procedure and improving projects planning

In order to accelerate the development of offshore wind farms, measures have been adopted by Law No. 2020-1525 of 7 December 2020 to speed up and simplify public procedures.

These measures were further supplemented by other legislation including by Law No. 2023-175 of 10 March 2023 for the acceleration of renewable power generation ("**APER Law**").

With respect to the public debate, which is required to be held for determining the viability of a project and the area within which it is to be erected, Article L. 121-8-1 of the French Environmental Code was first modified in 2015 in order to: (i) allow the minister in charge of energy to launch the call for tenders before the end of the public debate, which was not previously possible (although we note that the competitive dialogue cannot start before the results of the public debate are published), and (ii) launch a unique public debate for determining several areas for offshore wind projects in the same seafront ("*façade maritime*").

Article L. 121-8-1 of the French Environmental Code was modified again in 2023, to allow the organization of a unique public debate for both (i) adopting the seafront strategic documents ("*documents stratégiques de façade*"), which are planning documents identifying at a broad scale the potential offshore wind areas on a seafront, and (ii) determining the specific areas of offshore wind projects for which a call for tenders is about to be launched.

As the implementation and duration of a public debate can be lengthy, the possibility to launch a one-off debate to determine several areas for the implementation of future projects and to adopt the seafront strategic documents is expected to accelerate the number of projects launched in the coming years, as well as improve the planning of offshore wind projects.[9]

To speed up the award of administrative authorizations, Article 58 of the APER Law created a new article in the French Energy Code which allows the French State to start (i) technical and environmental studies required for carrying out the design of a project and (ii) an environmental impact assessment in advance of any tender launch. The aim on this provision is to provide sufficient and precise information to tender round participants.[10]

Furthermore, the APER Law also: (i) created a single authorization regime for the grid connection facilities of offshore wind farms located in the EEZ, even though these go through the territorial sea and EEZ (and therefore would have required obtaining both an environmental authorization for the territorial sea and a single authorization for the EEZ), and (ii) included the decision approving the authorization to occupy the public domain within the scope of the environmental authorization.

With respect to challenges brought against a project's authorizations, France's highest Administrative Court (the "*Conseil d'État*") is now in charge of examining "*challenges against decisions relating to offshore renewable energy installations and their related works.*" By reserving jurisdiction to the highest Administrative Court (which will make a final judgment on any legal challenge relating to a project's authorizations), the French government aims to reduce the challenges targeted against developers, allowing projects to be developed quicker (cf. Art. L. 311-13 and R. 311-1-1 of the French Administrative Justice Code).

9. For instance, the Ministerial decision of 17 October 2024, (which followed the public consultation regarding the mapping of priority maritime and terrestrial areas for offshore wind projects), established a map setting out the geographical areas (with priority areas), as well as the allocation between fixed-bottom and floating projects of offshore wind farms for the next tenders, and pre-identified areas for long-term tenders (2040-2050). This decision will allow the French government to launch multi-project tenders on several seafronts, including for Round 10. This decision is available at the following address (in French, no English version available): https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000050362918
10. The practical details of this article were specified by Article 7 of Decree No. 2023-1419 of 29 December 2023, which introduced Article R. 311-25-4 of the French Energy Code. The minister in charge of energy is empowered to (i) publish this data between the publication of the invitation to tender and one month before the submission deadline, (ii) allow candidates to ask questions, and (iii) organize meetings to present the published information and answers.

In addition, the APER Law extended the powers of the administrative courts when a challenge is introduced against an authorization granted to an offshore wind farm in the territorial sea or the EEZ. If any irregularity is found, instead of just cancelling the authorization (and thus requiring the administration to restart the entire authorization process), the courts would now be able to: (i) partially cancel the authorization, allowing the administration to restart the authorization process only in relation to those aspects affected by the irregularity, or (ii) allow the irregularity to be cured.

Finally, it can also be highlighted that the APER Law clarified that offshore wind farms located partly in the territorial sea and partly in the EEZ shall be subject only to rules applicable to the territorial sea.

Adjusting the legal regime applicable to the French exclusive economic zone

Given that several projects will be implemented in the French EEZ,[11] the applicable legal regime has been modified to take into account certain specificities of the EEZ.

Ordinance No. 2016-1687 of 8 December 2016 was modified by Law No. 2021-1900 of 30 December 2021 and the APER Law.

Modifications of Ordinance No. 2016-1687 made in 2021 relate to: (i) the fee ("*redevance*") that could be requested from the developer by the French authorities for the occupation of the EEZ and which now can be "*set at zero*" (Art. 27 of Ordinance No. 2016-1687),[12] and (ii) the tax regime applicable to offshore wind turbines, which has been specified (Art. 36 of Ordinance No. 2016-1687).

In addition, the APER Law has clarified that floating offshore wind turbines are not subject to the rules applicable to ships and has created a specific status for them.[13]

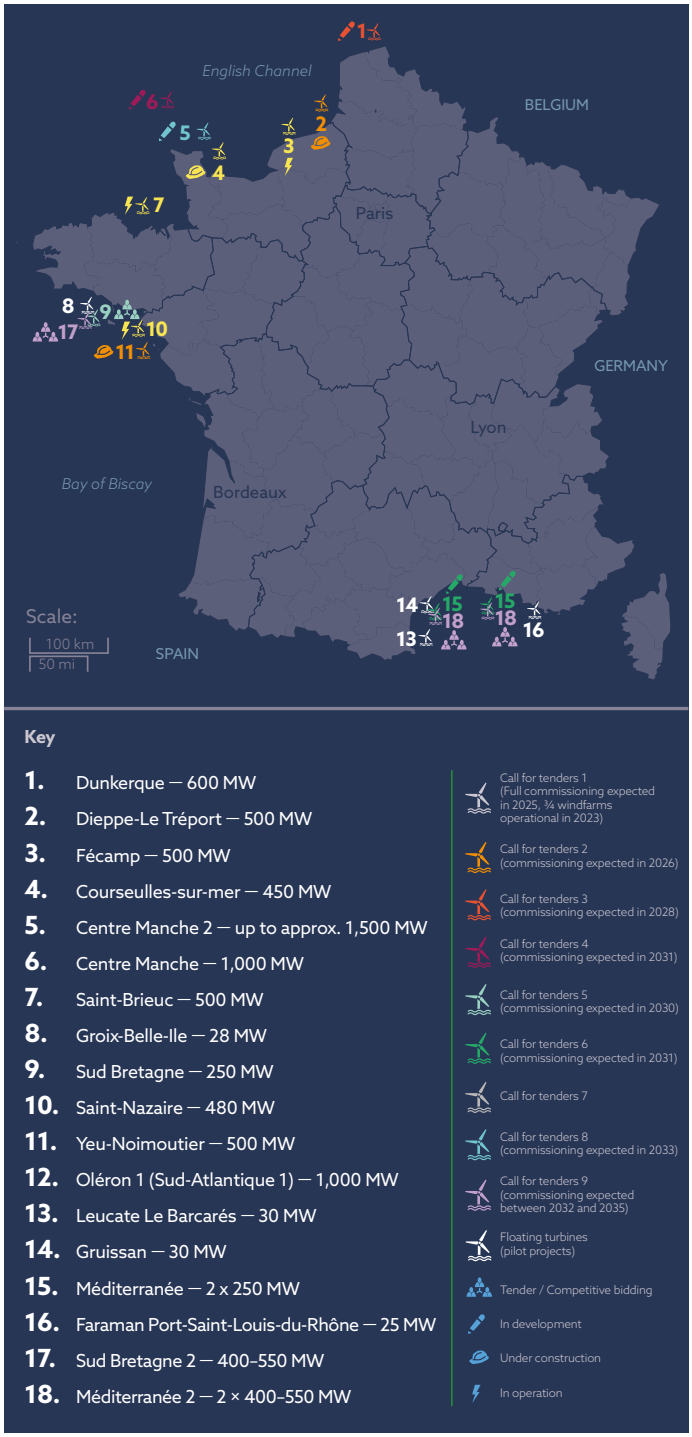
With respect to Decree No. 2013-611 of 10 July 2013, which was modified by Decree No. 2021-1942 of 31 December 2021, the following modifications can be highlighted:

- the regime applicable to obtaining a temporary authorization—for instance, to conduct studies—has been amended (Art. 3 of Decree No. 2021-1942);
- while Article 11 of the Decree sets out a validity period of 48 months between issuance of the authorization and beginning of the works for the single authorization, such period can be set otherwise if it is specified in the tender specifications ("*cahier des charges*"); and
- the conditions under which a single authorization can be repealed have been further specified, and notably: (i) include the events in which such repeal may be triggered, and (ii) allow payment of compensation under the conditions provided by the tender specifications (particularly in the event of repeal on grounds of public interest).

Decree no. 2013-611 of 10 July 2013 has been further amended twice in 2025.

The first modification, resulting from Decree no. 2025-781 of 6 August 2025, created new prior consultation obligations when building an offshore wind project, especially where it is close to military installations.[14]

Map 8: France's offshore wind projects



11. Articles 56 and 57 of the Law No. 2023-175 of 10 March 2023 for the acceleration of renewable power generation have modified provisions in the French Energy Code and the French Environmental Code to specify that offshore wind tenders shall target priority sites in the economic Exclusive zone.
12. An order dated 8 March 2022 has since set forth the principles applicable to the fee to be paid for offshore wind farms.
13. Such status was further specified by Decree no. 2025-1101 of 19 November 2025, which amended Decree no. 2013-611 of 10 July 2013 (see below).
14. Note that this Decree was supplemented by an Order dated 6 August 2025. This Order defines certain criteria which trigger the obligation to request an opinion from military authorities before building the project.

The second modification, resulting from Decree no. 2025-1101 of 19 November 2025, further defined the specific regime applicable to floating offshore wind turbines. In particular, it established an obligation to obtain a conformity certificate issued by an accredited organization prior to commissioning and to carry out periodic inspections. It also created administrative sanctions in case of noncompliance with this new specific regime.

The objective of these amendments is to adapt the EEZ legal regime to offshore wind projects in order to encourage investment and the financing of projects, while also ensuring the protection of the State's interests and the conservation of the area, as well as the safety and security of these plants' operation.

Diversification of selected bidders

Given the planned acceleration of the French offshore wind projects, measures have been adopted to explicitly allow the French Government to limit the number of projects a single candidate could be awarded in a call for tender to ensure the proper construction of all projects awarded.

Decree No. 2023-1419 of 29 December 2023 amended Article R. 311-13 of the French Energy Code to that extent. In case of allotment of a tender, this provision requires that the tender specifications specify the number, size and characteristics of the lot, as well as the maximum number of lots or the maximum cumulative capacity that may be awarded to a single candidate.

If a limitation to the number of lots or capacity that can be awarded to a single candidate is provided, the tender specifications must also specify the selection conditions applicable if the selection criteria would lead to choosing such candidate for more lots or capacity than the authorized limit.

The selection conditions may notably rely on a selection order determined by the French minister in charge of energy, or the choice of the candidate. Other types of selection conditions could also be provided for.

Better integration of offshore wind farms into the electric system

Article 175 of the 2025 Finance Law put in place several mechanisms to help address the balancing issues that may result from the integration of new renewable energy capacities such as offshore wind projects.

According to Article 175 of the 2025 Finance Law, offshore wind farms subject to a FiT may be subject to a curtailment or shutdown request in case of negative price periods. If the producer complies with these requests, the producer receives financial compensation for the period of curtailment or shutdown.[15] If the producer fails to respond to the request, the FiT and the related compensation shall not apply.

In the same perspective, offshore wind farms after Round 9[16] subject to a CfD will be able to benefit from a negative price bonus during periods where the prices are just slightly negative,[17] even if the plant continues to generate electricity, provided that the price resulting from at least one of the auctions of the single intraday coupling is positive.

Furthermore, offshore wind farms must participate in the balancing mechanism pursuant to Article L. 321-13 of the French Energy Code.[18] Since the adoption of the 2025 Finance Law, offshore wind farms supported under a FiT or CfD are also encouraged to participate in additional ancillary services for the grid. Participation in these mechanisms is meant to be without any negative impact on the level of public support paid to affected farms. Since the 2025 Finance Law, volumes committed through these mechanisms are indeed accounted for in the FiT or CfD calculation.

Additional modifications contemplated in the legal framework applicable to offshore wind farms

The above-mentioned legal framework may evolve again in the future.

The French Government announced in May 2024 the adoption of reforms aiming at accelerating the development of offshore wind projects.[19]

A decree was in preparation to simplify the prequalification step of the tendering procedures awarding offshore wind projects and to reduce the time given to the CRE to examine the bids submitted. This measure aimed at reducing the duration of the tendering procedures awarding offshore wind projects to around 12 months (instead of more than two years today).

In its initial version, the bill on business simplification was intended to allow RTE to waive any allotment requirement applicable under French public procurement rules. The purpose of this measure was to simplify the regime applicable to the tendering procedures which must be implemented by RTE to carry out the grid connection works of the offshore wind projects.[20] This text is currently under discussion by the French Parliament and the fate of these contemplated reforms remains uncertain, considering the government evolutions which have occurred since 2024.

Outlook

As the latest publication of public tenders shows, the development of offshore wind projects in France has been accelerated in order to increase the number of wind farms commissioned moving forwards.

Offshore wind remains a priority for France, although the development of additional projects is subject to the adoption of the new PPE, which remains under discussion due to the government evolutions which have occurred since 2024.

15. See Article 2 of the Order dated 22 December 2025.
16. See Article 3 of the Order dated 8 September 2025.
17. Note that a similar principle has already been implemented in the last tender specifications for Rounds 7, 8 and 9, but with slightly different conditions.
18. Note that participation to the balancing mechanism was made mandatory for all renewable energy plants with an installed capacity equal to or greater than 10 MW by Article 18 of Law no. 2025-391 dated 30 April 2025 implementing certain EU provisions, whilst only facilities interconnected to the transmission system were concerned before this Law. Offshore wind farms were therefore already concerned by this obligation prior to the adoption of this Law as all these projects are interconnected to the transmission system.
19. See: https://presse.economie.gouv.fr/bruno-le-maire-et-roland-lescure-annoncent-de-nouvelles-mesures-de-soutien-au-developpement-de-leolien-en-mer-et-de-son-industrie/
20. RTE is a contracting entity pursuant to the EU public procurement rules. It is subject, as such, to the obligation to organize competitive tenders to satisfy its needs for work, services or supplies related to its transmission mission.

GERMANY

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Status quo and growth path

Germany's offshore wind market entered 2025 with 9.2 GW of installed capacity and a large construction pipeline. After no additional turbines were connected to the grid in the first three quarters of 2025, several key projects achieved major milestones at the end of the year:

- A joint venture between RWE and TotalEnergies submitted planning applications for the Windbostel Ost and Windbostel West projects with an aggregate 4 GW of expected capacity.
- The 960 MW He Dreiht project and the 913 MW Borkum Riffgrund 3 project, the two largest German offshore wind farms to date, entered partial operation.
- The foundations were laid on the first stage of RWE's Nordseecluster, which has an expected total capacity of 1.6 GW.

Notwithstanding the positive updates noted above, 2025 was a challenging year for Germany's offshore wind sector, marked by rising costs, supply chain disruptions, grid connection delays, and declining revenue certainty. These factors led to the first-ever auction with zero bids in August, highlighting growing concerns over project economics. For further details, see the section "2025 Tenders" below.

Despite all challenges, offshore wind energy will remain a cornerstone for Germany's transition to greenhouse gas neutrality by 2045. In total, the pipeline of projects under construction or in the planning process amounts to over 20 GW of additional capacity and the new government reaffirmed the target of 70 GW offshore capacity by 2045 in their coalition agreement.

Map 9 opposite, illustrates the current development status of offshore wind projects in Germany's territorial waters in the North Sea and the Baltic Sea.

Legal framework following the 2023/2024 amendments to WindSeeG

Germany's offshore wind regime is currently governed by the significantly revised Offshore Wind Energy Act (*Windenergie auf See Gesetz*, "**WindSeeG**"), which entered into force on 1 January 2023 following a comprehensive legislative amendment process. The following subsections describe this framework, which forms the regulatory basis for the 2025 tender rounds. No structural amendments to the WindSeeG were adopted in 2025; the 2025 developments relate exclusively to implementation measures and regulatory refinements, which are addressed separately below.

Tender design

Under the current regime, the Federal Network Agency (*Bundesnetzagentur*, "**BNetzA**") conducts two tender rounds per calendar year, covering pre-investigated and non-pre-investigated areas. A substantial part of the annual tender volume is allocated to areas pre-investigated by the Federal Maritime and Hydrographic Agency (*Bundesamt für Seeschifffahrt und Hydrographie*, "**BSH**"). The remaining share of the total capacity is allocated to a tender process for project rights in areas that have not been pre-investigated by BSH. These areas have been preliminarily identified as generally suitable for offshore projects in the area development plan (*Flächenentwicklungsplan*, "**FEP**").

Under the pre-2023 framework, tenders guaranteed minimum prices using market-premium mechanisms, resulting in frequent "zero bids" and lotteries. The 2023/2024 changes let bidders offer extra payments, removing the lottery and boosting competition. Although earlier WindSeeG drafts proposed two-sided CfDs, this was not adopted.

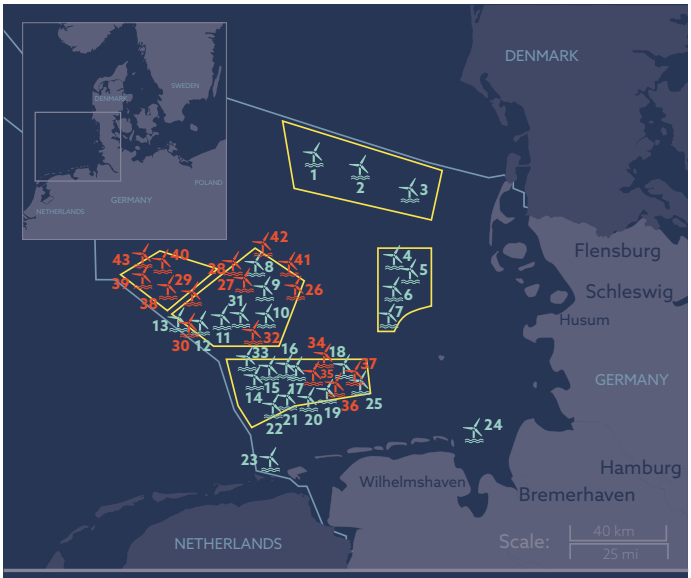
The current WindSeeG outlines different tender formats for pre-investigated and non-pre-investigated areas.

Pre-investigated areas – beauty contest

Tenders for pre-investigated areas are designed as "beauty contests" where bids are assessed based on a specific scoring system and in accordance with predefined financial and non-financial criteria. The bid price, being a fixed amount that the bidder commits to pay if its bid is successful, accounts for 60% of the total achievable score, and each of the following criteria accounts for 10% of the total achievable score: (i) the share of renewable energy used in the production of the WTGs, (ii) the future electricity amounts for which the bidder has contracted preliminary PPAs with third parties, (iii) the amount of WTGs to be installed without the use of either impulse ramming or heavyweight foundations and (iv) the bidder's contribution to securing skilled personnel by providing traineeships.

The project rights are awarded to the bidder with the highest overall score. If two or more bidders achieve the same overall score, the offer with the highest initial bid price wins. If the initial bid prices are also identical, the relevant bidders may increase their offers until one bidder has offered the single highest bid price.

Map 9: Germany's offshore wind farms



Key – North Sea

In Operation | Under Development

1. **Sandbank** - 288 MW
2. **Dan Tysk** - 288 MW
3. **Butendiek** - 288 MW
4. **Amrumbank West** - 302.4 MW
5. **Kaskasi** - 342 MW
6. **Nordsee Ost** - 288 MW
7. **Meerwind Süd | Ost** - 288 MW
8. **EnBW Albatros** - 116.8 MW
9. **Global Tech I** - 400 MW
10. **EnBW Hohe See** - 500 MW
11. **BARD Offshore 1** - 400 MW
12. **Veja Mate** - 400 MW
13. **Deutsche Bucht** - 252 MW
14. **Trianel Windpark Borkum II** - 200 MW
15. **Trianel Windpark Borkum** - 200 MW
16. **Merkur Offshore** - 396 MW
17. **Alpha Ventus** - 60 MW
18. **Gode Wind 2** - 252 MW
19. **Gode Wind 1** - 332.1 MW
20. **Nordsee One** - 332.1 MW
21. **Borkum Riffgrund 1** - 312 MW
22. **Borkum Riffgrund 2** - 450 MW
23. **Riffgat** - 113.4 MW
24. **Nordergründe** - 110.7 MW
25. **Gode Wind 3** - 253 MW

Designated Wind Farm Zones

26. **N-11.1** - 2000 MW
27. **Nordsee Energies 1** - 2000 MW
28. **N-12.2** - 2000 MW
29. **Waterkant** - 296 MW
30. **Nordlicht 2** - 630 MW
31. **EnBW He Dreiht** - 960 MW
32. **Nordlicht 1** - 980 MW
33. **Borkum Riffgrund 3** - 913 MW
34. **Nordseecluster 4** - 480 MW
35. **Nordseecluster 2** - 435 MW
36. **Nordseecluster 3** - 420 MW
37. **Nordseecluster 1** - 225 MW
38. **Windbostel Ost** - 2000 MW
39. **Windbostel West** - 2000 MW
40. **Waterekke** - 1500 MW
41. **Nordsee Energies 2** - 1500 MW
42. **Dreekant** - 1000 MW
43. **N-9.4** - 1000 MW

Key – Baltic Sea

In Operation | Under Development

1. **EnBW Baltic 1** - 48.3 MW
2. **EnBW Baltic 2** - 288 MW
3. **Arcadis Ost 1** - 247 MW
4. **Baltic Eagle** - 476.25 MW
5. **Wikinger** - 350 MW
6. **Arkona** - 378 MW
7. **Gennaker** - 927 MW
8. **O-2.2** - 1000 MW
9. **Windanker** - 300 MW

Non-pre-investigated areas – dynamic auction

Tenders for projects in non-pre-investigated areas are based solely on financial criteria and apply a modified version of the reverse auction concept. In the initial bid phase, bidders submit their offers for market premium claims. In case two or more zero-bids have been submitted in the initial phase, the second bid phase is designed as a "dynamic auction" where bidders make payment offers in bidding rounds with incrementally increasing bid amounts. The dynamic auction starts with a bid price of EUR 30,000 per MW that increases in steps of EUR 15,000 until only one bidder is left. The successful bidder agrees to pay an amount equal to the final bid price over the lifetime of the project with an initial amount of 10% due within 12 months after the project rights have been awarded. The remaining 90% is payable in 20 annual instalments starting with the establishment of the grid connection of the project.

A part of the payments will flow directly into the federal budget to finance the costs of the energy transition.

Permits and grid connection

The amended regime includes multiple measures designed to accelerate permitting:

- Renewable energy projects are now deemed to be in the overriding public interest, granting priority over conflicting interests—this is applicable irrespective of whether the right to develop has been obtained in the beauty contest or the dynamic auction process.
- Environmental assessments and public participation processes are streamlined to avoid duplications.
- For pre-investigated areas, the binding nature of the BSH findings significantly shortens approval timelines. It will be possible in certain cases to commence construction before the required permit has been granted. In the case of pre-investigated areas, the lengthy and complex planning approval process has been replaced by a more expeditious procedure based on the results of the pre-investigation being binding for the subsequent approval process to a large extent.
- Transmission system operators ("**TSOs**") must begin grid connection construction immediately after an area is included in the FEP. In particular, in relation to grid connection of non-pre-investigated areas, this is aimed at substantially shortened timelines. Previously, construction began only after BSH confirmed a project's suitability following pre-investigation.

Repowering

After further amendments in 2024, the current regulations under the WindSeeG govern the repowering of existing offshore wind farms. When replacing wind turbine generators at an already operating offshore site, only a simplified planning process is necessary to assess any potential adverse effects that may result directly from the repowering.

Extended scope of FEP

The FEP specifies the final layout and capacity of project areas as well as the expected timing for commercial operation and inclusion in the tender processes. In addition, the BSH will decide in the FEP whether or not an area shall be pre-investigated and consequently, which tender design will apply.

Green hydrogen

The WindSeeG empowers the Ministry for Economic Affairs and Climate Action to regulate the tender process and support mechanism for the construction and operation of offshore electrolyzers. A suitable project area has already been identified and included in the FEP. The initial tender was originally scheduled for 2024 but had to be postponed due to ongoing discussions about the preferred connection concept for the necessary hydrogen pipelines.

Extended Operation

An extension of the operating permit may be granted by BSH to up to 35 years beyond the statutory norm of 25 years, depending on the relevant project's location and the expected operational lifetime of the necessary grid connection assets.

2025 Developments

Regulatory

The year 2025 saw no structural amendments to the WindSeeG. Instead, several implementation-oriented measures were introduced to accelerate project realization within the existing framework:

- In line with the EU Renewable Energies Directive (2023/2413), most sites identified as generally suitable for offshore wind in the FEP were designated as acceleration areas, benefiting from expedited permitting procedures and exemptions from full environmental impact assessments.
- In December 2025, BSH published a draft revised FEP, including a preliminary advance approval of a lifetime extension for certain projects.
- The draft revised FEP shifts tender dates for projects planned for auction in 2026 and 2027 to one year later due to the rescheduling of the 2025 beauty contest projects (see below). As a result, project commissioning and grid connections are also postponed to better balance offshore expansion. This coincides with the postponement of the related grid connections for some of these projects that will be required to better coordinate offshore and onshore grid development.

Tenders

In the 2023 tender round, a total of 7 GW of capacity was allocated, with BP, TotalEnergies, and other major players committing more than EUR 12 billion in concession payments—up to EUR 1.8 million per MW—demonstrating considerable market confidence. In 2024, two further tender rounds awarded an aggregate of 8 GW in capacity. Although the number of participants narrowed, competition remained robust, with developers such as TotalEnergies and EnBW each investing over EUR 1 billion per project.

However, 2025 proved challenging for the German offshore wind sector. Rising costs, supply-chain disruptions, grid connection delays, and variable yields contributed to heightened revenue uncertainty and widened the gap between project risk and return. Elevated capital costs and subdued capture price forecasts diminished confidence in the long-term economic outlook for projects.

These immediate market pressures became evident when the 2025 beauty contest for new project rights received no bids—the first occurrence of its kind in the German offshore wind industry. The unawarded project rights were originally to be tendered again in 2026 in a dynamic auction process rather than through a beauty contest. However, in January 2026, the German government published a draft bill, amending the auction schedule in the WindSeeG to postpone the new tender date to 2027 in reaction to expected delays in the supply of substation components.

This uncertainty was further reflected in the 2025 dynamic auction tender, where rights for a 1 GW project were awarded at a reduced bid price of EUR 180,000 per MW, amounting to a total payment of EUR 180 million—a marked decrease compared to previous tenders.

Key drivers behind the lack of participation include concerns regarding economic viability, policy uncertainty (specifically around CfD versus non-CfD frameworks), grid connection delays, and increased competition from alternative markets such as the UK, US, and Nordics. Additional challenges encompass global cost increases in offshore development, collapsing margins among turbine OEMs, higher weighted average cost of capital ("**WACC**") and financing risks, as well as the compounding effects of grid connection delays.

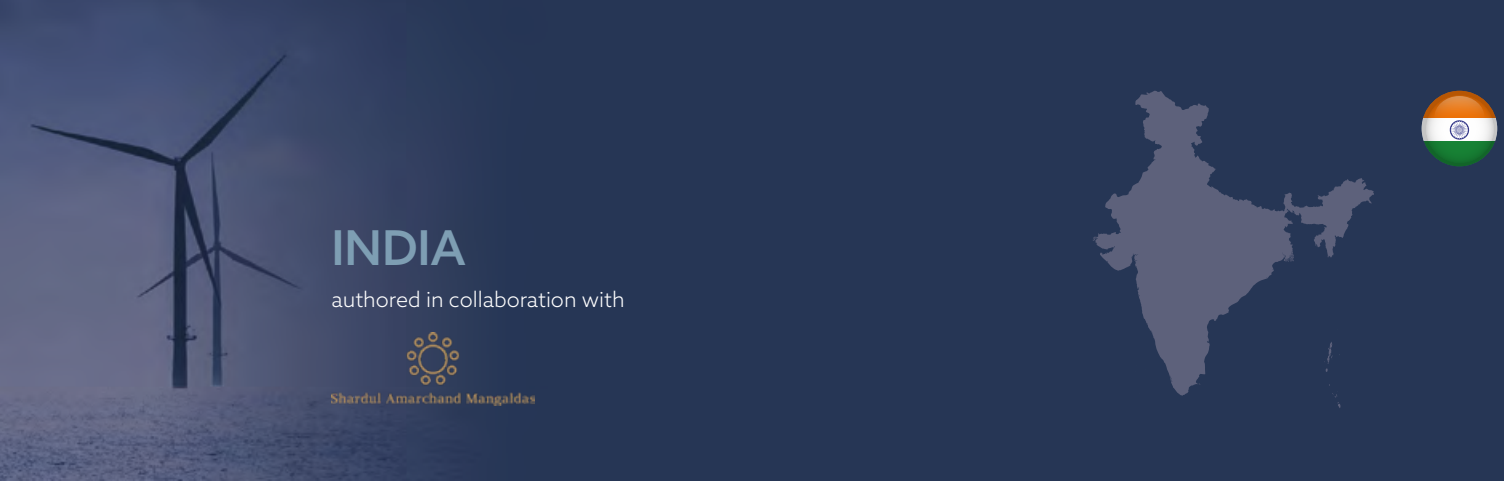
Outlook

Germany must implement CfDs or equivalent mechanisms by 17 July 2027 to meet EU law requirements. The country also needs to renew state aid approval for its renewables scheme before the current approval expires at the end of 2026. Although the WindSeeG allows for the implementation of a revised tender design without a formal legislative process, this only applies to pre-investigated sites. Therefore, an overhaul of the entire auction design is to be expected for 2026.

The offshore wind industry calls for a redesign of the auction system even before the end of 2026, with the following features suggested frequently: two-sided CfDs and long-term PPAs; extending the technical-readiness deadline to 12 months; better wind-farm/grid coordination; increasing operating lifetimes from 25 to 35 years; and reassessing site density and award criteria for efficiency and yield. An industry paper of July 2025 details recommended changes to WindSeeG, auction design, and realization conditions.

The absence of any bids in the August 2025 tenders prompted BNetzA to announce re-auctioning the sites. Both of these projects have been preliminarily determined eligible for a lifetime extension to 30 years and 35 years, respectively, which will likely be an additional incentive for bidders. The auction has been scheduled for 2027 in the most recent FEP update, but whether this timeline can be upheld will largely depend on the market developments and the pace of the legislative process.

With Windanker in the Baltic Sea, as well as Nordseecluster A and Nordlicht I in the North Sea, projects with an additional 2 GW are expected to start operation by 2027.



INDIA

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As of August 2025, India has approximately 51.67 GW of installed onshore wind capacity, including 4.15 GW added in the previous year. This places India fourth globally in total installed wind capacity, and fourth globally in overall installed renewable energy capacity. Blessed with a coastline of about 7,600 km (approximately 4,700 miles) and surrounded by water on three sides, the Indian government is actively pushing towards achieving 37 GW of installed offshore wind capacity by 2030.

Such ambitions are a product of India's large coastline and favorable wind speeds, especially off the coasts of the Indian states of Tamil Nadu and Gujarat, as well as recent reports suggesting that India has the potential for 140 GW of offshore wind by 2050. These excellent wind resources will need to be capitalized on by the Indian government to help alleviate power supply constraints in a country whose energy demand is set to double in the next 20 years, coupled with the fact that India is committed to meet such demand primarily from domestic renewable generation. In the last few years, India has been on the precipice of formally inviting bids for offshore wind projects, a feat finally achieved when the Solar Energy Corporation of India ("**SECI**"), the nodal government agency for offshore wind energy development issued two formal tenders; the first in February 2024, for the allocation of seabed lease rights for 4 GW of offshore wind projects in Tamil Nadu, followed by another tender in September 2024 for the establishment of 500 MW of offshore wind projects in Gujarat. The Indian government has also announced an official way forward strategy towards achieving its offshore wind goals by 2030, this is, however, not without obstacles, more of which are discussed below.

Tamil Nadu and Gujarat – the first states and international strategic alliance

As noted above, the Indian states of Tamil Nadu and Gujarat hold the greatest potential for India's offshore wind industry, with estimates suggesting that these states combined could account for 71 GW of India's offshore wind potential, spread across eight separate designated zones, each. As such, these states are set to be the pioneers in India's nascent offshore wind industry.

An EU Delegation to India, in close cooperation with the Ministry of New and Renewable Energy ("**MNRE**") awarded a EUR 4 million grant to a Global Wind Energy Council-led consortium under the Indo-European Cooperation on Renewable Energy program (the Facilitating Offshore Wind in India project or ("**FOWIND**") project), whose goal is to develop a roadmap for offshore wind development in India, with a specific focus on the states of Gujarat and Tamil Nadu. Renew Power Ventures Private Limited (which is an independent power producer in India) joined the FOWIND project consortium as an industry partner. The FOWIND project aims to identify zones for development of offshore wind projects through preliminary resources and feasibility assessments, as well as through techno-commercial analysis. To this end, FOWIND has issued various studies that present an outlook for the amount of new offshore wind capacity that can be reliably incorporated into the two state grids, including the regional transmission and distributions networks in a planned manner over the next 10-15 years, and has over this course, published detailed reports on supply chain, ports and logistics, and grid integration, forming the foundation for further development.

Over the past year, the Indian government has partnered with governments of countries that have thriving offshore wind industries to draw from their experience, know-how, and regulatory set up to harness its own offshore wind potential effectively. At the fourth India-UK Energy Dialogue held in February 2025, the UK-India Offshore Wind Taskforce was announced with a focus on the development of India's offshore wind ecosystem, supply chains and financing models.

Similarly, at the Windergy India 2025 trade fair, as part of the Green and Sustainable Development Partnership between India and Germany, a Memorandum of Understanding was signed between the German Offshore Wind Energy Foundation and the Indian Wind Turbine Manufacturers Association on offshore wind energy development, technology transfer and policy dialogue.

The Indian Institute of Technology, Madras invited bids to conduct a techno-commercial feasibility study on offshore wind farms in India with a view to assess their economic viability. Although preliminary studies have already been conducted to identify zones ideal for offshore wind farms in India, this study intends to estimate the average cost to build and operate such projects including operational and capital expenditure taking into consideration India specific conditions along with a comparative analysis with international benchmarks.

Together, these studies and initiatives under India's partnership and collaborative efforts underscore a comprehensive attempt to lay the groundwork for India's offshore wind energy potential, creating a robust knowledge base to drive India's transition to a sustainable and efficient development of the offshore wind energy ecosystem.

MNRE Strategy Paper

In a formal announcement of the tendering strategy leading up to 2030, the MNRE, on 26 September 2023 issued an official "Strategy for Establishment of Offshore Wind Energy Projects" (the "**MNRE Strategy Paper**"). The MNRE Strategy Paper sets out the roadmap for fast-tracking the achievement of 30 GW of offshore wind energy by 2030 with an auction trajectory for bidding out offshore wind energy blocks up to 37 GW. The MNRE Strategy Paper lays down three specific models of project development pursuant to which the Indian government aims to achieve these targets. Briefly, these models or approaches are as follows:

a. **Model A (1 GW):** This model applies to the immediate offshore wind zones for which the MNRE and National Institute of Wind Energy ("**NIWE**") have already carried out sufficient studies and surveys that will enable developers to bid and commence the development of offshore wind projects (*e.g.*, the NIWE has carried out investigations for a 365 sq.km seabed sufficient for a 1 GW project capacity on the Gulf of Khambhat, Gujarat.) Under this model, for these initial projects, the Indian government will also provide financial assistance (in the form of Viability Gap Funding or "**VGF**"), in order to allow the projects to bridge the gap between the actual tariff determined through competitive bidding and the predetermined power tariffs. The bidding will entail a single bid two-stage process followed by an eReverse Auction ("**e-RA**"), where the e-RA will be based either on the tariff or the VGF amount required to make the project viable. MNRE or a designated agency will issue bids for 0.5 GW capacity each at designated sites off the coasts of Gujarat and Tamil Nadu, where Stage I clearances have already been granted. Successful bidders will enter into lease agreements for 30 years with MNRE's designated agency and a concession agreement, which will include an obligation on the developer to set up and commence operation of the offshore wind farm within four to five years.

b. **Model B (14 GW):** This model focuses on the development of offshore wind energy projects for power sale under open access, captive, or third-party sale arrangements, without VGF support from the Government of India. MNRE or its designated nodal agency will allocate identified offshore wind sites to offshore wind power developers through a competitive bidding process, followed by a single-stage, two-envelope system comprising technical and financial bids, with the financial bid determining lease rentals or site allocation fees starting at a minimum floor price of INR 1 lakh (USD 1,186 approx.) per sq. km per year.

   The successful bidders will be granted a provisional exclusive lease for five years to conduct studies, surveys, and project development, extendable by one year on a case-by-case basis. Pursuant to the study/survey period, the developers must submit a detailed project report and enter a concession agreement with NIWE for the project development and power sale. Upon commissioning, the lease will extend for the project's operational life, with lease fees continuing at the specified floor price. The developers may exit during the initial five-year lease period if unable to commission the project, subject to relinquishing the lease, depositing acquired data and certain other conditions. As noted, this model targets 14 GW of potential offshore capacity, commencing with the first 4 GW auction in early 2024 and detailed in the sections below.

c. **Model C (22 GW):** Under this approach, NIWE will identify from time to time, large offshore wind zones within India's exclusive economic zone but not covered by Models A or B. Proposed offshore wind sites demarcated within these zones would be allocated for a fixed period on an exclusive lease basis through a single-stage two-envelope bidding process, whereby the developer will carry out project development activities. The power generated from such projects will either be used for captive consumption or sold to any entity through a bilateral power purchase agreement ("**PPA**"), or sold through power exchanges. Similar benefits under Model B may also be available to the power developer.

SECI's offshore wind tenders:

In alignment with the MNRE Strategy Paper, SECI initiated the offshore wind tender process for the Gujarat and Tamil Nadu states, as specified below:

a. **Gujarat (Model A):** In September 2024, SECI issued a tender for the development of a 500 MW inter-state transmission system (ISTS)-connected offshore wind power project off the coast of Khambhat in Gujarat (tranche-I) on a build-own-operate basis. The project was eligible for up to INR 8.128 crore (USD 964,399 approx.) per MW in VGF. The developer's responsibility included setting up the project, identifying the land, undertaking surveys, including transmission up to the interconnection point, while Central Transmission Utility dealt with the offshore substation infrastructure. The project was to be completed within 48 months from the effective date of the PPA, which was to be executed with Gujarat Urja Vikas Nigam Limited for a term of 25 years, along with a fixed tariff of INR 4.50/kWh (USD 0.053/kWh approx.)

b. **Tamil Nadu (Model B):** In February 2024, SECI issued a tender for allocating seabed lease rights to develop and operate 4 GW of offshore wind capacity on a build-own-operate basis off the coast of Tamil Nadu in the Gulf of Mannar. The identified blocks were to be granted to successful bidders, providing them with exclusive rights to conduct surveys and develop the project. Lease rentals of INR 1 lakh (USD 1,186 approx.) per sq km per year was payable for seabed use. The developer would be responsible for undertaking seabed surveys, financing, construction, commissioning, operation, maintenance, and decommissioning of the wind farms, as well as developing the transmission system up to the offshore substation, securing approvals *etc*.

   The power evacuation responsibilities were shared, with the developer managing transmission from the offshore wind farm to the offshore substation, and the Central Transmission Utility constructing evacuation infrastructure from the offshore pooling substation to the onshore grid.

   The key agreements included the agreement to lease, under which MNRE outlined the seabed description, and required preconditions for granting the lease. Upon meeting these conditions, a seabed lease deed was to be executed, allowing the developer to proceed with preparation of detailed project reports and subsequently for construction activities. Thereafter, a concession agreement for a 35-year term was to be executed, setting out obligations of the developer to undertake design, finance, build, and operate the project within the timelines.

According to the study initialed by NTPC on offshore wind development in India, the Levelized Cost of Energy ("**LCoE**") for Tamil Nadu and Gujarat currently exceeds that of established global markets. Tamil Nadu's LCoE aligns closely with Taiwan, an emerging market characterized by high wind-speed sites, while Gujarat's LCoE is comparable to South Korea, another emerging market with predominantly low wind-speed sites. In the long term, Tamil Nadu's LCoE for high wind-speed sites holds the potential to converge with the lower LCoEs observed in European markets, which are benchmarks for mature offshore wind sectors.

Cancellation of tenders and government's support measures

In August 2025, SECI cancelled the bids for both Gujarat (Model A) and Tamil Nadu (Model B) tenders. The reason for the cancellation was as a result of limited interest in the tenders from developers and consequently SECI not receiving sufficient bids in order to run a competitive process. The limited participation primarily stemmed from the financing risks associated with these projects, particularly with respect to assuming significant upfront capital costs and exposure to offshore construction and technology risks.

Offshore wind projects are capital intensive and the estimated costs range from INR 18 to 20 Crore/MW (USD 2 to 2.2 million approx.) which is significantly higher than its onshore counterpart which has the estimated cost of only INR 7 to 8 Crore (USD 791,242 to USD 904,277 approx.). This is due to offshore wind projects having sophisticated requirements such as underwater transmission networks, additional port infrastructure and imported components. Presently, India relies entirely on imports for offshore wind energy technology because although Indian companies are manufacturing wind turbines up to 5.2 MW with more than 12 companies offering over 30 different turbine models, offshore wind turbines are much larger with a range up to 15 MW per turbine. Additionally, the offshore tenders for Tamil Nadu operating on an open-access model had no fixed tariff, thereby increasing financial uncertainty for the developers.

Additionally, a key challenge holding back India's offshore wind industry is a lack of clear and focused governmental financial support for the sector. This stems from the fact that India has abundant space and favorable conditions for a thriving onshore solar and wind industry, which are both relatively much cheaper to develop (and therefore support) than their offshore counterpart. The flip side to this is that the Indian government is already well-versed in providing financial support mechanisms in support of the country's renewable power industry, so their implementation should be relatively straightforward.

The Indian government over the last two years has been showcasing its commitment for ensuring a successful offshore wind sector, as can be seen with the announcement of VGF assistance, subsidy and exemptions for specified models under the MNRE Strategy Paper, amongst others. MNRE, on 11 September 2024, unveiled comprehensive guidelines for implementing the VGF to boost offshore wind energy projects, allocating a substantial budget of INR 7,453 crore (USD 882,333,093 approx.). This allocation included INR 6,853 crore (USD 811,301,635 approx.) for the development of 1 GW of offshore wind energy capacity (500 MW each off the coasts of Gujarat and Tamil Nadu) and INR 600 crore (USD 7,103,0673 approx.) for upgrading port logistics.

Despite the robust financial assistance being offered by MNRE to the developers in the form of VGF outlay, the offshore wind energy sector has the largest cost gap among all renewable energy sectors in India to reach cost parity with conventional equivalents and current levels of government support fall short of bridging this cost gap.

Presently, developers face challenges in financing offshore wind projects in India with banks and investors not willing to accept the risks associated with this jurisdiction. That said, as the sector matures, private financing is expected to increase, aligning with global trends in offshore wind markets like Europe. Further, green bonds, sustainable finance mechanisms, and enhanced participation by foreign institutional investors and development banks will further accelerate this transition.

Proponents of India's offshore wind industry argue that the Indian government should not be deterred by such relatively high initial support costs, as the cost to develop and construct the country's offshore wind projects should fall exponentially over time (together with the required level of support) as a result of using the country's strong existing manufacturing base for renewable technologies, such as the use of existing onshore turbine manufacturing plants to manufacture offshore turbines. The Indian government is also planning to introduce a production-linked incentive scheme to promote the domestic manufacturing of offshore wind turbines.

In 2024 MNRE also announced that evacuation and transmission of power from the offshore substation to onshore transmission will be provided free of cost for all offshore wind projects that are built before 2030. This will be built by the state-owned Power Grid Corporation of India ("**PGCIL**") and the Indian government will build the export cable from the onshore substation to the offshore substation. In pursuance of the same, the PGCIL issued a global tender for the design, supply and commissioning of undersea transmission infrastructure including 35 km of 220 kV undersea export power cables, 10 km of underground land cables, transition joints and a 500 MW unmanned offshore substation for the offshore wind project Pipavav port, in Gujarat. The tender demonstrates a credible signal to investors that evacuation infrastructure for the offshore projects would be developed in a coordinated manner.

Offshore wind energy has been included in the list of activities eligible for trading of carbon credits in the international carbon market pursuant to Article 6.2 of the Paris Agreement. To this extent, the developers of these projects are also allowed to sell power to any company in India, along with other benefits that the Indian government may implement from time to time, such as carbon credits and renewable energy credits.

In view of providing tax benefits for developers and encouraging adoption of clean energy, the Indian government has implemented significant reduction in the tax slab rate for Goods and Services Tax ("**GST**"). The GST on renewable energy devices and parts including windmills and wind operated electricity generators has been reduced from 12% to 5%.

New tenders and the way forward

At the International Trade Fair and Conference in November 2025, the Indian government announced it expects to invite new bids for offshore wind energy projects for 500 MW each in Gujarat and Tamil Nadu by February 2026. The government is also exploring the possibility of a single tender for 1000 MW for an offshore wind project in either Gujarat or Tamil Nadu, as opposed to two bids for both the states.

Subsequent to the cancellation of the bids from the previous auctions and taking note of the concerns of the developers, the Indian government has undertaken various measures to promote offshore wind energy and extend incentives to developers. A few examples of such steps are:

a. The Offshore Wind Energy Lease Rules, 2023, as amended, which set out the regulatory framework for leasing and operating offshore wind sites within the exclusive economic zone, outlining lease terms, operating conditions, and financial requirements for ensuring efficient resource utilization, orderly development, and decommissioning standards. MNRE, in September 2024, notified amendments to the Offshore Wind Energy Rules, 2023 with the overall aim of bringing about clarity and streamlining the leasing process. The scope of "offshore wind projects" has been expanded include offshore pooling substations, arrays of offshore cables and power generating systems in order to support the development of a comprehensive offshore energy system. Further, the amendment details the process of leasing of offshore areas with planning, selection, and requisite clearances and regulatory requirements. It also mandates that all aspects of the offshore wind projects be in line with the technical standards issued by the government.

b. The MNRE, in June 2025, released the reports on the Wind Energy Roadmap and the Manufacturing Roadmap which are intended to serve as guiding frameworks for India's wind energy sector with a focus on self-reliance.

c. The MNRE established the Revised List of Models and Manufacturers in 2018 to standardize and ensure quality assurance in wind turbine generators. In July 2025, MNRE issued an amendment renaming the framework to Approved List of Models and Manufacturers (Wind) ("**ALMM**") and mandated that critical turbine components be sourced from the ALMM framework. Further, it mandates all manufacturers to set up local research and development centers within India. This would ensure that wind turbine components are designed and manufactured to cater to India's unique conditions including lower wind speeds and higher temperatures. As a measure to enforce compliance, adherence with the ALMM framework has also been linked to eligibility for government supported projects, competitive tenders and open access projects as well as incentives such as availing concessional customs benefit.

d. Department for Promotion of Industry and Internal Trade ("**DPIIT**"), in October 2025, launched the PM Gati Shakti Offshore scheme which is a digital platform for integrated planning and management of offshore development. The platform integrates datasets from multiple ministries including Ministry of Power, Ministry of Petroleum and Natural Gas, Ministry of Environment and Telecommunications while planning offshore power transmission routes.

   The portal's biggest advantage lies in identifying potential infrastructure overlaps, regulatory constraints, and environmentally sensitive zones early in the project cycle, significantly reducing risks and delays.

e. NIWE is setting up an offshore wind energy test facility in Dhanushkodi, Tamil Nadu, the first of its kind in the Asia-Pacific region, with the goal to kick start the national test center by installing a 20 MW wind farm, and two dedicated test pads to perform studies and collect data on the feasibility of large-scale projects.

The Indian government's policy permitting 100% foreign direct investment further incentivizes investors, as this eliminates the need for any prior governmental approval, fostering ease of going business and confidence in the market.

Developers have responded positively to the government's incentives and strengthened support package, viewing the measures as a decisive step toward project bankability and timely execution.

Permitting and consents

A challenge, developers in the past have generally faced, is having to navigate India's cumbersome permitting and consent process. This has been anticipated under the NOWEP, where the NIWE has been identified as the body responsible for administering the key required consents and permits to develop an offshore wind farm. Developers will be all too aware of the large number of local community objections that onshore renewables projects have faced in India, which have ultimately resulted in substantial delays to such projects. The MNRE through the MNRE Strategy Paper has provided a responsibility matrix identifying institutions responsible for various activities (including for clearances) in the project development phases, which is a welcomed step.

In respect to the tenders issued by SECI for wind projects to be developed in Gujarat and Tamil Nadu, the NIWE has already secured Stage I clearances from key central ministries and departments. Stage II clearances, however, are retained as the responsibility of the developer and will involve obtaining additional approvals from various authorities such as for environmental impact assessment and coastal regulation zone from the Ministry of Environment Forests & Climate Change, the development of the project within the maritime zones from the Ministry of External Affairs, the operations outside subsea communication cable zones from the Department of Telecommunications, amongst others. To assist developers, NIWE will play an active facilitation role in coordinating with the respective ministries and departments to streamline the process of obtaining these Stage II clearances. This proactive involvement by the government will reduce procedural challenges that otherwise would have caused the developers of the project to suffer subsequently resulting in prolonged delays.

Although located offshore, and therefore not likely to receive objections based on first visual appearances, the states of Gujarat and Tamil Nadu where the core of India's offshore wind farms are proposed to be located are also the country's key fishing grounds. Therefore, the deployment of wind power plants can be stymied by the fishing industry for reasons such as impact on changes in fish habitat, restricted fishing access, increased competition within a smaller sea area, *etc*. As seen in other countries where there is an interplay between the fishing and offshore wind industries, developers will be keen to engage with local stakeholders from an early stage, including fishing associations to obtain their engagement and buy-in, so as to avoid any protests and port blockades during the construction and operation of the project.

Additionally, the proposed offshore wind farms are located in ecologically vulnerable regions, especially the Gulf of Mannar in Tamil Nadu. The Gulf of Mannar, the first biosphere reserve of India, is home to over 4,200 species of flora and fauna and one of the major coral reef areas in India. Constructing offshore wind farms in this region may impact the spatial distribution of phytoplankton, zooplankton, and biomass and decrease the overall oxygen levels in the water. These adverse effects can be minimized through incorporation of noise reduction technologies and wind farm structures incorporating artificial coral reefs, and investment in environmental impact studies for offshore wind farm structures.

Experience with coastal conventional power plants (particularly in coastal Gujarat) demonstrates that environment- and fishing-related concerns can significantly delay the implementation of projects, particularly in view of the proactive roles played by India's green tribunal and constitutional courts in protecting the rights of indigenous communities and sensitive habitats.

Grid infrastructure

As has already been seen in respect of renewables projects located in certain Indian states, grid infrastructure and "State Load Dispatch Centers" struggle to absorb increased intermittent loads received from renewable energy projects, with curtailment already an issue, which developers of onshore renewables projects face on an intermittent basis. Given the increased power potential of offshore wind farms, compared to their onshore cousins, this is a tangible risk that will need to be addressed.

The associated problem with this is that the DISCOMS that are responsible for building and upgrading the country's grid infrastructure are not profitable and so do not have the funds required to make such upgrades. Some of the reasons for the DISCOMS' underperformance are recurring issues of high billing and collection inefficiency, low tariffs, huge aggregate technical and commercial losses, poor maintenance and outdated networks. The Indian government has put in place several reform schemes to strengthen the DISCOMS such as a financial restructuring package to prevent the DISCOMS from becoming non-performing assets. These DISCOMS are responsible for buying and offtaking the power produced from the country's offshore wind farms, however, given that power generated from offshore wind projects may be relatively more expensive than onshore sources, such purchase of offtake would need to be subsidized by the Indian or local state governments, as there are no expectations for this incremental cost to be passed on to the end consumer.

That being said, the introduction of VGF by the Indian government is a positive step towards making offshore wind power financially viable for DISCOMs. The risks associated with DISCOMs may be further mitigated by SECI acting as an intermediary between the developer and the DISCOMs by executing back-to-back PPAs because SECI maintains a Payment Security Fund ("**PSF**") to ensure timely payments to developers. As a result, payment to developers would be guaranteed through the PSF. The government may also consider implementing "Reverse Bundling" of offshore wind energy with other renewable energy sources, which is a mechanism wherein cheaper renewable energy is bundled with a higher cost energy source in order to reduce the overall cost of the energy and ensure round the clock energy.

In July 2025, the Ministry of Power approved transmission infrastructure to connect a planned 500 MW offshore wind farm to the national grid, with commissioning targeted for March 2029. This would entail establishment of an onshore pooling station at Mahuva and an offshore substation. The onshore pooling station would be connected to the offshore substation through a subsea cable and an underground cable. The PGCIL has already issued a tender for the subsea cable, as discussed above.

Contract for difference

India is emerging as a market for Contracts for Difference ("**CfD**"), particularly in the renewable energy sector. A CfD is a contract between the government and the developer in which power is purchased at a contractually predetermined price known as "Strike Price". If the Strike Price is greater than the market price, the government pays the difference and if the market price is greater than the Strike Price, the developer pays the difference. CfDs ensure a stable revenue stream for developers insulating them from price fluctuations thereby reducing price risks and increasing the bankability of projects. They also promote competition and encourage private capital resulting in lower LCOEs over time. That being said, CfDs come with their own share of risks including complex contract and settlement mechanisms, requirement for reliable price indices and the government's risk of high payouts if the market prices remain low.

CfDs are a form of Virtual Power Purchase Agreement ("**VPPA**"). While there isn't a statutory framework to govern VPPAs in India presently, a welcome step in that direction was in May 2025, where the government issued draft non-binding guidelines to regulate VPPAs.

Greener goals

Given India's strong offshore wind ambitions, it is no surprise that the country has equally strong green hydrogen goals, with the Indian government recently announcing a target of producing five million tonnes of green hydrogen annually by 2030. Indeed, in January 2023, the Indian government announced that it intends to further collaborate with the International Renewable Energy Agency to spearhead the country's renewables and green hydrogen growth. The Indian government earlier this year announced the National Green Hydrogen Mission (the "**Mission**") with the overarching objective of making India the global hub for production, usage and export of green hydrogen and its derivatives. The initial outlay for the Mission will be INR 197.44 billion (USD 2,337,339,775 approx.). MNRE will formulate the scheme guidelines for the implementation of the respective components. The MNRE in its press release stated that the Mission will result in the following likely outcomes by 2030:

a. development of green hydrogen production capacity of at least 5 MMT (Million Metric Tonne) per annum with an associated renewable energy capacity addition of about 125 GW in the country;

b. over INR 8,000 billion (USD 94,705,840,000 approx.) in total investments;

c. cumulative reduction in fossil fuel imports over INR 1,000 billion (USD 11,838,228,200 approx.); and

d. abatement of nearly 50 MMT of annual greenhouse gas emissions.

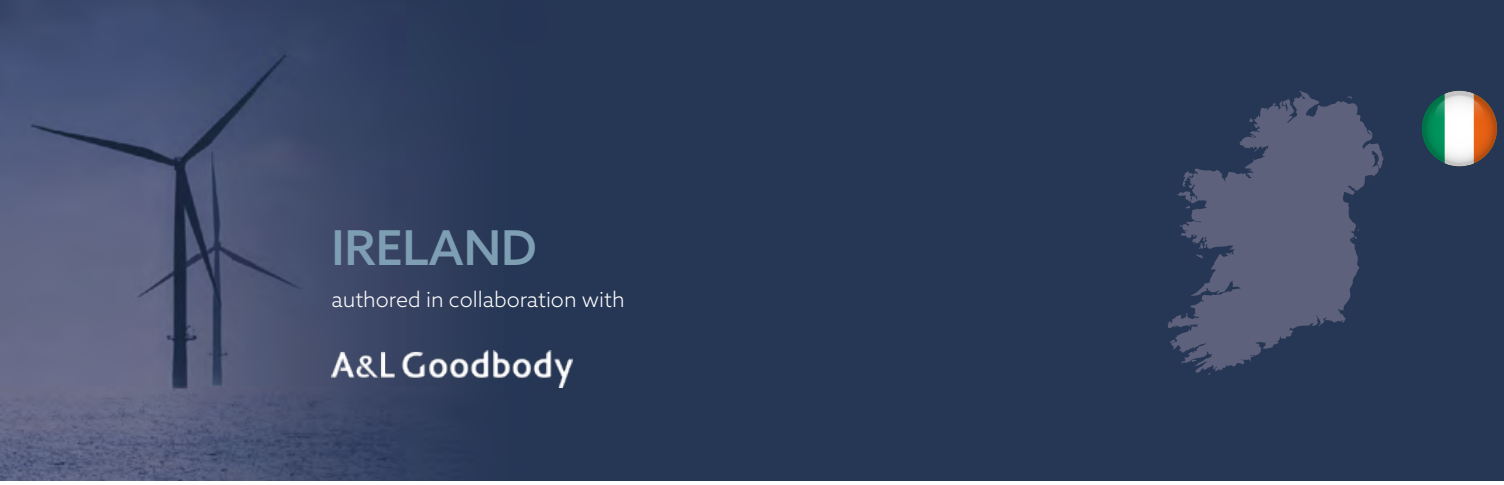
Over the past year, India has made significant strides in the green hydrogen sector, highlighted by the launch INR 100 Crore call for proposals to support start-ups in hydrogen innovation with the scheme providing up to INR 5 Crore per project for pilot projects in hydrogen production, storage, transport and use technologies.

Further, MNRE has also implemented the Gas Cylinders (Amendment) Rules, 2025, and the Green Hydrogen Certification Program to standardize production and safety. The Gas Cylinder (Amendment) Rules, 2025 now define various components of the hydrogen supply chain and mandate a safety clearance process for all hydrogen dispensing and storage facilities. The Green Hydrogen Certification Program has been implemented in accordance with the Green Hydrogen Standards of India which contemplates a detailed mechanism for verification and certification of green hydrogen and its derivatives. The scheme aims to certify hydrogen produced exclusively from renewable energy sources, thereby providing clarity and confidence to both domestic and international investors. The public sector players such as Bharat Petroleum Corporation and Indian Oil Corporation have also announced major joint ventures and tenders, further driving the sector's growth.

Conclusion

India's offshore wind story has evolved from vision to a practical, implementation-driven agenda. Over the past two years, the sector has achieved substantial foundational progress: including a clear tendering roadmap under the MNRE Strategy Paper, enabling lease frameworks, VGF-supported pilot initiatives, enhanced technical standards through the ALMM (Wind) regime, and international collaborations aimed at contextualizing global expertise for Indian deployment. The cancellation of the first tender round in 2025 has served as an important stress test for the industry. It has helped identify critical bankability gaps related to offtake certainty, transmission connectivity, curtailment risk allocation, local supply chain capability, environmental and fishing-community interfaces, and investor confidence.

Evidently, India's offshore wind potential remains immense, and the increasing engagement from domestic and international stakeholders is encouraging. Strengthening financial frameworks, transmission planning, and risk allocation mechanisms will be essential to convert this potential into a nationally scalable offshore wind industry. The Indian government's consistent support, as reflected in the steps discussed above, underscores its determination to unlock the sector's vast potential and position it for scalable growth in the years to come. Achieving the 2030 target of 37 GW, while ambitious, will be a key driver for accelerated action. The success however hinges on continued government support, steady stakeholder participation, and proactive monitoring to resolve challenges during this vital first decade. India's progress in this sector will not only help meet the growing power demands of the country but also create a robust ecosystem for renewable energy supply. With the right strategies, strong collaboration, and sustained focus, India can lay a strong foundation for offshore wind development, achieve its capacity targets, and firmly establish itself as a major player in the offshore wind energy market.



IRELAND

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Realizing the promise of offshore wind

The Irish government has ambitious targets to install 5 GW of offshore wind by 2030, with an additional 2 GW of offshore wind earmarked specifically for green hydrogen production and the goal of increasing offshore wind installed capacity to 37 GW by 2050.

2025 marked another important year for offshore wind development in Ireland. Building on the significant milestones achieved since 2023, including the grant of the first Maritime Area Consents ("**MAC**") as well as Ireland's first Offshore Renewable Electricity Support Scheme auction ("**ORESS 1**"), 2025 has seen the conclusion of ORESS Tonn Nua, the first of four planned site-specific auctions which will comprise the wider Offshore Renewable Electricity Support Scheme auction ("**ORESS 2**").

ORESS Tonn Nua comprised an auction for a single 900 MW site off the south coast of Ireland. The successful bidder was a consortium of ESB and Ørsted. It was the first of four intended ORE auctions to be held for a site within the State's first spatial plan for offshore wind development—the South Coast Designated Maritime Area Plan ("**DMAP**"). This marks a significant shift in offshore wind policy in Ireland, representing a move from a developer-led to a plan-led approach, an approach which the Irish Government have sought to build on with their proposal of Ireland's National DMAP. The proposed National DMAP will aim to designate sufficient maritime area for offshore wind development to deliver a target generation capacity of 20 GW of offshore renewable energy by 2040.

Delivering on a legislative wave

Since the introduction of the Maritime Area Planning Act (the "**Act**") in December 2021, six projects (the so called "**Phase 1 Projects**") have received a MAC to allow for the occupation of a specified part of the maritime area. The MACs, issued on 23 December 2022, allow those projects to apply for a development permit from An Coimisiún Pleanála (Ireland's national independent planning body.) The award of a MAC also enabled the Phase 1 Projects to participate in ORESS 1 (see more details below.)

The Irish Government has also formally established the Maritime Area Regulatory Authority ("**MARA**") on 17 July 2023. MARA is a new dedicated regulatory authority for the maritime area, established under the Act and is a significant step in establishing the enduring regulatory framework for the development of offshore wind projects in Ireland.

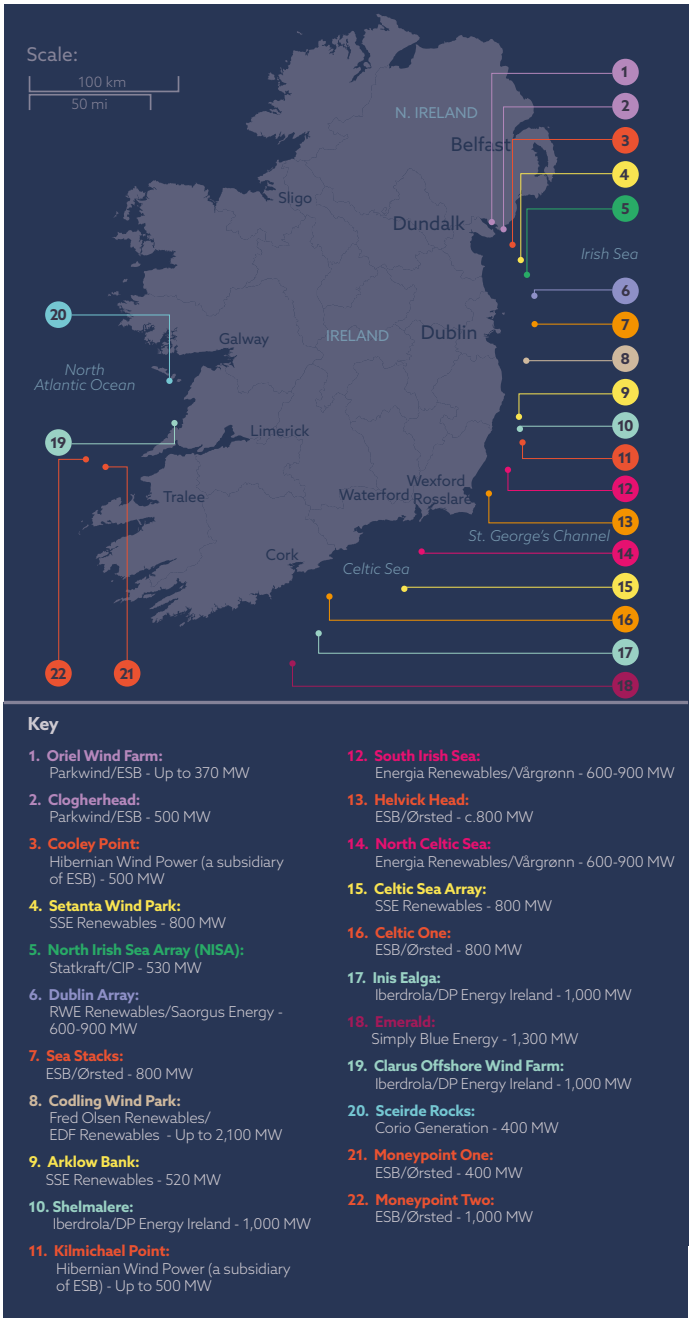
Phase 1 Projects – awaiting determination of planning permission

There are several offshore wind projects which initially commenced development under the previous legislative framework (which was established under the Foreshore Act 1933). Under the Act, these projects now benefit from a transitional protocol in the new marine planning process. A number of these projects—the Phase 1 Projects, which have a combined capacity totaling approximately 3 GW— have been afforded a "fast-track" into the MAC procedure (discussed above) and were entitled to participate in ORESS 1 (see below.) The Phase 1 Projects (as also detailed in Map 10 overleaf) are:

No.	Project
1.	Oriel Wind Park
2.	Dublin Array
3.	Codling Wind Park – Codling I
4.	Codling Wind Park – Codling II
5.	North Irish Sea Array
6	Arklow Bank Wind Park Phase 2

In 2024, Oriel Wind Park, Arklow Bank Wind Park Phase 2, North Irish Sea Array and Codling Wind Park submitted planning applications to An Coimisiún Pleanála. In addition, 2025 has seen the submission of a planning application for the Dublin Array Offshore Wind Farm. These applications are currently under consideration by An Coimisiún Pleanála and the first decisions are expected in 2026.

Map 10: A sample of Ireland's offshore wind projects



Route to market: ORESS 1 auction results

The ORESS 1 auction, conducted in May 2023, allowed developers to bid for a two-way, partially indexed, floating Feed-in-Premium ("**FIP**"), with the lowest offer price being successful and subject to a ceiling price. ORESS 1 was structured as a "pay-as-bid" auction and the support mechanism operates similarly to the UK's Contract-for-Difference regime, with the Public Service Obligation (a duty charged to all electricity customers in Ireland) making up any shortfall in the price of electricity from the strike price under the FIP and the generator paying any excess monies received above the strike price to the Public Service Obligation. The FIP under the ORESS 1 mechanism was granted for a period of up to 20 years.

On 14 June 2023, EirGrid (Ireland's state-owned Transmission System Operator) announced the final results of ORESS 1 and the following four projects were successful:

No.	Project	Offer Quantity
1.	North Irish Sea Array (NISA)	500 MW
2.	Dublin Array	824 MW
3.	Codling Wind Park	1,300 MW
4.	Sceirde Rocks Offshore Wind Farm	450 MW
	TOTAL	**3,074 MW**

With the auction having procured total capacity of more than 3 GW, the average clearing price was just €86/MWh.

ORESS 1 was held before the Phase 1 Projects had secured development consent. Therefore, the Phase 1 Projects will now need to secure development consent before proceeding to construction. Notably, in 2025 Corio Generation announced that the Sceirde Rocks Offshore Wind Farm would not proceed, due to technical and geological challenges with the site.

Alternative routes to market

Phase 1 Projects that were not successful in the ORESS 1 still have the opportunity to be delivered through an alternative (*i.e.*, 'non-FIP-supported') route to market. In a decision on 6 December 2023, the Commission for Regulation of Utilities ("**CRU**") confirmed that those projects (which the CRU terms the "**Merchant Phase 1 Projects**") can retain their entitlement to grid connection access subject to securing an alternative route to market for the project within specified time periods. Those time periods have now been extended, with a new longstop date in December 2027. In line with that 2023 decision, the Merchant Phase 1 Projects submitted their declarations of route to market or intention to obtain a route to market in June 2024.

This is an encouraging development for the wider offshore industry as it gives the potential for future offshore wind projects to be delivered utilizing an alternative route to market, such as corporate power purchase agreements.

This is an encouraging development for the wider offshore industry as it gives the potential for future offshore wind projects to be delivered utilizing an alternative route to market (such as CPPAs).

Delivering on Phase 2

Having procured just over 3 GW of capacity through ORESS 1 in 2024, it is clear that additional offshore capacity will be needed to meet the Irish Government's 5 GW target of installed capacity by 2030. Phase 2, intended to deliver the remaining capacity required to meet these targets, has now commenced with the successful conclusion of the ORESS Tonn Nua auction.

The commencement of Phase 2 marks an important change from the developer-led approach adopted for projects during Phase 1 as the Irish Government moves towards an enduring plan-led approach involving greater State involvement in the sustainable development of the offshore wind sector in Ireland.

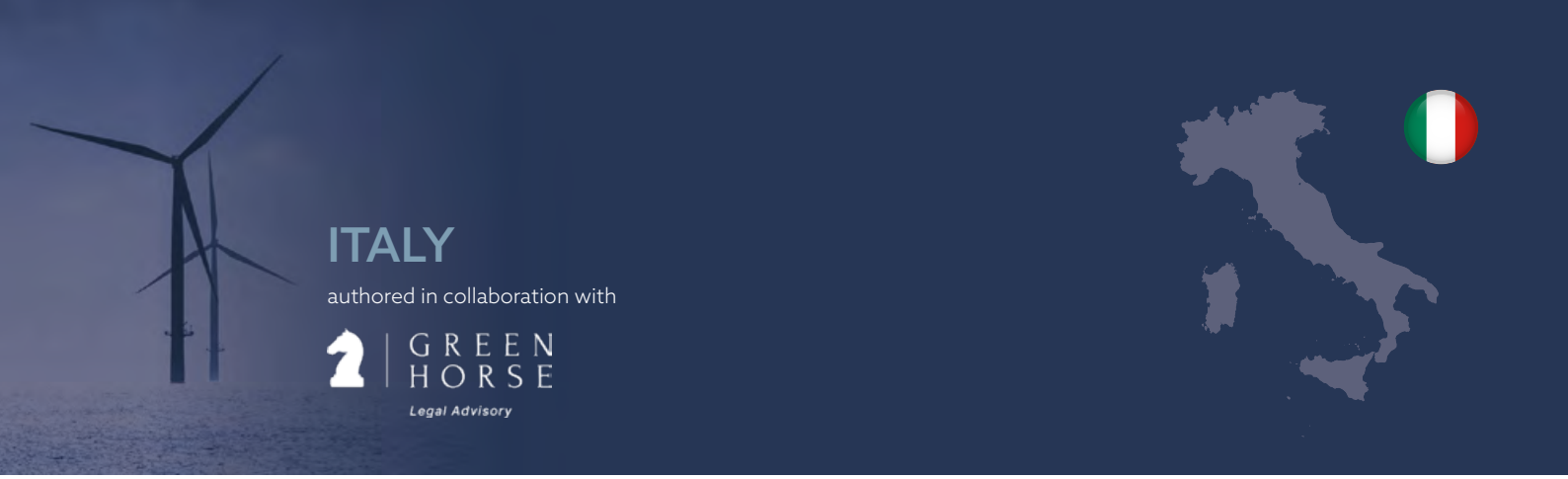
There were a number of important milestones achieved during 2025 which give greater clarity and certainty on the capacity, timing and terms and conditions for Phase 2:

- In November 2025, the ORESS Tonn Nua auction concluded and a joint venture consisting of the ESB and Ørsted was provisionally granted rights to develop the Tonn Nua site which is intended to support the development of a fixed-bottom offshore wind farm 10 km southeast of Helvick Head, County Waterford, with a generation capacity of 900 MW.
- The Irish government also announced a second auction under Phase 2, which relates to the Lí Ban development area, which has a capacity of between 1 GW and 1.5 GW and which was due to take place in the second half of 2025 but is yet to proceed. As at the date of this Report, no further information has been published regarding the timing for the proposed Lí Ban auction.

Conclusion

2025 has seen significant progress in Ireland's offshore wind journey. With the Phase 1 Projects progressing through the planning system, and the commencement of the first of four ORESS 2 auctions coming to a conclusion, there is a real sense that offshore wind is moving towards the delivery phase in Ireland.

With the emergence of the regulatory framework for Phase 2, the conclusion of the ORESS Tonn Nua auction, and the expected commencement of the ORESS Lí Ban auction, Ireland is making tangible progress towards delivering on its ambitious offshore wind targets.



ITALY

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The current stage of development of offshore wind in Italy

While at the global level the installed capacity produced by offshore wind farms is significantly and steadily growing, Italy is still struggling to advance its offshore wind production, with only 30 MW of installed offshore wind capacity in the country. However, Italy has large ambitions and in the Integrated National Energy and Climate Plan 2030 ("*Piano Nazionale Integrato per l'Energia e per il Clima 2030*" or "**PNIEC 2030**"), sent to the European Commission on 3 July 2024, Italy has set a goal of having 2.1 GW of installed offshore wind capacity by 2030.

Though the practical feasibility of large-scale offshore wind projects in Italy remains complex due to the regulatory framework, the intentions and ambitions of the market operators are aligned with PNIEC, and actually beyond it: in fact, between 2020 and 2023, the amount of requests for a grid connection ("*Soluzione Tecnica Minima Generale*" or "**STMG**") to the Italian TSO Terna S.p.A. ("**Terna**"), in relation to offshore wind projects, increased by 19 times, to a total of 139 requests and 90 GW.[1]

In addition, in April 2025, the *Ministry for the Environment and Energy Security* ("**MASE**"), together with the Ministry of Infrastructure and Transport and in agreement with the Ministry of Economy, identified Taranto, Augusta, Brindisi and Civitavecchia as the designated port areas for the production and assembly of offshore wind components in Italy. In particular, Taranto and Augusta "appear to be the most consistent and suitable with respect to the identified requirements," whereas Brindisi and Civitavecchia "will require higher costs and longer implementation timelines".

Licensing

Italian legislation provides for a complex procedure in order to authorize an offshore wind project in Italian waters, involving several sub-procedures each dedicated to evaluating specific aspects of a proposed project: environmental impact, issues concerning maritime public property and matters directly related to energy production.[2]

Environmental profiles

Offshore wind projects are required to undergo an Environmental Impact Assessment ("**EIA**") at state level,[3] which shall be filed with MASE.

In addition to the state EIA approval, national EIA approval will also be required, which is carried out by the Technical Committee for the PNRR-PNIEC.[4] However, such approvals can take some time.

For example, the "7Seas Med" offshore project submitted its EIA application on 21 January 2022 but only obtained a positive EIA decree on 21 March 2024. Though the timings for the issuance of the EIA decision are uncertain and potentially lengthy, it is worth noting that more recently (following the procedure carried out by 7Seas Med S.r.l.), there seems to have been an improvement in the management of timelines by the relevant authorities.

It may also be necessary to obtain other environmental authorizations or ways of leave,[5] which can be obtained, together with the EIA approval, in a single environmental procedure ("*Procedimento Unico in materia Ambientale*" or "**PUA**").[6,7] This may be a more efficient route for developers looking to develop offshore wind projects in Italian waters.

Permitting profiles

While the EIA and the PUA procedures provide an assessment on the environmental aspects of an offshore wind project, they do not include an authorization for the construction and operation of the offshore wind project. The construction and operation of offshore wind projects—and their interconnection works—are authorized by means of a single authorization ("*Autorizzazione Unica*" or "**AU**").[8] The intention of the AU is to obtain the issuance of all necessary permits, ways of leave, and opinions by the involved authorities in a single authorization, which also includes the concession for water use ("*concessione demaniale marittima*").[9]

1. Report "*Finalmente offshore*" by Legambiente, dated 2024, and based on Terna's map (Econnextion) of requests for STMGs.
2. The Administrative Court of Molise Region made a thorough reconstruction of the different procedures (TAR Molise – Campobasso, I sec., no. 992/2011).
3. Pursuant to Article 23 and point *7-bis*) of Annex II of Part II, of Legislative Decree 152/2006.
4. In fact, offshore wind projects are included within the projects that are subject to the opinion of the Technical Committee for the PNRR-PNIEC pursuant to Article 8, paragraph *2-bis*, of Legislative Decree 152/2006, since they are included in the list contained at Annex I-*bis* of Part II of Legislative Decree 152/2006.
5. For instance, the authorization to seabed disposal of material from excavation activities and to the installation of cables and pipelines at sea, regulated at Article 109 of Legislative Decree 152/2006, and referenced in lett. c) of Article 27, paragraph 2, as one of the additional environmental permits that can be obtained in the context of the PUA.
6. Pursuant to Article 27 of Legislative Decree 152/2006.
7. Listed at paragraph 2 of Article 27 of Legislative Decree 152/2006.
8. Pursuant to Article 12, paragraph 3, of Legislative Decree 387/2003.
9. Described at Article 36 of the so-called Navigation Code ("*Codice della Navigazione*", R.D. no. 327/1942).

Note that the above-mentioned concession for water use refers to the use of the territorial sea. For offshore wind projects located beyond territorial waters on the "Continental Platform" ("*Piattaforma Continentale*"), such projects will need to obtain a public concession issued by the Maritime Administration ("*Amministrazione Marittima*").[10]

The TU FER (Consolidated Law on Renewable Energy Sources), in force since January 2025, provides that the State shall determine whether or not to grant an AU for an offshore wind project in Italy. It further specifies that the Ministry of Infrastructure and Transport, as well as the Ministry of Agriculture, Food Sovereignty and Forestry—with regard to matters related to maritime fishing—must participate in the relevant steering committee in determining whether to grant an AU to a project. The AU is then issued following consultation with the relevant coastal region concerned.

In March 2025, MASE published a vademecum setting out the minimum requirements and information necessary to be provided by a developer in order to initiate the authorization procedure for offshore wind project (*i.e.*, *inter alia*, formal application, EIA documentation, project cost estimate, list of authorities to be convened for the steering committee, technical reports and drawings).

The authorization procedure can be concluded only once the environmental procedure (see above, section "2.1. Environmental profiles") has been positively concluded.

The Maritime Space Management Plans ("*Piani di Gestione dello Spazio Marittimo*")

Three "Maritime Space Management Plans" have been provisionally developed and approved by the MIT for the use of sea area in (i) the Adriatic Sea, (ii) the Tyrrhenian-West Mediterranean Sea, and (iii) the Ionian-Central Mediterranean Sea. These plans divide the sea into specific parts and regulate the activities that can be carried out in each specific portion of that sea area. However, such plans are to be regarded as a general guideline and do include detailed identification of the suitable or unsuitable areas for the installation of offshore wind projects. It will be up to the MASE and the MIC to define these areas, as well as to implement detailed guidelines on the environmental and landscape impact of projects located in these areas.

Incentives: the FER 2 Decree

On 19 June 2024, the Italian government signed the so-called "FER 2" decree, aimed at supporting the production of renewable energy from innovative plants or plants with high generation costs, such as, *inter alia*, offshore wind projects (the "**FER 2 Decree**"). The FER 2 Decree came into effect on 13 August 2024 and provides for participation through auctions, which will be held between 2024 and 2028 (after which the FER 2 Decree will cease to apply).

We have summarized below the main relevant information and requirements related to access and participation to the FER 2 Decree auctions for offshore wind projects:

i. **Outline:** In order to apply to a FER 2 auction, the project should not have started any construction activity. Following the publication of the auction's results, the project shall enter into operation within 60 months: failure to comply with the deadline will result in the project not obtaining any incentive under the relevant auction (see below). The tariff will be awarded only when the project has successfully entered into operation within the prescribed timelines.

ii. **Total assigned capacity:** 3.8 GW, for all auctions to be held between 2024 and 2028. For offshore wind projects, at least 3 auctions will be carried out between 2024-2028. If the *Gestore dei Servizi Energetici* (or "**GSE**") verifies that the incentive mechanism is wholly or partially unnecessary or insufficient, the overall available capacity may be adjusted (it can be increased or decreased, as the case may be) upon occurrence of certain events. Please note that the application of such provision is not clear; in particular, it does not clarify, among others, the application criteria of an increase/decrease of the total assigned capacity and the relevant consequences.

iii. **Deadline for applying:** 60 days from the publication of the auction notice.

iv. **Requirements:**[11] in order to be eligible under the FER 2 Decree, an offshore wind project shall:

   a. have commenced construction works after the publication of the ranking list (the "*graduatoria*", which lists all the projects that have ranked in a useful position for the obtainment of the incentives). NOTE: date of commencement of work ("*data di avvio lavori*") means the date of the first commitment ("*prima obbligazione*") making the investment irreversible, such as the "first order related to the purchase of the equipment's for carrying out the intervention". From the definition of first commitment, the expenses related to preliminary activities such as, by way of example, "those related to permits and feasibility studies",[12] shall be excluded;

   b. have obtained the AU or, alternatively, a positive EIA, if and when required;

   c. have obtained and accepted the connection solution from the competent grid operator;

   d. if the offshore wind project is on fixed foundations, be located at a minimum distance of 12 nautical miles from the coast.

10. As prescribed by Article 2, paragraph 5, of Law no. 613/1967 (exempted from being repealed by Article 1, paragraph 1 of Legislative Decree 179/2009), which refers to the Navigation Code, as applicable.
11. In this regard, the FER 2 Decree provides for an accelerated assessment for projects with a capacity of more than 10 MW: upon request of the applicant, to be submitted along with the AU application, the GSE examines the project in parallel with the AU procedure. Within 30 days of the issuance of the AU decree, the GSE provides a qualification certifying the project's eligibility for incentives; projects deemed eligible and participating in the first available procedure are only required to submit their tariff reduction offer. To streamline operations, the GSE may also execute agreements with the authorities responsible for the issuance of the AU in order to promote efficient document sharing and project analysis.
12. Considering that the same prescription is included also with respect to the tariff scheme for biomethane production, on 21 April 2023 the GSE published a FAQ clarifying that the execution of a supply contract related to the biomethane project does not constitute a first serious commitment provided that the "*validity of the contract is conditioned to admission in a useful position in a ranking published by the GSE pursuant to the Decree*". We expect that such position will be followed also with respect to the Fer 2 Decree.
Based on a clarification sent by the GSE to another supplier (through its personal GSE user account) always with respect to the biomethane decree, the latter pointed out that, even if the applicant executed a supply agreement whose validity is conditioned to the successful admission in the ranking, "*the payment of costs related to the authorized project constitutes a commencement of the construction works; therefore also down-payments occurred before the relevant admission in the ranking cause the forfeiture (decadenza) of the right to access to the incentives under the decree*".

v. **Tariff:** Euro 185/MWh for the year 2024, subject to a yearly 3% reduction for the following years.[13]

vi. **Tariff calculation methods:** for offshore wind projects with a capacity up to 300 kW,[14] the GSE directly purchases the electricity and disburses an all-inclusive tariff ("*tariffa onnicomprensiva*"). For offshore wind projects with a capacity higher than 300 kW, or for those with a capacity up to 300 kW that apply for it, the electricity produced remains at the disposal of the generator, who can sell it on into the market, and the incentive is instead calculated based on a two-way contract for difference: the GSE calculates the difference between the tariff and the hourly zonal price, and:

   a. if this difference is positive, the incentive is granted with the addition of a premium tariff equal to the aforementioned difference on the net production fed into the grid;

   b. if this difference is negative, the amount is deducted from the tariff or requested to the generator.

vii. **Priority criteria:** the ranking list takes into account the percentage reduction on the reference tariff submitted by the applicants. If the number of applications exceeds the capacity allocated for the specific auction, the GSE applies the following additional priority criteria:

   a. plants to be located on suitable areas under Articles 20 and 23 of Legislative Decree no. 199/2021;

   b. the earlier completion date of the application submission.

viii. **Timings for the entry in operation:**[15] 60 months from the publication of the ranking list (net of any suspension of the construction works of the offshore wind project and connection works due to *force majeure* causes). Failure to comply with the above-mentioned deadline will result in a tariff reduction equal to 0.5% for each month of delay, up to a maximum of nine months. After nine months, the GSE declares the forfeiture from the ranking list. Consequently, since the projects receive the incentives from the date of commercial entry into operation, in the event that a project fails to comply with the deadline for the entry into operation, it does not obtain any incentive under the relevant auction. If the project subsequently reapplies into a separate auction, a tariff reduction equal to 20% will apply.[16]

ix. **Duration of the incentives:** 25 years from the entry into operation of the project (*i.e.*, the project has recorded power export in Terna's GAUDI system), net of any suspensions (a) due to *force majeure* causes or (b) due to modernization and upgrading works brought to the project. Operational guidelines, setting out how a developer can benefit from the FER 2 Decree, detailing, *inter alia*, schedules for the tender procedures, obligations of the applicants, form of agreements, monitoring procedures and the costs for the applicants were published on 11 December 2024.

On 11 November 2025, MASE approved new GSE operating rules for FER 2 Decree, primarily aimed at limiting speculative behavior in relation to incentive schemes for renewable energy sources deemed innovative or characterized by high generation costs, including offshore wind power. The amended rules are designed to prevent developers whose projects have been awarded in the FER 2 auction rankings from withdrawing in order to access more favorable incentives in subsequent auctions.

Separately, in August 2025, the Italian Minister for Environment and Energy Safety indicated the need to strike a balance between the tariffs for floating offshore wind and fixed-bottom offshore wind: at present, the EU-approved decree provides a single tariff, but the possibility of distinguishing it is under consideration.

As of November 2025, no auction has yet been held in relation to offshore wind.

Authorized offshore wind projects in Italy and projects under authorization

As of November 2025, 93 offshore wind projects are currently in the process of obtaining their necessary permits. However, only four offshore wind projects have positively concluded the EIA procedure and therefore hold the necessary permit for the participation to the auctions of the FER 2 Decree. These are (i) the "7Seas Med" project, to be installed in Sicily Region, which has an envisaged capacity equal to 250 MW, (ii) the "Agnes" project, to be installed in Emilia-Romagna Region, with a capacity equal to 600 MW, (iii) the "Energia Wind 2020" project, also in Emilia-Romagna Region, and with a capacity equal to 330 MW, and (iv) the "Barium Bay" project, in Apulia Region, with a total installed capacity of 1,110 MW.

Italy holds significant offshore wind potential, with 93 proposed projects totaling 74 GW, mainly in southern regions, yet progress is stalled by slow and complex authorization procedures. The EIA, expected to take 175 days, actually averages 340, and delays from the Ministry of Culture add further bottlenecks. According to a study by Sapienza University, investments in the range of Euro 10–20 billion could build a domestic supply chain and create up to 60,000 jobs. Industry associations urge the government to speed up permitting processes and strengthen key ports designated as offshore hubs. Without decisive action, Italy risks missing a strategic opportunity for energy security and decarbonization.

13. For plants with a capacity up to 300 kW, the 3% yearly reduction will start applying from 2026.
14. Starting from 1 January 2026, the threshold will be reduced to 200 kW.
15. Entry in operation means date on which, upon completion of the construction of the works necessary for the operation of the plant, the plant is first operated in parallel with the electrical system, as recorded in the Unique Production Plant Registry (GAUDÌ) established by ARERA Resolution ARG/elt 124/10.
16. This can be avoided by notifying the GSE, within 12 months of the publication of the ranking list, of the decision to forgo the project.

JAPAN

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Offshore wind promotion act

Japan has installed approximately 6.5 GW of wind power as of March 2025, however approximately only 0.25 GW of that total relates to offshore wind. That said, developers and industry investors see great potential in Japanese offshore wind, as the era of offshore wind has just started in Japan.

In Japan, for sponsors looking to develop potential offshore wind projects in the country's general sea areas (outer sea areas) located in its territorial waters, such projects are selected through a bidding process conducted by the national government pursuant to the Act for Promoting Utilization of Sea Areas in Development of Power Generation Facilities Using Maritime Renewable Energy Resources (the "**Maritime Renewable Energy Act**"), which came into effect on 1 April 2019. Whereas, for smaller potential projects to be located in general sea areas or potential projects to be located in port areas or fishery port areas, these are selected by the relevant local authority (the selection process can be a public bidding process conducted pursuant to laws other than the Maritime Renewable Energy Act). Development of projects in port areas precede that of larger projects in general sea areas. Although there have been some pilot projects, in December 2022 and January 2023, Japan saw the first commercial-scale offshore wind projects in the port areas of Akita Prefecture (84 MW in the Noshiro Port Area and 54.6 MW in the Akita Port Area) begin operating, followed by an offshore wind project in the general sea area offshore Nyuzen, Toyama Prefecture (7.5 MW) and one in Ishikari New Port Area (112 MW) starting operation in 2023 and 2024 respectively.

As noted, the larger and more commercial opportunity for sponsors is to develop offshore wind projects in the general sea areas under the Maritime Renewable Energy Act. The Maritime Renewable Energy Act enables projects to exclusively utilize a designated general sea area for up to 30 years (or more if extended). Under the Maritime Renewable Energy Act, the Japanese government designates sites for the development of offshore wind projects into three types of areas depending on their stages: (1) promotion areas, (2) prospective areas, and (3) preliminary areas. "Promotion areas" are designated by the Japanese government typically every year. Developers are able to bid, through a public-bidding process set by the government, to develop such areas. The bidding guidelines set by the government are updated each bidding round. Selection is based on the evaluation of both the price competitiveness (120 points) and the feasibility (120 points) of a developer's project plan with indication of FiT/FiP price (see below), with successful bidders obtaining an exclusive right to use the awarded promotion area for 30 years to develop and operate an offshore wind farm and benefit from a FiT/FiP.

In addition to the designated promotion areas, so that the market and developers can see the pipeline for potential future projects, the government also, from time to time, announces "prospective areas" that are expected to be designated as "promotion areas" in the future after coordination with the local stakeholders, as well as "preliminary areas" that are expected to be elevated to "prospective areas" in the future.

So far, Japan has designated 12 promotion areas under the Maritime Renewable Energy Act (please see Map 11 overleaf) for an overview of Japan's promotion/prospective/preliminary areas).

FiT or FiP?

Japan has been promoting renewable energy under its feed-in tariff ("**FiT**") since July 2012 (indeed, the Orrick team advised the Japanese government on the structuring of the FiT). After rapid growth in renewable installations—largely solar projects—under the FiT support regime, the Japanese government introduced a Feed-in-Premium ("**FiP**") support regime, effective as of April 2022. Under this scheme, FiP-approved projects are entitled to receive a premium from OCCTO (Organization for Cross-regional Coordination of Transmission Operators; a quasi-governmental body established by the Electricity Business Act) in addition to their merchant revenue. The government expected the FiP support regime would encourage renewable projects to gradually walk away from the public support and bridging them to the era of complete merchant PPAs.

Consistent with such approach, fixed-bottom wind projects can now only benefit from the FiP support scheme rather than FiT support. The government suggests that floating wind projects be eligible for both the FiT and FiP support regimes for the time being.

Results of each round and policy shift from excessive price competition

The results of the public bidding for the first promotion area (floating wind) were announced in June 2021, and the following three promotion areas (bottom-fixed projects, 1.7 GW in total) in December 2021 ("**Round 1**"). The latter three promotion areas were won by a single consortium at FiT prices far lower than expected (FiT support was applicable for bottom-fixed projects as well in Round 1), which caught developers by surprise and triggered a debate on evaluation criteria.

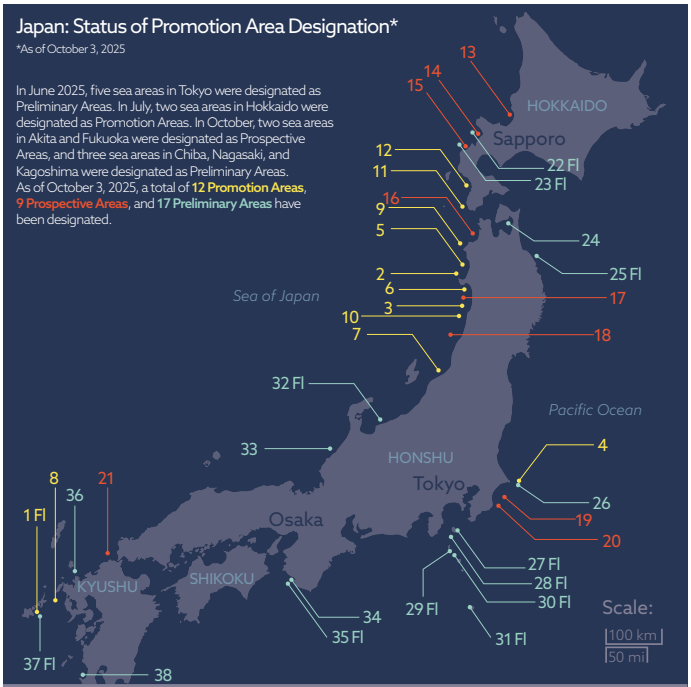
The government consequently revised the evaluation criteria for the four promotion areas of combined total capacity of 1.8 GW (bottom-fixed projects) in the second round ("**Round 2**") in 2023, and the two promotion areas of combined total capacity of 1.1 GW (bottom-fixed projects) in the subsequent round ("**Round 3**") in 2024.

Encouraged by the low-price bidding for bottom-fixed projects in Round 1, the government revised the evaluation criteria for Round 2 and Round 3 to introduce the concept of the "zero-premium level" in the price competitiveness category in order to promote further price competition even though the industry was still at the burgeoning stage. The "zero-premium level" refers to the price level at which almost no premium was expected to be granted to the project through the FiP support regime, considering the historical market prices in the wholesale market, and the highest score (120 points) for the price competitiveness category was given to those who bid at the zero premium level under the revised evaluation criteria. The government set such zero-premium level at 3 yen/kWh, and winners for five out of six projects in Round 2 and Round 3 bid at 3 yen/kWh as their applicable FiP price.

In August 2025, however, the selected Round 1 operator for three bottom-fixed projects announced its withdrawal by abandoning the auction deposit it had paid. Faced by criticisms from the market that the revised evaluation criteria are effectively forcing bidders to reject necessary public support and thus interfering with the healthy growth of the industry, and given the global circumstances where several wind projects have been suspended in other parts of the world due to increasing costs in construction, the government is again planning to revise the evaluation criteria for Round 4 and to re-auction the Round 1 fixed-bottom projects, as well as to introduce special measures for Round 2 and Round 3 projects.

Although the government designated two promotion areas in Hokkaido (Matsumae and Hiyama) in July 2025, the evaluation criteria to develop these areas are still under discussion. During discussions at an expert panel, the government repeatedly emphasized that offshore wind in Japan is still at an early stage and proposed a policy shift from excessive price competition towards proper assessment on feasibility of submitted project plans.

Map 11: Japan's offshore wind projects



Key

Promotion Areas

1 - Offshore Goto (Nagasaki Pref.) *Floating*	17 MW
2 - Offshore Noshiro/Mitane/Oga (Akita Pref.) *Bottom Fixed*	494 MW ⌘1
3 - Offshore Yurihonjo (North/South) (Akita Pref) *Bottom Fixed*	845 MW ⌘1
4 - Offshore Choshi (Chiba Pref.) *Bottom Fixed*	403 MW ⌘1
5 - Offshore Happo/Noshiro (Akita Pref.) *Bottom Fixed*	375 MW
6 - Offshore Oga/Katagami/Akita (Akita Pref.) *Bottom Fixed*	315 MW
7 - Offshore Murakami/Tainai (Niigata Pref.) *Bottom Fixed*	684 MW
8 - Offshore Enoshima, Saikai (Nagasaki Pref.) *Bottom Fixed*	420 MW
9 - Japan Sea Offshore Aomori (South) (Aomori Pref.) *Bottom Fixed*	615 MW
10 - Offshore Yuza (Yamagata Pref.) *Bottom Fixed*	450 MW
11 - Offshore Matsumae (Hokkaido) *Bottom Fixed*	250-320 MW
12 - Offshore Hiyama (Hokkaido) *Bottom Fixed*	910-1140 MW

Prospective Areas

13 - Offshore Ishikari (Hokkaido) *Bottom Fixed*	910-1140 MW
14 - Offshore Gan'u/Minami-Shiribeshi (Hokkaido) *Bottom Fixed*	560-710 MW
15 - Offshore Shimamaki (Hokkaido) *Bottom Fixed*	440-560 MW
16 - Japan Sea Offshore Aomori (North) (Aomori Pref.) *Bottom Fixed*	300 MW
17 - Offshore Akita (Akita Pref.) *Bottom Fixed*	370 MW
18 - Offshore Sakata (Yamagata Pref.) *Bottom Fixed*	500 MW
19 - Offshore Kujukuri (Chiba Pref.) *Bottom Fixed*	400 MW
20 - Offshore Isumi (Chiba Pref.) *Bottom Fixed*	410 MW
21 - Offshore Hibikinada (Fukuoka Pref.) *Bottom Fixed*	480 MW

Preliminary Areas

22 - Offshore Gan'u/Minami-Shiribeshi (Hokkaido) *Floating*
23 - Offshore Shimamaki (Hokkaido) *Floating*
24 - Mutsu Bay (Aomori Pref.) *Bottom Fixed*
25 - Offshore Kuji (Iwate Pref.) *Floating*
26 - Offshore Asahi (Chiba Pref.) *Bottom Fixed*
27 - Offshore Oshima (Tokyo) *Floating*
28 - Offshore Niijima (Tokyo) *Floating*
29 - Offshore Kouzushima (Tokyo) *Floating*
30 - Offshore Miyake (Tokyo) *Floating*
29 - Offshore Hachijo (Tokyo) *Floating*
32 - Offshore East Toyama (Toyama Pref.) *Floating*
33 - Offshore Awara (Fukui Pref.) *Bottom Fxed*
34 - Offshore Wakayama (East) *Bottom Fixed*
35 - Offshore Wakayama (West) *Floating*
36 - Offshore Karatsu (Saga Pref.) *Bottom Fixed*
37 - Offshore Southern Goto (Nagasaki) *Floating*
38 - Offshore Ichikikushikino (Kagoshima) *Bottom Fixed*

⌘1 In August 2025, the operators for the three relevant sea areas announced their withdrawal, and the government stated that it would conduct a re-auction.

For instance, the government is planning to abolish the concept of "zero premium level," and to introduce a new concept of an "assumed price range" to grant a full mark (120 points) for the price category if a project bid at a price lower than or equal to the lowest end of the assumed price range (100 points would be given for the upper end). The price range is expected to be set at a more realistic and much higher level than the zero premium level. The specific price range will be announced in the bidding guidelines for each round going forward based on the industry and market situation. The government is also planning to introduce an inflation adjustment mechanism to the FiP/FiT price as well as updates to scoring system under the feasibility category of the evaluation criteria.

For Round 2 and Round 3 projects, to prevent them from following the path of the withdrawn Round 1 operator, the government has proposed, not only allowing them to apply, subject to certain conditions, for the price adjustment mechanism that was not been in place at the time of their bidding, but also allowing these projects to participate in the Long-Term Decarbonization Auction (the "**LTDA**"), a form of the capacity market introduced in 2022, on the condition that they waive all economic benefits of the FiP. As successful bidders at the LTDA will be entitled to receive the capacity payments from OCCTO for 20 years in principle in exchange for paying approximately 90% of their profits from transactions, this may give them leverage in their PPA negotiations and stability in their operation to some extent, but the details are yet to be announced.

Getting to net zero

In October 2020, the then prime minister declared that Japan will achieve carbon neutrality by 2050. To achieve this ambitious goal, the Japanese government recognizes that offshore wind will need to provide a significant percentage of Japan's energy mix. As such, in December 2020 the government announced at the Public-Private Council on Enhancement of Industrial Competitiveness for Offshore Wind Power Generation that Japan should award 10 GW of offshore wind by 2030 and 30 to 45 GW by 2040. Expecting potential ripple effects on the local economy, the Japanese government has been keen to promote offshore wind and related technologies and industries, aiming to raise the domestic procurement ratio for relevant equipment and components to 60%.

Opportunities, floating and hydrogen

Since the offshore market in Japan has no established players, opportunities for new investors abound, especially considering that numerous foreign companies have recently installed onshore renewable energy projects under Japan's FiT/FiP program. European and American companies recognize this potential; some are opening offices in Japan to focus on the offshore wind market in Japan and Asia more broadly, and to form joint ventures with other investors (both international and local partners).

Notably, given the deep water around the Japanese coastline, Japan is expected to be a core market for floating turbines, with the first project under the Maritime Renewable Energy Act featuring a plan for floating foundations having commenced operation in January 2026. The Japanese government has been supporting studies in development of cost-effective technologies for floating wind suitable for Asian climate conditions and is conducting pilot projects utilizing the result of such studies. Given the world's sixth largest area of its Exclusive Economic Zone ("**EEZ**"), Japan is also exploring the potential for floating offshore wind projects in its EEZ. After the discussion at an expert panel, the bill to enable such was submitted by the Cabinet was passed by the Diet into law in 2025. Further, given Japan's long-held aspirations for hydrogen, there is also a potential for the production of green hydrogen.

Keeping up to date

Amid the massive transition to the carbon-free world and the changing landscape of the energy market, Japan has seen multiple amendments to the FiT/FiP system, the laws related to development permits, and the evaluation criteria under the Maritime Renewable Energy Act from time to time, and further amendments of related laws and regulations are expected to take place in the years ahead. Developers and investors will need to be aware of potential amendments to these laws and regulations. Orrick lawyers in Tokyo produce periodic updates on Japanese laws and regulations relating to renewables. To subscribe, please email: TokyoRenewableAlert@orrick.com.

SOUTH KOREA*

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South Korea's ambitions for offshore wind

Although South Korea currently has only around 320 MW of installed offshore wind capacity, it has bold ambitions to become one of the world's leading offshore wind power producers, with plans for 14.3 GW of new capacity to be installed by 2030.

South Korea's offshore wind ambitions have their roots in 2017, when the then-President's election campaign included a promise to place a moratorium on new coal-fired and nuclear power plants, and switch to renewable energy sources and set South Korea to be on the path to achieve net zero by 2050.

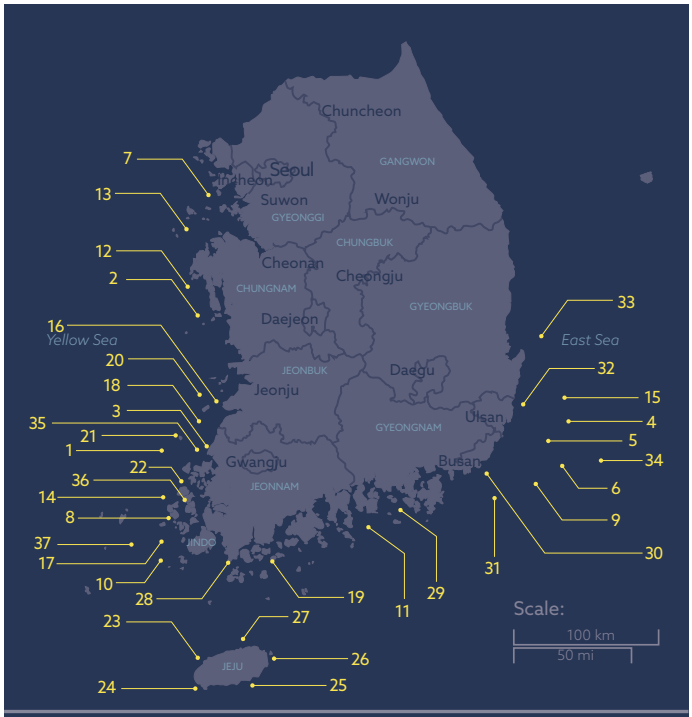
The installed capacity of renewable energy and its proportion in South Korea's energy mix has been increasing steadily since; however, this has not been without its challenges such as grid stability and disputes and conflicts between stakeholders (discussed further below).

For offshore wind in particular, South Korea now has up to 15 offshore wind projects totaling 4,105 MW in capacity, which have been selected as the successful bidders in long-term fixed-price contract auctions since 2022 held by the New and Renewable Energy Center (the "**NREC**") (discussed further below).

South Korea's offshore wind capacity is spread across its three coastlines and predominantly located in the South Jeolla Province, with additional major offshore wind projects planned for the North Jeolla Province, off the coast of Ulsan City in South Korea's southeast shores, around Jeju Island in the south, and near Incheon to the northwest (see Map 12).

There have been slight adjustments and re-calibrations to the goals over time, but the overall direction and drive to decarbonize the Korean economy by expanding the supply of new and renewable energy has continued unchanged and unabated. For wind power (including offshore wind), its share in South Korea's energy mix is expected to increase significantly amongst the different types of renewable energy sources. The current 11th Basic Plan for Electricity Supply and Demand also anticipates that the installed capacity of wind power (including offshore wind) will increase the most amongst the various generation sources.[1]

Map 12: Offshore wind projects in South Korea (non-exhaustive)



Key

1 - Anma Offshore Wind Farm
2 - Taean Offshore Wind Farm
3 - Yeonggwang Nakwol Offshore Wind Farm
4 - Bandibuli Floating Offshore Wind Farm
5 - Donghae 1 Floating Offshore Wind Farm
6 - Haewoori I, II and III Floating Offshore Wind Farm
7 - Incheon Offshore Wind Farm Phase 1 & 2
8 - Jeonnam I, II and III
9 - Gray Whale Floating Offshore Wind
10 - Maenggoldo Offshore Wind Project
11 - Geomundo Offshore Wind Project
12 - Seohae Offshore Wind Project
13 - Hanee Baram Offshore Wind Project
14 - Neulsaem Ui Offshore Wind Project
15 - KF Wind (Ulsan)
16 - Gochang Offshore Wind Project
17 - Shinan Ui Offshore Wind Project
18 - Nakwol Offshore Wind Farm
19 - Wando Geumil 1 and 2
20 - Southwest Offshore Wind
21 - South Jeolla Province Offshore Wind
22 - Shinan Offshore Wind
23 - Hanlim Offshore Wind
24 - Daejeong Offshore Wind
25 - Pyoseon-Sehwa Offshore Wind
26 - Handong-Pyeongdae Offshore Wind
27 - Weoljeong-Haengwon Offshore Wind
28 - South Korea Government Project
29 - Yokjido Offshore Wind
30 - Haegi Cheongsapo
31 - Dadaepo
32 - Southeast Coast Offshore Wind
33 - Pohang Offshore Wind
34 - MunmuBaram Floating Offshore Wind
35 - Hanbit Offshore Wind
36 - Aphae Offshore Wind
37 - Haesong 3 Offshore Wind

* We note that the One-stop Shop Act (as defined below) was approved by the National Assembly after the date of this update. Our insights on this very important development will be provided separately in due course.

Renewable energy expansion in Korea has received a further impetus under the new South Korean administration, led by President Lee Jae-myung who came into power in June 2025. The new administration has set renewables expansion as a national priority agenda in line with President Lee's campaign pledge. To date, this has involved transferring responsibility for energy policy from the Ministry of Trade, Industry and Energy (MOTIE) to the newly-established Ministry of Climate, Environment, and Energy (MCEE) as well as announcing an ambitious Nationally Determined Contribution (NDC) target of reducing Korea's greenhouse gas emissions by 53% to 61% from 2018 levels by 2035. To achieve these aims, the government's plan is to significantly expand the country's total renewable energy generation capacity to 100 GW. The specific capacity targets per renewable energy source will be included in the 12th Basic Plan for Electricity Supply and Demand, which is expected to be finalized by the end of 2026.

Potential challenges

The permitting process for the development of offshore wind projects in South Korea is rather complicated and fragmented, with developers required to obtain multiple permits from various government departments at both national and local levels, which are not always perfectly aligned in terms of process and requirements. In addition, a developer must prove that it has the consent of nearby residents before it can obtain certain permits; this consent is difficult to prove, and many projects face local opposition. These issues can be the cause for significant delays in the development of offshore wind projects in South Korea. Recognizing that this is an issue which needs to be resolved in order to promote greater interest and investment in the country's offshore wind industry, legislative and regulatory changes have been introduced to create a more transparent and streamlined permitting and development process. The result has been the passing of the Special Act on the Promotion of Wind Power Development and Distribution (often referred to as the "**One-stop Shop Act**") in March 2025, which envisages a central administrative agency to be responsible for issuing licenses and permits for all wind power projects in South Korea. The government is currently preparing the subordinate legislation to the One-stop Shop Act in anticipation of its implementation from March 2026.

In addition, as one would expect given its 2,413 km coastline, South Korea's fishing industry is a major employer and generator of GDP, particularly in regions where major offshore wind power developments are being considered. As such, the development of offshore wind projects in South Korea's coastal areas poses the possibility of tension with the fishing industry. As has been seen in other developing offshore wind markets where this is also a concern, such as Taiwan, developers will be expected to provide a level of compensation to relevant parties, such as local fishermen, for losses suffered resulting from the development of an offshore wind project. Such compensation arrangements often involve lengthy and protracted negotiations, which any financiers will ideally want to see addressed before a project reaches financial close. As such, developers are encouraged to start engagement with the relevant parties at an early stage of a project's development.

Developers of offshore wind projects in South Korea also face the prospect of having competing interests with national security organizations, given that the majority of South Korea's naval bases and other military facilities are situated in the provinces identified for offshore wind project development. Such competing interests are not impossible to overcome as seen in other key offshore wind jurisdictions, including the United Kingdom, with any such issues being addressed contractually (for example, via radar mitigation agreements). In our experience, early diligence on this issue, and confirmation that an agreement can be reached with the relevant authority, is essential to avoid later permitting problems.

Another uncertainty relates to what the South Korean government expects with regards to the use of domestic Korean contractors. There appears to be a degree of expectation from government organizations regarding the use of domestic contractors in order for a project to obtain a REC Offtake Agreement (defined below) with the power generation subsidiaries of the majority state-owned Korea Electric Power Corporation ("**KEPCO**"). To this end, an incentive scheme was initially introduced by the Korea Energy Agency (the "**KEA**") to grant a more favorable renewable energy certificate ("**REC**") multiplier for projects which source more than 50% of their major wind farm components from contractors which manufacture/produce such components in Korea; however, amendments were made in 2023 which disapplied this incentive in the case of competitive bids held by the NREC for long-term fixed-price contracts for wind power projects (see "Renewable Energy Certificates" below). In any case, the bidder's proposed contribution to the domestic economy (including the domestic industrial ecosystem and supply chains *etc.*) is one of the evaluation criteria in the NREC's auction for long-term fixed-price contracts for wind power projects. The latest development is that from the 2025 auction round, a separate "public-led" bidding market has been established for offshore wind projects in which the state-owned GenCos (defined below) or other public institutions hold at least a certain stake (individually or on a collective basis). Furthermore, the evaluation criteria for offshore wind project auctions include a new "security" index. This criterion assesses key factors such as supply chain security for the stability of the power facilities and energy supply, utilization plan for vessels and personnel, and safety and security plans for the power facilities.

1. As of 2022, the installed capacity of wind power in Korea is 1.9 GW, which is expected to reach 18.3 GW by 2030, and 40.7 GW by 2038.

Renewable energy certificates

Currently, unless a power generator enters into a corporate power purchase agreement (see "Power Purchase Agreements" below), power generators must generally sell the power that they produce into the single cost-pool wholesale power market, the Korea Power Exchange (the "**KPX**"), at a spot rate determined by the system marginal price. In principle, only KEPCO can purchase electricity from the KPX for resale to domestic electricity consumers. The inherent price uncertainty of the KPX spot rate renders it difficult to support project financing on the scale required to fully develop any large-scale offshore wind project. However, this is mitigated through the issuance of RECs, which may be bought and sold on the KPX-managed REC spot market or through long-term fixed-price contracts for terms of up to 20 years (the "**REC Offtake Agreement**").

This supply of RECs to the market is coupled with an enforced demand created by the South Korean government's renewable portfolio standard policy (the "**RPS**"). Currently, pursuant to the RPS, six wholly-owned power generation subsidiaries of KEPCO (the "**GenCos**"), two public institutions and 29 other large generation companies (together, the "**Mandatory Generators**") must ensure that 14% or more of the electricity they supply is derived from new and renewable energy resources (which is set to increase to 25% by 2030). If any of these Mandatory Generators fails to meet this requirement through self-generated sources, then they must make up the shortfall through either: (i) purchasing RECs on the KPX-managed REC spot market; or (ii) entering into REC Offtake Agreements to purchase RECs from third party renewable energy generators through long-term fixed-price arrangements. Such long-term fixed-price arrangements include participating in private contracts or the NREC's competitive bidding for fixed-price contracts held once or twice a year (in the case of wind power projects) or twice a year (in the case of solar power projects).[2] Naturally, for offshore wind projects seeking debt finance, the preferred option would be to enter into REC Offtake Agreements with these Mandatory Generators in order to mitigate revenue uncertainty.

An offshore wind power generator is awarded RECs based on the power it produces multiplied by a weighted value set by the government (the "**REC Multiplier**"). These RECs have economic value (for the reasons explained above) and provide an additional revenue stream which, through long-term fixed-price contracts (*i.e.*, REC Offtake Agreement), can be projected with long-term certainty to support project financing.

When an offshore wind project sells its power to the KPX, it will also receive a quantity of RECs equal to 1 REC per MWh of power generated multiplied by the REC Multiplier in accordance with the Government Notification of Renewable Portfolio Standard and Renewable Fuel Standard. The REC Multiplier is dependent on several factors, including: (i) the distance between the closest coastline with a KEPCO owned substation and the center point of that project's wind turbine closest to such coastline; and (ii) water depth. For offshore wind farms, this base case REC Multiplier is currently no less than 2.0 for near shore waters and 2.5 for others.

The economic feasibility of offshore wind in South Korea is also being tested through wider macro-economic factors, as the market price for RECs can be subject to material fluctuations.

The uncertainty around the number of RECs a project may receive, together with the macro-economic market prices, made it difficult for developers to prepare financial models and banking cases demonstrating with certainty that the project will have sufficient RECs to generate enough net revenue to service and repay project debt and provide an adequate return on investment for its sponsors. Acknowledging this, in October 2021 the South Korean government introduced a process that will notify offshore wind project developers of their projected REC allotments well in advance of commissioning (although, this projection was not a cast-iron guarantee as the actual REC Multiplier that a project would be entitled to was only fixed at the commissioning stage, and so some residual uncertainty remained). To provide greater certainty for project developers, from the 2024 wind auction, it was stipulated that the REC Multiplier that is applicable at the time of the auction announcement will be fixed for the bidding wind projects which are successful in the auction. The 2024 auction also extended deadlines for the completion of projects and provided that the deadlines can be extended without penalty (which are in the form of a reduction to the price in the REC Offtake Agreement) if project delays are due to causes not attributable to the developer.

There are also signs that MCEE intends to gradually reform the current RPS system by shifting to a government-led competitive bidding system for renewables in order to expand supply but in a more cost-efficient manner. Public debate and discussions with stakeholders are currently being undertaken in this regard.

Power Purchase Agreements

In addition to long-term fixed-price contracts, renewable power developers can also enter into either: (i) power purchase agreements ("**PPAs**") directly with electricity consumers; or (ii) indirect PPAs with KEPCO, with KEPCO then entering into a back-to-back PPA with an electricity consumer to sleeve the renewable power supplied from the renewable energy generator.

Legislative changes introduced in 2021 and 2022 have meant that renewable power producers are able to enter into PPAs directly with third party offtakers (*i.e.*, corporate PPA), rather than selling generated power on the KPX. Since then, the market has seen significant growth with a number of direct PPAs being signed with a total aggregate capacity of 1,661 MW as of the end of 2024 (up from 1,083 MW as of July 2024).

2. The NREC first introduced the competitive bidding system for fixed-price contracts with respect to solar power in 2017 with the aim of fostering the renewable energy industry by offering stable revenue streams for the relevant businesses under long-term contracts. From September 2022, the competitive bidding scheme expanded to cover wind power producers also. The bidding not only evaluates the pricing but also local resident acceptance, contribution to the domestic economy, maritime/hinterland infrastructure, maintenance, grid acceptability and stage of development. The 2023 auction divided the bidding for onshore wind and offshore wind projects. In the 2024 auction, offshore wind was further divided to have separate bids for fixed-bottom projects and floating projects, with allocated bidding capacity of around 1,000 MW and 500 MW, respectively. Five (5) offshore wind projects representing aggregate capacity of 1,886 MW were selected in the 2024 auction. The auction in the first half of 2025 was for 1.25GW of capacity in fixed-bottom offshore wind projects, of which approx. 750 MW was allocated for "*public-led*" offshore wind projects and the remainder allocated for "*general*" offshore wind projects (approx. 500 MW). In such auction, four (4) offshore wind projects representing aggregate capacity of 689 MW were selected in the "*public-led*" category (*i.e.*, Aphae (80 MW), Dadaepo (99 MW), Handong-Pyeongdae (110 MW) and Southwest Demonstration Complex (400 MW)) and no selected bidders under the "*general*" offshore wind category. A further auction for onshore projects (of 230 MW in bidding capacity) was announced for the second half of 2025, the results of which are expected to be released around February 2026.

Previously, it was the case that only electricity users exceeding 1,000kW were able to enter into indirect PPAs, which was not a condition that applied to direct PPAs. Responding to views raised by the industry pointing out this inconsistency, the government eased the standards in 2023 to allow electricity users exceeding 300kW to enter into indirect PPAs, thereby applying the same standards and conditions as direct PPAs for indirect PPAs. As of the end of 2024, we understand that a handful of indirect PPAs had been signed, totaling 18 MW of capacity.

Although power sold directly under a PPA will not be eligible to receive RECs, the same agency that issues RECs (*i.e.*, the KEA) will issue "renewable energy use certificates" to the relevant offtaker with respect to such power. These renewable energy use certificates will include the information currently included in RECs to enable easy tracking of the corresponding environmental attributes and to prevent double counting by a corporate offtaker for the purposes of its compliance with corporate sustainability goals such as the RE100 initiative.

Strong local contractors

One of the main attractions to South Korea for offshore wind developers is the country's strong local supply chain, forged from its respected history in manufacturing, construction, and shipbuilding. Indeed, the strong industrial capabilities of South Korea's contractors, such as SK Oceanplant, Hyundai, CS Wind, SeAh, LS Cable and others, are already seen on offshore wind projects in the region, such as in Taiwan and Vietnam, which boosts the confidence of developers that a strong local supply chain could be readily established in South Korea. Domestic turbine suppliers, such as Doosan Enerbility and Unison, are also gaining market share in the domestic offshore wind market, although substantial R&D is needed to upscale domestically-produced turbines to the capacity and size manufactured by the leading European OEMs.

Crucially, utilizing the strong local supply chain would help foreign developers demonstrate to the South Korean government that they are promoting local industry and supporting the regional economy, which is a key area of focus for the government. Although the government is not expected to impose formal localization requirements as seen in Taiwan, as noted above, the government is encouraging developers to use the local supply chain through favorable evaluation for bidders who do so in the auction bids for long-term fixed-price contracts. Therefore, the ability to draw on a strong local supply chain will be an important factor for foreign developers to consider in pursuing offshore wind projects in Korea.

Floating technologies and power to "X"

While established fixed-bottom technologies will likely be featured in initial projects, given the deep and mountainous nature of much of South Korea's seafloors, the expectation is that floating offshore wind projects will eventually become the dominant form. Examples of floating offshore wind projects being pursued in Korea include the following developers/projects: Ørsted (Incheon; 1.4 GW), RWE (Ulsan; 1.5 GW), Equinor (Bandibuli; 750 MW), Copenhagen Infrastructure Partners (Haewoori 1, 2 and 3; 1.5 GW), Ocean Winds/Mainstream Renewable Power (Korea Floating Wind; 1.2 GW) and Corio Generation/TotalEnergies/SK ecoplant (Gray Whale; 1.5 GW) who are respectively pursuing floating offshore wind projects off the coast of Ulsan.

Given the natural synergies, a number of offshore wind developers with potential projects in South Korea are also looking to co-locate electrolyzers with their offshore wind projects, with a view to producing green hydrogen. Such projects, however, remain at an early stage.

Expected market developments

We expect to see continued evolution and liberalization of the Korean power market into 2026, including as follows:

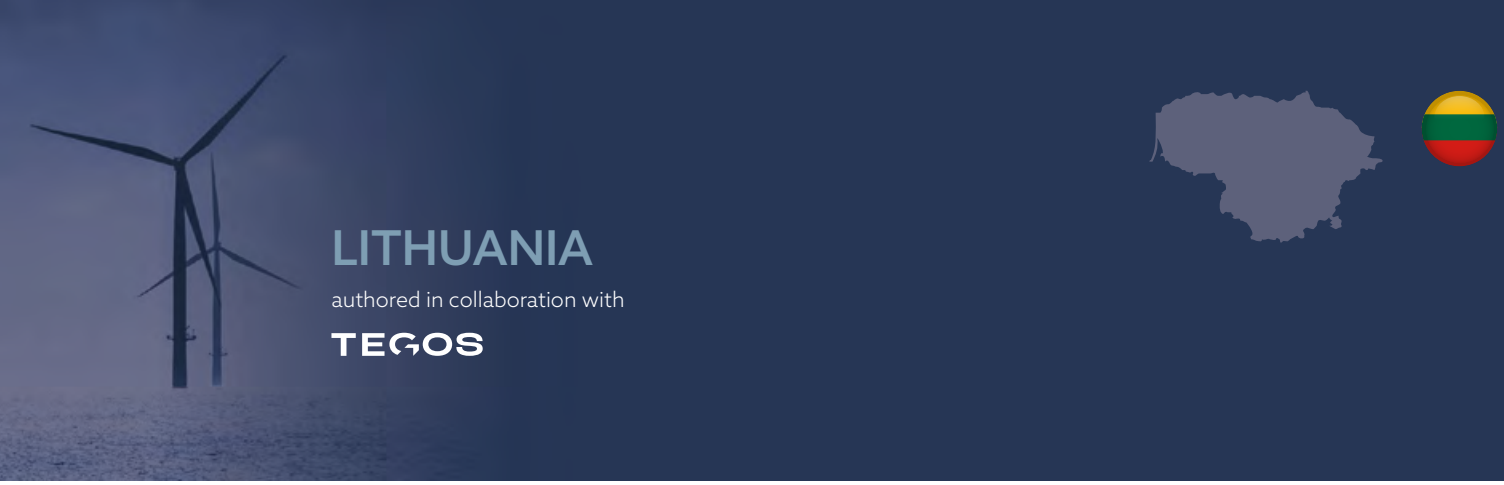
i. more direct PPAs being entered into between renewable energy generators and electricity consumers;

ii. permitting the purchase and trading of RECs by RE100 companies through (x) a separate online REC trading platform designed for RE100 companies and (y) direct trading between renewable power generators and RE100 companies;

iii. the continued use of renewable energy use certificates that will enable consumers who self-generate or purchase renewable power (or corresponding RECs) to obtain credit for such usage; and

iv. the proposed introduction of a renewable power bidding system for mandatory participation by renewable energy generators above a certain size (3 MW), which is aimed at promoting system stability and encouraging competition amongst renewable energy producers. The government introduced it on a trial basis in Jeju Island in June 2024, with further plans for roll-out in the mainland by 2028. Currently, all of the electricity generated from renewable sources is sold and purchased via the KPX; however, the future introduction of a renewable energy bidding system will fundamentally change this model as only the renewable energy generators who are successful in the competitive bidding process will be able to sell their electricity.

These developments, especially alternative offtake arrangements, will be welcome news for developers. Other regulatory changes, including the implementation of the One-stop Shop Act for the permitting of wind projects should further facilitate the project development process. More generally, these developments show that the winds of change are blowing in the right direction for South Korea to meet its ambition to become one of the world's leading participants in the global offshore wind sector.



LITHUANIA

authored in collaboration with

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Lithuania has ambitious plans to become a net exporter of electricity by the year 2030. As a signatory to the European Wind Charter (by which Member States officially commit to deliver on the actions set out in the EU Wind Power Package) offshore wind is a key pillar of Lithuania's energy independence goals.

Although there are currently no operational offshore wind projects in Lithuania, two 700 MW offshore wind parks are scheduled to be developed in the Lithuanian Exclusive Economic Zone. The rights to develop the first project, Curonian Nord, were secured in a competitive auction in 2023 by a consortium of Ignitis Renewables and Ocean Winds. The second project has faced challenges in 2025 and, due to the lack of participants, the tender was declared invalid. However, after consultations with the European Commission, it is expected that the auction for the second project will be re-launched in the near future.

The two projects, once operational, are expected to generate up to 6 TWh of electricity per year, which is approximately half of Lithuania's current electricity demand. The National Energy Independence Strategy also establishes the possibility to announce further tenders, with the aim of increasing the installed capacity of offshore wind farms to at least 2.8 GW by 2040 and 4.5 GW by 2050.

Lithuania's first offshore wind tender

Lithuania's first offshore wind tender ("**First Tender**") commenced on 30 March 2023 and was concluded on 12 October 2023, with the Ignitis Renewables and Ocean Winds consortium being announced as the winner.

The First Tender was a subsidy-free tender and participants were required to meet a variety of criteria to be eligible to participate in the First Tender (for example, participants were required to demonstrate: (i) financial capability and offshore wind development experience requirements, and (ii) their commitment to invest in environmental protection and local community support schemes and to fostering the involvement of small and medium enterprises in the project's implementation).

A special purpose vehicle collectively owned by Ignitis Renewables and Ocean Winds was issued with a permit for development and operation of the project, which is valid for 41 years. According to the requirements of the First Tender, the winner will have to obtain a construction permit within three years and a permit for electricity generation within six years following the award of the permit for development and operation.

In October 2025, it was announced that Ignitis Renewables is to acquire full ownership of the project from Ocean Winds following the approval from the National Energy Regulatory Council. Ignitis Renewables commented at the time that the departure of Ocean Winds will not have any negative effects on the further implementation of the project.

On 12 June 2025, the Parliament agreed to initiate an audit regarding the development of Lithuania's first offshore wind park and the National Audit Office of Lithuania was tasked with assessing the project. The results of the audit, published in November 2025, identified several risks associated with the project, which should be addressed or re-evaluated by the developer to ensure successful implementation of the project.

Lithuania's second offshore wind tender

Lithuania's second offshore wind tender ("**Second Tender**") for the first time commenced on 15 January 2024 and was declared void on 22 April 2024 due to lack of participants.

The rules and requirements of the Second Tender were similar to the ones of the First Tender, with a few notable exceptions:

- first, in the Second Tender participants had a possibility to request state support in the form of a variable premium under a two-way contract-for-difference ("**CfD**") for a duration of 15 years.
- second, deadlines for the project implementation were longer. According to the rules for the Second Tender, the winner of the Second Tender had to obtain a construction permit within four years (instead of three years provided in the First Tender) and a permit for electricity generation within eight years (instead of six years provided in the First Tender) after obtaining the permit for development and operation.

However, despite the fact that the rules for the Second Tender could have been considered more favorable to the potential developers (available state support, longer terms to implement the project), it did not help to attract the required number of participants.

Preparation for the re-launch of Lithuania's second offshore wind tender

Following the unsuccessful initial launch of the Second Tender, certain legal requirements were amended to make the Second Tender more attractive for potential participants:

- first, the deadline for registration and submission of the documents was extended. The registration of the participants will last 120 calendar days (instead of 90), giving potential participants more time to enter the Second Tender.
- second, the requirement to have at least two participants has been waived. The new rules permit the Second Tender to continue even if only one participant registers.
- third, indexation of the CfD strike price was introduced. If the winning participants opts for state support via the CfD scheme, the CfD strike price will be recalculated annually, by taking into account the annual inflation. The annual inflation rate would be applied to the difference between the strike price and the market price, providing stability and price-certainty for the project.
- fourth, indexation of the development fee was introduced. Similar to the transaction price, the development fee, payable over five years (if proposed by the participant), will also be indexed annually to maintain its value against inflation.
- fifth, a requirement for a minimum development fee was introduced. A minimum development fee of at least EUR 5 million is now required for projects where no state support is requested.

Outcome of Lithuania's second offshore wind tender

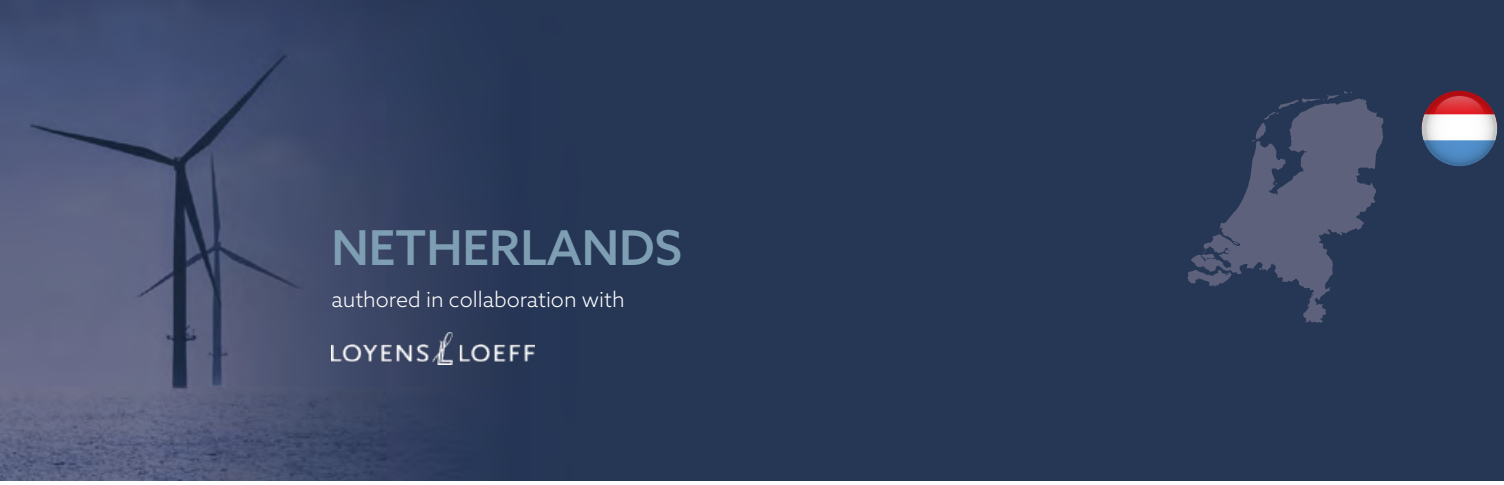
On 18 November 2024, the Second Tender was relaunched for the development of a wind farm with the maximum permitted generating capacity of 700 MW and minimum installed capacity of 700 MW. The relaunched Second Tender had available state support in the form of a variable premium under a two-way contract for difference for a duration of 15 years. It was scheduled that the process for submission of tender documents and registration of the participants will run until 4 March 2025.

In mid-January of 2025, the Ministry of Energy proposed to temporarily suspend the Second Tender (ongoing at the time), in order to review and adjust the applicable rules. In May 2025, further amendments to the auction requirements were implemented, including the following:

- abandoned the principle that electricity generated in the second offshore wind farm would have a priority to be supplied into the network compared to the onshore wind farms and solar plants;
- at least two participants must be registered to participate in the Second Tender and included in the list of tenderers, otherwise the Second Tender is deemed void;
- indexation of the transaction price only until the generation permit is obtained, but in any case, no longer than for eight years after the announcement of the winner of the Second Tender;
- the tenderers are no longer required to bid at least EUR 5 million. The requirement to increase the development fee by not less than EUR 5 million was also lifted;
- the developer must, for the activities related to the permit for development and operation, use the ports of Lithuania when it is economically feasible and the port can provide necessary infrastructure and services.

In June 2025, the National Energy Regulatory Council announced that the previously suspended Second Tender is renewed. The applications were initially to be accepted between 10 June and 8 September 2025, however in September the government temporarily halted the tender and resumed on 6 October, with applications accepted until 7 October (effectively giving prospective bidders another month to submit bids). On 8 October 2025 the National Energy Regulatory Council announced that the Second Tender had been cancelled and declared invalid due to lack of participants as only one participant—Ignitis Group together with its partner Ocean Winds—participated, which is below the minimum number of participants required for a valid auction.

Following the unsuccessful Second Tender, the Minister of Energy commented that it intends to continue the project in the future following consultations with the European Commission.



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LOYENS & LOEFF

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Introduction

In 2013, a national Energy Covenant (*het Energieakkoord*) was entered into by over 40 Dutch organizations, including central, regional and local government authorities, employers and unions, energy companies, environmental organizations and financial institutions. The Energy Covenant focused on making energy supply more sustainable by boosting renewable energy sources, energy conservation and job creation and set out certain renewable energy targets to be met by 2023, including 4.5 GW of offshore wind energy by 2023.

This Energy Covenant has been followed by the Dutch Climate Agreement of June 2019. As part of the objectives of the Dutch Climate Agreement, a minimum of 70% of all energy used in the Netherlands is to come from renewable sources by 2030.

To further this ambition, the Dutch government published the Offshore Wind Energy Road Map 2030 ("**OSW Road Map**"), which set a target to add 7 GW of capacity between 2024 and 2030 to the 4.5 GW that had already been planned under the 2013 Energy Covenant.

In March 2022, the government adopted the North Sea Programme 2022 – 2027 which increased the Netherlands' offshore wind target from the 11.5 GW target in the OSW Road Map to 21 GW of operating offshore wind capacity by 2032.

In June 2024, the government published the North Sea Energy Infrastructure Plan (*Energie Infrastructuur Plan Noordzee*), which set out the aim to further support the Netherlands' climate targets, with a maximum offshore wind energy capacity of 35 GW by 2035, 50 GW by 2040 and 70 GW by 2050.

Developments in 2025

While the operational capacity of offshore wind farms in the Netherlands has grown significantly in recent years (with 4.7 GW now operational), 2025 has brought a notable shift in market dynamics. Rising development costs and subdued demand have dampened interest in the construction and operation of subsidy-free offshore wind farms. As a result, project development has faced delays.

In October 2025, for the first time, no applications were submitted for a tender for the Nederwiek I-A site. Other tenders planned for 2025, IJmuiden Ver Gamma-A and Gamma-B, were postponed. Similarly, two large-scale offshore hydrogen demonstration projects involving offshore electrolyzers have also been paused.

In response to these developments, the Dutch government has published several key policy documents that will shape the future of offshore wind energy.

In June 2025, the Dutch government published the North Sea Wind Energy Infrastructure Plan (*Windenergie Infrastructuurplan Noordzee*) (the "**Infrastructure Plan**"), succeeding the previous North Sea Energy Infrastructure Plan. The ambition for 2040 was revised from 50 GW to a bandwidth of 30 - 40 GW, depending on demand development and ecological constraints. The Infrastructure Plan also places greater emphasis on system integration, adaptivity, and the annual adjustment of targets, a core characteristic of Dutch offshore wind policy.

In September 2025, the Ministry for Climate and Green Growth published the Offshore Wind Action Plan (*Actieplan windenergie op zee*) (the "**Action Plan**"), focusing on restoring investment certainty in the short term. The Action Plan introduces concrete measures, such as a 2 GW subsidized tender in 2026 and preparations for the introduction of a Contract for Difference ("**CfD**") instrument from 2027 onwards. These steps are intended to address the recent lack of market interest and to ensure that the Netherlands remains on track to meet its long-term climate and energy objectives.

In October 2025, the Dutch government provided an updated OSW Road Map which reflects the aforementioned changes.

November 2025 was also an interesting month for offshore wind in the Netherlands, as two relevant public consultations and a research paper were published. First, the Ministry launched a public consultation for the possibility of enacting a (world's first) offshore bidding zone in view of the structural congestion expected on the hybrid interconnector project LionLink, which would connect future offshore wind site Nederwiek III with both the UK and Dutch onshore grids. Second, the Dutch energy regulator ACM launched a public consultation for the design of a grid feed-in tariff, which would likely also apply to all existing and future offshore wind farms. Third, researchers connected to the University of Delft published a paper in the journal Cell Reports Sustainability in which they argue that offshore wind yields have been structurally overestimated by Dutch policy makers. Instead of an expected load factor of approximately 50%, their calculations indicate load factors of 34.6%. If these findings turn out to be true, this would impact the levelized costs of energy for offshore wind and the broader planning of the Dutch energy system.

Even though the objectives for 2040 have been adjusted, the development of offshore wind energy remains central to the Dutch energy transition, as also highlighted in the annual Climate and Energy Policy Note (*Klimaat- en Energienota 2025*), published concurrently with the Action Plan in September 2025. This is further underscored by the "Report Wennink", an independent review commissioned by the Dutch government and led by former ASML CEO Peter Wennink, which identifies offshore wind as the Netherlands' most viable option for large-scale renewable electricity generation, given the country's limited potential for other renewable sources.

While the Dutch offshore wind market faced new challenges and delays in 2025, the government remains committed to ambitious, yet increasingly adaptive plans. The focus on innovation, system integration and investment certainty continues to underscore the importance of offshore wind for the Netherlands' energy and climate objectives.

The offshore wind energy road map 2030 and beyond

The Dutch offshore wind program currently outlines six development zones (wind areas), each consisting of multiple sites. Three of these development zones were part of the 2023 Road Map (Borssele, Hollandse Kust (Zuid) and Hollandse Kust (Noord)), and tenders for the sites for these zones were held between 2017 and 2020.

The 2030 Road Map initially set out the location and timing of three additional development zones (Hollandse Kust (West), Ten Noorden van de Waddeneilanden and IJmuiden Ver), with five sites in total for offshore wind energy with a total capacity of 7 GW. In March 2022, the government revised the North Sea Programme 2022 – 2027, which significantly increased the Netherlands' offshore wind target from 11.5 GW to 22 GW of operating offshore wind capacity by 2030. In April 2024, the Dutch government announced an updated timeline for the OSW Road Map, with the goal of achieving 21 GW of offshore wind capacity planned for late 2032, a year later than previously scheduled. In June 2025, the Dutch government published the Infrastructure Plan.

It became clear from three system analysis studies, that 50 GW by 2040 is not feasible from an infrastructure perspective. The studies also highlight that demand is lagging, and the slower development of hydrogen production further undermines the feasibility of reaching 50 GW of offshore wind energy by 2040. Moreover, it appears increasingly likely that achieving 50 GW by 2040 is not necessary from a demand perspective. As a result, the ambition for 2040 was revised from 50 GW to a bandwidth of 30 - 40 GW, depending on demand development and ecological constraints.

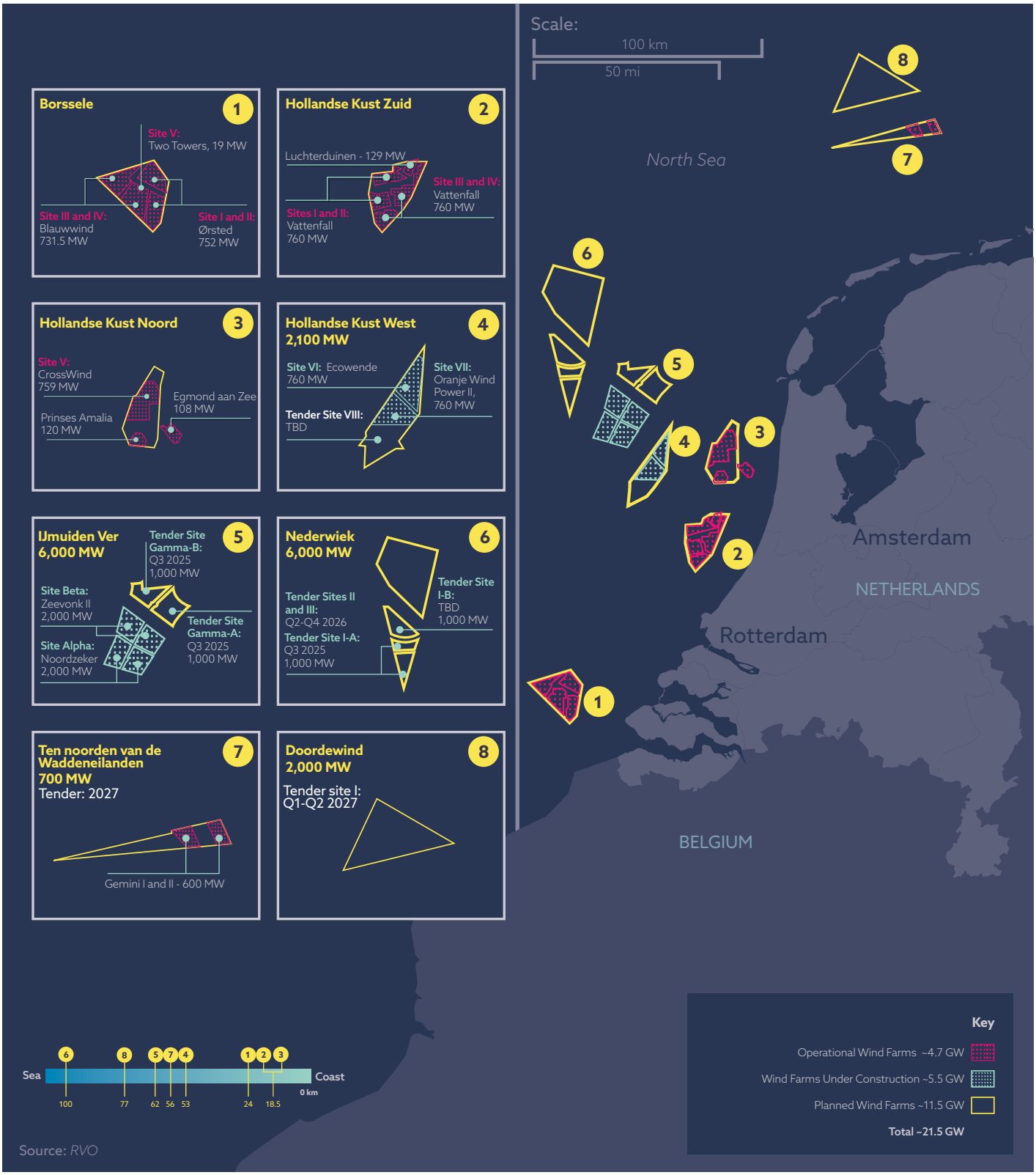
Despite this revision, the wind farms in the development zones of Hollandse Kust (West) (with approximately 1.5 GW) are still expected to be completed in 2026 - 2027, with IJmuiden Ver Alpha and Beta sites (each 2 GW) following in 2029.

Additionally, the Nederwiek II and III (with a total of 4 GW) sites are still being planned. At the start of 2025, the environmental impact assessment procedure (in line with the EU Strategic Environmental Assessment Directive) was initiated by the Minister for Climate and Green Growth.

The goal of achieving 21 GW will however be delayed due to the postponed tenders for the two IJmuiden Ver Gamma sites: IJmuiden Ver Gamma-A and Gamma-B, each with a capacity of 1 GW and the unsuccessful tender for Nederwiek I-A (5 GW) (see further below) in September 2025.

Map 13 below, shows the updated overview (dated October 2025) of existing and new locations of offshore wind farm zones in the Netherlands.

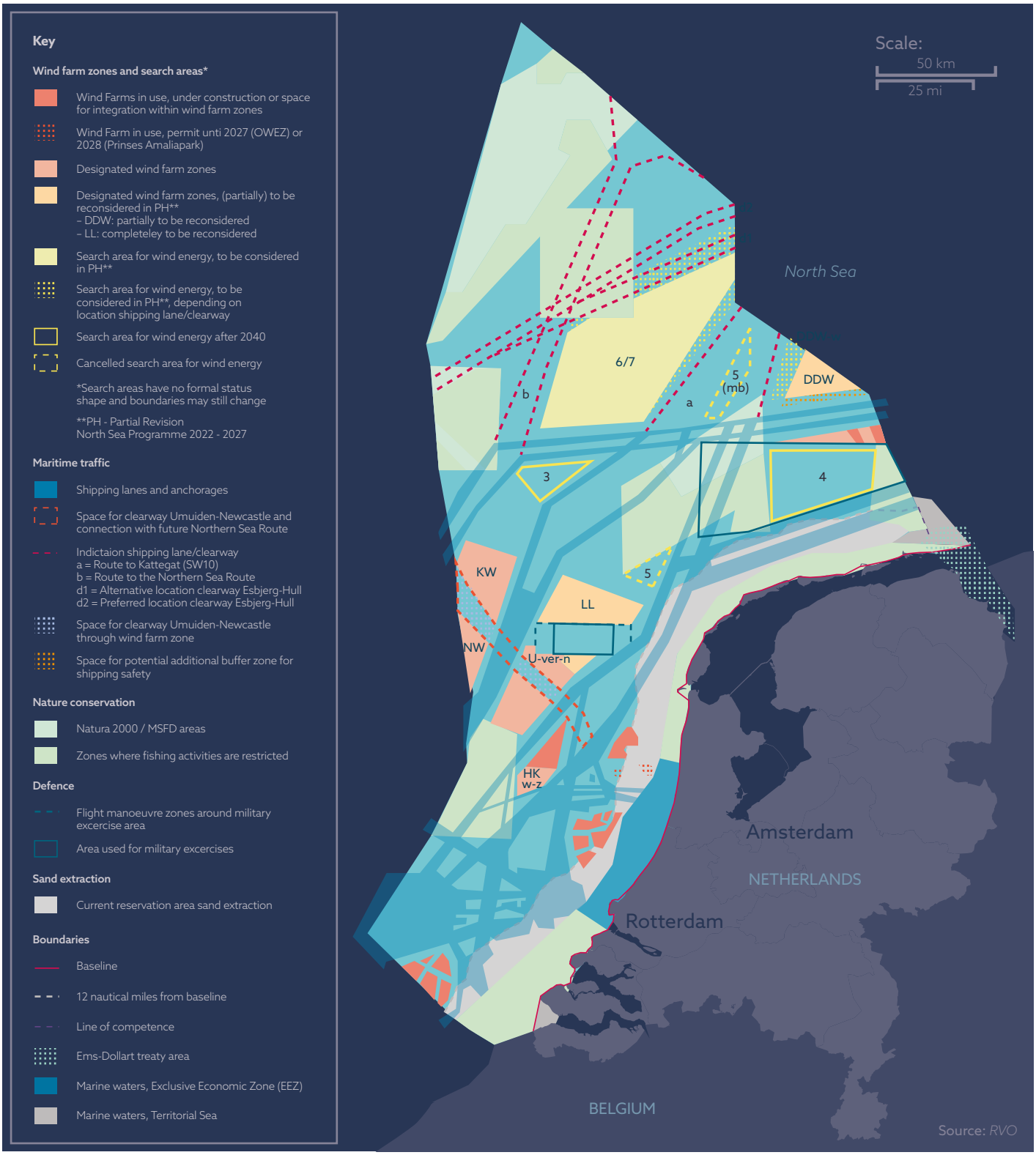
Map 13: Netherlands offshore wind energy roadmap



As for the longer term, the government is currently preparing to designate the wind energy area Doordewind (West) (2 GW) and Search Area 6/7 (with a maximum of 19 GW) for new wind farms. The plans for Doordewind and Search Area 6/7 are part of the Partial Revision of the North Sea Programme, a supplement to the North Sea Programme 2022-2027 and which is illustrated in the following Map 14. As stated in this Partial Revision, the area of Lagelander will not be further examined.

In May 2025, the Council of Ministers decided that grid operator TenneT may begin preparations for connecting the new Doordewind wind energy area to the electricity grid. This will involve, among other things, the installation of two underground cable systems. Each cable system will have a capacity of 2 GW and will be connected in Eemshaven. The tender for site I is unlikely to take place before 2027.

Map 14: NRD partial revision of the North Sea Programme 2022-2027



In addition to this plan, the government has initiated the Program for Offshore Wind Landing Connections ("**VAWOZ**"), which is intended to secure sufficient space for grid connections. The VAWOZ program is exploring various potential landing sites, but many regions face challenges regarding spatial integration. The loss of the deep landing from the Delta Rhine Corridor has made it more difficult to secure enough space for electrical landings before 2040. As a result, research into deep landing options is now high on the agenda.

Analyses within the VAWOZ program are currently investigating a large number of landing locations, with the aim of enabling approximately ten electrical landings (totaling 20 GW) and up to two hydrogen pipelines. A research trajectory into deep landings has also been initiated to facilitate system integration further inland and to explore additional landing possibilities. An initial exploration is expected to run until early 2026.

The tender scheme

The key factor of the Dutch offshore wind scheme is the pivotal role for the Dutch State in the planning and zoning of wind projects. The State not only designates development zones (wind areas) but also the sites within these zones. In a site-specific Offshore Wind Site Decision, the State determines the requirements for the wind farm (capacity, rotor size, axis height, delineation, cable crossings, safety areas, *etc.*) and with that Decision includes all zoning and environmental permitting requirements (EIA, *etc.*). Therefore, the winning applicant for the license in the tender will receive a complete package and no further license requirements exist for the project. Furthermore, under the Energy Act, the Dutch transmission system operator ("**TSO**"), TenneT, has been designated as the offshore TSO and has been charged with the construction of the OHVS and the exit cable to shore, resulting in a significant reduction of cost for the developer and significant efficiency gains for TenneT.

Tenders have to comply with the following requirements to be eligible for a wind permit: (i) the applicant's equity capital must be equal to at least 10% (for subsidy tenders) or 20% (for subsidy-free tenders) of the total planned investment of the project and if such equity capital is less than 20% for subsidy tenders, confirmation must be provided by financiers in relation to financing the remaining part of the 20%; (ii) the applicant must submit an income statement specifying planned costs associated with the project; (iii) the applicant must submit a time schedule with specified milestones, and construction must start within four years of the wind permit becoming irrevocable; (iv) there must be technical feasibility and assurance that the project will be operational on time; and (v) the permit must comply with the relevant Wind Farm Site Decision.[1] The comparative assessment is made on the basis of several criteria. Obligatory in any comparative assessment are criteria with respect to (i) the certainty of the realization and (ii) the contribution to the Dutch energy supply. In case the comparative assessment is accompanied by a financial bid, the amount of the financial bid is also included in such assessment. Further criteria are determined on an individual tender basis, whereby up until now the additional criteria concerned either (iii) system integration, (iv) ecological impact, (v) responsible business conduct and (vi) circularity.

Additional criteria may be added in the future. For the assessment on system integration, applicants needed to demonstrate how the additional wind capacity is to be integrated in the Dutch onshore energy system. For the assessment of the ecological impact, the applicant needed to demonstrate technical measures that will not only limit the environmental impact of the construction and operation of the wind farm, but also positively contribute the (overall offshore) ecosystem. For responsible business conduct, applicants needed to evidence subscription and adherence to UN and OECDG guidelines on business and human rights. In practice, this is demonstrated by becoming party to the Dutch government-initiated International Responsible Business Conduct Agreement (dating back to March 2023) or a similar multi-stakeholder instrument. With respect to circularity criteria, applicants are required to construct, operate and decommission a wind farm in line with certain circularity guidelines. Applicable assessment criteria can, as such, vary to a certain extent from tender to tender.

The Minister of Economic Affairs typically decides on applications within 13 weeks of the tender period. A 13-week extension can be given once. In relation to subsidy tenders, the winning bidder must enter into (i) an implementation agreement within two weeks of the award and (ii) a bank guarantee in the amount of EUR 200 million, granted by a bank established within the EU, within four weeks of the award, the form of which is contained within the implementation agreement. Wind permits are currently granted for 40 years.

Assuming that all the requirements set out above are satisfied, wind permits for subsidy bids are awarded to the lowest bidder. In contrast, wind permits for bids without a subsidy are awarded to the highest ranking based on a graded assessment of all the requirements set out above.

Looking ahead, the government is considering further revisions to the criteria to promote solutions that address societal objectives such as ecology, system integration, and fisheries. Furthermore, with the anticipated introduction of subsidized tender procedures in 2026, it is expected that the tender criteria will be further refined.

Tender processes

The Netherlands Enterprise Agency (Dutch acronym: *RVO*) conducts the offshore wind energy permit tenders on behalf of the Ministry of Economic Affairs and Climate Policy. The Offshore Wind Energy Act ("**OWEA**") provides for four different tender processes: (i) a tender with subsidy, (ii) a tender without subsidy, (iii) a tender without subsidy and with a financial bid, and (iv) an auction. The Minister can choose a different tender process for each site, depending on the market circumstances and site specifics.

The two Borssele tenders were held in 2016 and 2017 with a subsidy, referred to as the Sustainable Energy Production ("**SDE+**"). SDE+ is an operational subsidy that subsidizes the difference between the applicant's strike price and the average market price of electricity in a given year for a period of 15 years, up to a certain maximum of full load hours per year.

1. Pursuant to the Offshore Wind Energy Act that entered into effect on 1 July 2015, wind farms may only be developed on designated locations.
2. HKZ is owned by Vattenfall and will be developed in an area subdivided into four parcels. It is expected to be commissioned by 2023. HKN was awarded to a consortium of Shell and Eneco and is expected to be commissioned by 2024.
3. Source: KPMG report.

The two subsequent tenders for Hollandse Kust Zuid ("**HKZ**") were held using comparative assessment and were the first projects in the Netherlands without subsidy. The 759 MW Hollandse Kust Noord ("**HKN**") project tendered in 2020 was also subsidy-free and on the basis of a comparative assessment.[2]

The two tenders for Hollandse Kust West, HKW VI and HKW VII, were held using a comparative assessment with a financial bid in the selection process. RWE was successful in obtaining the first 700 MW of capacity with a EUR 50 million bid, under the system integration tender. Ecowende, a joint venture between Eneco Chubu and Shell, won the 756 MW site HKW VII with a EUR 50 million bid, which tender had a special focus on reducing the ecological impact of the wind farm on the North Sea.

In February 2024, the Netherlands announced tenders for the IJmuiden Ver (Alpha and Beta) offshore wind zones, with a combined capacity of approximately 4 GW. The tender for the Alpha site was won by Noordzeker, a joint venture of SSE Renewables and Dutch pension funds ABP and APG. The Beta site was won by Zeevonk II, a joint venture of Vattenfall and Copenhagen Infrastructure Partners.

The two IJmuiden Ver projects were initially expected to become operational between 2029 and 2030, with the Zeevonk II project scheduled for full commissioning by 2030. However, since Zeevonk II's bid assumed that green hydrogen to be produced by an electrolyzer (that was part of the tender submission) could be transported to the Netherlands and Germany via the Delta Rhine Corridor ("**DRC**"), the business case of Zeevonk II was reportedly no longer feasible possible under the existing permit conditions after a four year delay in the construction of the DRC was announced. As a result, the Minister amended the permit upon Zeevonk II's request in August 2025. The Zeevonk II project will now be built in two phases, with 1 GW delivered as planned in 2029 and the remaining 1 GW completed in 2032, aligning with the DRC's expected completion. The bid was also reduced by EUR 400 million.[3] This post-tender amendment of an awarded permit was widely criticized by other developers, as they argue that this undermines future tenders.

The tenders for the IJmuiden Ver Gamma and Nederwiek offshore wind projects were amended in November 2024. The IJmuiden Ver Gamma site was divided into two sections: Gamma-A and Gamma-B, each with a capacity of 1 GW. In 2025, the Dutch government decided to postpone the launch of tenders for Gamma-A and Gamma-B, with plans to license these zones in 2026 with subsidy support.

Nederwiek I has also been split into Nederwiek I-A and I-B (1 GW each), with the intention that Nederwiek I-B will connect to the platform of Nederwiek I-A later. On 16 October 2025, the RVO opened the tender for Nederwiek I-A, but on 30 October 2025, the tender was closed without any applications. Though the outcome was not unexpected, this was the first tender in the Netherlands to receive no bids.

In reaction to this failed tender, the Minister announced in the Offshore Wind Energy Action Plan that it will start new subsidized permit rounds in 2026. It has not been confirmed yet whether Nederwiek I-A will become a subsidized tender or whether it will concern other sites only. At the end of January 2026, further clarity is expected regarding the tender for Nederwiek I-A. Funding for this round has already been reserved from the Climate Fund (*het Klimaatfonds*).

In response to challenging market conditions for offshore wind and in light of the EU Electricity Regulation, which will prohibit direct price support mechanisms, the Dutch government is moving towards a new support framework centered on a form of CfD. On 12 August 2025, an inventory of possible CfD models for industrial electrification was delivered by E-Bridge and Guidehouse, commissioned by the Ministry of KGG. This study evaluated various CfD models for both the supply and demand side of the electricity market and concluded that both can play a crucial role in stimulating investment.

Against this backdrop, the Dutch government is taking a phased approach to offshore wind subsidies as outlined in the Action Plan. In 2026, 2 GW of new offshore wind capacity is expected to be awarded with direct subsidy support through a temporary support mechanism (the "**Towoz**"). The calculation method of this mechanism is similar in design to the SDE++ scheme (an extension of the SDE+ scheme which is broader in scope and which focuses on CO^2 reduction, meaning that projects applying for the subsidy will compete on the basis of how much CO^2 will be reduced, rather than the amount of renewable energy the project will generate) but specifically tailored for offshore wind. Towoz is intended to reduce price risk and financing costs for developers by providing a guaranteed minimum price, while also capping excess profits during periods of high electricity prices. The Dutch government is currently preparing the necessary regulations and seeking approval from the European Commission. The draft rules are expected to be published in early 2026, followed by a market consultation.

Looking ahead, the Dutch government is preparing for the possible introduction of a two-sided CfD as the main support instrument for offshore wind from mid-2027 onwards. With a CfD, the government may recover more from producers than the total subsidy paid out, whereas the Towoz limits recovery to the amount of support previously granted. The Dutch government is currently considering how the new CfD scheme will interact with the existing SDE++ subsidy framework and the temporary Towoz, with the possibility of combining the instruments. The government is consulting with stakeholders and analyzing the financial, legal, and market implications, including the interaction with Power Purchase Agreements ("**PPAs**") (see further below).

Power-to-X

In recent years, significant investments have been made in the development of hydrogen production and transport infrastructure, both offshore and onshore.

In March 2023, the government announced that the 700 MW wind farm site Ten Noorden van de Waddeneilanden will be designated for use in offshore hydrogen production at a projected 500 MW offshore hydrogen plant. Hydrogen will be transported to shore by Gasunie using existing repurposed gas infrastructure. The wind farm site, which includes the offshore hydrogen plant, is tentatively scheduled to be tendered in 2026/2027.

In June 2023, Gasunie took a EUR 100 million investment decision to develop the first 30 km of the planned hydrogen backbone from the Rotterdam port area to the Rotterdam industrial cluster.

In June 2023, the government also enacted a new custom subsidy scheme for fully renewable green hydrogen production. Similar as the SDE++ scheme, the green (RFNBO) hydrogen scheme "**OWE**" uses a competitive tender whereby applicants can submit a request for a subsidy covering the unprofitable difference between conventional and RFNBO-hydrogen. Under the scheme, applicants can also apply for investment subsidy instead of just an operation subsidy. In February of 2025, the results of the latest auction of December 2024 with a total budget of almost EUR 1 billion were announced. Although this total budget was oversubscribed three times, only EUR 700 million was awarded to 11 applicants developing a total of 602 MW of electrolysis capacity. Although additional budget must yet be made available, it is expected a third auction will take place in 2026.

In 2024, two hydrogen demonstration projects were planned, involving the construction of electrolyzers (hydrogen production installations) at sea:

- **Project 1:** An electrolyzer with a capacity of approximately 20–50 MW near the Hollandse Kust (North) wind farm (initially planned for around 2031).
- **Project 2:** An electrolyzer with a capacity of approximately 500 MW near the Wadden Islands, site I (initially planned for around 2033).

Although the Dutch government had ambitious targets and plans for the production of renewable hydrogen, developments in electrolysis have progressed more slowly than anticipated. This is in part due to the high investment costs for offshore electrolysis, the overall limited market demand for renewable hydrogen, uncertainties regarding the cost of offshore versus onshore hydrogen production, and delays in offshore wind development.

In the Climate and Energy Policy Note (*Klimaat- en Energienota*) of September 2025, it was therefore decided to pause the development of Project 1 and Project 2 for the next five years.

Additionally, the government has revised its targets. Previously, the government had set a target of 3-4 GW of electrolysis capacity by 2030 and an ambition of 8 GW by 2032 (for both on and offshore). This has now been adjusted to 3-4 GW by 2035 for onshore capacity.

In May 2025, the Minister for Climate and Green Growth announced that the Netherlands and Germany would launch a joint tender, implementing the H2Global subsidy instrument initiated by Germany in 2023 to kickstart the import of renewable hydrogen carriers to Northwest Europe. H2Global is a public-private partnership foundation, involving the German Ministry for Economic Affairs and Energy and a large number of companies from the energy sector. Both the Netherlands and Germany are making EUR 300 million available for the joint tender. The tender will be executed by the German organization Hintco.

While the pace of Power-to-X deployment has slowed due to investment costs and market uncertainties, the government remains committed to developing the hydrogen value chain. Looking ahead, the Netherlands is expected to focus on building a robust onshore hydrogen infrastructure, with the flexibility to initiate offshore projects as demand and technology mature.

Corporate Power Purchase Agreements

The developing Power-to-X market underlines the potential for offshore wind project developers to generate additional revenues by entering into corporate power purchase agreements ("**cPPAs**").

In April 2023, Google and Eneco announced a ten-year term cPPA regarding the supply of power to Google's offices and data centers in both Belgium and the Netherlands. The 115 MW capacity is sourced partially from the 328 MW nearshore wind farm Fryslân as well as the 80 MW onshore wind farm Kroningswind.

In October 2023, Vattenfall also signed a second 15-year cPPA with Air Liquide regarding the recently completed Hollandse Kust Zuid wind farm, pursuant to which Air Liquide has secured a second 115 MW share of the 1.5 GW total capacity of the HKZ wind farm. This follows a similar 115 MW cPPA that the parties entered into in 2022.

In May 2024, Eneco entered into 15-year term cPPAs with telecom provider KPN as well as retailer Albert Heijn with respect to its share in the Ecowende win dfarm.

In December 2024, Copenhagen Infrastructure Partners entered into a cPPA with Google regarding a 250 MW share of the power to be produced by Zeevonk II.

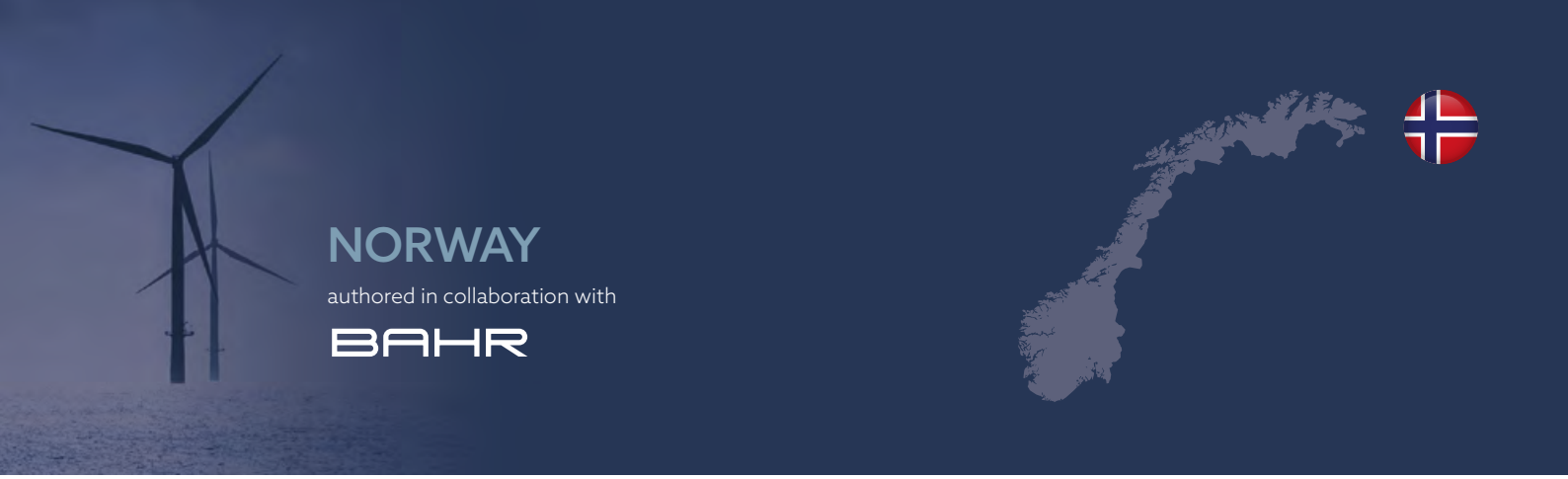
In May 2025 Google and Shell signed a cPPA for electricity generated at the 108 MW NordzeeWin project.

Heading into 2025, the Dutch cPPA market faced increasing pressure due to the deteriorating business case for offshore wind and uncertainty regarding future price levels. In response to these challenges, the Dutch government, together with various stakeholders, has explored the creation of a guarantee fund for corporate PPAs. Such fund could underwrite less creditworthy (*e.g.*, SME) offtakers, expanding the pool of eligible offtakers for cPPA's.

The guarantee fund is currently being developed by the Ministry of KGG and Invest NL and could be privately financed based on a positive business case. Depending on the speed of development, the fund could become operational as early as 2026, providing offshore wind developers with more eligible cPPA customers to strengthen their business cases from 2027 onwards.

Conclusion

The Netherlands remains committed to offshore wind as a central element of its climate and energy strategy. While recent policy updates have introduced a more adaptive and realistic approach (including by adjusting targets and postponing tenders), the government continues to expand opportunities for development. This has led to the introduction of new support measures such as the Towoz and the planned introduction of the CfD and the continuing efforts to stimulate the Power-to-X and cPPA markets.



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Current state of affairs

In the last two years there has been a clear growth of activity within Norway's offshore wind market. In 2024, Ventyr was awarded development rights to construct the fixed-bottom Sørlige Nordsjø II offshore wind farm, and just before the end of 2025, two consortiums were awarded development rights for floating offshore wind farms in the Utsira Nord area.

Norway is a country already producing large amounts of renewable electricity, but mostly from hydropower and onshore wind. For a country with 100,915 km of coastline and wind resources above the European average, Norway's offshore wind power potential is huge, although its realization currently lags behind its European counterparts. In addition to the fact that Norway has traditionally had access to large amounts of renewable power generated from hydropower, Norway's current lack of offshore wind projects is also attributable to the country's deep-water depths, meaning that there are less areas off the coast of Norway that are suitable for bottom-fixed wind turbines, compared to floating offshore wind.

On the other hand, Norway has a long tradition in oil and gas exploration and production in deep waters offshore and hence has the potential and expertise to be at the forefront of the development of floating offshore wind. This can be seen in the 88 MW Hywind Tampen project, which became operational in November 2022 and is currently the world's largest floating offshore wind farm in operation.

Areas opened for development

To date, the Norwegian government has identified 20 areas for offshore wind development (see Map 15 for further details). Of these, two areas have been opened: Sørlige Nordsjø II ("**SN II**") and Utsira Nord ("**UN**"). The current government remains steadfast in its ambitions to award acreage development rights within these areas, which would create the potential for 30 GW of offshore wind capacity by 2040.

As noted above, in 2020, the Norwegian government opened the SN II and UN sites for assessment by potential developers. An overview of the potential for these sites is set out in the table below

Sørlige Nordsjø II (marked in orange on the map below)	**Utsira Nord** (marked in purple on the map below)
Up to 3 GW capacity in a single site	Up to 1.5 GW capacity across three sites
Average water depths of approximately 60 meters	Average water depths of approximately 267 meters
Suitable for bottom-fixed offshore wind technology	Exclusively for floating offshore wind

Map 15: Areas considered for offshore wind development in Norway

The first large scale offshore wind developments on the Norwegian Continental Shelf

So far, there has been three awards of offshore wind development rights in Norway. These relate to the SN II and UN sites mentioned above.

Following a lengthy regulatory process and process with EFTA Surveillance Authority, the Norwegian equivalent to the European Commission, the auction for the award of development rights for the SN II project was held in March 2024 and the competition for the award of development rights in the Utsira Nord area was held at the end of 2025. Whereas the SN II auction was carried out as a combined auction for development rights and state provided revenue support simultaneously through a pre-qualification process followed by a monetary auction, the Utsira Nord development rights were awarded through a qualitative competition, with the auction for state provided revenue support expected to be held in 2028.

Sørlige Nordsjø II

On 20 March 2024, Ventyr SN II AS won the auction to develop the Sørlige Nordsjø II project. Ventyr SN II AS is a joint venture between Jera NEX bp and the Ingka-group (IKEA-group's renewable investment arm).

Following its auction win Ventyr SN II AS entered into a two-sided contract for difference ("**CfD**") with the Norwegian government. The CfD is a long-term agreement that provides Ventyr with a guaranteed price for electricity over a 15-year term during the operational phase of the wind farm. To the extent the market reference price for the electricity sold from the wind farm exceeds the contract strike price of 115 øre/kWh (the "**strike price**"), Ventyr is required to pay the excess to the state. If market prices fall below the strike price, the Norwegian government compensates Ventyr for the difference. The maximum limit for government support under the CfD is 23 billion NOK (approx. EUR 1.95 billion), subject to inflation adjustment from 2023 until completion of the wind farm.

During 2024 and 2025, Ventyr carried out project-specific impact assessments at their chosen SN II site, tendered for project contracts, and carried out discussions with the landowners impacted by the onshore overhead line to the connection point at the Kvinesdal substation. The projected date for commercial operation of the SN II wind farm is in the early 2030s.

Utsira Nord

On 19 May 2025, the Ministry of Energy (the "**Ministry**") announced the auction for project areas for offshore wind development in the UN area.

The competition process for UN differed from that of SN II, as the competition for project area rights and revenue support were split in two.

The first step (which was carried out during 2025) involved the granting of project specific development rights.

The applications were evaluated based on qualitative criteria. The main criteria included "*Cost level*", "*Innovation and technological development*", "*Execution capability*", "*Sustainability*" and "*Positive local benefits*", and had a total of 13 sub-categories which the applicants were scored on.

The Ministry's initial plan was to award three project areas, however, by the deadline for submitting license applications on 8 September 2025, only the two consortiums Deep Wind Offshore and EDF, and Equinor and Vårgrønn had submitted applications. The two consortiums where awarded development rights in December 2025.

In contrast with the SN II auction, where the revenue support is provided by way of a CfD, the UN support model is by way of an investment support for the financing of the project's investment CAPEX. The total cap is set at 35 billion NOK (approx. EUR 3 billion).

The competition for the investment support to UN is contingent upon both consortiums continuing to progress their projects and submitting complete license applications. The competition will be held by way of a sealed-bid auction with each consortium submitting one sealed bid and the winner is the consortium that is willing to develop the 500 MW floating offshore wind farm for the lowest amount of state aid support (within the NOK 35 billion envelope). The winner of the compensation will enter into an investment agreement with the Norwegian state.

New areas

In 2012, the Norwegian Water Resources and Energy Directorate ("**NVE**") delivered a strategic impact assessment identifying and evaluating potential areas for offshore wind development. In 2022, the Ministry instructed NVE to conduct a strategic impact assessment of 20 proposed new areas for offshore wind development.

In the first part of its strategic impact assessment, NVE recommended Sørvest F (the broader Sørlige Nordsjø II area) and Vestavind F (the broader Utsira Nord area) as two of the three new areas. Additionally, the Norwegian government requested NVE to conduct an additional impact assessment for the Vestavind B area.

In the second part of its strategic impact assessment, NVE assessed the remaining 17 areas, including Vestavind B. NVE's assessment identified several areas as particularly suitable for offshore wind development. Vestavind C, Sørvest B, Sørvest C and Sørvest D were identified as both technically and economically well-suited for offshore wind development, while also presenting lower overall impacts compared to other assessed areas. Vestavind D and Sønnavind A were assessed as equally well-suited from a technical and economic perspective, but with higher overall development impacts. Additionally, NVE determined that the Nordavind A and Nordavind B areas will not be considered for further offshore wind development due to the Norwegian Armed Forces' interests in the northern regions, as offshore wind installations in these areas were deemed to have potential implications for national security.

Other state aid support for offshore wind

On 24 November 2025, ESA approved a NOK 10 billion Norwegian state aid scheme for floating offshore wind projects. The scheme aims to speed up the development of floating offshore wind technology by supporting small-scale projects. The aid will be distributed through several competitive bidding rounds, the first taking place in 2026 and the scheme will last until 2030. The budget is up to NOK 10 billion (EUR 850 million) and is replacing the previous Norwegian aid scheme for investments in floating offshore wind which expired on 31 December 2025.

Transmission cables

There is an ongoing policy discussion in Norway regarding offshore transmission cables, specifically whether to deploy hybrid cables that would enable direct export from offshore wind farms to other countries. The argument for hybrid cables is that they presumably will improve profitability in the projects (given the relatively low electricity prices in Norway), while opponents contend that such arrangements would undermine the desire to provide reasonable priced electricity to Norwegian onshore industry and consumers.

Industry stakeholders have advocated for the Sørvest areas to be reserved for fixed-bottom offshore wind projects connected via hybrid cables, which would enhance project profitability. Stakeholders have further emphasized the need for the government to address and firm-up hybrid grid solutions, including dialogue with potential connection countries regarding regulatory and economic frameworks, as well as revenue and cost-sharing arrangements between countries and relevant actors.

In light of its political significance, it is difficult to predict what will be the outcome of the discussion on hybrid cables. This decision followed a study by Statnett (the system operator) evaluating the development of hybrid grid solutions for the Sørvest F area. Statnett concluded that offshore wind power production on the NCS would be dependent on some kind of state aid support, regardless of the transmission solution chosen.

PtX, data centers and BESS

Power-to-X projects, including hydrogen, ammonia and SAF production, have attracted significant interest in Norway due to access to competitively priced electricity, available grid capacity and suitable sites. While several projects have been discontinued or scaled back in recent years, others continue to progress, such as the Norsk eFuel project and GreenH's hydrogen project.

There is also a strong focus on data center development in Norway, encompassing both hyperscale facilities and co-location providers. Future data center operators have reserved 2,392 MW capacity in the current and future power grid in Norway. Some of the key players in the Norwegian data center market include Green Mountain with a current reserved capacity of 644.5 MW, Bulk Infrastructure with 397 MW, WSC with 244 MW and Aaktik Digital with 230 MW.

Additionally, there is increasing interest in BESS. Although Norway benefits from significant natural capacity reserves through the flexibility inherent in its hydropower reservoirs, the market continues to experience notable price fluctuations, creating opportunities for BESS deployment.

Outlook

Looking ahead, the successful completion of the SN II and UN development processes are important for the future of the Norwegian offshore wind industry, as their implementation will be essential for establishing confidence in Norway's long-term offshore wind ambitions.

Norway possesses significant potential for offshore wind, particularly as a potential frontrunner in floating offshore wind. However, without hybrid cables, realization of this potential requires a strong home-market with electricity prices that can support the cost of these projects.

The political landscape for offshore wind has shifted following the 2025 election, which featured significant criticism of the high costs and subsidies associated with offshore wind developments in general. While the current government (Labour Party) maintains its offshore wind ambitions, the parliamentary composition has increased uncertainty in energy policy, and economic support for new offshore wind projects remains politically challenging.

While there is ongoing debate about the profitability of offshore wind, the government's activities reflect a commitment to achieving the award of development rights of 30 GW of offshore wind capacity by 2040. Offshore wind is viewed as a long-term renewable industrial initiative for Norway as an energy nation, with significant business opportunities both domestically and in Europe/the North Sea basin.

The government has launched a strategy to strengthen the Norwegian supply chain industry in the offshore wind sector, both on the Norwegian continental shelf and in international markets. The offshore wind sector is already demonstrating strong growth, with over 800 companies generating revenues of NOK 44.6 billion in 2023—an increase of nearly 30%—and employment reaching almost 6,000 full-time equivalents. To facilitate further development, the government intends to ensure predictability through regular licensing rounds and state aid competitions, prepare a plan for the way forward by the end of 2026, pursue an active industrial policy that promotes profitable private investments, strengthen cooperation around the North Sea basin and continue to contribute to technology development and competence building to reduce costs and make offshore wind in Norway commercially viable in the long term.

The government is expected to announce the plan for the further development of Norwegian offshore wind in autumn 2026, which is expected to address topics such as strategies to achieve cost reductions for floating offshore wind, predictable licensing rounds, hybrid grid solutions and integration with the broader power system.

PHILIPPINES

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Introduction

The Philippine Archipelago, with its vast coastline and abundant wind resources, holds a significant potential for harnessing offshore wind ("**OSW**") resources. According to the World Bank Group and the Department of Energy ("**DOE**")'s Offshore Wind Roadmap for the Philippines ("**OSW Roadmap**") published in 2022, the Philippines has a potential of 178 GW of OSW resources available to be tapped into.[1] However, OSW as a renewable energy ("**RE**") source is still in its nascent stage in the Philippines, and the growth story for OSW in the Philippines is only just beginning. Like any emerging industry, there are both opportunities to be exploited and challenges to overcome.

Taking a step back – an overview of the Philippine energy market/regulatory regime

The Philippines energy regulatory regime has evolved and now provides for a more competitive energy market, in particular the RE sector. RE is a current focus of the Philippine Government, and in the DOE's National Renewable Energy Program 2020–2040, the share of RE in the Philippines' power generation mix is targeted to increase to at least 35% by 2030 and 50% by 2040, from its current share of 22%.[2] However, there is currently no comprehensive regulatory framework specifically tailored to the OSW sector—this is one of the primary challenges facing OSW development in the Philippines.

A snapshot of some key notable developments in the RE sector in the Philippines is set out below:

a. 1987 Philippine Constitution

Historically, the 1987 Philippine Constitution recognized the State's ownership of natural resources within its territory and imposed nationality restrictions on the exploration, development and utilization of natural resources. This limited the extent of foreign ownership and investment into the RE sector.

However, the recent Department of Justice Opinion No. 21, Series of 2022 ("**DOJ Opinion**") clarified that certain RE sources, such as wind and solar, are not regarded as "natural resources", and hence their exploration, development and utilization should not be subject to such Constitutional restrictions.

The DOJ Opinion has prompted a shift in the regulatory regime of RE sources in the Philippines. Foreign developers are now permitted to exploit, develop and utilize such RE.

b. Electric Power Industry Reform Act ("EPIRA")

The EPIRA (enacted in 2001) primarily governs the electric power industry in the Philippines. It aims to promote a more competitive energy market to guarantee a steady supply of energy for national electrification.

The EPIRA introduced the Retail Competition and Open Access ("**RCOA**") in 2011 which allows contestable customers to choose their source of power and enter into power purchase agreements with retailers of their choice.

c. Renewable Energy Act

The Renewable Energy Act ("**RE Act**") was enacted in 2008 to promote RE projects in the Philippines in pursuit of national electrification with a view on sustainability. It mandates the creation of Renewable Portfolio Standards ("**RPS**"), which require that a certain minimum percentage of the Philippines' total generation should be sourced from RE sources. Renewable Energy Certificates ("**RECs**"), each of which represent 1 MWh of power generated by eligible renewable energy power generation facilities, are instruments issued to facilitate mandated participants to comply with their RPS obligations. RECs can be traded on the Renewable Energy Market established by the Philippine Electricity Market Corporation, and the market price can be negotiated by participants, subject to a price cap as determined by the DOE and approved by the Energy Regulatory Commission ("**ERC**"). As of April 2024, the ERC approved and adopted an REC price cap of PhP 241.56/MWh. This cap will be reviewed every two years, or, if earlier, as and when significant events or information that are vital and relevant to the setting of such cap arise.

1. World Bank Group, A Roadmap for Offshore Wind in the Philippines available at https://www.worldbank.org/en/news/infographic/2022/04/25/a-roadmap-for-offshore-wind-in-the-philippines.
2. Department of Energy, National Renewable Energy Program.

Furthermore, the RE Act classifies power generated from RE sources as either "must dispatch" or "priority dispatch" (*i.e.*, power generated from RE sources will be dispatched first and have priority over power generated from non-RE sources).

The RE Act incentivizes RE projects by providing fiscal incentives, such as, amongst others, income tax holidays, zero value-added tax ("**VAT**") (*i.e.*, RE project developers are entitled to claim refunds for the VAT passed on to them in their inputs) and import tax exemptions on equipment and machineries. The RE Act also introduced initiatives such as the Feed-In Tariff ("**FIT**") Program, the Green Energy Option Program ("**GEOP**"), and the Green Energy Auction Program ("**GEAP**"), as well as net metering and distributed energy resources.

d. EVOSS

In 2024, the DOE launched the Energy Virtual One-Stop Shop ("**EVOSS**") System. EVOSS was first promulgated in June 2023 by the DOE via Department Circular No. DC2023-06-0020 ("**OSW Circular**"), with an aim to streamline all the permitting processes relevant to OSW plants. EVOSS is an online platform that provides a single decision-making portal for applications of permits necessary for, or related to, power generation, transmission, and distribution projects. The EVOSS website provides a list of awarded OSW service contracts, downloadable forms, fees, requirements, and process flows for various applications, which introduces a clearer permitting and regulatory framework for OSW projects.

e. OSW Circular

Pursuant to Executive Order No. 21, Series of 2023, in June 2023, the DOE promulgated Department Circular No. DC2023-06-0020 ("**OSW Circular**"), which, amongst other things, seeks to streamline permitting processes relevant to OSW plants (via EVOSS, as mentioned above), and to provide greater transparency and access to information relating to the Philippine OSW industry (via the Philippine OSW Databank). The Philippine OSW Databank contains all documents submitted in relation to, and information on, OSW projects, including permits, clearances, requirements, and fees to be paid to permitting agencies relating to the development of OSW projects. These permits include those issued by Department of Environment and Natural Resources, Bureau of Internal Revenue, ERC, National Grid Corporation of the Philippines, National Transmission Corporation and Power Sector Assets and Liabilities Management Corporation.

The OSW Circular also directed the DOE to issue guidelines on the award of OSW energy service contracts. Pursuant to this, the DOE issued Executive Order No. 21, Series of 2023 and Department Circular No. DC2024-06-0018, a revised set of omnibus guidelines governing the award and issuance by the DOE of OSW energy service contracts and the registration of renewable energy developers. These guidelines prescribe simplified processes and requirements, including the removal of nationality requirements for RE applicants, allowing developers to commence permit processing and feasibility activities before the official 25-year contract term begins, providing duty-free importation incentives and enhanced investment opportunities, and reducing the restrictions on assignments of the RE contracts.

f. Guidebook to permitting and consenting for offshore wind energy in the Philippines

In collaboration with various other government agencies and partners, the DOE published a comprehensive multi-agency guidebook ("**OSW Guidebook**") that comprehensively maps out all permits required for OSW projects from pre-development to construction to commercial operation to decommissioning, and specifies the issuing authorities and application requirements as of January 2025. The OSW Guidebook outlines procedures across over 25 government agencies and enhances the regulatory clarity provided by the EVOSS system. The OSW Guidebook is accessible at the DOE's website.

Opportunities for RE (including OSW) developers in the Philippines

The Philippines offers several opportunities for RE developers (including OSW developers) to be able to participate in the energy market.

a. Corporate Power Purchase Agreements

By virtue of the RCOA and the GEOP, the Philippines' energy regulatory regime allows end-users to have the ability to choose their source of power. Having long-term power purchase agreements from stable offtakers is likely to play a key role in RE (including OSW) projects being able to attract favorable financing options for the development of such projects.

i. RCOA

The RCOA is a program that allows "contestable customers" to enter into retail electricity supply agreements ("**RESAs**") directly with power suppliers (otherwise known as retail electricity suppliers ("**RES**")). In contrast, non-"contestable" or captive customers are required to source their power from the distribution utility ("**DU**") franchised to serve their respective areas.

An end-user is a "contestable customer" if it has an average monthly peak demand of at least 500 kW in the past 12 months. The DU has an obligation to inform end-users that they are qualified to be contestable customers and may enter into RESAs with power suppliers of their choice. If an end-user is a newly connected entity, it must have a projected peak demand of at least 3 MW for the next 12 months, or a monthly peak demand of at least 500 kW for three consecutive months.

A group of contiguous or adjacent end-users or a group of end-users occupying the same building, who cannot individually reach the threshold for contestability, may aggregate their monthly peak demands. If such aggregated demand meets the 500 kW threshold, they may enter into a RESA with a RES aggregator.

A RE generation company (including an OSW developer) may act as a RES and may directly negotiate RESAs with contestable customers, provided that it has the necessary license to act as a RES.

ii. GEOP

Under the GEOP, customers with an average monthly peak demand of at least 100 kW for the past 12 months may choose to require their energy to be sourced exclusively from RE plants. An end-user with a new connection, whose estimated average monthly peak demand for the next 12 months is 300 kW or above, and a newly connected end-user whose estimated average monthly peak demand for 12 months is at least 100 KW but less than 300 kW for three consecutive months, may also participate in the GEOP. Like the RCOA, the GEOP creates opportunities for RE generation companies (including OSW developers) to sell RE to customers (though unlike the RCOA, there is no possibility of aggregation under the GEOP).

b. Feed-in-Tariff Program and Green Energy Auction Program

The GEAP and the FIT Program guarantee RE generators (including OSW developers) will receive a certain fixed price (subject to local inflation and foreign currency adjustments for the FIT Program) offtake of RE generated by such generators for an agreed number of years.

i. FIT Program

Under the FIT Program, electric power industry participants were obliged to source electricity from RE generation at a guaranteed fixed price[3] (subject to adjustments for local inflation and foreign exchange) for a given period of time (at least 12 years), as determined by the ERC. This program was adopted to accelerate the development of emerging RE resources (such as OSW).

The installation targets for each FIT-eligible resource were determined by the DOE in consideration of impact, distribution and grid security, and costs. Allocation of these installation targets was done on a first come, first served basis. Priority was given to RE developers who could demonstrate that their project was near completion and ready for commissioning. Once the installation targets were fully subscribed, the FIT Program no longer applied.

Currently, the FIT Program has been discontinued (and no new RE plants are being allowed to benefit from the FIT rate since the installation targets have been filled) in favor of the GEAP (see further below).

ii. GEAP

GEAP allows the entry of RE developers by providing an auction process whereby RE developers submit bids to supply RE capacity. In each GEA round, the RE sources and the technical specifications for the plants are detailed. The participants must comply with the RE source and the technical specification and their proposed green energy tariff ("**GET**") must not exceed the green energy auction reserve price.

Participants that have been awarded under the GEA round are entitled to receive the GET for every kWh they produce. The GET is fixed throughout the contract period, which is typically for 20 years.

In November 2025, the DOE launched the 5th GEA round ("**GEA-5**") by releasing its Notice of Auction and Terms of Reference, accessible at the DOE's website. The GEA-5 is the Philippines' first dedicated competitive green energy auction focused exclusively on fixed-bottom OSW energy. GEA-5 will offer 3,300 MW of capacity with a 20-year delivery period beginning from 2028 to 2030. The first auction is scheduled to be held in the first half of 2026. In the meantime, aspiring bidders should start working on the preparation of registration requirements, including infrastructure plans, wind resource assessments and corporate documents, and ensure compliance with the requirements and timelines provided in the GEA-5 Notice of Auction and Terms of Reference.

c. Power-to-X

The DOE, through its Department Circular No. DC2023-04-0008 ("**ESS Circular**"), treats an energy storage system ("**ESS**") integrated with RE plants as a RE source. Such ESSs thus enjoy the same benefits of RE plants, including fiscal incentives and preferential dispatch. Energy stored by an OSW plant to an integrated ESS will likewise be treated as RE.

Challenges facing the Philippine OSW sector

Despite the adoption of several regimes that would incentivize entry of RE developers and opportunities for RE developers to enter the Philippine RE market, there are still challenges that prospective RE developers may encounter in seeking to develop RE projects (in particular, OSW projects) in the Philippines.

One such challenge is the nationality restriction on activities incidental to the exploitation, development, and utilization of RE. Although the DOJ Opinion and the recent implementing regulations of the RE Act now allow foreign developers to exploit, develop, and utilize certain RE sources (including OSW), certain incidental activities (such as use of forest land, foreshore and other public lands, and drawing of water from natural resources) are still not open to companies whose foreign ownership is more than 40% of its outstanding capital stock.

Further, although the OSW Guidebook issued by the DOE has take significant steps to improve the previously fragmented regulatory regime for Philippine OSW projects, maintaining its accuracy and keeping it updated amid evolving policies will be a continuous process.

Other challenges include technical challenges in integrating intermittent RE sources into the existing power grid, in particular infrastructure upgrades will be required to accommodate OSW projects (though as noted below, the Philippines has taken steps to tackle this issue, specifically in relation to port infrastructure). Enhancing grid stability, transmission capacity and interconnection capabilities are also matters that the Philippine Government and regulators would need to address.

3. Initially, the approved FIT rate for wind was set at PhP8.53/kW-hour (kWh) with a target allocation capacity of 200 MW. In October 2015, a wind FIT rate of PhP7.40/kWh was set for a new allocation target of 400 MW. In contrast, for solar power, the approved FIT rate was PhP9.68/kWh with an initial 50 MW of installed capacity, and in April 2015, a new rate of PhP8.69/kWh for an additional allocation target capacity of 450 MW was set. These are still the FIT rates as of August 2024.

Prospective regulations/deregulations and other possible developments/outlook

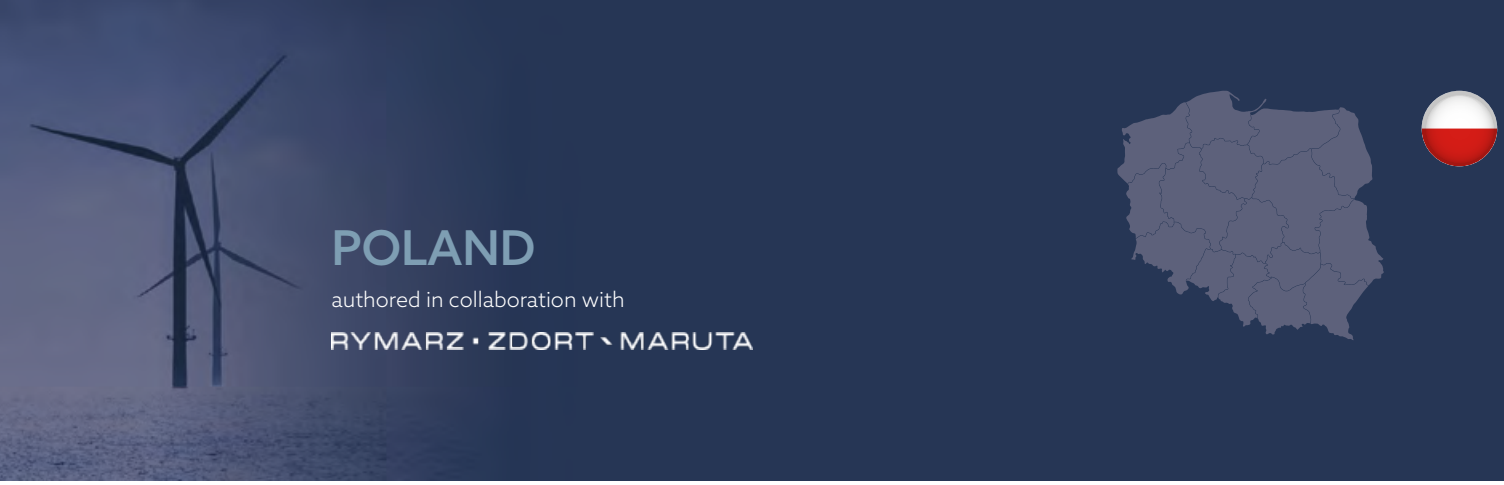
The DOE and the Philippine Ports Authority ("**PPA**") are working together to accelerate the development of OSW energy projects through improvements and modernization of port infrastructure. To this end, the PPA has committed to repurpose several ports, including Port of Currimao in Ilocos Norte, Port of Batangas in Sta. Clara, Batangas City, and Port of Jose Panganiban in Camarines Norte. In addition, two key installation ports for OSW energy projects under GEA-5 would be Pambujan Port in Camarines Norte and Sta. Clara Port in Batangas.

The DOE is also working with the Department of Environment and Natural Resources ("**DENR**") on assessing potential offshore sites and the possible environmental impact of the OSW energy projects. In October 2024, the DOE and DENR signed a memorandum of agreement ("**MOA**") aimed at accelerating the exploration and development of OSW projects, by granting rights to use offshore areas covered by offshore wind energy service contracts and auxiliary areas, subject to DENR requirements. Prior to this MOA, RE projects were required to secure and put in place various agreements with the DENR (such as foreshore leases, forest land use agreements, and miscellaneous lease agreements) before being able to proceed with exploration and development. This MOA allows identified OSW projects to bypass such steps and in turn, enables a faster progress and rollout of OSW projects.

These efforts demonstrate the country's commitment to pursuing OSW as a source of sustainable energy despite the challenges, and to achieve its target of delivering energy from OSW projects by 2028.

Conclusion

In conclusion, the outlook for OSW in the Philippines is promising. With its abundant wind resources and growing energy demand, offshore wind has the potential to play a significant role in the country's renewable energy transition. The Government's support can be seen through various measures and initiatives and indicates a positive trajectory for OSW projects in the Philippines. As technology continues to advance and costs decrease, we believe that OSW presents a valuable opportunity for sustainable energy generation and economic growth and stability in the Philippines.



POLAND

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Offshore wind farms have been recognized by the Polish government as the key to enabling Poland to transition its energy mix to a less carbon-intensive means of generating electricity. The main strategic document describing this transition is "Polish Energy Policy until 2040" ("**PEP2040**"), which envisages installing 5.9 GW of offshore wind capacity by 2030 and a further 12 GW by 2040. The potential of the Polish exclusive economic zone of the Baltic Sea in terms of offshore wind is estimated to be as much as 33 GW, which provides room for increasing energy production targets, as well as further development beyond 2040.

State of play in the Polish offshore wind sector

The CfD support scheme awards for Polish offshore wind farms have been divided into two phases. In the first phase, Urząd Regulacji Energetyki, the Polish energy regulator (the "**URE**"), awarded support under individual decisions to seven of the most advanced projects, covering an aggregate of 5.9 GW of installed capacity, which aligns with the total offshore wind capacity envisaged by PEP2040 to be installed and put into operation by 2030.

The CfD strike price under each direct CfD award of the first phase has been set at PLN 319.60/MWh (equivalent to EUR 71.82/MWh based on an exchange rate of EUR 1 = PLN 4.45). The strike price is subject to annual indexation in accordance with the Polish consumer price index and can, depending on a developer's preference, be denominated in EUR instead of PLN (in accordance with the principles summarized further below).

To date, of these seven projects, five have secured financing and advanced to the construction phase: (i) Baltic Power (1.2 GW), a joint venture of Orlen Group and Northland Power; (ii) MFW Bałtyk II and MFW Bałtyk III (720 MW each) developed by Polenergia and Equinor; (iii) Baltica 2 (1.5 GW), a PGE Group and Ørsted project; and (iv) BC-Wind (400 MW), owned by Ocean Winds. Baltica 3 (1.05 GW), also a PGE Group and Ørsted project, and FEW Baltic II (350 MW), owned by RWE Renewables, are progressing at a slower pace compared to the projects listed above.

The order in which CfD support was granted in the first phase was determined by the order in which completed applications were submitted by the developers to the URE (*i.e.*, on a first come, first served basis). The second phase of the support system, on the other hand, will consist of competitive auctions held by the URE.

The second round of licensing relating to the sites that have been earmarked for the second phase of CfD support resulted in seabed rights being awarded to Orlen (five sites) and PGE (two sites individually, plus another three sites granted to projects developed by PGE in partnerships with Tauron, Enea and Ørsted).

The maximum strike price relevant for the CfD support awarded through auctions has been set at (i) PLN 485.71/MWh; (ii) PLN 499.33/MWh; or (iii) PLN 512.32/MWh, depending on the designated sea area in which a given project is to be located.

The first auction took place on 17 December 2025. The winning bids were submitted by: (i) ORLEN for the Baltic East project (900 MW); (ii) PGE for the MFW Baltica 9 project (975 MW); and (iii) Equinor-Polenergia joint-venture for the MFW Bałtyk I project (1,560 MW). The CfD strike prices included in the winning bids were PLN 476.88/MWh, PLN 489/MWh and PLN 492.32/MWh, respectively. All winning projects are expected to be commissioned by the end of 2032.

Additional auctions are to be held in 2027, 2029, 2031, and possibly, 2032 if there is sufficient excess capacity (at least 0.5 GW) not awarded in the 2031 auction. Overall, CfD support is to be granted in the auctions for projects with a total installed capacity of 12 GW. This capacity is allocated as 4 GW per auction in 2025 and 2027, and 2 GW per auction in 2029 and 2031.

Basics of the Polish CfD support scheme

The Polish support scheme for offshore wind follows the same basic mechanics of a two-sided contract-for-difference available for certain offshore wind farms in the United Kingdom. However, unlike in the UK, under Polish law, beneficiaries of the CfD support scheme cannot enter into private contracts with the Polish government to regulate the terms of their CfD support. Therefore, the CfD support scheme is based solely on the provisions of Polish law and the mechanics remain the same for CfD support awarded in either the first or second phase.

CfD support is designed to provide a variable premium above the market price, payable to an electricity generator if the (base) market price of electricity is below the CfD strike price.

If the (base) market price of electricity is lower than the CfD strike price, this creates a "negative difference" which is subject to compensation on a monthly basis by the settlement operator (*Zarządca Rozliczeń S.A.*), *i.e.*, a joint-stock company wholly owned by the Polish state that is responsible for overseeing and settling CfD support for offshore wind, along with other support schemes for onshore renewable installations deployed in Poland.

If the (base) market price of electricity is higher than the CfD strike price (a "positive difference"), the difference will be offset against any monthly negative difference or must be returned to the settlement operator by the electricity generator on an annual basis. The premium is paid to electricity generators irrespective of the actual revenues generated from selling electricity on the market or through bilateral offtake arrangements.

A beneficiary of CfD support is entitled to receive compensation for a negative difference relating to electricity generated by an offshore wind project (or a part thereof) for 25 years, starting from the first day of the period for which the electricity generator applied to settle the negative balance after obtaining the electricity generation license. Unlike in the UK, the Polish scheme does not allow a project to enter the CfD scheme in phases, with separate 25-year CfD periods attached to each phase of the project.

The 25-year CfD support period does not include the wind farm's start-up period that precedes the issuance of the generation license to the project company.

CfD support is available only for the amounts of energy submitted to the settlement operator for settlement under monthly applications. The total amount of electricity, in MWh, for which the producer is able to apply for settlement of a negative difference is the product of 100,000 hours and the installed capacity of the project which is subject to CfD support. Accordingly, a developer will cease to be entitled to request compensation for a negative difference upon the earlier of: (i) the lapse of 25 years from the first day of the period for which the electricity generator applied to settle the negative balance; or (ii) the point in time at which the total amount of electricity generated by the project exceeds 100,000 MWh per each MW of its installed capacity covered by CfD support.

Notably, the amount of electricity generated and introduced to the grid when the (base) market price is less than PLN 0 (a negative price event) will be deemed to be 0 MWh. Accordingly, CfD support is not available for electricity generated during such negative price periods and any such electricity does not count towards the 100,000 MWh support cap.

The CfD strike price is subject to annual indexation based on the average annual consumer goods and services price index for the previous calendar year, as determined and published by the Polish Central Statistical Office, starting from 2022 for the CfD support awarded in the first phase, or the year following the year of the auction in which the CfD support was awarded in the second phase.

The CfD strike price must be reduced by the value of any investment support received by the developer for the development, construction or operation of the project.

The Polish CfD support scheme was approved as being compatible with the internal market of the European Union under a decision of the European Commission dated 20 May 2021 (State Aid SA.55940 (2021/N) – Poland Offshore Wind Scheme). Accordingly, any future CfD support awarded through competitive auctions will automatically be considered compatible with the internal market. This does not apply to CfD support awarded through individual decisions of the URE in the first phase, as these were not granted through a competitive process and, therefore, required individual notification to, and clearance by, the European Commission.

CfD support in EUR

As noted above, CfD support may be denominated in EUR instead of PLN, or partly in PLN and partly in EUR. A developer may indicate its preference in this respect to the settlement operator. For this purpose, the developer must declare to the settlement operator the percentage proportion of the CfD support to be calculated in PLN and in EUR. This declaration must be submitted before the submission of the first application to cover the negative difference. In the first 15 years of feeding electricity from the project to the grid, the developer is entitled to amend the declaration once.

Although the developers are entitled to indicate their preferred split between PLN and EUR for the purpose of calculating the amount of the CfD support, the payment method cannot be changed. This means that the payment of compensation for the negative difference will always be made exclusively in PLN.

If the developer selects the entire amount of the CfD support, or a portion thereof, to be denominated in EUR, that portion will be calculated based on the exchange rate determined as the arithmetic average of the daily EUR exchange rates announced by the National Bank of Poland in the month preceding the developer's application for the settlement of the negative difference.

Curtailments and redispatching

The Polish support scheme provides for compensation mechanisms for situations in which the export of electricity from a project is curtailed due to: (i) delays by the grid operator in implementing the necessary grid investments required for connecting the project to the grid; (ii) redispatching of the project by the grid operator, as a result of which the project's generation is reduced and the curtailed amount is settled at a price higher than the project's balancing energy offer; or (iii) non-market-based redispatching of the project by the grid operator.

If the developer is unable to feed all or part of the electricity generated by the project into the grid due to delays by the grid operators in implementing the grid investments required for connecting the project to the grid, the developer is entitled to recover the negative difference in relation to the amount of electricity not fed into the grid as a result of this delay. This entitlement applies during the period starting from the thirtieth calendar day following the submission by the developer of a complete application for the "**EON**" (Energisation Operational Notification) to the operator, but no earlier than the date of readiness to supply voltage as specified in the grid connection agreement, until the date the operator actually issues the EON.

The negative difference subject to compensation by the settlement operator to the Company is determined for each individual imbalance settlement period during which the project was unable to feed electricity into the grid due to the grid operator's delay. The value of this negative difference is calculated based on the amount of electricity that would have been exported to the grid if there had been no delay, using a (base) market price set at PLN 0 per MWh.

Accordingly, under the Polish CfD scheme, offshore wind generators are eligible for payments for curtailed outputs, providing notable mitigation against curtailment risks.

Offtake considerations

Under the Polish offshore wind regime, the offtake of electricity generated by a project is not guaranteed. Accordingly, generators are fully responsible for marketing the electricity generated by their projects and are free to sell such electricity on the market via the power exchange or under one or more bilateral offtake contracts.

In principle, the revenues of projects subject to the support scheme will come from two sources: (i) revenue under an offtake contract covering the relevant amount of electricity and corresponding guarantees of origin; and (ii) revenue from the CfD support scheme.

As the generator does not have to sell electricity directly, various lifting arrangements can be implemented.

Whilst the market for power purchase agreements from onshore wind farms and other large-scale renewable projects is well established in Poland, the first corporate PPA for offshore wind has not yet emerged.

CfD auction prerequisites

Only projects with secured offshore location licenses, environmental decisions, and preliminary grid connection conditions obtained from a grid operator are eligible to participate in the CfD auctions.

Based on the experience of most of the phase one projects that obtained their offshore location licenses in 2012 and 2013, the average duration of proceedings to obtain environmental decisions after the completion of all of the impact assessment work was more than one and a half years, and more than six years to obtain any subsequent amendments to such environmental decisions.

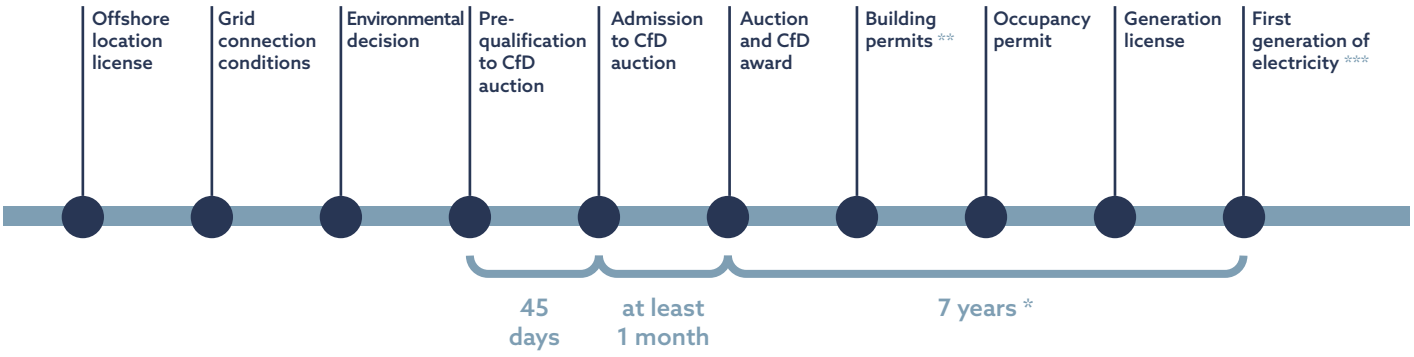
Please see the diagram below for an overview of the key development milestones leading to investment decisions for phase two offshore wind projects, as well as the subsequent timeline required for the project to enter the CfD support scheme.

Amendments to the offshore wind regime

In November 2025, the Offshore Wind Act and certain other Acts were amended (the "**Amendment**"). The Amendment introduces several changes to Poland's regulatory framework for offshore wind. The key changes include:

- revised start dates for CfD support – the 25-year support period begins when the generator first applies to settle a negative balance, rather than when it first exports power;
- clarification with respect to the testing phase of an offshore wind farm – energy sales during turbine testing are permitted for 12 months from the date of obtaining the ION (interim operational notification) without being treated as commercial activity; however, such energy cannot benefit from a negative balance settlement;
- compensation for market-based redispatching – electricity generators remain entitled to a negative balance settlement for curtailed amounts when redispatching occurs during periods in which the transmission system operator cannot guarantee full transmission capacity, provided the grid connection agreement does not guarantee reliable supply;
- shared infrastructure – multiple offshore wind farms may share an offshore substation or power-evacuation components;
- two offshore wind farms per area – under the new provisions, an application for the right to cover a negative balance may be submitted for two offshore wind farms located within the same area specified in schedule No. 2 to the Offshore Wind Act, provided, however, that only one offer may be submitted per auction for that area;
- mixed support for one project – offshore wind farms receiving CfD support for part of their capacity may participate in auctions for the remaining capacity, provided each supported segment has its own offshore substation or evacuation system components; and
- joint metering – the total output of two offshore wind farms located within the same area specified in schedule No. 2 to the Offshore Wind Act may be metered and allocated between them.

Key Development milestones



* Subject to extension if required due to: (i) the occurrence of a *force majeure* event; (ii) a breach by the transmission system operator of the implementation time schedule under the grid connection agreement; (iii) an event, action or omission of a third party resulting from circumstances for which the generator is not responsible.

** A winning auction bid may be updated by the generator to reduce the installed capacity of the project subject to CfD support within 24 months of the date of building permit (or the first building permit, if multiple) for the offshore wind farm becoming final.

*** The assets comprising the offshore wind farm must have been produced within the 72 months immediately preceding the date on which electricity was generated for the first time using these assets.

Map 16: Poland's offshore wind projects – Phase 1

Map 17: Poland's offshore wind projects – Phase 2 offshore wind seabed zones

Key

Name of Area	Developer(s)	Capacity (MW)
1. 14.E.1 - Ławica Odrzana	Orlen	900 MW
2.14.E.2 - Ławica Odrzana	Orlen	900 MW
3. 14.E.3 - Ławica Odrzana	Orlen	1200 MW
4. 14.E.4 - Ławica Odrzana	Orlen	1200 MW
5. 43.E.1 - Ławica Słupska	PGE/Tauron	990 MW
6. 44.E.1 - Ławica Słupska	PGE	975 MW
7. 45.E.1 - Ławica Słupska	PGE/Ørsted	210 MW
8. 46.E.1 - Ławica Słupska	Orlen	1000 MW
9. 53.E.1 - Ławica Słupska	Not resolved	
10. 60.E.3 - Ławica Środkowa	PGE	1185 MW
11. 60.E.4 - Ławica Środkowa	PGE/Enea	555 MW
12. 60.E.1 - Ławica Środkowa	Polenergia/Equinor	1,560 MW
13. 60.E.2 - Ławica Środkowa	PGE	896 MW

Outlook for new developers and financers

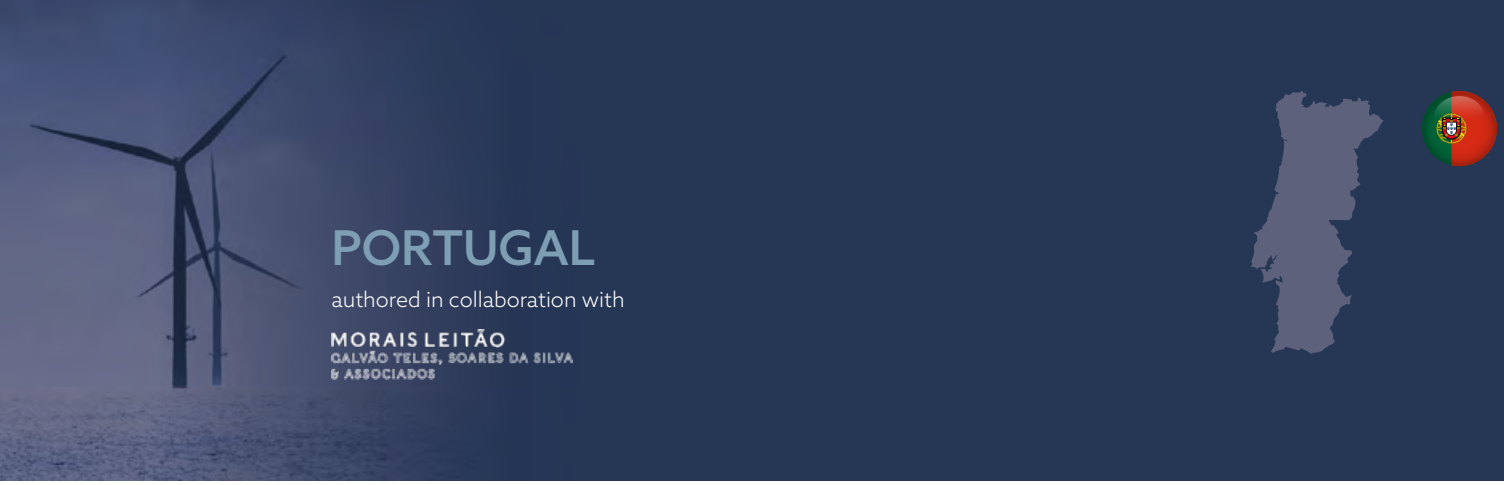
The scale of capital requirements needed to implement all of the existing offshore wind projects is so great (capex estimates range from three to five billion euros per GW) that Polish state-owned companies, and most of their joint-venture partners, lack the balance sheet capacity to build all of the required generation capacities within the time frames set by Polish legislation. This will become further exacerbated with the additional 9 GW of location permits that were awarded to Orlen and PGE (individually and in consortia with Enea, Tauron and Ørsted) in the second round of licensing and which are set to be contracted out in upcoming CfD auctions.

Additionally, it is uncertain whether the lessons learned so far in developing the phase one projects, with no such project scheduled to reach its commercial operations phase before the end of 2026, will be enough for Orlen and PGE (being the holders of the offshore location licenses awarded in the second licensing round) to proceed with the implementation of phase two projects without partners more experienced in the offshore wind space.

All of this opens up opportunities for new non-domestic developers and infrastructure funds interested in entering the Polish offshore market, as well as those interested in increasing their existing foothold.

Conclusion

The Polish offshore industry has grown exponentially over the last few years, and there are promising signs that the country will meet its 5.9 GW target of offshore wind capacity by 2030. Overall, the phase one projects appear to be laying a robust foundation for the future of Poland's offshore wind sector. In addition, the results of the second seabed licensing round noted above will likely result in plenty of activity within the sector in the coming years, given the need for state-owned companies to develop their sites by a set deadline, and so there is potential for further M&A activity on the horizon in this respect.



PORTUGAL

authored in collaboration with

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Potential and goals

Portugal has a vast coastal area and currently has one of the largest maritime exclusive economic zones in Europe, so it is only natural that the country is paying attention to the use of its maritime resources for electricity generation. Given Portugal's short continental shelf and naturally deep waters, the potential for installing offshore wind energy in Portugal is much more significant for floating turbines (estimated potential capacity of up to 40 GW) than for fixed turbines (estimated potential capacity of up to 3.5 GW). The Roadmap for an Industrial Strategy for Ocean Renewable Energies (the "**Roadmap**"), estimates that ocean renewable energies could potentially supply 25% of the total annual electricity consumed in Portugal. This would contribute not only to the reduction of Portuguese energy imports but also would prevent the emission of 8 million tons of carbon dioxide per year. The Roadmap further demonstrates the potential to create a new export sector of new energy technologies.

The Portuguese Government's current ambitions are that the development of the country's offshore wind sector takes place in an integrated manner using the strategy of developing 'Port Tech Clusters' at commercial and fishing ports, which the Portuguese Government sees as a platform to accelerate the development of technology for new maritime industries (instead of only focusing on their core, traditional activities). It is also envisaged that synergies will be created with Portugal's naval industry that will accelerate innovation in ocean renewable energies, which can be demonstrated in technological showrooms (near the ports), in a real operational environment.

The result should be lower costs and shorter development cycles, which will boost the emergence of a dynamic, innovative and efficient offshore industry in Portugal.

To realize this potential, the Portuguese Government has implemented legislation: Resolution of the Council of Ministers no. 174/2017, of 24 November 2017, approved the Industrial Strategy for Ocean Renewable Energies ("**EI-ERO**"), and the Action Plan for Ocean Renewable Energies ("**EI-ERO Action Plan**"), the purposes of which are explained below.

EI-ERO

EI-ERO is based on two main goals: (i) stimulating exports and value-added investment; and (ii) empowering industry by reducing risks.

Portugal's domestic offshore wind manufacturing capabilities lie in producing turbines and platform segments for floating offshore wind power projects.

EI-ERO Action Plan

The EI-ERO Action Plan contains three major lines of action, as follows:

i. attracting R&D—attracting new ocean renewable energy development and testing projects for installation in Portugal;

ii. supporting the acceleration of ocean renewable energy technologies exports through the attraction of private investment, administrative simplification and promotion of innovative products and services; and

iii. implementing investor intelligence initiatives for ocean renewable energies.

National Energy and Climate Plan for 2030

The National Energy and Climate Plan for 2030, approved by Resolution of the Council of Ministers no. 53/2020, of 10 July 2020, and subsequently updated by Resolution of the Council of Ministers no. 127/2025, of 10 April 2025, reinforces the goal of investing in offshore wind energy and sets an objective of creating conditions for the allocation and installation of 2 GW of offshore wind projects through capacity auctions by 2024. As at the date of this report, these auctions have not yet taken place and expectation is that these will be delayed to later in 2026.

National Electricity System's framework

Decree-Law no. 15/2022, of 14 January 2022, containing the National Electricity System's framework, created a 'Free Zone for Technology' in Viana do Castelo specifically for offshore and nearshore pilot projects using renewable energy sources of ocean origin or location. Such free zones have certain benefits for developers, including: (i) simplified licensing procedures; (ii) grid connection responsibility that is transferred to the relevant network operator, while projects in these zones are exempt from grid access tariffs; (iii) the developer is not required to provide a performance bond; and (iv) no operational certificate is required before a project enters into operation.

Offshore wind energy in Portugal

Windfloat Atlantic is currently the only offshore wind farm operating in Portugal. The project's three semi-submersible floating turbines have a total installed capacity of 25 MW and are located 20 km off the coast of Viana do Castelo, in the north of Portugal.

The project is operated by Windplus, a consortium, made up of Ocean Winds – the joint venture created by EDP Renewables and ENGIE, Repsol and Principle Power Inc.

The project entered into operation in December 2019 – although it only became fully operational in July 2020.

According to public information disclosed by EDP Renewables, Windfloat Atlantic has recorded a total cumulative production of 320 GWh by July 2024, exceeding the project's expectations. The energy produced, which is enough to supply 25,000 households each year, has prevented the emission of 33,000 tons of CO^2 and fostered the direct and indirect employment of 1,500 people.

Licensing procedure

Offshore wind projects in Portugal that have an installed capacity higher than 1 MW are subject to the attainment of a grid capacity reservation title, which can be obtained either: (i) through a request made to the Directorate General for Energy and Geology (the "**DGEG**"); (ii) by means of an agreement with the relevant system operator (when there is a grid shortage to connect the project); or (iii) through a public tender run as a competitive auction, such as the one that was first announced in 2023 by the Portuguese Government for offshore wind projects.

Once the grid capacity reservation title is issued, the developer must request the generation license from the DGEG, which authorizes the construction of the offshore wind project and, prior to the entry into operation, the DGEG will perform an inspection of the project and issue an operation license.

Offshore wind projects must also obtain an authorization from the Directorate General for Natural Resources, Safety and Maritime Services (except when located in the maritime areas adjacent to the Autonomous Regions of Madeira and Azores) to use the maritime space (*título de utilização privative de espaço marítimo* ("**TUPEM**")) prior to requesting the generation license. The granting of such TUPEM may involve preparing a plan ("*plano de afetação*"), which may be initiated by public or private parties and may include a public tender.

According to Portuguese law, the competitive procedure for the allocation of grid capacity reservation titles for offshore wind projects shall replace the existing procedures established for the granting of the TUPEM.

Unless otherwise determined by the competitive auction procedure's documentation, the general rule is that new capacity does not benefit from a feed-in-tariff. As such, offshore wind projects that obtain the grid capacity reservation pursuant to a request submitted to the DGEG will trade the electricity generated by the offshore wind project under organized markets or through power purchase agreements (see below), at a price freely determined by the parties.

Auctions

The Portuguese Government initially planned to launch the first competitive auction for offshore wind energy in Q4 2023. However, despite the initiation by the Portuguese Government of the expression of interest and the dialogue phases, the auction itself was delayed as a result of early legislative elections being called and the subsequent swearing-in of a new government. The updated version of the National Energy and Climate Plan for 2030 proposed that this auction would then be held within 2024, however that did not occur. The report on the State Budget Law for 2025 prepared by the Portuguese Government subsequently indicated that the auction would take place in 2025, but this also did not materialize. The auction is now expected to take place in 2026, three years later than originally planned.

Ahead of the abovementioned auction, the Portuguese Government created an interministerial working group – as determined by Order no. 11404/2022, of 23 September 2022. The working group has been instructed to prepare a report with recommendations for specialized areas and the relevant interconnection points in the transmission system that may be awarded to offshore wind projects, including: (i) proposed timelines and grid capacity to be allocated to such specialized areas, considering the launch of the tender procedure to grant grid capacity reservation titles and the title to use the maritime space; and (ii) a proposed model for the attribution of such titles, based on an international benchmark.

The report was disclosed in July 2023, and includes the following recommendations, which were prepared on the assumption that a total capacity of 10 GW would be awarded:

i. a capacity of up to 3.5 GW should be made available in Viana do Castelo (1 GW, divided into 2 lots), Leixões (1 lot of 0.5 GW) and Figueira do Foz (2 GW divided into 4 lots), subject to one or more competitive procedures. The remaining capacity should be allocated in subsequent phases, until 2030, totaling 10 GW Leixões;

ii. the development of the offshore wind market in Portugal should pursue a competitive model, regardless of its degree of centralization and the associated remuneration model;

iii. the first competitive procedure, should start with a pre-qualification phase lasting at least three months; and

iv. the network architecture to be implemented should use very high voltage substations of the transmission system, supported by platforms fixed to the seabed, to aggregate the connection of power stations with a view to reducing the number of cables between the areas and land, with greater or lesser aggregation, allowing for topological solutions that will depend on the degree of resilience desired for the network as a whole. The adoption of standardized, non-customized solutions on a case-by-case basis, both for offshore substations and for submarine cables, could be a critical decision factor, given the scale effects.

Accordingly, the Portuguese Government ordered the Directorate General for Natural Resources, Safety and Maritime Services to prepare an Offshore Renewable Energy Allocation Plan (*Plano de Afetação para as Energias Renováveis Offshore*, "**PAER**"). Following a public consultation between 27 October 2023 and 12 December 2023, the PAER was approved by Resolution of the Council of Ministers no. 19/2025, of 7 February 2025. The approved PAER identifies four areas for commercial offshore wind farms with a total area of 2,706 km^2, located in Viana do Castelo (229 km^2, 0.8 GW capacity), Leixões (722 km^2, 2.5 GW capacity), Figueira da Foz (1,325 km^2, 4.6 GW capacity), and Sines (430 km^2, 1.5 GW capacity), providing a total potential installed capacity of approximately 9.4 GW. An additional area of 5.6 km^2 in Aguçadoura is designated for non-commercial research and demonstration projects. The approval of the PAER allows for the immediate award of the TUPEM.

Following the approval of the PAER, Order no. 4752/2025, of 21 April 2025 (the "**Order**"), established the competitive procedure model for offshore wind development and operationalized its preparation. The Order: (i) adopts a centralized sequential model for the competitive procedure; and (ii) mandates the relevant governmental authorities to support the Government in operationalizing the competitive procedure. The Order establishes two key milestones: (a) within 60 days of publication, the authorities must present a proposal for operationalizing the first competitive procedure; and (b) within 180 days of publication, the authorities must prepare the tender documentation. As of the date of this report, both deadlines have elapsed and no public information has been disclosed regarding the status of the required proposal and tender documentation.

Corporate Power Purchase Agreements

Considering that, as a rule, the energy generated by offshore wind projects shall not benefit from feed-in-tariffs, generators may choose to enter into cPPAs with offtakers to provide a route to market for their power. The terms and conditions of cPPAs will be negotiated bilaterally between the parties.

Generators are also allowed to trade electricity under organized markets, such as the Iberian Electricity Market, MIBEL, and/or sell the electricity to an aggregator – this could provide projects with another alternative route to market.

Notwithstanding the above, the capacity auctions may establish a specific remuneration scheme applicable to offshore wind projects, which may include on obligation on developers to enter into contracts for differences (CfD) rather than cPPAs.

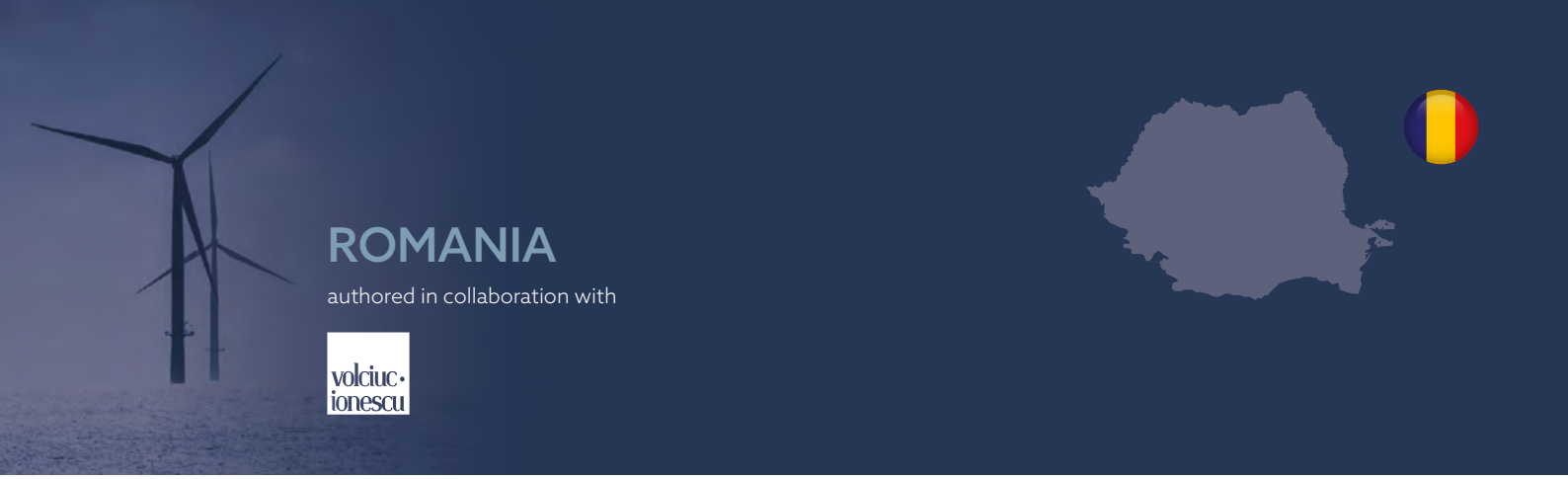
Power-to-X

Pursuant to the applicable legal framework, there are no obstacles to using the electricity generated by offshore wind farms to supply electricity for the production of green hydrogen. To provide assurances as to the origin of green hydrogen, the European Commission approved Delegated Regulation (EU) 2023/1184, supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council, by establishing a methodology setting out detailed rules for the production of renewable liquid and gaseous transport fuels of non-biological origin.

Conclusion

Along with solar and onshore wind energy, which are viewed as mature technologies, given the above, offshore wind energy is expected to help with Portugal's energy transition now that the cost of floating technology is starting to decrease.

The appetite amongst international offshore wind developers is clearly growing, with the Portuguese Government having met with the key players in the sector that have expressed interest in investing in Portugal, such as Spain's Iberdrola and the Portuguese/French consortium EDP Renewables/ENGIE (Ocean Winds). However, in order to maintain this interest, the Portuguese Government needs to be conscious of any further delays to the launch of the auctions. Notwithstanding concrete regulatory progress, including the approval of the PAER in February 2025 and the establishment of the centralized sequential competitive procedure model in April 2025, the auction originally scheduled for Q4 2023 is now expected to take place in 2026.



ROMANIA

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Romania's location along the Black Sea positions it as a key emerging market for offshore wind in Europe. While no offshore wind farms are yet operational, Romania has laid substantial legislative and institutional foundations and is now moving towards the first competitive tenders for offshore wind concessions. Backed by strong political support, EU technical assistance, and increasing investor interest, Romania is shaping a coherent pathway towards deploying its first large-scale offshore wind projects in the early 2030s.

Regulatory framework and policy direction

A major milestone for Romania's offshore wind sector is Law No. 121/2024 on Offshore Wind Energy, which came into force on 7 July 2024. The law establishes the core legal framework for awarding offshore wind concessions, providing development and construction approvals, protecting marine ecosystems, and enabling long-term investment in the sector. It mandates a transparent, competitive tendering system and assigns responsibilities across the Ministry of Energy, the National Energy Regulatory Authority ("**ANRE**"), and the Competent Authority for Offshore Operations.

Since its adoption, the regulatory ecosystem has continued to advance, though not without delays. ANRE has updated certain power sector rules to integrate offshore wind, issuing Order No. 92/2024 (offshore grid connection regulation) and Order No. 6/2025 (licensing and authorization adjustments), both of which create a clearer framework for future developers. These instruments define technical requirements for offshore grid connection, and the documentation package necessary for operational licensing.

Institutional restructuring is likewise underway. ACROO (previously named ACROPO)—the offshore petroleum safety authority—is being expanded, with authority over offshore renewable energy operations, including construction and decommissioning permits. Once finalized, ACROO will issue regulations governing development approvals at sea.

A central requirement of Law 121/2024—the preparation of a specialized scientific study to identify suitable offshore wind areas—progressed in 2025 as well. The Ministry of Energy launched a competitive call for Expressions of Interest in May 2025, supported by EU technical assistance, to map wind resources, seabed conditions, environmental constraints, and grid connection pathways. The study is expected to form the basis for the government's approval of concession perimeters.

In addition to the above, Romania's Offshore Wind Roadmap, published in September 2024 with the European Commission and World Bank, continues to guide strategic planning. It identifies two scenarios for development: a 3 GW initial phase by 2035 and a high-growth scenario of up to 7 GW. Romania has since adopted the 3 GW by 2035 target in its official Energy Strategy 2025–2035, with the first offshore wind plant expected to be operational around 2032.

Market developments and investor interest

Investor interest in Romania's offshore wind potential continues to grow. While no concessions have yet been awarded, numerous international developers and domestic energy companies are positioning themselves for upcoming tenders.

Early market pioneers include Skyborn Renewables, which submitted initial applications in 2022, and the Hidroelectrica–Masdar joint venture, which remains an important contender for future competitive auctions. Black Sea Oil & Gas, having completed a feasibility study in 2024, is increasingly active in public-private discussions on leveraging offshore oil and gas experience for offshore wind development.

Additionally, the initiation of the Expressions of Interests process in May 2025 mentioned above (including the associated offshore area study) attracted a broad field of international and Romanian engineering firms and consultancies, signaling strong competition for the next phase. Several major global offshore wind developers have reportedly assessed opportunities in the Romanian market and are exploring partnerships with local players.

Alongside private-sector momentum, government-industry collaboration has intensified through working groups mandated by Law 121/2024, covering supply chain development, port readiness, workforce training, and administrative streamlining. These efforts are essential for building the industrial capabilities required to support a multi-GW offshore wind market.

Infrastructure and grid preparedness

Romania's port and grid infrastructure are central to enabling offshore wind deployment, and both have seen active investment and planning.

The Port of Constanța, the Black Sea's largest port, is undergoing modernization and expansion. Recent EU-backed investments have focused on quay strengthening, berth deepening, and logistics improvements, especially in the Midia area. While these upgrades serve broader maritime needs, they also enhance the port's capacity to handle large offshore vessels and heavy turbine components. Government statements and sector analyses increasingly position Constanța as Romania's future offshore wind logistics hub, with potential for dedicated staging areas and component assembly zones.

The Dobrogea region already hosts substantial onshore wind capacity, and integrating offshore wind will require reinforcement of the transmission network. Under Law 121/2024, Transelectrica must incorporate offshore wind needs into future development plans, including system studies and dedicated reinforcements. Updated 400 kV corridors and substation expansions in Constanța County are expected to be defined in Transelectrica's upcoming investment plans. Financing support from the EU Modernization Fund is already being channeled into strengthening key segments of the coastal grid.

Complementing national efforts, Romania has joined regional cooperation initiatives with Bulgaria and Greece aimed at harmonizing regulatory frameworks and exploring cross-border grid projects. These partnerships may become increasingly relevant as Black Sea offshore wind volumes grow.

Outlook

Romania enters 2026 with strengthened regulatory instruments, and growing commercial interest in its offshore wind sector. The sector's progression now depends on selecting suitable offshore wind areas and launching the first concession tenders—steps expected in 2026 following the completion of the specialized offshore wind study. Despite delays in intermediate deadlines, the country's strategic target of 3 GW of offshore wind capacity by 2035 remains achievable. With strong government commitment, EU support, and a deepening investor pipeline, Romania is well positioned to develop the first generation of Black Sea offshore wind projects and establish itself as a regional pioneer in offshore renewable energy.

SPAIN

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Renewable ambition

Spain is a global leader in onshore wind energy, with more than 32 GW of installed capacity. This, combined with almost 8,000 km of coastline, as well as a consolidated naval industry, a solid maritime-port sector and pioneering technological and engineering capabilities in the wind generation market, makes the country undoubtedly attractive for investing in offshore wind projects.

Despite its strong position in renewable energy and its unquestionable levers for the development of offshore wind energy, its take-off has faced challenges due to the depth of Spain's territorial waters, making fixed foundation projects a non-viable option. However, floating offshore wind technology is emerging as a promising solution, well-suited to the country's maritime conditions.

Spanish Roadmap for Offshore Wind and Marine Energies

In December 2021, the Spanish government published the "*Roadmap for Offshore Wind and Marine Energies*" which, in line with the "*EU Strategy on Offshore Renewable Energy*" outlined the plans to solidify Spain's position as a leader in offshore wind and marine energy by 2030.

This document highlights four main goals:

- Establishing Spain as a European hub for technological development and R&D&I in marine energy, activating at least 200 million euros in public support for technological innovation (in addition to national and European funding programs).
- Becoming an international benchmark in industrial capacities and in the sector's value chain as a whole, with a circular economy perspective.
- Boosting a sustainable development of offshore renewables, consistent with an environmental and social approach.
- Ensuring the orderly deployment of installations, targeting 1 to 3 GW of floating wind offshore energy and up to 60 MW of other marine energies (*i.e.*, waves, currents/streams, *etc.*) by 2030.

In line with these goals, Spain aims to contribute significantly to the European Union's target of 7 GW of floating wind offshore by 2030, with a potential 40% contribution from Spain.

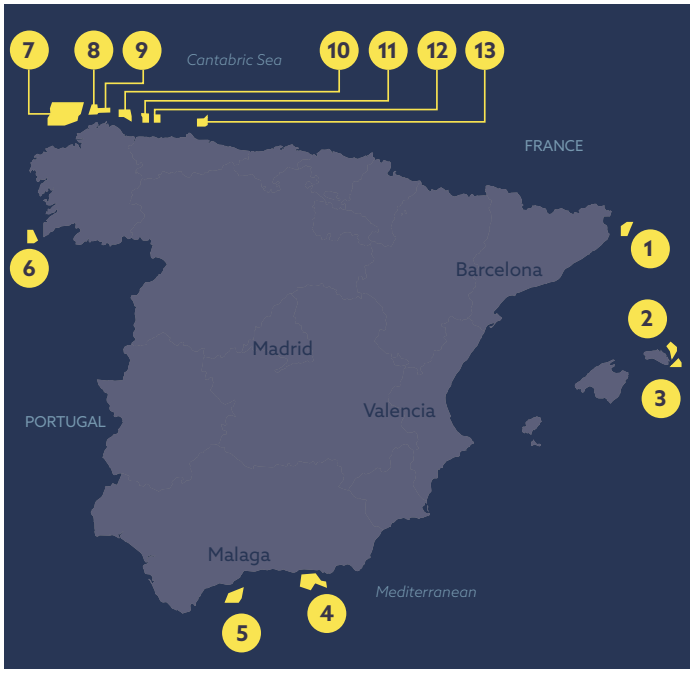
In order to achieve these goals, the Spanish government developed the approach and guidelines for the adaptation of the sector's regulatory framework, resulting in the enactment of (i) the Royal Decree 150/2023, of 28 February, approving the maritime space plans of the five Spanish marine demarcations, and (ii) the Royal Decree 962/2024, of 24 September, regulating the production of electricity from renewable sources in offshore facilities. These changes are aimed at providing the necessary continuity and visibility to attract investment and to consolidate and boost industrial capacities, as well as foster the generation of infrastructures and R&D&I projects around both the offshore wind and marine energies activities.

The Spanish Maritime Spatial Planning; a necessary milestone for the development of the offshore wind energy generation in Spain

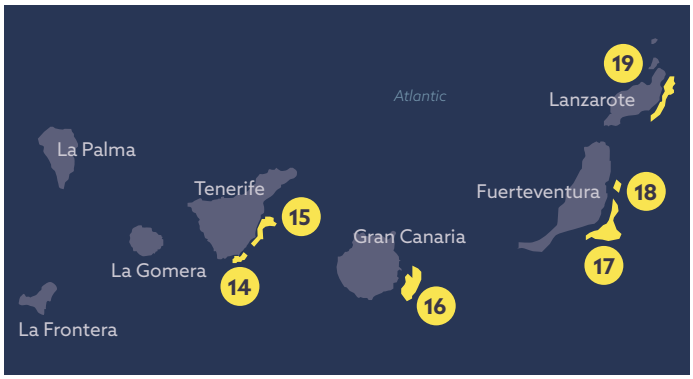
After five years, following a complex process of inter-administrative coordination and dialogue with interested parties through comprehensive consultation and public participation processes, and using the best scientific evidence available, the Spanish government passed the Royal Decree 150/2023, of 28 February, approving the demarcation of five maritime areas for offshore wind development.

Within these five areas, the Spanish government has identified 19 areas which have a high potential for the development of offshore wind energy projects (known as ZAPERs). Please see Map 18 below showing these ZAPERs.

Map 18: Spanish mainland and Balearic Islands ZAPERs



Map 19: Canary Islands ZAPERs



Each of these 19 ZAPERs have been defined due to "*its high suitability for the possible deployment of infrastructures for the use of commercial offshore wind energy, without prejudice to the fact that such projects may contemplate hybridizations with other marine renewable technologies*" meeting, among others, the following technical criteria:

- The wind resource is suitable for commercial exploitation, reaching values of over 7.5 m/s of wind speed, at 100 m height for the four peninsular marine demarcations, including Balearic Islands, and at 140 m height in the Canary Islands marine demarcation.
- The depth does not exceed 1,000 m.
- They are located, where possible, close to an area on land with the appropriate electrical infrastructure for the evacuation of the generated energy.

Notwithstanding the above, the viability of developing offshore wind projects in these ZAPERs still need to be assessed by developers against certain criteria for coexistence with the environment in which they are located, mainly: (i) occupying the least possible marine space, (ii) ensuring the least possible impact on the communities of seabirds that occupy said space, (iii) generating the least possible acoustic impact, as well as visual impact from land, both from protected areas and from well-established tourist or residential areas, or from assets of cultural interest, (iv) minimizing the impact on fishing, aquaculture and navigation, *etc.*

The long-awaited regulation of the production of electricity from renewable sources in offshore facilities

Once the delimitation of the ZAPERs was performed, it was necessary to adequately regulate the production of energy from these areas. Thus, the Spanish Council of Ministers, on the proposal of the Ministry for Ecological Transition and the Demographic Challenge, recently approved the Royal Decree 962/2024, of 24 September, regulating the production of electricity from renewable sources in offshore facilities.

Said regulation, which has been in force since 26 September 2024, covers offshore wind facilities and other marine renewable energy technologies, such as wave energy, and establishes a competitive bidding procedure for projects, ensuring their location within the ZAPERs identified in the maritime spatial planning. The key aspects of the competitive bidding procedure are as follows:

- The competitive bidding procedure will simultaneously grant the following rights to the awardees:
  - An economic support based on the existing "*Renewable energy support scheme*" (mainly configured as a contract for differences auction scheme);
  - Reserved access capacity at a specific node in the transmission grid; and
  - Priority in the granting of concessions for the occupation of publicly owned offshore/onshore property.
- The steps involved with the competitive bidding procedure will include:
  - The prior approval of a Ministerial Order setting the bid conditions, which may include, among others, the quota of power to be awarded; the ZAPER where the facilities will be located; the technologies, characteristics and requirements to be met by the facilities; the term of the publicly owned offshore-onshore property concession, the parameters specifying the applicable renewable energy support scheme, as well as minimum bidders conditions (*i.e.*, legal form, technical solvency, size or experience, etc.) and objective requirements to be met by the facilities (*i.e.*, related to the design of the facility, its environmental and socio-economic impact, its dismantling or its capacity to contribute to the security of electricity supply or to the appropriate conservation of the publicly owned offshore and onshore property).
  - The initiation of a public dialogue where both interested parties affected by the offshore renewable energy facilities and subsequently the interested developers may send comments or proposals for improvement of the abovementioned Ministerial Order with the bids conditions.
  - The approval of a Ministerial Order launching the competitive call for bids, including aspects such as the applicable timetable; the information and documents to be included in the application to participate; the reservation price (a maximum financial offer); if established, the risk price (a minimum financial offer) and the modification, where appropriate, of the aspects that are the subject matter of public dialogue under the conditions order.
  - The submission of the corresponding bids by the interested developers before the Spanish Directorate-General for Energy Policy and Mines within the time limits and in compliance with the referred ministerial orders (*i.e.*, minimum bidder requirements), and also accompanied by the receipt from the Government Security Depository certifying the deposit of the financial collateral required for pre-allocation registration in the renewable energy support scheme's register.

Applications will be assessed based on both economic and non-economic criteria, with successful bids being awarded to the highest scoring applications until reaching the quota of power to be awarded for each competitive bidding procedure is reached.

Once the results have been announced, the successful projects must (i) apply for the relevant access and connection permits, (ii) process the administrative authorizations that may be required for the approval, construction and operation of offshore wind project, and (iii) obtain the concession for the occupation of the publicly owned offshore and onshore property; in each case, in accordance with the corresponding sectoral regulations.

This Royal Decree 962/2024 marks the true starting point for the development and installation of offshore wind projects in Spain.

Offshore bidding process status

On 21 February 2025, Spain's Minister for Ecological Transition and Demographic Challenge announced that the first offshore bid was expected to be launched at the end of 2025; however, notwithstanding such announcement, as of the present date, no further developments have been reported in relation to the first offshore bid.

Beyond the renewable energy sector, which eagerly awaits the competitive tender due to the substantial commercial interests involved in offshore wind, several Autonomous Communities are pressing for the swift issuance of these Ministerial Orders, particularly to secure the inclusion of ZAPERs within their jurisdiction as they advance their own offshore deployment strategies.

Among others, the Autonomous Community of the Canary Islands is demanding that a separate and independent bid be regulated in the Autonomous Community, given its special need to reduce the extra cost of energy production and the political consensus that exists to invest in that territory.

Additionally, the Autonomous Community of Galicia is claiming to be included in the first bid due to its potential for the offshore wind industry, which is consistent with Spain's aspiration to remain at the forefront of the sector.

Beyond the offshore wind power generation: Spain is positioned as a global benchmark in technological innovation and research on marine infrastructures

It is undeniable that the implementation of renewable energy generation projects through offshore wind installations represents a clearly identified vector for energy development, and Spain is actively working towards this goal by providing all stakeholders with a clear and secure framework, adopting the appropriate regulations to ensure its consolidation.

However, it is particularly noteworthy that Spain has positioned itself as a clear leader across the entire value chain associated with the offshore wind energy sector, with a special emphasis on its potential in R&D&I. Specifically:

- Spain stands out as one of the countries where the largest number of innovative designs for floating offshore platforms are being developed. As a matter of fact, at the time of the publication of the "*Roadmap for Offshore Wind and Marine Energies*", seven out of the 27 floating solutions identified as active worldwide were Spanish patents.
- Spain is internationally regarded as a key country in the production and export of wind power components. Countries such as Norway (with great potential in the offshore wind sector) recognize this and are seeking to create synergies with Spain as an industrial partner.
- Spain boasts internationally renowned infrastructure for the technological development of marine energies, particularly floating technologies. It is the European Union country with the most facilities dedicated to R&D&I in marine energies (including three open-sea testing centers) among which are found:
  - The Great Maritime Engineering Tank of Cantabria/Cantabria Coastal and Ocean Basin (GTIM-CCOB).
  - Integrated Coastal Infrastructures for Experimentation and Modelling (iCIEM).
  - Hydrodynamic Experiments Center of El Pardo (CEHIPAR).
  - Biscay Marine Energy Platform (BiMEP), where the "DemoSATH" project (the first floating offshore wind project installed within this platform) is currently operating in a trial phase.
  - Oceanic Platform of the Canary Islands (PLOCAN) and Canary Islands' "ECEAdvance" project, which seek to lay the foundations for future offshore development in its territory.
  - Center for Ports and Coasts Studies (CEDEX) facilities used for offshore wind experimentation.
  - Experimental area for the use of marine energies in Punta Langosteira, Galicia.
  - The R&D&I Platform in Marine Energies of Catalonia (PLEMCAT), which consists of a floating platform designed to test offshore wind projects, located in the ZAPER "LEBA1".

This underscores not only Spain's potential in implementing offshore wind projects but also its versatility in capitalizing on the surrounding opportunities arising from this sector, especially in the technological research and industrial sectors.

Spanish ports as a necessary lever for the development of offshore wind

Spain, through Puertos del Estado (a public body attached to the Ministry of Transport, Mobility and Urban Agenda) has identified three key ports to drive the development of offshore wind energy. The ports of A Coruña, Castellón and Las Palmas are positioned as port hubs expected to assume differentiated yet complementary roles in the deployment of this emerging industry. The strategy is based on the availability of facilities capable of manufacturing and assembling large-scale components, as well as providing logistical and technical support to future offshore wind projects.

The Port of A Coruña stands out for its deep and wide water channels in Punta Langosteira, which are particularly suitable for handling large-sized components and developing industrial activity at scale. Its surrounding industrial environment, with shipyards and companies specializing in marine energies, further strengthens its potential.

For its part, the Port of Castellón is progressing with the development of a new basin of approximately 50 hectares, specifically conceived for offshore manufacturing and assembly. Its connection to the Mediterranean Corridor and its strategic location enable it to service projects in Spain and in other Mediterranean markets and also booster employment, industrial activity and export capacity in the area.

In the insular sphere, the Port of Las Palmas combines R&D experience (supported by the activities of PLOCAN) with naval infrastructure capable of providing assembly, maintenance and offshore repair services, retaining a strategic position to attract future projects and serve as a bridge to Mid-Atlantic and African markets.

Spain's commitment can thus be summarized in three nodes and one overarching objective: the consolidation of a port network capable of sustaining the full offshore-wind value chain.

The economic role of Spain in the financing of offshore wind projects

In July 2025, the Ministry for the Ecological Transition and the Demographic Challenge (MITECO) launched a €160 million PORT-EOLMAR grant program, aimed at adapting state port infrastructure to facilitate the development of offshore wind energy and other marine renewables. Grants under this program are intended to finance works such as the construction or adaptation of quays, operational areas, and port surfaces, as well as the provision of logistical services required for the manufacturing, assembly, and maintenance of offshore wind projects.

Eligible projects must meet several conditions, they must (i) be associated with private investments equal to or exceeding the requested grant, (ii) ensure at least 10 years of industrial activity, and (iii) be developed within certain zones of ports of general interest. The grants will be awarded on a competitive basis and will only be disbursed upon verification of completed works and certification of eligible costs.

The period for submitting objections to the terms and conditions and the call for applications for grants under PORT-EOLMAR closed on 17 September 2025. Through this initiative, the Spanish Government seeks to strengthen the national and European value chain for marine energies, promoting strategic autonomy in the production, assembly, and maintenance of offshore wind components. Simultaneously, it aims to position Spain as an industrial leader in marine renewables, leveraging its port, naval, and industrial infrastructure, while contributing to the energy transition.

Private agents are also on board with supporting Spain's offshore wind objectives. In this regard, the European Investment Bank (EIB) has entered into a counter-guarantee mechanism with CaixaBank for an amount of €50 million, which will enable CaixaBank to establish a portfolio of bank guarantees of at least €100 million under a green commercial financing line. This instrument is designed to support offshore wind energy projects undertaken by Navantia Seanergies, providing performance guarantees and advance payment guarantees, thereby enhancing the company's financial stability in relation to new offshore contracts.

The manufacturing of offshore wind components will take place at Navantia Seanergies' shipyards located in Fene (Galicia) and Puerto Real (Andalucía), areas designated as cohesion regions by the European Union.

Initiatives like these show a clear commitment to adapting infrastructure and mobilizing capital, positioning Spain as a competitive player in the global renewable energy transition.

Offshore wind: the ultimate lever for the development of green hydrogen in Spain?

In recent years, Spain has identified the green hydrogen production industry as a unique opportunity for the country and for the decarbonization of its economy. Spain currently leads the international landscape in the development of green hydrogen production projects (and renewable derivative products such as green methanol or ammonia) by the establishment of large hydrogen corridors across its territory. This has been achieved by channeling significant economic and regulatory efforts into this sector and mobilizing all market players with a clear objective: to lead the adoption of this technology and become one of the major global producers of green hydrogen.

To conclude this section, it is important to emphasize that in developing policies related to green hydrogen generation, Spain has also been mindful of the synergies between these projects and offshore wind energy.

This is evidenced, for instance, by the fact that both public administrations and technology developers, as well as private investors, are currently proposing hybrid solutions that enable green hydrogen generation (both offshore and onshore) using energy derived from offshore wind. This is particularly feasible during periods of renewable energy surplus in cases of limited grid connection capacity but can be also a solution for dedicated projects.

An example of this is the H2Heat Project which, in collaboration with the Canary Island Health Service and PLOCAN, aims to leverage offshore wind energy to produce green hydrogen as a sustainable fuel source and thus covering more than 50% of the heat requirements of the "*Complejo Hospitalario Universitario Insular Materno Infantil de Gran Canaria*" (Gran Canaria Maternal and Child Hospital Complex) using this green energy.

SWEDEN

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Introduction

Whilst Sweden boasts one of EU's largest portfolios of onshore wind capacity, offshore wind has been slow to take off. Following a few pioneering projects in the 2010s, no new offshore wind farms have been constructed. Currently, there are three operational offshore wind farms in Sweden's territorial waters: Lillgrund (110 MW) located between Sweden and Denmark; Kårehamn (48 MW) located in the southern Baltic Sea near the island of Öland; and Bockstigen (3.3 MW) located in the southern Baltic Sea four km off the coast of the island of Gotland. The total installed capacity of offshore wind in Sweden amounts to approximately only 161 MW.

Sweden's territorial waters, particularly along the west coast and in the southern Baltic Sea, offer excellent wind resources. However, development has been hampered by a complex permitting and licensing regime and the absence of a clear and fair auction model to allocate capacity, and more recently by political decisions. Unlike many other European countries, developers in Sweden gain exclusive rights to a site only late in the development process which creates uncertainty and slows down investment, as the allocation process carries the inherent risk that a developer may not be successful in obtaining exclusive development rights even though it has invested significant resources in terms of both time and money.

The Swedish Government's climate action plan has identified that offshore wind power has the potential to deliver electricity in large volumes, but it is significantly more expensive than onshore wind. Therefore, the Swedish Government initiated an inquiry tasked with analyzing how the regulatory framework for the use of Sweden's sea areas for offshore wind power development can be improved, including ways to make the permitting process for wind power in Sweden's exclusive economic zone ("**EEZ**") more efficient and transparent.

In January 2025 the Swedish Agency for Marine and Water Management submitted a proposal to the Swedish Government 23 areas suitable for potential offshore wind production. The focus of the assignment was to add areas for offshore wind to the Swedish marine spatial plans, to expand opportunities for offshore energy production to 120 TWh per annum.

It may be noted that the proposal does not include any additional areas for offshore wind in the Baltic Sea region, off the coast of central and southern Sweden, where several offshore wind projects were rejected by the Swedish Government in November 2024 over defense concerns (see Section 3 below). Another report ordered by the Swedish Government has proposed the transition to an auction system from July 2026 (see Sections 2 and 3 below).

Sweden's offshore wind legislative framework, permits and licenses

The scope of permitting for offshore wind farms varies significantly in terms of requirements and complexity, depending on the type of facility and its location. The establishment of offshore wind farms is regulated by numerous laws and regulations with several permits and notifications required depending on the design, size and location of the wind farm. Each project must ultimately be assessed on a case-by-case basis and hence there is no "one size fits all" model to permitting offshore wind farms in Sweden, which ultimately slows down the allocation of required permits.

Rather than relying on leases, offshore wind power projects primarily depend on various permits from the Swedish Government and authorities to secure access to the sea and seabed to develop, construct and operate a wind farm.

In addition to permits granted under the Swedish Environmental Code for water activities and environmental hazardous activities, offshore wind power projects within the Swedish territorial waters or EEZ would normally require additional permits which grant access to and use of the sea and seabed. These would primarily be granted by the Swedish Government or its authorities, particularly the Legal, Financial and Administrative Services Agency (*Kammarkollegiet*).

Permitting differs depending on if a project is located in territorial waters or Sweden's EEZ. Both types of projects are dependent on several permits, but while the main operating permit in territorial waters is provided by the courts, the Swedish Government is the permitting body for projects in the EEZ. Under certain conditions, the Swedish Government may also examine permit applications for projects within the territorial waters. In such cases, the court first prepares the application before referring the case to the Swedish Government for examination.

Permitting often involves referral for review and comment from local and national authorities, such as the relevant regulator, the local municipality (for projects in territorial waters) and the Swedish Armed Forces, among others. Whilst these authorities are not responsible for permitting, they can still wield substantial influence. For instance, it is very rare that a permit is granted if the Swedish Armed Forces raised objections which have not been addressed. In addition, the municipalities have certain veto rights, which can potentially jeopardize the development of offshore wind projects.

Moreover, due to the legal situation relating to exclusivity and hierarchy of rights over offshore areas being unclear, a common issue has been overlapping projects, being developed by different developers.

The Swedish Government is exploring the possibility of streamlining the permit application processes for the establishment of offshore wind projects. A report ordered by the Swedish Government has proposed the transition to an auction system for offshore wind, giving the successful party exclusive right to establish wind power in the relevant area. Transition to an auction system is proposed to enter into force on 1 July 2026. The matter is still pending at the Government level when writing this in November 2025.

Market environment and recent developments

Following defense-driven refusals of Baltic Sea offshore wind projects by the Swedish Government Offices in November 2024, 2025 has been a year of recalibration. The November 2024 decision to reject 13 permit applications for offshore wind farm projects, representing all permit applications then under consultation with the Swedish Government Offices for offshore wind projects in Sweden's EEZ in the Baltic Sea (*i.e.*, from the Sound (*Öresund*) to the Bothnian Sea (*Bottenhavet*), was based on the Swedish Government Offices' assertion that approving these projects would conflict with the interests of the Swedish Armed Forces in the same area. The Swedish Armed Forces have noted that there are several risks associated with establishing wind power at the wrong locations. In relation to the November 2024 rejections, they indicated that the North of Sweden is an important region for national defense, and have raised objections to onshore wind projects in the area. In view of this, some stakeholders assume that projects in the Gulf of Bothnia could meet the same end as projects in the Baltic Sea.

Whilst projects in Sweden's territorial waters are being assessed by the Swedish courts (not the Government), public interest considerations, including such relating to national defense, could likely be considered and may also impede or defer future project approvals in Sweden's territorial waters, particularly in the Baltic Sea. The Swedish courts are generally assumed to follow in the Swedish Government's footsteps if and to the extent the Swedish Armed Forces have objections to projects.

As mentioned above, in 2025, the Swedish Agency for Marine and Water Management submitted a proposal to the Swedish Government, specifying a total of 23 potential areas for energy extraction (see Map 20, areas highlighted in orange), with approximately 26% of the areas found in the Swedish territorial waters and 74% in the EEZ, targeting an annual production capacity of 120 TWh.

Moreover, an inquiry by the Swedish Government proposed transitioning to a state lead tender auction system for offshore wind power from mid-2026, aligning the Swedish system with neighboring markets.

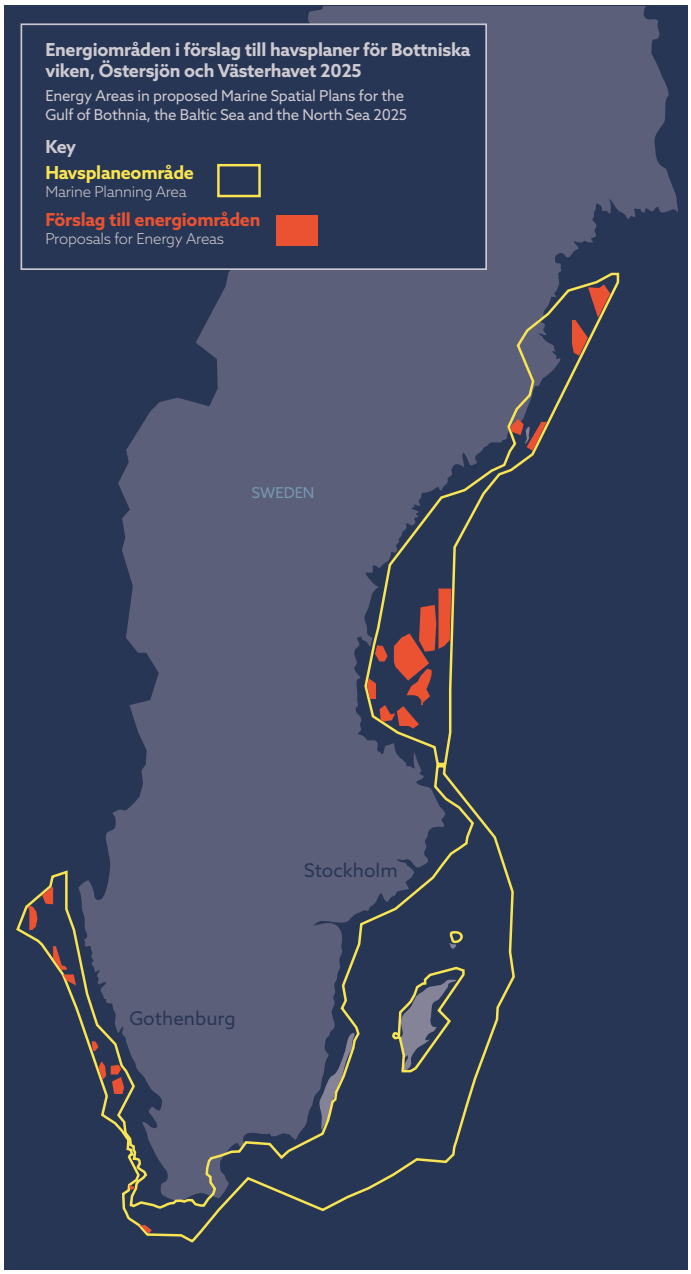
Svenska kraftnät, the Swedish TSO, initiated open, geographically delimited investigations to identify the potential for, suitable connection points, and available transmission capacity for connections to the onshore transmission grid for offshore wind power through stakeholder pools. Location studies for suitable connection points are ongoing, whilst information on locations for five possible connection points has been published. All relevant and updated information, including connection points and stakeholder pool registration details, will be communicated through Svenska kraftnät's website.

It is uncertain if and how an auction system would impact this, as the model is based around the current non-auction based system, a key concern having been to avoid state aid issues.

The Swedish Government has between 2022 and 2024 approved four offshore wind farm projects (Galene, Kattegatt Syd and Poseidon, located off the Swedish west coast, and Kriegers flak, located off the Swedish south coast, between Sweden and Denmark). Although approved, the development of Kriegers flak has since been suspended indefinitely by owner Vattenfall due to "unviable investment prerequisites in Sweden" (*i.e.*, because Swedish electricity prices are too low to carry offshore wind projects). Other project owners and developers, having been affected by the November 2024 rejections in the Baltic Sea region, seem to prioritize projects on the Swedish west coast and the Gulf of Bothnia (*Bottniska viken*).

Several developers have effectively dismantled their offshore departments, laying off or reallocating employees.

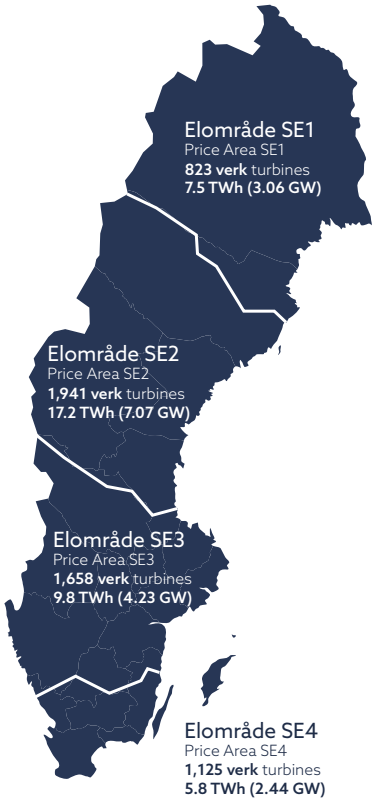
Map 20: Proposed energy areas by the Swedish Agency for Marine and Water Management[1]



Swedish electricity market and potential for cPPAs

The Swedish electricity market is divided into four electricity price areas (SE1-SE4) with a surplus of electricity production in northern Sweden. Electricity prices vary between different areas with often higher prices in the southernmost price area, SE4. In 2024, wind power (onshore and offshore), with a total installed capacity of about 16.8 GW, contributed to around 25% of Sweden's electricity production. As presented in statistics by the Swedish Energy Agency[2] a total of 5,547 wind turbines (thereof 75 offshore) were installed in Sweden in 2024. The yearly electricity production from wind power rose from around 34 GWh (2023) to around 40.42 GWh (2024). Hydro- and wind power make up a large proportion (around 65% in 2024) of Swedish electricity production.

Figure 1: Swedish electricity price areas (SE1-SE4)[3]



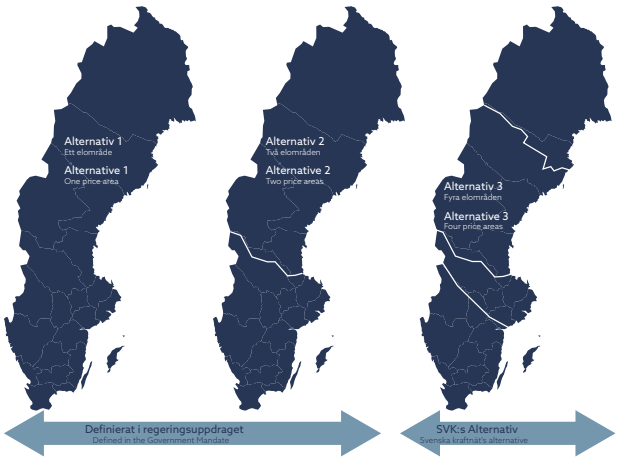
1. Based on Map by the Swedish Agency for Marine and Water Management. Downloaded from the Swedish Agency for Marine and Water Management's webpage on 20 November 2025: https://www.havochvatten.se/images/18.6ab16f9919457c089959cce5/1737464209473/Karta%20energiomr%C3%A5den.png
2. Accessed on the Swedish Government's webpage on 12 November 2025: https://www.energimyndigheten.se/statistik/officiell-energistatistik/tillforsel-och-anvandning/vindkraftsstatistik/; and https://pxexternal.energimyndigheten.se/pxweb/sv/Energimyndighetens_statistikdatabas/Energimyndighetens_statistikdatabas__Officiell_energistatistik__Vindkraftsstatistik/EN0105_5.px/
3. Based on Map by the Swedish Energy Agency. Downloaded from the Swedish Government's webpage on 27 November 2024: https://www.energimyndigheten.se/nyhetsarkiv/2024/ar-2023-bidrog-vindkraften-med-cirka-21-procent-till-sveriges-elproduktion/; statistics by the Swedish Energy Agency. Accessed on the Swedish Government's webpage on12 November 2025: https://pxexternal.energimyndigheten.se/pxweb/sv/Energimyndighetens_statistikdatabas/Energimyndighetens_statistikdatabas__Officiell_energistatistik__Vindkraftsstatistik/EN0105_2.px/

In May 2025, the Swedish Government tasked Svenska kraftnät with assessing the feasibility of alternative electricity price area configurations.

The review will consider scenarios including a single national price area (Figure 2, "Alternative 1"); two electricity price areas (Figure 2, "Alternative 2"); and an alternative configuration of multiple price areas (Figure 2, "Alternative 3"), based on Svenska kraftnät's long-term scenarios for the electricity system with focus on the years 2030, 2035 and 2040. Findings of the assignment shall be presented to the Swedish Government Offices by the end of May 2026.

Renewable energy developers who are active in Sweden include the Swedish state utility Vattenfall, the Danish offshore developer Ørsted, the Swedish renewables developer OX2, and smaller players such as the offshore oriented Svea Vind Offshore and Freja Offshore which are developing floating offshore wind projects.

Figure 2: Alternative electricity price area configurations[4]

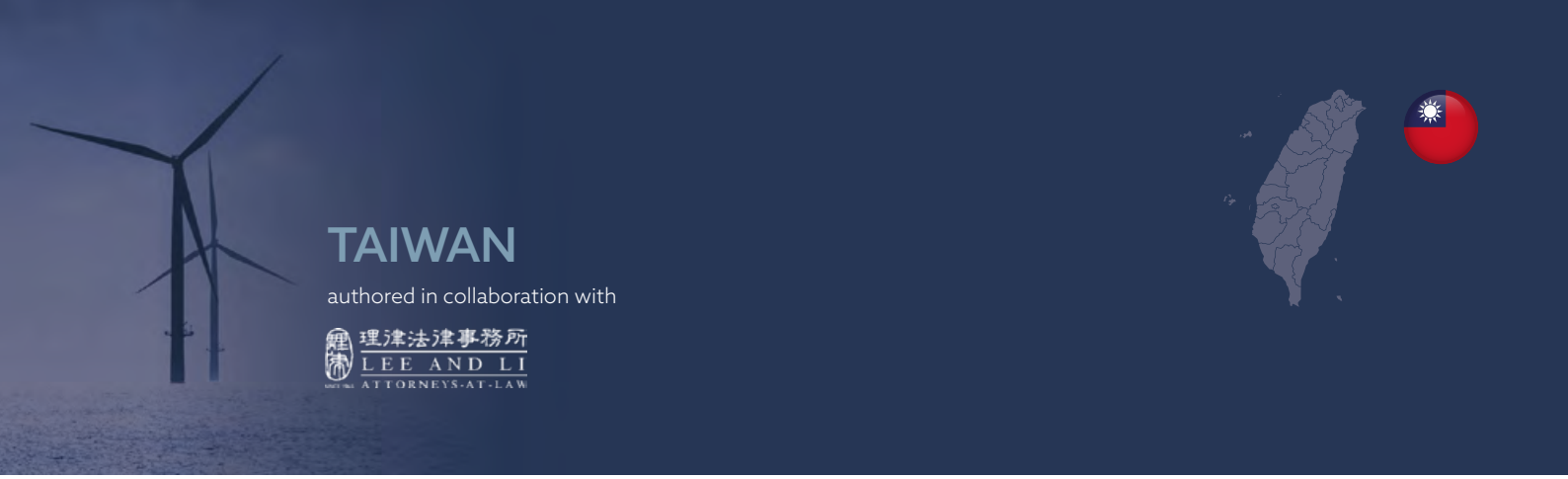


4. Map by Svenska kraftnät. Downloaded from Svenska kraftnät's webpage on 21 November 2025: https://www.svk.se/4aafa9/contentassets/ab06da83c0cb4d999ea049c3bfc6b16b/svk_kartor_snitt_1300x800px1.png

Several sizable onshore wind farms in Sweden trade or have traded their production under corporate power purchase agreements ("**cPPAs**") entered into with industrial offtakers. Historically, Sweden has been a popular market for cPPAs, particularly for onshore wind farms, with several large-scale projects securing their revenue streams this way. Virtual cPPAs are also possible in Sweden, and agreements have been entered into with mostly onshore wind as the underlying energy resource. The produced electricity is then sold on the Nord Pool spot market rather than to the PPA offtaker. Specialized energy traders and power trading departments of utilities also offer PPAs to renewable energy producers, which are secured by hedging arrangements with third parties and/or by reselling energy to customers within the company group. Mirroring the broader European trend in 2025 with dropping deal volumes and contracted capacities, largely driven by negative price episodes and financing cost pressures, baseload cPPAs remain to be less attractive in recent years. The increasing share of renewable energy combined with technical availability issues of wind farms under periods of increased volatility and markedly high spot prices and the obligation of purchasing power in high price (low wind) hours have presented liquidity risks to wind farm owners and their lenders. A growing interest in more flexible solutions, such as hybrid PPAs, combining renewable energy production with storage solutions, is noticeable among market participants.

Conclusion

While the potential is significant, the outlook for offshore wind in Sweden remains gloomy with major regulatory, political and financial hurdles. The future for offshore wind is currently very uncertain. The hope is that if the Swedish Government succeeds in streamlining and clearly regulating the permitting and capacity allocation processes, this will not only reduce financial uncertainties but also instil greater confidence in developers looking to develop offshore wind projects in Sweden.



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Taiwan: Asia's offshore wind leader

Taiwan continues to lead the Asia Pacific region in offshore wind. This has its roots in the Taiwan government's "*Thousand Wind Turbines Project*" to generate 5.7 GW of electricity from offshore wind by 2026 (equal to approximately 20% of Taiwan's total electricity generation) and 15 GW by 2035. To date, out of the 23 offshore wind projects that have been awarded grid capacity, 20 projects have entered into the grid allocation contracts (also known as the Administrative Contracts) with the government. The development rights of the remaining three projects were revoked by the government earlier in 2025, as further explained below. As of December 2025, seven of Taiwan's offshore wind farms, including Formosa I, Changhua Phase I of Taipower ("**TPC**"), Formosa II, Changfang & Xidao, Greater Changhua SE, Greater Changhua SW, and Yunlin have entered into operation stage with the others all at some stage of development or advanced construction, or substantively in operation. Currently, each offshore wind farm which has been awarded the right to sign up for grid capacity is located on the west coast of Taiwan, in the Taiwan Strait, as shown in Map 21 overleaf.

The process to date

The Taiwanese government has split the development of its offshore wind sector into three phases, comprising:

Round 1 (Demonstration), where three projects were awarded an aggregate capacity of approximately 360 MW;

Round 2 (Transition), which saw 5.5 GW of capacity awarded across various projects; and

Round 3 (Zonal Development), which aims to create 15 GW of offshore wind capacity between 2026-2035 in two stages, *i.e.*, the first stage for grid connection years between 2026-2031 for allocation of 9 GW of capacity, and the second stage for grid connection years between 2032-2035 for allocation of 6 GW of grid capacity. The first stage is further divided into three phases, Round 3.1 (for grid connection years 2026-2027 for 3 GW), Round 3.2 (for grid connection years 2028-2029 for 3 GW), and Round 3.3 (for grid connection years 2030-2031 for 3 GW). The phases of the second stage are yet to be determined by the Ministry of Economic Affairs ("**MOEA**")/Energy Administration ("**EA**"; formerly called Bureau of Energy).

The results of the Round 3.1 auction were announced by the MOEA/EA on 30 December 2022, which allocated 3 GW of capacity to developers across grid connection years 2026 and 2027 (0.9 GW for 2026 and 2.1 GW for 2027). On 25 April 2024, the MOEA granted a one-year extension to the grid connection dates for all Round 3.1 projects.

The results of the Round 3.2 auction were announced by the MOEA/EA on 5 August 2024, which allocated 2.7 GW of capacity to developers across grid connection years 2028 and 2029 (0.6 GW for 2028 and 2.1 GW for 2029).

The dates for the Round 3.3 auction are yet to be confirmed by the MOEA.

Round 2 projects (transition)

All Round 1 and 2 projects benefit from the right to a 20-year feed-in-tariff ("**FiT**") to be paid by TPC, the state-owned grid operator and power producer (although, note that a project may opt to switch between the FiT and a corporate power purchase agreement, as seen on Ørsted's Greater Changhua 2b and 4 projects – see Corporate PPAs below for more information). Once grid capacity and corresponding development rights were awarded through the allocation round, a FiT was secured.

Two separate allocation rounds were held for Round 2. In the first allocation round, developers were awarded grid capacity through an administrative selection process run by the Taiwanese government (the "**Selection Process**"). Under this process, a project had to satisfy prescribed criteria based on a range of technical and financial metrics, as provided for in the Guidelines for Grid Allocation published by the MOEA/EA on 18 January 2018. Applicants were then ranked by score (out of 100, and determined on the basis of construction capability, engineering design capability, operations and maintenance capacity and financial capability), with the highest scoring applicants awarded the grid capacity, development rights and FiT until the allocated capacity for that allocation round had been fulfilled. The FiT for these Round 2 allocation rounds was set by the government.

Applicants that were unsuccessful in obtaining development rights and a FiT, but still scored above 60/100 points in the Selection Process, were invited to participate in a competitive auction process for the remaining grid capacity, with the lowest bidders awarded a FiT based on the developer's auction bid price (rather than as set by the government). Notably, projects that were awarded a FiT in this auction process are not subject to any local content requirements—please see Localization below for more information on the relevance of this.

Round 3 projects (zonal development)

Round 3.1

In Round 3.1, developers chose to submit applications to develop either one of the government-designated zones of opportunity, if remaining undeveloped, or a self-identified developer proposed zone, as was the case for certain projects which were successful in Round 2.[1] Capacity awarded to each offshore wind farm in Round 3.1 was subject to a limitation of 500 MW, subject to an adjustment of up to an additional 100 MW after the MOEA/EA reviewed the developer's application for adjustment and grants approval, taking into account the integrity of the entire wind farm, development benefits and efficiency. Therefore, the maximum Round 3.1 project size was 600 MW.

The applicants in the Round 3.1 auctions were assessed in two parts. Firstly, projects applying for allocation needed to be awarded at least 70/100 points from the MOEA based on prescribed criteria covering a range of technical and financial metrics, as provided for in the Offshore Wind Power Zonal Development Site Capacity Allocation Guidelines published by the MOEA/EA on 19 August 2021 ("**Round 3.1 Allocation Guidelines**"). This technical and financial qualification review was a simple yes/no threshold review, with seemingly no benefit to those projects which exceeded the required 70 points.

In addition, the MOEA also assessed an applicant's localization commitments. The localization requirements for Round 3.1 were set out in the Offshore Wind Power Zonal Development Industry Relevancy Implementation Plan, which was published by the MOEA/Industrial Development Administration (formerly known as the Industrial Development Bureau; "**IDA**") on 6 December 2021 and amended on 26 August 2022 (the "**Round 3.1 Localization Rules**"). Localization requirements were split between 'mandatory' and 'bonus' localization components with each component to be localized attributed a value of 1 to 6 depending on the difficulty of manufacturing that component in Taiwan. In order to be successful in the localization review process, an applicant must localize each of the mandatory components (subject to the flexibility referred to in Localization below) plus be awarded a minimum of 10 localization 'bonus' points. The comprehensive list of 'bonus' components (> 50 components) was reflective of the MOEA's learnings to date, based on experiences from the Round 1 and Round 2 projects, with the 'bonus' components being those components which had been difficult to localize to date, or for which there was little or no supply chain in Taiwan.

After a developer passed this qualification and localization review process it must submit a bid in the tariff price auction for a FiT, with the lowest bids winning and being awarded grid capacity. The auction bid price for Round 3.1 was capped at NTD 2.49/kWh and had a floor of NTD 0/kWh.

In practice, given the relatively small amount of capacity which was available and the strong appetite for renewable power from private corporations in Taiwan, which allowed for developers to negotiate standalone private corporate power purchase agreements (see Corporate PPAs below), as expected and reported in the news, the Round 3.1 auction was hotly contested with many applicants bidding extremely low, or even NTD 0/kWh, in order to secure grid capacity and development rights. The same competition followed into Round 3.2 as noted below, and is expected for the following Round 3 auctions.

In the event of a tie (*e.g.*, two projects bid NTD 0/kWh) priority was given to the project which had the highest localization 'bonus' points score (see Localization below). If this still did not produce a clear winner, it was expected that a winner would have been drawn at random between such projects.

However, this low power price environment coupled with increasing development and construction costs, resulted in some major developers *e.g.*, Orsted, not entering the Round 3.1 2022 auction. Out of the 7 winning projects of the Round 3.1 auction, two projects did not apply with the MOEA for entering into the grid allocation contracts by the required deadline and lost their development rights.

Round 3.2

The Offshore Wind Power Zonal Development Site Capacity Allocation Guidelines as amended 23 November 2023 ("**Round 3.2 Allocation Guidelines**"), had the following major features compared to the Round 3.1 Allocation Guidelines:

1. The capacity that was allocated in a previous phase/stage can be reserved for allocation in the next phase/stage.
2. Capacity awarded to each offshore wind farm in Round 3.2 is subject to a limitation of 900 MW for the first-ranked awardee, 700 MW for the second-ranked awardee, and 500 MW for each of the remaining awardees, with an adjustment of up to an additional 100 MW after the MOEA/EA reviews the developer's application for adjustment and grants approval, taking into account the integrity of the entire wind farm, development benefits and efficiency as well as the plan for entering into cPPAs with at least two domestic enterprise groups.
3. The capacity that is not allocated, including that waived by the awardees in the previous phases/stages, can be used in later auctions.

As expected, the competition remained fierce. Five projects were finally awarded with a total of 2.7 GW of capacity as follows: Shinfox - Yo-Der (700 MW), SRE - Formosa 6 (800 MW), CIP - Feng Miao II (600 MW), Corio Generation/TotalEnergies - Formosa 3 (Haiding 1) (360 MW), and Enervest - Deshuai (240 MW). To the surprise of the industry, Ørsted was not awarded with any capacity in the Round 3.2 auction, although it had been listed as the sixth project in the bidding rankings announced by the MOEA on 9 July 2024.

On 11 November 2024, the MOEA announced that all the above five winning projects under the Round 3.2 auction applied with the MOEA for execution of the grid allocation contracts. However, in May 2025, it was reported that the development rights of the Haiding 1 and Deshuai projects have been revoked for failing to enter into such contracts within the prescribed deadline. The released grid allocation capacity will be included in the Round 3.3 auction.

Round 3.3

The dates for the Round 3.3 auction are yet to be confirmed by the MOEA because the grid allocation rules are currently being amended for major adjustments such as further relaxation of the localization requirements.

1. Yunlin Offshore Wind Project is located in an area which was identified by its developer, rather than through the government's designated zones of opportunity.

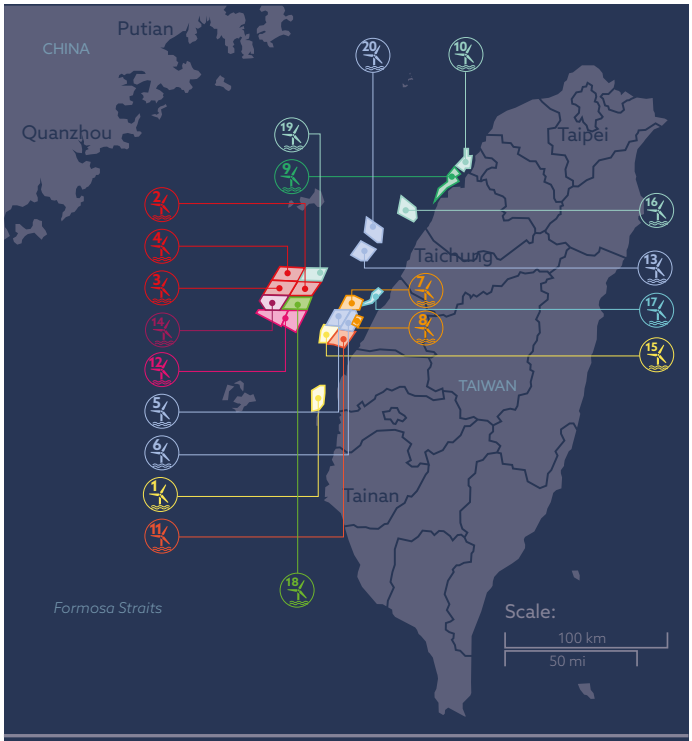
Localization

As part of the Taiwanese government's push to develop the local supply chain, the MOEA developed a series of lists of components used in the construction and operation of an offshore wind farm, which a developer must seek to source from local manufacturers in Taiwan. For the Round 2 projects, these were prescribed by the MOEA in its "*Framework of Offshore Wind Power Industry Relevancy Implementation Programme*" (published in January 2018). For the Round 2 projects, the exact parameters of a project's localization requirements were dependent on what year it was/is scheduled to connect to the grid. In general, there has been a trend of ever-increasing localization for offshore wind projects in Taiwan, with the list of components which are to be localized increasing in each allocation round.

In this regard, although the mandatory localization components set out in the Round 3.1 Localization Rules are more comprehensive than the Round 2 localization requirements, there are signs that the MOEA acknowledges that it is difficult or impractical to source certain components locally. This is shown by not only the differentiation between mandatory and bonus localization requirements but also, unlike previous auctions, the mandatory localization requirements that only apply in respect of 60% of the applied for capacity. Therefore, if a developer applies for a 500 MW project, only 300 MW of such project is required to be constructed using the mandatory localization components. The remaining 200 MW could be constructed using international suppliers alone. The exception to this is the localization requirements relating to vessels providing marine support, *e.g.*, SOVs and engineering design services, such as design of an offshore substation. For the former, domestic work vessels are to be given priority. Accordingly, only when the domestic work vessels are determined to be ineligible/unavailable to undertake works for offshore wind farm projects in Taiwan (via a non-capacity confirmation) will the authorities consider issuing consent and approval for the use of foreign work vessels. For the engineering design services, the supplier must have at least 50% local participation.

There is no additional priority given by the MOEA/IDA to projects that comply with the mandatory localization requirements for >60% of the applied for capacity. However, the Round 3.1 localization bonus points were used to decide a winning bidder in the reverse price auction if more than one developer submitted the winning bid, which, was the case in practice. Therefore, developers may wish to maximize these bonus localization items. In the event of a further tie following a review of a projects' localization bonus points, the winner would be selected at random through the drawing of lots.

Map 21: Taiwan's consented offshore wind projects



Key

1 - Skyborn Renewables/Total Energies/EGCO Group/Sojitz, **Yunlin** - 640 MW Capacity
2 - Ørsted/CDPQ/Cathay PE, **Greater Changhua SE** - 605.2 MW Capacity
3 - Ørsted/Cathay Life, **Greater Changhua SW** - 361.9 MW Capacity
4 - Ørsted/Cathay Life, **Greater Changhua NW** - 582.9 MW Capacity
5 - CIP/Taiwan Life/TransGlobe/GRSC, **Changfang** - 552 MW Capacity
6 - CIP/Taiwan Life/TransGlobe/GRSC, **Xidao** - 48 MW Capacity
7 - Taipower, **Changhua Phase II** - 300 MW Capacity
8 - Taipower, **Changhua Phase I** - 110 MW Capacity
9 - Ørsted/Mitsui OSK Lines, Toho Gas, and Hokuriki Electric Power Company/JERA, **Formosa I** – 128 MW Capacity
10 - SRE/JERA, **Formosa II** – 378 MW Capacity
11 - CIP/China Steel, **Zhong Neng** - 300 MW Capacity
12 - Yushan/Northland, **Hailong** - 1,044 MW Capacity
13 - CIP/Mitsui OSK Lines, **Feng Miao** - 495 MW Capacity
14 - Corio Generation/TotalEnergies, **Formosa 3 (Haiding 2)** - 600 MW Capacity
15 - Skyborn Renewables/Lealea Group, **Hai Xia Phase 2** - 300 MW Capacity
16 - SRE/CPC Corp./Taipower, **Formosa 4** - 495 MW Capacity
17 - EDF Renewables/Taiya, **Wei Lan Hei Changhua** - 440 MW Capacity
18 - Shinfox, **Yo-Der** - 700 MW Capacity
19 - SRE, **Formosa 6** - 800 MW Capacity
20 - CIP, **Feng Miao II** - 600 MW Capacity

The localization requirements have previously caused some concern among developers that projects will be forced to use domestic suppliers who have not yet built up the capacity to deliver the relevant components on time and to the required specification and cost, leading to delay and added costs (and thereby reducing returns for developers). The flexibility shown by the MOEA in the Round 3.1 Localization Rules appears to show an acknowledgement of this concern; however, in practice, given that the Round 3 auctions in general are expected to be hotly contested and determinative based on bonus localization commitments, flexibility on the mandatory localization components could be seen as moot. That being said, there is clearly a strong cooperative relationship developing between the Taiwan government and industry participants as, in a bid to try to facilitate discussions between the Taiwanese government and developers (to discuss matters such as localization), the Taiwan Offshore Wind Industry Association has been established. The aim of this association is to create a forum for dialogue with the government on the development process for offshore wind projects in Taiwan.

The IDA announced the Offshore Wind Power Zonal Development Industry Relevancy Implementation Plan for Round 3.2 on 15 December 2023 (the "**Round 3.2 Localization Rules**"). Under the Round 3.2 Localization Rules, the localization requirements are no longer split between 'mandatory' and 'bonus' localization components. Instead, 24 categories of localization components with a total score of 120 points are stipulated. The developers may select the items for reaching a minimum score of 70 points for the localization plan.

The number of points available under each localization category is capped and the components available that are localized under such category also have sub-caps. For example, one of the localization categories is major work vessels for providing marine support and services (total maximum score: 8 points), which comprise: (1) at least two kinds of major domestic work vessels (100% * 8 points); (2) a domestic turbine installation vessel or a domestic foundation installation vessel (100% * 7 points); or (3) a domestic cable laying vessel (100% * 5 points). So, if a project proposes using at least two kinds of major domestic work vessels for the localization plan, it will score the highest number of available points in this category. No additional points will be given to the project even if the project commits to another localization item under the same category.

Pursuant to the Administrative Contract templates for Round 3.1 ("**R3.1 AC**") and Round 3.2 ("**R3.2 AC**"), if a project company is unable to fulfil its localization commitments due to any non-attributable or *force majeure* events, the project company may apply with the MOEA/IDA for the amendment to its localization plan.

In October 2024, in response to the potential disputes raised by the European Union ("**EU**") at the World Trade Organization ("**WTO**") concerning the Taiwan government's localization requirements for offshore wind projects, the MOEA issued guidelines for its review of the said non-attributable or *force majeure* events for R3.2 AC, which reflect the MOEA's supportive stance on relaxing the localization requirements for Round 3.2 projects. In November 2024, the EU and Taiwan Government reached a settlement over the disputes. It was understood that the Taiwan Government committed to introducing greater flexibility in the way the winning projects from the latest auction (Round 3.2) are taken forward. While Round 3.1 projects were not covered under the MOEA's recent guidelines on flexible review for localization commitments, whether the MOEA's review practice for Round 3.1 projects is influenced positively by such relaxation remains to be seen. Likewise, whilst the Round 3.3 localization rules have not yet been published, developers are hopeful that the such localization rules are reflective of the settlement agreed between the EU and Taiwan government for greater flexibility towards localization requirements going forward.

Corporate PPAs

Offshore wind farm developers in Taiwan are cognizant of the high demand for power from some of Taiwan's large corporations, particularly chip manufacturers in the semiconductor industry, some of which are obligated to source a prescribed volume of their power consumption from green power under Taiwan law. Developers plan to capture this appetite through entering into long-term corporate power purchase agreements ("**cPPA**") for the supply of power generated from an offshore wind project. cPPAs are made possible in Taiwan through the rules and regulations allowing generators to sell power directly to corporate end users. The relevant rules provide that this supply arrangement can be implemented by either: (i) a generator entering into a wheeling agreement to use wheeling services provided by the grid operator (*i.e.*, TPC)—this is known as the "Indirect Supply" method; or (ii) a generator directly supplying an offtaker with its own transmission cables. Given the infrastructure and costs involved in supplying an offtaker directly we understand that, to date, offshore wind projects have only utilized the Indirect Supply method.

Given the competitive nature of the Round 3 auctions, some developers have bid in at NTD0/kWh in the Round 3 price auctions so as to secure grid allocation. The relevance of the FiT as a revenue stream would then be insignificant. For this reason, cPPAs are being pursued as an alternative to the FiT. This was seen in July 2020 when a cPPA was entered into for the entire output of Ørsted's Greater Changhua 2b & 4 offshore wind farms and more recently in December 2021 when Skyborn Renewables signed a cPPA for over 1 GW of renewable power, which is the largest green cPPA in Asia. Further, in July 2023 the majority Northland Power owned Hai Long 2B and three projects announced the signing of a cPPA for the offtake of the entire capacity of these projects. CIP on their Fengmiao 1 project have also announced that they have signed multiple cPPAs with several high-profile offtakers; a transaction on which both Orrick and Lee & Li are advising the ECAs and lenders.

Note that, even if a project secures a cPPA, it must still be successful in the Round 3 auctions in order to secure a right to develop an offshore wind farm. This means that projects with a cPPA will still have the right to the FiT awarded pursuant to the auction-based allocation process. This then creates the possibility of a project effectively using the FiT as a hedge against a failed cPPA, by switching from a cPPA to the FiT. This is provided for under the relevant laws and regulations. Although, it is questionable how beneficial this switching mechanism will be if zero-FiT bids are produced in the price auctions. Note that to promote and encourage green energy, the Taiwan government announced in June 2023 the "National Financing Guarantee Mechanism Promotion Plan" (國家融資保證機制推動方案). Under such a plan, financial institutions authorized by the National Credit Guarantee Administration may guarantee an offtakers payment obligations under a cPPA. With an agreement with the lenders of the project in place, if the corporate offtaker fails to pay under a cPPA, the lenders may call on such guarantee pursuant to the rules stipulated by the authorized financial institutions. In order to apply for such a guarantee, the participants must meet certain qualifications and credit rating requirement(s). In addition, pursuant to Round 3.2 Allocation Guidelines, entering into at least 2 cPPAs is one of the requirements that the MOEA/EA will review for considering the allocation of additional 100 MW capacity.

The trend for cPPAs is set to continue. Advances in chip manufacturing processes mean that the chip manufacturers will need much more power than can currently be provided to them, with some analysts suggesting that they will consume more than 10% of Taiwan's power in the future and, at the same time, are subject to statutory obligations to ensure that a prescribed amount of their consumed power comes from green sources.

Sell-downs

As in Europe, there has been notable M&A activity in the Taiwanese offshore wind market. For example, in September 2022, Global Renewable Synergy Company agreed to acquire a 25% stake in the 600 MW Changfang and Xidao Offshore Wind Projects from Copenhagen Infrastructure Partners. In addition, in 2022, Skyborn Renewables' offshore wind business, which owns projects in Taiwan, was acquired by Global Infrastructure Partners and Mubadala. It is expected that this M&A activity will continue as more projects reach financial close or get closer to commissioning, with other sell-down processes being reported in the industry press.

Prior to any foreign investors acquiring a stake in an existing offshore wind project, such investor must first obtain foreign investment approval from the MOEA. This is generally a formality unless the investor is from Mainland China. In addition, sell-downs by existing sponsors typically require the consent of the MOEA. This is because the developers, during the initial Selection Process/ qualification review procedure promise the MOEA that the promoters of the company developing the offshore wind farm (essentially the shareholders) will continue holding their shares in the project. It is the MOEA's usual position that, based on the promises made, any transfer by a shareholder of its shareholding in the project company (whether direct or indirect) will constitute a "material change", such that MOEA's consent to that change is required. This concept is also an important consideration for the enforcement of share pledges by a project's financiers (although there are mitigants on this point). Pursuant to the Round 3 site recordation rules, projects are required to submit, as part of their site recordation submission, an organigram showing the shareholding structure of the project company up to its ultimate corporate shareholder. Any changes to the corporate shareholding structure of the project company or to that set out in the organigram submitted as part of the site recordation submission will require prior approval from the MOEA. The R3.1 AC and R3.2 AC further stipulate the circumstances that constitute "a change in shareholding" of a project which will trigger the requirement for prior consent from the MOEA.

Conclusion

It is clear that Taiwan's offshore wind industry is burgeoning and has a strong pipeline of projects to facilitate Taiwan in meeting its renewable energy targets. As expected, the outcome of the Round 3.1 and 3.2 auctions has provided the insight into the next stage of Taiwan's rapid offshore wind growth and the industry hotly awaits the announcement of the Round 3.3 auction rules.

UNITED KINGDOM

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The UK continues to be a global leader in offshore wind, second only to China in terms of fully commissioned capacity and with a burgeoning pipeline of projects at various stages of development. At the date of this Report, the UK boasts over 15 GW in fully commissioned offshore wind capacity, split across 46 projects, and more than 80 GW in further capacity committed, under development or planned/proposed.[1] During 2025, the UK bolstered this pipeline (and its position as a global leader in floating offshore wind) with the award of three sits in the Celtic Sea as part of Leasing Round 5 (see below).

This momentum is underpinned by a wave of policy and regulatory reforms which continued through 2025, and which are designed to accelerate project deployment, streamline grid connections and enhance project bankability. Recent initiatives, including grid connection reforms, revisions to the CfD regime and targeted supply chain investments are intended to unlock new opportunities and address sector challenges head-on.

During 2025, the UK offshore wind market saw an interesting range of M&A activity, including the forming of strategic partnerships, as investors and developers reposition to capture value in a rapidly evolving landscape. Although market conditions remained challenging in 2025, there remains continued confidence in the UK market and these transactions highlight the sector's critical role in delivering the country's clean energy ambitions.

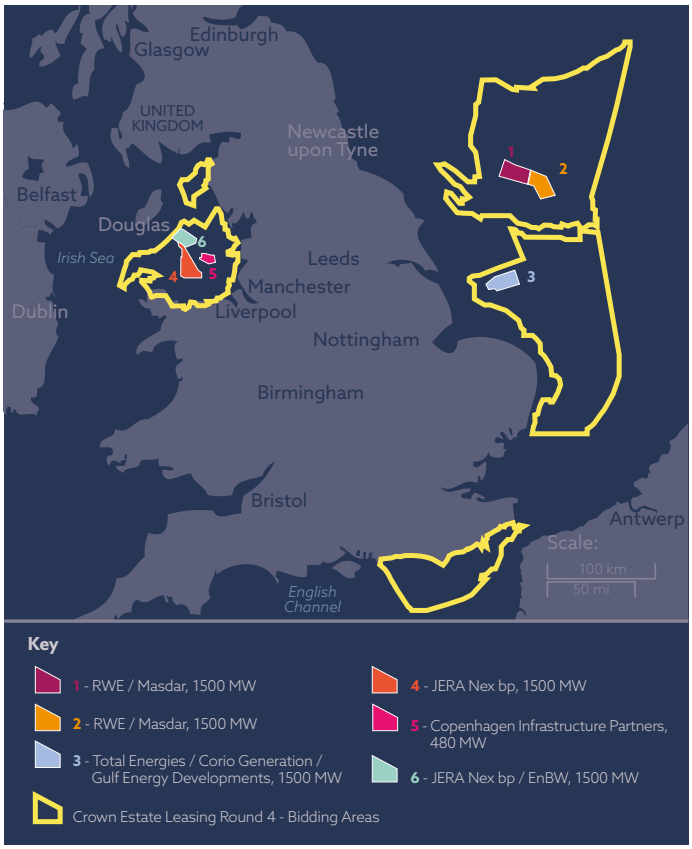
Project pipeline

Crown Estate Leasing Round 4 (applies to England and Wales)

The Crown Estate's Leasing Round 4 ("**Leasing Round 4**") resulted in six offshore projects succeeding at auction (see Map 22) and Agreements for Lease were signed in January 2023. The option fees payable under the Agreements for Lease contributed to The Crown Estate declaring a record £1.1 billion net revenue for the year 2024-2025. Table 1 shows the current status of each of these Round 4 projects.

Although this Report looks back at 2025, it is worth noting that in January 2026, JERA Nex bp acquired EnBW's interest in the Mona project while the partners mutually agreed not to continue with the Morgan project (discussed further below).

Map 22: Crown Estate Leasing Round 4 – Awarded projects



1. Source: The Crown Estate Project Listings (October 2025), available here.

Table 1: Leasing Round 4 projects

Project	Capacity	Developer(s)	Status
Dogger Bank South (West) (1)	1,500 MW	RWE and Masdar	Recommendation stage of Consenting process (DCO application accepted by Planning Inspectorate in July 2024) DCO decision delayed until 30 April 2026 CfD secured as part of Allocation Round 7 in January 2026.
Dogger Bank South (East) (2)	1,500 MW	RWE and Masdar	Recommendation stage of Consenting process (DCO application accepted by Planning Inspectorate in July 2024) DCO decision delayed until 30 April 2026 CfD secured as part of Allocation Round 7 in January 2026.
Outer Dowsing (3)	1,500 MW	Total Energies, Corio Generation and Gulf Energy Developments	Decision stage of Consenting process (DCO application accepted by Planning Inspectorate in April 2024)
Mona (4)	1,500 MW	JERA Nex bp	DCO secured July 2025
Morecambe (5)	480 MW	Copenhagen Infrastructure Partners	Examination phase DCO for generation assets secured December 2025 DCO for transmission assets awaiting decision
Morgan (6)	1,500 MW	JERA Nex bp and EnBW	DCO for generation assets secured August 2025 DCO for transmission assets awaiting decision Developer announced decision not to proceed in January 2026 following CfD AR7 results

Celtic Sea floating offshore wind Leasing Round 5 (in England and Wales)

The Crown Estate announced in March 2021 that it would establish a leasing round solely for floating offshore wind farms in the Celtic Sea off the coast of South Wales and South West England ("**Leasing Round 5**").

The Crown Estate published the information memorandum for Leasing Round 5 in December 2023, in which it set out the process and requirements for tendering three sites or "Project Development Areas", each with a capacity for a 1.5 GW-scale project, to be developed in a phased or 'stepping stone' approach (see Map 23). The Leasing Round 5 process kicked off in January 2024 and the results were announced in June 2025, with two of the three Project Development Areas allocated. Project Development Area 2 was not initially allocated at auction and instead, was awarded through a direct award process to Ocean Winds in November 2025. Table 2 shows the current status of each of the Leasing Round 5 Projects.

The new floating wind farms are expected to unlock a range of new opportunities for skills, apprenticeships and employment, as well as investment in new port infrastructure. Port Talbot and Bristol ports have been identified by the developers of the Leasing Round 5 Projects as the likely locations for port infrastructure development, in particular to facilitate final assembly of turbines and specialist infrastructure required to mount the assembled turbines onto floating foundations before being towed to the final project location.

Leasing Round 5 was widely welcomed as a strong endorsement of the UK's floating offshore wind sector and aligns with the current UK government's ambition for the UK to be a "world leader" in floating offshore wind. The Crown Estate's decision to run a dedicated floating wind round also recognizes the need for a separate process to ensure these higher-cost projects are not crowded out by competitive fixed-bottom bids.

Map 23: Crown Estate Leasing Round 5 – Celtic Sea project development areas

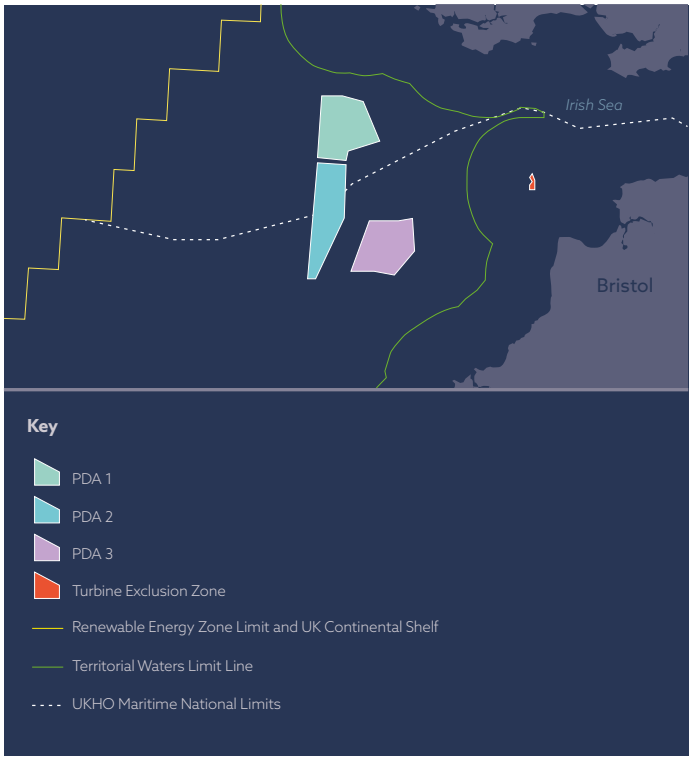


Table 2: Leasing Round 5 projects

Project	Capacity	Developer(s)	Status
PDA 1	1,500 MW	Gwynt Glas (a joint venture between EDF Renewables UK and ESB)	Preferred Bidder (Agreement for Lease signed with Crown Estate October 2025)
PDA 2	1,500 MW	Ocean Winds	Preferred Bidder (Preferred Bidder status secured November 2025)
PDA 3	1,500 MW	Equinor	Preferred Bidder (Agreement for Lease signed with Crown Estate October 2025)

Extension Projects

In addition to The Crown Estate's Leasing Round 5, following its announcement in 2017 to allow existing offshore wind farms to apply for project extensions, The Crown Estate announced in September 2020 that certain existing projects would be permitted to extend (the "**Extension Projects**"). These projects, and the status of each, are shown in Table 3.

Table 3: Extension projects

Original Project	Extension Name	Extension Capacity	Operator
Sheringham Shoal	—	up to 317 MW	Equinor, Masdar and China Resources Power[2]
	Status: Consented. Development consent order was granted by the UK Government on 17 April 2025.		
Dudgeon	—	up to 402 MW	Equinor[3]
	Status: Consented. Development consent order was granted by the UK Government on 17 April 2025.		
Greater Gabbard	North Falls	up to 1,000 MW	RWE, SSE Renewables
	Status: Permitting in progress. In August 2024 the development consent order application for North Falls was accepted for examination. The project is now in the decision stage.		
Galloper	Five Estuaries	up to 1,080 MW	RWE, Macquarie-led consortium, ESB and Sumitomo
	Status: Consented. Development consent order was granted by the UK Government on 17 December 2025.		
Rampion	Rampion 2	up to 1,200 MW	RWE, Enbridge and Macquarie-led consortium
	Status: Consented. Development consent order was granted by the UK Government on 4 April 2025.		
Gwynt y Mor	Awel y Mor	up to 1,100 MW	RWE, Stadtwerke München and Siemens Financial Services
	Status: Consented. Development consent order was granted by the UK Government on 19 September 2023. CfD secured as part of Allocation Round 7 in January 2026.		

Following requests from the developers of the Extension Projects and the developers of the Dogger Bank D project, in November 2023 the Crown Estate launched its Capacity Increase Programme to assess capacity increases for the Extension Projects and the Dogger Bank D project. In May 2025, The Crown Estate confirmed that the capacity of the Extension Projects and Dogger Bank D would be increased by, in aggregate, 4.7 GW and the existing seabed rights of the projects would be amended accordingly.

In August 2025, SSE and Equinor (co-developers of the proposed Dogger Bank D) announced that they had finalized the terms of the seabed lease with The Crown Estate. The announcement followed the news in 2024 that the consortium had established commercial terms with The Crown Estate around an amendment to the existing Dogger Bank C seabed lease in order to progress the proposed Dogger Bank D. The project will require a development consent order to proceed to construction, and is currently in the pre-application stage.

2. The Sponsors of the original Sheringham Shoal offshore wind farm (Macquarie GIG, Equitix and The Renewables Infrastructure Group) have reserved the right to enter the extension during the construction stage.
3. To be developed in parallel with Sheringham Shoal Extension, given the proximity of the two projects. The other sponsors are Masdar and China Resources (Holdings). In December 2024, Equinor announced that Sheringham Shoal Extension and Dudgeon Extension will be developed by the same legal entity (subject to regulatory approvals).

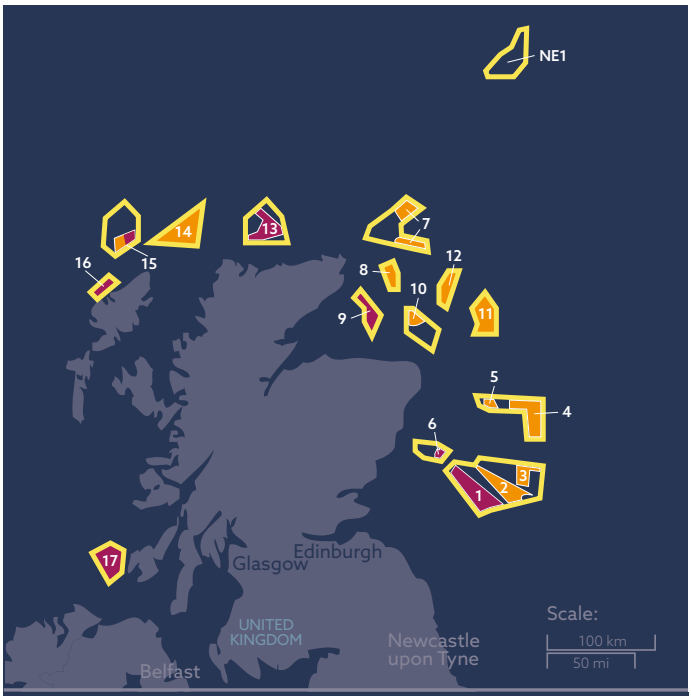
ScotWind Leasing Round (applies to Scotland)

There are 19 offshore wind farms in development following Crown Estate Scotland's tender of lease option rights for just under 25 GW of offshore wind capacity across 14 "Plan Option Areas" in 2021 ("**ScotWind Leasing Round**"). Seventeen successful projects were announced in April 2022 followed by three further projects granted rights through the clearing process. However, the 2 GW CampionWind farm was subsequently cancelled in November 2025 (see below). Map 24, illustrates the initial ScotWind awarded projects, developers and capacity/technologies. Map 25, illustrates the Shetland NE1 projects awarded through the ScotWind clearing process. And Table 4 sets out further details of each project, including updates of current developers, projected project capacity and technologies.

Several developers have since increased the potential overall capacity of their ScotWind lease sites following geophysical and benthic surveys. Notably, the Ossian and Caledonia projects each plan to add a further 1 GW, while Broadshore project will add a further 400 MW. This has increased the total potential capacity of the ScotWind projects (subject to approvals) to 30 GW.

Developers bidding for ScotWind projects were required to make supply chain commitments, a pioneering approach which was later followed in part by The Crown Estate for Leasing Round 5. This strategy is intended to ensure early focus on the supply chain's ability to develop and deliver the projects.

Map 24: Scotwind – initial projects

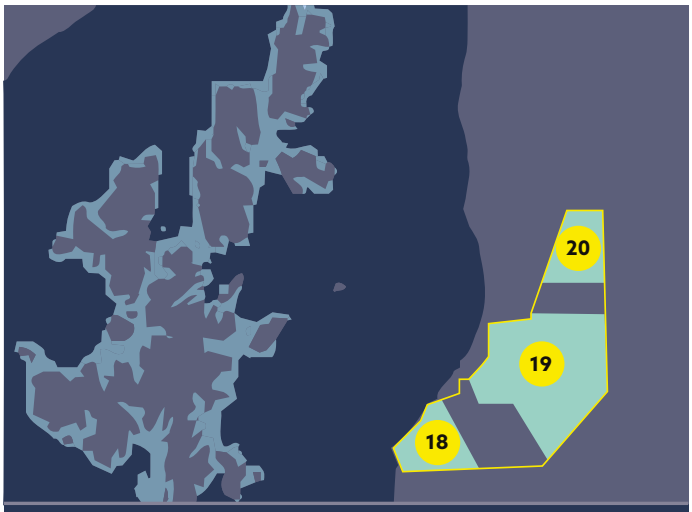


Key

Fixed | Floating | ScotWind Plan Option Area

1. EnBW and JERA Nex bp - 2,907 MW
2. SSE Renewables, Marubeni Corporation and CIP - 3,600 MW
3. Nadara - 1,200 MW
4. N/A - Cancelled
5. Fred. Olsen Seawind and Vattenfall - 798 MW
6. DEME Concessions and Aspiravi International - 1,008 MW
7. Qair Group - 1,008 MW
8. Ørsted, BlueFloat Energy and Nadara - 1,000 MW
9. Ocean Winds - 1,000 MW
10. Nadara - 500 MW
11. ScottishPower Renewables - 3,000 MW
12. BW Ideol, BayWa r.e. and Elicio - 960 MW
13. Corio Generation, TotalEnergies and The Renewable Infrastructure Development Group - 2,000 MW
14. Northland Power and ESB - 1,500 MW
15. Magnora Offshore Wind and TechnipFMC - 495 MW
16. Northland Power and ESB - 840 MW
17. ScottishPower Renewables - 2,000 MW

Map 25: Scotwind – Shetland projects



Key

ScotWind Leasing Round Projects

18 Arven 1a (NE1) - Ocean Winds and Mainstream Renewable Power - 500 MW

19 Arven (NE1) - Mainstream Renewable Power and Ocean Winds - 1,800 MW

20 Stoura (NE1) - ESB - 500 MW

Table 4: ScotWind Leasing Round projects

Project (Maps 24 & 25)	Capacity	Developer(s)	Fixed/Floating
Arven (NE1 19 (5))	1,800 MW	Mainstream Renewable Power, Ocean Winds	Floating
	Status: pre-planning		
Arven 1a (NE1 18 (5))	500 MW	Ocean Winds, Mainstream Renewable Power	Floating
	Status: pre-planning		
Ayre (7)	1,008 MW	Qair Group	Floating
	Status: pre-planning		
Bellrock (3)	1,200 MW	Nadara	Floating
	Status: pre-planning		
Bowdun (6)	1,008 MW	DEME Concessions and Aspiravi International	Fixed
	Status: pre-planning		
Broadshore (10)	900 MW (500 MW*)	Nadara	Floating
	Status: pre-planning		
Buchan (12)	960 MW	BW Ideol, BayWa r.e. and Elicio	Floating
	Status: in planning – offshore and onshore consent application submitted August and October 2025 respectively		
Caledonia (9)	1,000 MW (2,000 MW*)	Ocean Winds	Fixed
	Status: in planning - application submitted in November 2024 for consent under s36 Electricity Act 1989 and for marine licenses		
CampionWind (4)	2,000 MW	N/A	Floating
	Status: cancelled		
Havbredey (14)	1,500 MW	Northland Power and ESB	Floating
	Status: pre-planning		
MachairWind (17)	2,000 MW	ScottishPower Renewables	Fixed
	Status: pre-planning		
MarramWind (11)	3,000 MW	ScottishPower Renewables	Floating
	Status: planning/ pre-application		
Morven (1)	2,907 MW	EnBW and JERA Nex bp	Fixed
	Status: pre-planning		
Muir Mhòr (5)	798 MW	Fred. Olsen Seawind and Vattenfall	Floating
	Status: in planning – application submitted onshore and offshore consent applications under s36 Electricity Act 1989 on 10 December 2024. Onshore consent application received approval on 19 June 2025.		
Ossian (2)	up to 3,600 MW (2,610 MW*)	SSE Renewables, Marubeni Corporation and CIP	Floating
	Status: in planning – application for consent under s36 Electricity Act 1989 and for marine licenses submitted in June 2024.		
Stoura (NE1 20 (5))	500 MW	ESB	Floating
	Status: pre-planning		
Spiorad na Mara (16)	840 MW	Northland Power and ESB	Fixed
	Status: pre-planning		
Stromar (8)	1,000 MW	Ørsted, BlueFloat Energy and Nadara	Floating
	Status: pre-planning		
Talisk (15)	495 MW	Magnora Offshore Wind and TechnipFMC	Floating
	Status: pre-planning		
West of Orkney (13)	2,000 MW	Corio Generation, TotalEnergies and The Renewable Infrastructure Development Group	Fixed
	Status: in planning – application submitted on 26 September 2023 for consent under s36 Electricity Act 1989 and for marine licenses. Offshore consent obtained in June 2025. In January 2026, the developers announced that the development of the project had been paused pending a review of proposed grid charges in relation to the project.		

** Original projected project capacity*

It is of particular note that 12 of the 19 remaining projects (approximately 13 GW) will use floating rather than fixed turbines, and will lead to the development of some of the first commercial scale floating wind farms in the world, positioning Scotland (and the UK as a whole) as potential leaders in the floating wind sector. These ScotWind projects will complement The Crown Estate's planned floating offshore wind farms in the Celtic Sea with Leasing Round 5 (see above) as well as further floating projects anticipated by Crown Estate Scotland via its INTOG Leasing Round (see below).

Despite this clear commitment and support for floating offshore wind, the sector is not immune from current headwinds affecting the wider offshore wind sector. In November 2025, Shell and ScottishPower completed an asset swap in relation to the CampionWind and MarramWind offshore wind farms following which Shell took full control of CampionWind but subsequently returned its lease option, cancelling the project, while ScottishPower assumed full control of MarramWind. Crown Estate Scotland is now evaluating future options for the CampionWind site.

Also in November 2025:

- an asset swap was announced in relation to the Bowdun and Ayre floating offshore wind farms previously under development by Thistle Wind Partners, a joint venture of Qair Group, DEME Concessions and Aspiravi International, following which Qair Group now owns Ayre, while DEME Concessions and Aspiravi International jointly own Bowdun; and
- as part of a wider portfolio acquisition, Nadara acquired full control of the Bellrock and Broadshore projects from Bluefloat as well as Bluefloat's interests in the two INTOG projects which the partners had previously been developing (see below).

Innovation and Targeted Oil and Gas ("INTOG") Leasing Round (applies to Scotland)

In 2022, Crown Estate Scotland launched a tender for lease option rights under a new leasing round for Innovation and Targeted Oil and Gas projects located in the seabed areas set out in the 'Initial Plan Framework' (with a target of 4 GW generating capacity capped at 5.7 GW) (the "**INTOG Leasing Round**"). The process was divided into two pots: one pot was for developers of small-scale innovative offshore wind farms of less than 100 MW (the innovation element, "**IN**") and the other pot was for larger-scale projects connected to oil and gas infrastructure to electrify and reduce carbon emissions associated with those sites (the targeted oil and gas element, "**TOG**"). The split was intended to account for the difference in nature and scale of the innovation and targeted oil and gas elements of the scheme. Similar to the 2021 ScotWind Leasing Round, the INTOG Leasing Round had comparable local supply chain requirements and the two processes combined suggest considerable opportunity for those participating in the local supply chains.

In March 2023, it was announced that 13 projects had been offered exclusivity agreements (see Table 5 below). In May 2023, it was confirmed that all five IN projects had signed exclusivity agreements. In November 2023, it was confirmed that seven TOG projects (of eight selected) had signed exclusivity agreements, bringing the total number of remaining INTOG projects to 13.

Since the announcement of the winners in March 2023, major updates include: (i) the 560 MW Green Volt project under development by Flotation Energy and Vårgrønn being awarded a CfD in AR6 in 2024 and (ii) Ørsted disposing of its majority interest in the Salamander project (the lead developer of which is Simply Blue Energy) to Odfjell Oceanwind, a Norwegian floating offshore wind developer in August 2025.

Proposed projects in the final INTOG Sectoral Marine Plan will be offered an option agreement, to enable further development work during a seven-year option period (the "**Option Period**"). Following the Option Period and subject to all conditions being satisfied (including consents and financing being in place), these projects will be offered a seabed lease of 50 years (for TOG projects) or 25 years (for IN projects). The Scottish government published a consultation in relation to the INTOG Sectoral Marine Plan, which ran until August 2025. The final INTOG Sectoral Marine Plan is expected to be finalized and adopted during 2026 following analysis of consultation responses. Due to delays in the publication of the final INTOG Sectoral Marine Plan, Crown Estate Scotland has stated that it is willing to consider entering into an option agreement with any developer who has been granted a marine license and, where appropriate, a Section 36 consent from Scottish Ministers in advance of the adoption and publication of the final INTOG Sectoral Marine Plan. As at the date of this Report, the Culzean project (whose lead developer is TotalEnergies) and the Salamander project have entered into option agreements with Crown Estate Scotland.

Table 5: Projects offered exclusivity agreements in the INTOG Leasing Round

Lead applicant	Option Fees	IN/TOG	Total capacity (MW)
Nadara	£5,401,360	IN	99.45
Nadara	£7,107,900	IN	99.45
Simply Blue Energy	£9,972,000	IN	100
BP Alternative Energy Investments	£1,670,917	IN	50
ESB Asset Development U.K.	£3,137,000	IN	100
Flotation Energy	£54,893,102	TOG	560
Flotation Energy	£40,987,979	TOG	1350
Cerulean Winds	£67,200,066	TOG	1008
Cerulean Winds	£35,200,098	TOG	1008
Cerulean Winds	£35,200,098	TOG	1008
TotalEnergies	£200,000	TOG	3
Harbour Energy	£405,000	TOG	15

Test and demonstration projects

The Crown Estate is also supporting pilot floating offshore wind farms, primarily in the Celtic Sea, to assist the commercialization of floating wind technology, reduce costs, and support the UK supply chain. The Crown Estate has supported the projects through a specific leasing opportunity and will grant agreements for lease, subject to successful completion of assessments like the Habitats Regulations Assessment (HRA). Such projects include (i) the 100 MW Erebus floating offshore wind farm (Blue Gem Wind, a consortium of TotalEnergies and Simply Blue Energy); (ii) the 100 MW White Cross floating offshore wind farm (Cobra Group and Flotation Energy); and (iii) the 100 MW Llŷr 1 and 100 MW Llŷr 2 floating offshore wind farm (Floventis Energy Limited, a joint venture between Cierco Ltd and SBM Offshore Ltd).

EDF and Vantage RE had also been developing the 58 MW Blyth 2 floating offshore wind farm, consented in 2021 as an extension of the operational 41.5 MW Blyth wind farm. However, the project was cancelled in January 2026 following its failure to secure a CfD in Allocation Round 7 (see below).

Latest OFTO Tender Rounds and updates to the OFTO Regime

Pursuant to the unbundling regime, an entity cannot hold a license to both generate and transmit power from an offshore wind farm. Governments of states with offshore wind farms have adopted different models for how to deal with the transmission assets relating to offshore wind farms, and in the UK the preferred model is the "build and dispose" model, whereby the developer is responsible for the construction of both the transmission and generation assets and is then required to divest of the transmission assets within a set period of time following first power (see below in relation to the 'Generator Commissioning Clause' ("**GCC**")).[4]

Ofgem (the UK regulator) oversees a competitive tender process to select and license entities to acquire and operate these transmission assets. Such entities are known as "offshore transmission operators" (or simply "**OFTOs**") and the expected license period is currently just short of 25 years. Recent and ongoing tenders include the following (see Table 6 below):

Table 6: OFTO Recent and ongoing tenders

Tender round	Launch date	Relevant Project	Stage/Status	Bidders/preferred bidder(s)
TR10	26 Jan 2023	Dogger Bank A (1.2 GW)	Preferred bidder appointed	EKITD Consortium (Equitix Investment Management Limited, Kyuden International Corporation and Kyuden T&D Global Co., Inc.).
		Moray West (882 MW)		Transmission Capital Partners (Transmission Capital Partners Limited Partnership and International Public Partnerships Limited)
		Neart na Gaoithe (448 MW)		EKITD Consortium
TR11	14 Feb 2024	Dogger Bank B (1.2 GW)	Bidders shortlisted (July 2024) for Invitation to Tender Stage	• Diamond Transmission UK Limited • EKITD Consortium • GRPN (Gravis Capital Management Limited and UK Power Networks Services (Commercial) Limited) • Transmission Capital Partners
TR12	25 Feb 2025	Sofia (1.4 GW)	Bidders shortlisted (Aug 2025) for Invitation to Tender Stage	• Diamond Transmission UK Limited • EKITD Consortium • Transmission Capital Partners
TR13	4 Sep 2025	East Anglia THREE (1.397 GW)	Enhanced Pre-Qualification process	N/A
		Inch Cape (1.08 GW)		N/A
		Dogger Bank C (1.2 GW)		N/A

Some key points to note in respect of recent developments in the context of the OFTO Regime include:

- **Extension to the duration of the GCC from 18 to 27 months.** The GCC is a provision in the Electricity Act 1989 that allows offshore wind farm developers to transmit electricity from their projects for a limited "commissioning period" without requiring a transmission license. This is necessary because "unbundling rules" generally prohibit a single entity from holding both a generation and a transmission license. If the transfer is not completed before the GCC expires, the developer is in breach of primary legislation and could face criminal charges.

This has previously led to the government issuing time-consuming, project-specific exemptions to avoid generation halts, which creates uncertainty for investors. The market view is that the original 18-month period was no longer sufficient due to the increasing size and complexity of modern offshore wind farms and their associated transmission infrastructure (it is also worth noting that delays to OFTO disposals can be caused by technical issues or by the OFTO tender process itself). As part of the reforms introduced by the Planning and Infrastructure Act 2025 (which received Royal Assent in December 2025), the GCC period has been extended from 18 months to 27 months.

4. Technically this is the date of the Completion Notice issued following ION Part B.

- **Ofgem's July 2025 consultation.** Ofgem published is decision on 8 December 2005. In summary:
  - **HVDC availability target of 98%** – Ofgem's view is that the 98% target is appropriate for a vast majority of HVDC projects. However, based on the technical analysis, there is some evidence that assets with over 200 km of cable can experience higher risk of failures and transmission losses and so Ofgem are open to conversations with HVDC developers pre-tender commencement to agree to a reduced availability target if there is a business case for it (so on a case-by-case basis). As part of this Ofgem noted that the responses noted that strategic spares are key in achieving the availability target and mitigating the risk of outages and Ofgem will consider this further as part of an update to the Cost Assessment Guidance.
  - **Changes to the Tender Process** – Ofgem proposed delaying the start of the Invitation to Tender (ITT) stage by 12 months to support developers to fully populate their data rooms and to support firmer bids by bidders reduction negotiation during the preferred bidder stage. Noting responses that this is too long a delay, particularly for those developers for whom their business case relies on the divestment occurring within a shorter time frame, Ofgem are now proposing that the ITT will start six months post the final completion notice, with an option to start earlier where the data room is fully populated and the assets are operating as expected. In addition, the length of the ITT stage will also be extended to ensure more fully developed documents, reduce uncertainty for bidders and facilitate firm bid and reduce negotiations in the PB stage and Ofgem will aim to have the Final Transfer Value ready ahead of the Preferred Bidder stage, which will be extended by three months.

A key consideration for generators and OFTOs alike is understanding the approach to OFTO assets following the end of their original design life and tender revenue stream. Ofgem is in the process of developing a policy framework termed "End of Tender Revenue Stream" ("**EoTRS**") to manage the transition when OFTO licenses approach the end of their original tender revenue stream, potentially allowing for extensions to keep valuable offshore wind assets running, avoid early decommissioning, and ensuring continued carbon-free electricity, rather than ending revenue and potentially shutting down viable infrastructure. Ofgem is continuing to consult on license modifications and further aspects of the mature asset class framework and we await Ofgem's guidance on the scope and process for health reviews of generator and OFTO assets, intended to inform life extension and EoTRS discussions.

Separately, Ofgem is developing an OFTO build delivery model for non-radial offshore transmission assets (*i.e.*, those in either the Holistic Network Design[5] or Holistic Network Design Follow-Up Exercise[6]). Various consultations have been undertaken with the latest (September 2025 consultation) seeking views on: (i) design and scope of the early competition OFTO build model; (ii) potential for a centralized tender approach, where Ofgem could trigger tenders; and (iii) opportunities to align elements of the OFTO build model with the onshore CATO framework. A decision is awaited.

Challenges and support initiatives

Participants in the UK and global offshore wind market have navigated a challenging 2025, yet the sector continues to demonstrate resilience and momentum. Supply chain availability and costs remain areas of focus, but early, strategic engagement with suppliers is helping developers secure vessel and factory slots to keep projects on track. While material, insurance and financing costs are still elevated, the market is recalibrating, with contractors and developers working collaboratively to agree balanced risk profiles that support delivery.

2025 was not without setbacks, for example:

- notwithstanding its CfD award in Allocation Round 6 Ørsted decided in May 2025 to discontinue the development of Hornsea 4 in its current form due (in part) to continued supply chain cost increases; and
- Petrofac Limited entered administration in October 2025 following cancellation of a Dutch grid connection contract.

Additionally, in January 2026, EnBW announced that it was withdrawing from the Morgan and Mona projects, which it had been developing as part of a joint venture with JERA Nex bp. With neither project securing a CfD in Allocation Round 7, EnBW described the projects as no longer "economically viable as per EnBW's standards and criteria". JERA Nex bp subsequently announced that it had agreed to acquire EnBW's interest in the Mona project and will continue with development. However, in relation to the Morgan project, JERA Nex bp announced it has decided with its partner not to proceed with the agreement for lease for the project and to work with stakeholders (including the Crown Estate) to manage the conclusion of project activities.

5. The Holistic Network Design ('HND') is a first of its kind, integrated approach for connecting 23 GW of offshore wind to Great Britain. Developed in consultation with the UK, Scottish and Welsh Governments, Ofgem, Transmission Owners, offshore wind developers and environmental stakeholders, the HND primarily includes offshore wind farms that secured seabed leases through The Crown Estate's Offshore Wind Leasing Round 4 and Crown Estate Scotland's ScotWind Leasing Round. It also assumes 1 GW of floating wind from Leasing Round 5 and some additional projects that are due to connect at a similar place and time to others in scope. (source: NESO website)
6. The Holistic Network Design Follow Up Exercise (HND FUE) is a process led by the UK's National Energy System Operator to develop a coordinated and integrated grid design for connecting future offshore wind farms, going beyond the initial HND.

However, recent developments underscore both the sector's adaptability and its strengthening fundamentals. Particular highlights during 2025, signaling continued improvements in market and regulatory conditions, include the following:

- Key OEMs such as Vestas and Siemens Gamesa reported improved financial results in 2025, signaling operational improvements and growing stability among critical suppliers.
- The planning, consenting and grid connection landscape is also moving in a positive direction:
  - While the planning and consenting process has been a bottleneck in recent years, 2025 saw a marked improvement as compared to 2024, with consenting progress in relation to projects including Morgan, Mona, Rampion 2, West of Orkney, Salamander, Muir Mhòr, Morecambe and Five Estuaries.
  - In parallel, initiatives to streamline the grid queue, by removing long-delayed projects and prioritizing deliverable capacity, are designed to accelerate connections and reduce uncertainty (see below).
- Significant capital investment in UK supply chains has been announced, including £1 billion of public and private investment under the Energy Engineered in the UK ("**EEUK**") program launched by Great British Energy to unlock critical supply chains and create skilled jobs (£300 million will be designated to tackle bottlenecks in key offshore wind component supply).

Against this backdrop, the UK remains one of the most attractive global markets for offshore wind, supported by robust government mechanisms and active policy and regulatory reform. These measures continue to enhance bankability, unlock investment and underpin long-term growth.

Contracts for Difference regime

Developers of offshore wind farms in the UK can apply for revenue support through a 15-year indexed CfD. CfDs are awarded (in respect of various technologies; not just offshore wind) pursuant to a competitive reverse auction process.

In the CfD auction process, developers must submit their CfD auction bids per MW hour to the National Grid ESO, with the bids being ranked lowest to highest. The lowest bids are all accepted until the budget for that technology pot has been exhausted. Beginning with allocation round 4, the CfD auction process now includes a capacity cap.

Therefore, notwithstanding that a project may be successful on the price element, there would have to be sufficient capacity remaining within the capacity cap for such project to be successful in winning a contract. Successful bidders are awarded a CfD with a strike price, which is equal to the auction clearing price. This effectively sets a guaranteed price that the project will receive for the electricity generated by the project. Once operational, if the project earns revenue in excess of the strike price, then the project must return the difference between the strike price and the revenue earned to the CfD provider, whereas if the project earns revenue below the strike price, then the CfD provider must pay the project the difference between the price earned and the strike price.

In response to the disappointing results from allocation round 5 (in which no offshore wind farm elected to bid), the UK government increased the budget and strike prices for allocation round 6, with offshore wind being allocated £1.1 billion. In light of this, allocation round 6 successfully awarded a total of 5.34 GW capacity across a fixed-bottom and floating offshore wind farm (see Table 7 below).

Table 7: CfD AR6 Results (offshore wind only)

Project Name	Region	Developer(s)	Technology Type	Size (MW)	Strike Price (£/MWh)	Delivery Year
Green Volt Offshore	Scotland	Flotation Energy and Vårgrønn	Floating Offshore	400	139.93	2028/29
Inch Cape A	Scotland	Red Rock Renewables and ESB	Offshore Wind (*Permitted Reduction*)	177.41	54.23	2027/28
Inch Cape B	Scotland	Red Rock Renewables and ESB	Offshore Wind (*Permitted Reduction*)	88.7	54.23	2027/28
Moray Offshore Windfarm (West) String 9	Scotland	Ocean Winds and Ignitis	Offshore Wind (*Permitted Reduction*)	73.5	54.23	2027/28
East Anglia Three (EA3B)	England	ScottishPower Renewables	Offshore Wind (*Permitted Reduction*)	158.9	54.23	2027/28
Hornsea Project Three Offshore Wind Farm AR6 A	England	Ørsted	Offshore Wind (*Permitted Reduction*)	360	54.23	2027/28
Hornsea Project Three Offshore Wind Farm AR6 C	England	Ørsted	Offshore Wind (*Permitted Reduction*)	360	54.23	2027/28
Hornsea Project Three Offshore Wind Farm AR6 B	England	Ørsted	Offshore Wind (*Permitted Reduction*)	360	54.23	2027/28
Hornsea Project Four Offshore Wind Farm	England	Ørsted	Offshore Wind	2400	58.87	N/A
East Anglia Two, Phase 1	England	ScottishPower Renewables	Offshore Wind	963.07	58.87	2028/29

For the most recent allocation round, which opened on 7 August 2025 and the results of which were published on 14 January 2026 ("**Allocation Round 7**"), a number of changes were implemented as compared to allocation round 6. In particular, these included (i) relaxing of the eligibility requirements, to allow fixed-bottom offshore wind farms to apply for CfD while awaiting full planning consent and (ii) an increase in CfD contract length for both fixed-bottom and floating offshore wind from 15 years to 20 years. The offshore wind budget for Allocation Round 7 was initially set lower than that of allocation round 6, with £1.08 billion being allocated for offshore wind (£900 million for fixed-bottom and £180 million for floating) as compared to £1.1 billion for allocation round 6. Additionally, the maximum strike price allowed under the latest round was significantly higher than previous rounds.

The results of Allocation Round 7 were announced on 14 January 2026. In a significant boost for the sector, the government exercised its discretion to increase the fixed-bottom portion of the budget to £1.79 billion. In total, 8.4 GW capacity was awarded across fixed-bottom and floating projects, making Allocation Round 7 Europe's the largest offshore wind auction in history. The results are expected to unlock £22 billion in private investment in the UK. Table 8 below sets out the successful Allocation Round 7 projects.

The Allocation Round 7 results mean that 5 GW of capacity is needed in the next allocation round in order for the UK to remain on track to achieve its target of 43 GW of offshore wind capacity by 2030.

Table 8: CfD AR7 results

Project Name	Region	Developer(s)	Technology Type	Size (MW)	Strike Price (£/MWh) 2024 Prices	Delivery Year
Awel y Môr Offshore Wind Farm A	Wales	RWE Renewables, Stadtwerke München and Siemens Financial Services	Offshore Wind	775	91.20	2030/31
Berwick Bank Phase B	Scotland	SSE Renewables	Offshore Wind	1380	89.49	2030/31
Dogger Bank South East CfD Unit A	England	RWE Renewables	Offshore Wind	1500	91.20	2030/31
Dogger Bank South West CfD Unit A	England	RWE Renewables and Masdar	Offshore Wind	1500	91.20	2030/31
Norfolk Vanguard East CFD Unit A	England	RWE Renewables	Offshore Wind	1380	91.20	2029/30
Norfolk Vanguard East CFD Unit B	England	RWE Renewables	Offshore Wind	90	91.20	2028/29
Norfolk Vanguard East CFD Unit C	England	RWE Renewables	Offshore Wind	75	91.20	2028/29
Norfolk Vanguard West CFD Unit A	England	RWE Renewables	Offshore Wind	1380	91.20	2028/29
Norfolk Vanguard West CFD Unit B	England	RWE Renewables	Offshore Wind	90	91.20	2028/29
Norfolk Vanguard West CFD Unit C	England	RWE Renewables	Offshore Wind	75	91.20	2028/29
Erebus	Wales	Blue Gem Wind (TotalEnergies and Simply Blue Energy)	Floating Offshore Wind	100	216.49	2029/2030
Pentland Floating Offshore Wind Farm	Scotland	CIP, Eurus, Hexicon, Great British Energy, the National Wealth Fund and Scottish National Investment Bank	Floating Offshore Wind	92.5	216.49	2029/30

While Allocation Round 7 set a new record for capacity allocation, the results have also exposed the relative fragility of the UK offshore wind pipeline, with a number of projects delayed or left without a route to market. In some instances, developers have taken the decision to cancel projects outright—these include the withdrawal by EnBW from the Mona and Morgan projects and the withdrawal by JERA Nex bp from the Morgan project and also EDF and the cancelation of the Blyth 2 floating offshore wind demonstration project (each mentioned above). We note also that a number of high-profile projects under development by the leading developers likely participated in Allocation Round 7 but were ultimately unsuccessful. It will be interesting to see the strategy of these developers in respect of those projects.

In December 2025, the UK government published a consultation in relation to the next CfD allocation round after Allocation Round 7 and subsequent allocation rounds, in which it is seeking views on several refinements to ensure that the CfD continues to reflect current policy and that the scheme continues to function as originally intended. The proposals cover a wide range of topics, including (for example): (i) revisions to the policy on surrendered CfD capacity (making permanent the restriction on bidding previously surrendered capacity into future rounds to protect auction integrity and deployment timelines); (ii) contractual changes for floating offshore wind (extending the longstop period and reducing the Required Installed Capacity threshold to reflect the scale and complexity of future projects); and (iii) excluding applications with Gate 1 connection offers (aligning CfD eligibility with grid connection reforms to prioritize projects with firm connection dates—see below for more information on grid connection reforms). The consultation closed on 30 January 2026.

Other key support initiatives

In addition to the support available to developers via the CfD scheme:

- in April 2024, the government introduced a clean industry bonus (the "**CIB**"), which is linked to the core CfD scheme and allows both fixed and floating offshore wind applicants to obtain extra CfD revenue support if they choose to invest in more sustainable supply chains (further criteria is set out in the CIB documentation). (The CIB will run for three CfD allocation rounds, starting with Allocation Round 7, and the government expects that the fixed-bottom and floating offshore wind industry will be re-established on a more sustainable footing after such time. In February 2025, the government issued the outcome of its consultation on changes to the CfD contract terms to include the CIB, which are intended to enable the CIB to operate through the CfD contract terms and set the rights, duties and obligations of the parties to the contract, the payment terms and the performance related adjustments for the CIB.);
- older projects may be able to receive support under the renewables obligation certificates (or "**ROC**") regime, which concerns electronic certificates issued by Ofgem to accredited power stations that generate electricity from eligible renewable sources (the scheme is closed to new applicants); and/or
- projects may be able to avail of capital allowances claims (although a detailed capital allowances analysis of all expenditure on the project should be undertaken to identify the full extent of available allowances).

Various initiatives have also been established by industry bodies to support the growth of the UK offshore wind sector. Key initiatives include:

- **Industrial Growth Plan.** Developed by RenewableUK, the Offshore Wind Industry Council, The Crown Estate and Crown Estate Scotland, the Industrial Growth Plan "aims to grow the offshore wind supply chain to accelerate and de-risk delivery, as well as grow market share and technology leadership for the UK".
- **Crown Estate Marine Delivery Routemap.** The Marine Delivery Routemap is a collaborative initiative with our partners and stakeholders to develop a long-term strategy for the marine space and "help coordinate action across sectors to deliver on net zero and nature policies, build a thriving marine economy, and capture onshore benefits".
- **FOW Industry Routemap 2040.** The Floating Offshore Wind Taskforce, comprising RenewableUK, Offshore Renewable Energy Catapult, the governments of England, Wales and Scotland and Northern Ireland, has produced the 'Industry Roadmap 2040', which is intended to provide guidance on the port capacity and capabilities, supply chain development options and must-have investments required for the UK to reach its floating offshore wind ambitions.
- **Supply Chain.** The Crown Estate has established a £50 million Supply Chain Accelerator fund to help catalyze UK supply chain capacity and capability for offshore wind in the UK. Additionally, in July 2025, The Crown Estate announced the establishment of a new £350 million Supply Chain Investment Programme to invest in the construction of new port and supply chain infrastructure that will support accelerated delivery of UK offshore wind farms. Additionally, in December 2025, Great British Energy announced the launch of a £1 billion "Energy Engineered in the UK" program to strengthen clean energy supply chains and support long-term economic growth and a separate £300 million "GBE Supply Chain Fund" which is dedicated to addressing bottlenecks in offshore wind and electricity network supply chains concerning blades, turbines, transmission cables and converter stations.
- **Clean Energy Industries Sector Plan.** Published in June 2025, this plan outlines measures to boost investment in clean energy technologies, including offshore wind, by increasing support for manufacturing capabilities and supply chains. It also confirms The Crown Estate's expanded investment powers under the Crown Estate Act 2025 to support offshore wind development.

Corporate PPAs

For projects which miss out on a CfD, which wish to diversify their revenue stack alongside a CfD, or which are looking to agree a fixed revenue stream once their CfD ends, corporate PPAs with investment-grade offtakers can be an attractive option.

Offshore wind can be particularly attractive to hyperscale data center offtakers given the large capacity factors and ability to purchase large volumes of electricity under a single PPA, particularly as the power demands of data centers continue to grow due to the accelerating shift to cloud services and the surge in use of AI applications. The flatter generation profile of offshore wind (compared to solar generation) is also becoming increasingly attractive in helping data centers and other corporates with 24/7 renewable goals to match their power consumption with renewable generation on an hourly basis. This is likely to become more important in future years due to policy and regulatory change (*e.g.* changes to the Greenhouse Gas Protocol scope 2 guidance are under consultation, which is likely to include an hourly matching requirement on corporates unless an exemption applies).

Amazon, in particular, was active in the UK market in 2024, increasing its offtake from the Moray West project to 473 MW and signing up to 159 MW from East Anglia 3. As both the Moray West and East Anglia 3 projects have CfDs in place, these arrangements are an example of how corporate PPAs are playing an increasingly important role in building up the revenue stack for projects alongside the CfD regime. 2025 also saw data center service providers Virtus Data Centers and Telehouse enter into PPAs with the Lynn and Inner Dowsing offshore wind farms and with the London Array offshore wind farm respectively. Some other highlights from the PPA market in 2025 are (i) the entry by British Co-op Group, one of the world's largest consumer co-operatives and the UK's fifth biggest food retailer, into a seven-year PPA for the supply of electricity produced by the Gwynt y Môr offshore wind farm and (ii) the entry by five independent UK co-operatives into a PPA for the supply of electricity from the London Array offshore wind farm.

Policy and regulatory updates

The UK government initiated various reforms in 2024 which are intended to accelerate the expansion of offshore wind in the UK. This trend continued through 2025.

In May 2025, Great British Energy was formally established. The company which will (amongst other things) invest £8.3 billion over the next five years in renewable energy projects and the grid, with the intent to invest alongside private capital in an effort to de-risk projects and also as part of its partnership with The Crown Estate (see below). 2025 also saw the establishment of the 'National Wealth Fund', which will invest £1.8 billion on upgrading ports across the UK with a view to enable floating development and £2.5 billion in the green steel industry, in each case to be invested alongside private capital. In November 2025, Great British Energy and the National Wealth Fund, alongside Scottish National Investment Bank, completed their first investment in UK offshore wind via the acquisition from Copenhagen Infrastructure Partners of minority interests in the Pentland floating offshore wind farm (see below).

The government has also announced a partnership between Great British Energy and The Crown Estate to support the development of offshore wind and other clean technology projects. Details are relatively sparse at this stage, as the partners work to define the partnership's business plan and scope of work while the new public-owned company is established. However, our understanding is that the partnership will operate similar to the Dutch model where the Netherlands Enterprise Agency undertakes consenting and certain early-stage development activities before the site is opened up to private developers by way of competitive auction. The Crown Estate estimates the partnership will lead to up to 20-30 GW of new offshore wind developments being leased by 2030. It complements The Crown Estate's other initiatives, such as the Marine Delivery Routemap to develop an interactive digital delivery platform to help marine users, regulators and stakeholders to visualize future uses of the seabed based on their interests. It is hoped this will streamline the offshore consenting and leasing process, and provide visibility, confidence and certainty for developers and investors in offshore assets.

In December 2024, the government published its 'Clean Power 2030 Action Plan' (the "**2030 Plan**"), in which it set out its plan for decarbonizing the UK's electricity system by 2030. Key features of the 2030 Plan include:

- **2030 Installed Capacity Target.** The government is aiming to achieve between 43 GW to 50 GW of installed offshore wind capacity by 2030.
- **Networks and Connections.** The 2030 Plan acknowledges that double the amount of new transmission network infrastructure must be built by 2030 as has been built over the past decade in order to achieve the targets set out in the 2030 Plan. To achieve this, the government plans to (amongst other things) work with NESO and Ofgem to create a framework to prioritize connection projects that are key to achieving clean power by 2030, rather than operating on a "first-come, first-served" basis. See more below.
- **Project Delivery.** The 2030 Plan acknowledges that specific reforms must be made to ensure accelerated delivery of technologies such as renewable energy. In particular, the 2030 Plan proposes that the CfD scheme will be reviewed to ensure that the government's renewable technology capacity targets are met. The 2030 Plan highlights that the government's publicly owned clean energy company, Great British Energy, will play an essential role in supporting community clean energy projects, through the implementation of a 'Local Power Plan' and its potential involvement in new generation projects.
- **Electricity Market Reform.** The 2030 Plan highlights that reform of the electricity market in the UK will be essential to developing a clean power system.
- **Supply Chains and Workforce.** The 2030 Plan states that a "Clean Energy Skills Challenge" will be implemented to support workers in the oil and gas industry to transfer to positions within the renewable energy sector, with further measures to bolster the domestic supply chain expected.
- **Planning and Consenting.** The 2030 Plan acknowledges that the current planning regime in the UK does not allow for quick deployment of projects. To mitigate this, amongst other measures, the 2030 Plan seeks to further build on the Offshore Wind Environmental Improvement Package (introduced in the Energy Act 2023 in an effort to reduce significant delays to the consent of offshore wind developments) by introducing a marine recovery fund (into which "applicants can pay to discharge their compensation obligations, underpinned by libraries of approved strategic compensation measures") which the government believes, as a whole, will accelerate and de-risk the consent of offshore wind farms whilst continuing to protect the marine environment.

Since the introduction of the 2030 Plan, significant changes have been made to the grid connection process as part of the grid connection reform, including the implementation of the gate-based grid connection process. These reforms aim to improve efficiency, prioritize strategically important projects and support the UK's clean energy goals, particularly for offshore wind participants. In 2025, projects in the existing grid queue have been re-assessed in order to apply the new gate-based connection process which involves two formal gates for connection applications.

Gate 1 provides indicative connection offers based on a coordinated network design, creating a provisional waiting list which may be granted a fixed connection date under Gate 2. Gate 2 initially prioritizes projects that have "protected status" (including those projects with an existing connection date up to 31 December 2027) or meet certain readiness and strategic alignment criteria, such as land rights, planning application, regulatory approvals or CfDs. In December 2025, NESO published the updated delivery pipeline as part of its grid connections reform process. The updated pipeline contemplates an initial group of generation, storage and transmission-connected projects totaling 132 GW in capacity being prioritized to meet the UK government's Clean Power 2030 targets and an additional 151 GW of projects being prioritized to meet 2035 targets as part of phases 1 and 2 respectively of Gate 2. Other projects (*i.e.*, those that are not required to meet 2030 or 2035 targets as part of Gate 2) will be offered Gate 1 connection agreements and will need to meet contractual obligations as well as set criteria to be considered in future to join the Gate 2 project pipeline. In relation to offshore wind, the results contemplate 32.1 GW of additional capacity being prioritized as part of phase 1 of Gate 2, 37.8 GW being prioritized as part of phase 2 of Gate 2 and 4.5 GW of Gate 1 additional capacity (*i.e.*, not prioritized as part of 2030 of 2035 targets). It is anticipated that the enduring regime will be announced in 2026 as the initial review and Gate 1/Gate 2 offer process only related to the existing connection queue and did not address future projects.

Separately, in December 2025, Ofgem published a 'connections end to end' review update, setting out sweeping proposals to speed up grid connections, whilst at the same time warning network operators to hit tough new targets or risk facing financial penalties. The consultation will run until 27 February 2026. In April 2025, Ofgem approved the reform package, including modifications to industry codes and electricity system operator licenses, ensuring strategic factors are considered in connection offers and enabling NESO to implement future reforms swiftly. Measures introduced in the Planning and Infrastructure Act 2025 also serve to complement the above reforms to the grid connection regime.

The Planning and Infrastructure Act 2025 also includes measures to facilitate the award of development consent orders ("**DCOs**"), which are required for projects in English waters with a capacity greater than 100 MW and projects in Welsh waters with a capacity greater than 350 MW. Such measures include, for example: (i) the removal of certain statutory consultation obligations during the pre-application stage (developers will instead be required to comply with new best practice guidance during the pre-application stage, which is expected to be issued by the Secretary of State in early 2026); (ii) restrictions on challenging DCOs by narrowing the scope for judicial review; and (iii) changes to the compulsory purchase regime, each of which are intended to streamline and accelerate the planning and consenting process.

We note also that NESO is expected to publish the following during 2026:

- **Centralized Strategic Network Plan** ("**CSNP**") (expected Q1 2026), which will (amongst other things) identify network reinforcements in the offshore and onshore grid and new interconnector builds. The CSNP contemplates a 25-year roadmap and will be updated every three years.
- **Strategic Spatial Energy Plan** (expected Q4 2026), which will aim to identify optimal areas for power generation and mix of energy assets and storage to be included in such areas.

Ofgem continues to develop a regulatory framework for new "offshore hybrid assets" which will allow offshore wind farms to connect to the national grid using interconnectors rather than radial point-to-point connections. The pilot scheme for projects wishing to utilize these new connections is progressing with LionLink (connecting Dutch offshore wind farms to the grid) and Nautilus (now designated by the European Commission as a Project of Mutual Interest, connecting Belgian offshore wind farms to the grid), continuing to move ahead with development. Additionally, three new interconnectors have been greenlit, which may provide future capacity for additional offshore wind farms to provide power to the UK.

In addition to the above:

- The Finance Act 2024 received Royal Assent in February 2024 and was passed into law. The legislation sets out the 'new investment exemption' to the Electricity Generator Levy ("**EGL**") which was introduced in the UK with effect from 1 January 2023. The exemption means that generation projects, in respect of which the "substantive decision to proceed" is made on or after 22 November 2023, will be exempt from the EGL.
- In July 2025, the UK government published an update on the UK Review of Electricity Market Arrangements ("**REMA**"), summarizing key decisions and next steps. The government confirmed it would retain a single national wholesale electricity market and not introduce zonal pricing, a move which has been welcomed by industry participants. The government also indicated that a cohesive package of reforms will be implemented to improve the effectiveness of the national pricing model, which aims to deliver a more strategic and coordinated approach to the energy system, provide stronger signals for efficient siting of new assets, improve operational efficiency and increase stability and certainty for investors.

M&A activity

In 2025 and early 2026, the UK offshore wind sector was marked by an interesting mix of M&A activity. In addition, a number of sale processes are either ongoing or are expected to kick-off in earnest, with the expectation of increased M&A activity in 2026.

While in April, Macquarie announced that its proposal sale of Corio General (its offshore wind generation arm and one of the world's largest offshore wind developers) was to be cancelled due to lack of investor interest, the rest of 2025 saw a number of large-scale project-level deals. Notable highlights included:

- In July, Iberdrola and Masdar announced the acquisition by Masdar of a 50% interest in the East Anglia Three offshore wind farm. As part of the transaction, described at the time as "one of the largest offshore wind deals of the decade", Iberdrola and Masdar committed to co-invest €5.2 billion in the project as it proceeds to construction.
- In November, Ørsted and Apollo-managed funds ("**Apollo**") announced the acquisition by Apollo of a 50% interest in the Hornsea Three offshore wind farm. As part of the transaction, which closed in December 2025, Apollo committed to pay approximately $6.5 billion (approximately €5.2 billion), which includes the initial acquisition price and a commitment to fund 50% of the project's remaining construction costs.
- In January 2026, RWE and KKR announced the acquisition by KKR of a 50% interest in the Norfolk Vanguard East and Norfolk Vanguard West offshore wind farm, with the transaction due to close in the summer of 2026. Details of the transaction are sparse at the time of writing, however coverage of the transaction notes that the two projects will require a total commitment of $15 billion in development and capital expenditure to reach their operational targets of 2029/30.
- In the floating offshore wind space:
  - In August, Ørsted disposed of its majority interest in the Salamander floating offshore wind farm to Odfjell Oceanwind, a Norwegian developer.
  - In October, Kansai Electric Power Co., Inc. acquired an interest in floating wind developer Simply Blue Energy. In the UK, Simply Blue Energy holds interests in the Salamander and Erebus floating offshore wind farms (see above in relation to each of these projects).
  - In November, each of Great British Energy, the National Wealth Fund and Scottish National Investment Bank acquired minority interests in the Pentland floating offshore wind farm from Copenhagen Infrastructure Partners. Each of the buyers is committed to invest up to £50 million in the project and the investment marks the first floating offshore wind investment by government-banked entities, each with express mandates to support to the development of emerging technologies (including floating offshore wind) in the UK.

UNITED STATES OF AMERICA

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Current status and outlook for offshore wind in the United States

The United States offshore wind sector experienced a major shift in federal energy policy away from supporting offshore wind project development in 2025 after the change in presidential administrations. In 2023 and 2024, nearly a decade after the Block Island Wind Farm became operational, the United States brought two new utility-scale offshore wind projects online and numerous other projects were quickly advancing in later stages of project development.[1] The momentum propelling the industry now faces an uncertain regulatory and market landscape. These setbacks are the result of rescinded federal permits, federal Stop Work Orders, United States tariff policy, new federal legislation and the recent pause on leasing for all large-scale projects currently under construction.[2]

2025 began with several offshore wind projects in advanced stages of construction or nearing commercial operation. Notably, the South Fork Wind project (132 MW) in New York was fully operational and Vineyard Wind I (806 MW) in Massachusetts was under construction and partially operational.[3]

Coastal Virginia Offshore Wind (CVOW) (2,587 MW) remained on track for completion by the end of 2026, while Sunrise Wind (924 MW) and Revolution Wind (704 MW) and other projects continued to advance, albeit with new challenges.[4]

On 20 January 2025, the Trump Administration issued a Presidential Memorandum entitled "Temporary Withdrawal of All Areas on the Outer Continental Shelf from Offshore Wind Leasing and Review of the Federal Government's Leasing and Permitting Practices for Wind Projects" (the "**Executive Memorandum**").[5] The Executive Memorandum paused the leasing of new areas on the Outer Continental Shelf (OCS) for offshore wind.[6] While existing leases were not directly impacted by the Executive Memorandum, the Department of the Interior initiated a comprehensive review of all active wind energy leases, with recommendations expected in late 2026. The U.S. District Court for the District of Massachusetts determined that the leasing pause was unlawful on 8 December 2025, but the federal government may appeal this ruling within 60 days.[7]

It remains unclear whether the Executive Memorandum will withstand legal challenges. It is more certain, however, that federal permits for offshore wind projects that currently lack a federal lease and all federal approvals will be paused while the Secretaries of the Interior, Agriculture, Energy, the Administrator of the Environmental Protection Agency, and the heads of all other relevant agencies complete a comprehensive assessment and review of Federal wind leasing and permitting practices.[8]

The Executive Memorandum does not provide a time frame to conclude this comprehensive assessment and review. Until an answer is provided by the relevant agencies or upon completion of judicial review processes, the Executive Memorandum creates a dual layer of regulatory ambiguity and federal oversight.[9] See Section 2 below for further analysis regarding the Executive Memorandum.

Further complicating the landscape for developing offshore wind projects are the Stop Work Orders issued by the Bureau of Ocean Energy Management (BOEM). First in April and again in August of 2025, BOEM issued Stop Work Orders for two nearly completed projects: Empire Wind 1 and Revolution Wind, respectively.[10] These actions have led to litigation, delays in construction schedules, and increased uncertainty for developers and investors. See Section 3 below for further information regarding the BOEM Stop Work Orders.

1. See https://southforkwind.com/; https://maritime-executive.com/article/vineyard-wind-1-expects-to-reach-full-commercial-operations-by-end-of-2025.
2. See https://www.doi.gov/pressreleases/trump-administration-protects-us-national-security-pausing-offshore-wind-leases.
3. See https://southforkwind.com/; https://maritime-executive.com/article/vineyard-wind-1-expects-to-reach-full-commercial-operations-by-end-of-2025.
4. See https://coastalvawind.com/about/the-project/timeline; https://sunrisewindny.com/construction-updates#1; https://revolution-wind.com/about-revolution-wind#1.
5. See https://www.whitehouse.gov/presidential-actions/2025/01/temporary-withdrawal-of-all-areas-on-the-outer-continental-shelf-from-offshore-wind-leasing-and-review-of-the-federal-governments-leasing-and-permitting-practices-for-wind-projects/.
6. See https://www.whitehouse.gov/presidential-actions/2025/01/temporary-withdrawal-of-all-areas-on-the-outer-continental-shelf-from-offshore-wind-leasing-and-review-of-the-federal-governments-leasing-and-permitting-practices-for-wind-projects/.
7. See https://www.reuters.com/business/energy/us-judge-rejects-trump-administrations-halt-wind-energy-permits-2025-12-08/;https://blogs.edf.org/climate411/2025/12/18/trump-admin-wind-ban-struck-down.
8. See https://www.orrick.com/en/Insights/2025/03/Orrick-2025-Global-Offshore-Wind-Report-Energy-Innovation-Goals-Buoy-Offshore-Wind.
9. See https://www.orrick.com/en/Insights/2025/01/Executive-Orders-and-Presidential-Memoranda-Focus-on-US-Energy-Sector.
10. See https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/BOEM%20Director%26%23039%3Bs%20Order%20Empire%20Wind.pdf (Empire); https://www.boem.gov/sites/default/files/documents/renewable-energy/Director%26%23039%3BsOrder-20250822.pdf?VersionId=VO3AWAHsV_kDvT048xf8dG7A.Rsj6HZJ (Revolution)

In an additional effort to halt ongoing construction on offshore wind projects, the Department of Interior (DOI) announced on 22 December 2025, that it would be indefinitely pausing leasing on large-scale offshore wind projects in the United States.[11] The leases for Vineyard Wind 1, Revolution Wind, CVOW, Sunrise Wind and Empire Wind 1 have been paused following this announcement. Citing national security risks due to radar interference caused by wind turbine installations, the DOI will now move to review existing leases and "assess the possibility of mitigating the national security risks posed by these projects" with relevant government stakeholders.[12] In response, multiple developers have successfully sued the administration to overturn this pause as applied to their offshore wind projects.[13] See Section 3 below for further insight on how DOI actions have impacted U.S. projects.

While current federal policy is not supportive of the offshore wind energy sector, many states have a history of supporting offshore wind. For instance, New York, New Jersey and Maryland have each had multiple competitive Offshore Renewable Energy Credit (OREC) solicitations.[14] In late 2024, Massachusetts and Rhode Island completed the first coordinated procurement of its kind, selecting three offshore wind projects totaling 2,878 MW.[15] In January 2025, New Jersey awarded 3,742 MW of offshore wind capacity to the Leading Light Wind Project and Attentive Energy 2 Project.[16] Conversely, economic pressures led Connecticut to withdraw its planned offtake from the Vineyard Wind II Project.[17] See Section 4, Section 7, and Section 8 below for further insight on state actions.

Financing outlook for U.S. offshore wind

The U.S. offshore wind financing market will be determined in large part by federal and state policy regarding offshore wind. The debt and tax equity market for utility scale renewable energy projects in the U.S. remain robust. More than 50 major lenders and tax equity providers have previously expressed interest in the U.S. offshore wind sector. European banks and financial institutions are expected to play an important role in future offshore wind financings, leveraging their extensive offshore wind experience.

However, tariffs and new legislation have introduced additional risks and due diligence challenges.[18] The One Big Beautiful Bill Act (OBBBA), enacted on 4 July 2025, amended key provisions of the Inflation Reduction Act (IRA) affecting offshore wind. The IRA, enacted 16 August 2022, significantly expanded the United States federal tax credits for renewables projects, including offshore wind.

The OBBBA includes an accelerated phaseout of IRA tax credits, increased domestic content requirements and added heightened Foreign Entity of Concern (FEOC) restrictions.[19] Under the OBBBA, all tax credit eligibility will be terminated for offshore wind projects placed in service after 31 December 2027, with a small allowance for a transitionary rule granting tax credits to projects that begin construction before 4 July 2026.[20] Further, to qualify for full tax credits, the OBBBA has increased the percentage of a project's components that must be manufactured in the United States.[21] The domestic content requirements serve a concurrent function with the higher FEOC restrictions, aimed at encouraging the use of American-made goods. See Section 5 below for further analysis of the OBBBA. Federal and state policies continue to evolve, with new executive actions and legislative reforms shaping the future of the industry.

Trump Administration Executive Actions impacting offshore wind

Declaring a National Energy Emergency

On 20 January 2025, President Trump issued Executive Order 14156 "Unleashing American Energy," declaring a national energy emergency under the National Emergencies Act.[22] The stated purpose of Executive Order 14156 is to improve national security by increasing domestic production of energy.

The Executive Order 14156 requires federal agencies to identify and exercise any lawful emergency or other powers available to them "to facilitate the identification, leasing, siting, production, transportation, refining and generation of domestic energy resources." It also requires agencies to "expedite the completion of all authorized and appropriated infrastructure, energy, environmental and natural resources projects" within their authority.

The Executive Order 14156 references the West Coast, Northeast and Alaska as regions of particular interest. Notably, the definition of "energy" and "energy resource" within Executive Order 14156 does not include solar or wind projects.

11. See https://www.doi.gov/pressreleases/trump-administration-protects-us-national-security-pausing-offshore-wind-leases.
12. See https://www.doi.gov/pressreleases/trump-administration-protects-us-national-security-pausing-offshore-wind-leases.
13. See, *e.g.*, https://news.bloomberglaw.com/environment-and-energy/dominion-energy-sues-interior-over-offshore-wind-suspension.
14. See https://www.nyserda.ny.gov/All-Programs/Offshore-Wind/Focus-Areas/Offshore-Wind-Solicitations/2024-Solicitation (NY5 Solicitation); https://www.nyserda.ny.gov/All-Programs/Offshore-Wind/Focus-Areas/Offshore-Wind-Solicitations/NY6-Solicitation (NY6 Solicitation).
15. See https://www.mass.gov/news/massachusetts-and-rhode-island-announce-largest-offshore-wind-selection-in-new-england-history.
16. See https://nj.gov/bpu/newsroom/2023/approved/20240124.html.
17. See https://www.offshore-mag.com/renewable-energy/news/55251964/vineyard-wind-2-shelved-after-connecticut-withdraws-from-project.
18. See https://www.orrick.com/en/Insights/2025/03/Orrick-2025-Global-Offshore-Wind-Report-Energy-Innovation-Goals-Buoy-Offshore-Wind.
19. See https://media.orrick.com/Media%20Library/public/files/insights/2025/orrick-energy-tax-update-webinar-07-09-2025-obbb-materials.pdf.
20. See https://media.orrick.com/Media%20Library/public/files/insights/2025/orrick-energy-tax-update-webinar-07-09-2025-obbb-materials.pdf.
21. See https://media.orrick.com/Media%20Library/public/files/insights/2025/orrick-energy-tax-update-webinar-07-09-2025-obbb-materials.pdf.
22. See https://www.govinfo.gov/content/pkg/FR-2025-01-29/pdf/2025-02003.pdf.

Executive Memorandum

As noted above, President Trump issued the Executive Memorandum on 20 January 2025, ordering the suspension of federal wind leasing on the OCS and a pause on federal permitting for onshore and offshore wind projects.[23]

The Executive Memorandum prohibits consideration of any area on the OCS for new or renewed wind energy leasing for purposes of generation of electricity or any other such use derived from the use of wind and directs the heads of all relevant federal agencies to pause issuing new or renewed approvals, rights of way, permits, leases or loans for onshore or offshore wind projects until the Secretary of the Interior completes a "comprehensive assessment and review of Federal wind leasing and permitting practices." Although this Executive Memorandum did not revoke existing wind energy leases on the OCS, it directed the Secretary of the Interior to consult with the Attorney General and prepare recommendations to the President identifying any legal bases for removing, terminating or amending existing wind energy leases.

In addition, the Executive Memorandum ordered a review of the environmental impact and cost to surrounding communities of defunct and idle windmills. Furthermore, it allows the Attorney General to stay or otherwise delay litigation related to any aspect of the federal leasing or permitting of onshore or offshore wind projects pending the completion of the analyses described above.

The suspension of wind leasing in the OCS became effective as of 21 January 2025, and will remain in effect until the Executive Memorandum is revoked or overturned by the U.S. Judicial Branch.

On 5 May 2025, a coalition of 17 states and the District of Columbia sued the federal government, seeking to block federal agencies from implementing the portion of the Executive Memorandum that indefinitely halts wind energy approvals. In their complaint, the states alleged that the actions taken by the defendant agencies to implement the Executive Memorandum violated the Administrative Procedure Act (APA), exceeded the agencies' statutory authority and were otherwise inconsistent with the law.[24] On 8 December 2025, the U.S. District Court for the District of Massachusetts determined that the agencies' immediate suspension of wind energy authorizations was arbitrary, capricious and unlawful.[25] The federal government has 60 days to appeal.[26]

Unleashing American Energy

On 20 January 2025, President Trump also issued Executive Order 14154 "Unleashing American Energy," outlining specific energy policy goals and providing agency directives to achieve those goals.[27] The policies include encouraging energy exploration and production on federal lands and in federal waters, including the OCS.

The Executive Order 14154 directs agency heads to streamline the judicial review of the application of the National Environmental Policy Act (NEPA). The Environmental Protection Agency was directed to issue guidance on the "social cost of carbon" and consider eliminating it from the permitting and regulatory process.

Agencies were required to pause the disbursement of funds under the IRA and the Infrastructure Investment and Jobs Act, and submit a report recommending ways to align their disbursements with President Trump's energy policy goals. The Director of the Office of Management and Budget and the Assistant to the President for Economic Policy must approve all future disbursements. Agency heads were directed to submit recommendations to align funding with the goals of Executive Order 14154.

The Executive Order 14154 also rescinded Executive Order 14082 of 12 September 2022 (Implementation of the Energy and Infrastructure Provisions of the Inflation Reduction Act of 2022).

America First trade policy

On 20 January 2025, President Trump issued a Presidential Memorandum (the "America First Presidential Memorandum"),[28] along with Executive Order 14150 "America First Policy Directive to the Secretary of State," regarding the administration's international trade policy.[29] The America First Presidential Memorandum ordered an array of agency investigations relating to, among other things, trade with China and imports under the U.S.-Mexico-Canada trade agreement.

Establishing the National Energy Dominance Council

Executive Order 14213, issued by the President on 14 February 2025, establishes the National Energy Dominance Council (NEDC) within the Executive Office of the President. The Council's mission is to make America "energy dominant" by expanding reliable and affordable energy production, supporting economic growth, national security and technological leadership.[30] In line with Executive Order 14156, however, this Executive Order 14213 also specifically omits any reference to solar or wind projects within the description of "energy" or "energy resources." Executive Order 14213 emphasizes deregulation, private sector investment, technological innovation and national security, aiming to position the United States as the global leader in energy.

23. See https://www.whitehouse.gov/presidential-actions/2025/01/temporary-withdrawal-of-all-areas-on-the-outer-continental-shelf-from-offshore-wind-leasing-and-review-of-the-federal-governments-leasing-and-permitting-practices-for-wind-projects/.
24. See https://ag.ny.gov/sites/default/files/court-filings/state-of-new-york-et-al-v-donald-trump-united-states-department-of-the-interior-complaint-2025.pdf.
25. See https://www.law360.com/environmental/articles/2419630.
26. See https://blogs.edf.org/climate411/2025/12/18/trump-admin-wind-ban-struck-down/.
27. See https://www.govinfo.gov/content/pkg/FR-2025-01-29/pdf/2025-01956.pdf.
28. See https://www.whitehouse.gov/presidential-actions/2025/01/america-first-trade-policy/.
29. See https://www.govinfo.gov/content/pkg/FR-2025-01-29/pdf/2025-01952.pdf.
30. See https://www.govinfo.gov/content/pkg/FR-2025-02-20/pdf/2025-02928.pdf.

Protecting American energy from state overreach

Executive Order 14260, issued by the President on 8 April 2025, aims to protect American energy production and investment from what it describes as illegitimate and burdensome state and local regulations.[31] The order criticizes state and local governments for enacting laws and policies that discriminate against out-of-state energy producers, impose retroactive fines or penalties for alleged past greenhouse gas emissions, delay or obstruct energy project permitting, use tort regimes to sue energy companies for climate change-related damages and project their regulatory preferences onto other states. The Attorney General, with input from relevant agencies, must identify all state and local laws that burden domestic energy resource development. The Attorney General is directed to prioritize laws related to climate change, environmental, social and governance (ESG) initiatives, environmental justice, carbon or greenhouse gas emissions and carbon penalties or taxes. Executive Order 14260 positions federal authority as paramount in energy matters, aiming to ensure energy affordability, reliability, and national security.

Strengthening the reliability and security of the United States electric grid

Executive Order 14262, issued on 8 April 2025, addresses the urgent need to ensure the reliability, resilience and security of the U.S. electric grid.[32] The order responds to unprecedented electricity demand driven by technological advancements (such as AI data centers) and increased domestic manufacturing, which have strained existing grid capacity and threatened national and economic security. The order empowers the Department of Energy to act swiftly during emergencies, establishes a standardized approach to assessing grid reserve margins and ensures that critical generation resources remain available to prevent grid failures. The order emphasizes the need for a diverse and secure energy mix to support America's technological and economic leadership.

Ending market distorting subsidies for unreliable, foreign-controlled energy sources

Executive Order 14315 was issued on 7 July 2025, and directs the federal government to eliminate subsidies and tax credits for energy sources considered unreliable and expensive—specifically wind and solar—especially those dependent on foreign-controlled supply chains.[33] The order aims to strengthen U.S. energy dominance, national security, economic growth and fiscal health. The Department of the Treasury has been directed to strictly enforce the termination of clean electricity production and investment tax credits (sections 45Y and 48E of the Internal Revenue Code) for wind and solar facilities.

Additionally, the Department of Interior is directed to review all regulations, guidance, policies and practices to identify and eliminate any preferential treatment for wind and solar facilities compared to dispatchable energy sources. Executive Order 14315 marks a decisive federal shift away from subsidizing wind and solar energy, especially those projects reliant on foreign supply chains.

Project updates

Several offshore wind projects under construction were issued federal Stop Work Orders in connection with the aforementioned Executive Memorandum dated 20 January 2025.[34] For example, on 30 July 2025, BOEM announced that it was rescinding all designated Wind Energy Areas on the OCS—roughly 3.5 million acres offshore that had been identified as areas most suitable for wind energy development.[35] On 7 August 2025, the Department of Interior announced its review of offshore wind regulations for compliance with the Outer Continental Shelf Lands Act and for alignment with the Trump administration's energy priorities.[36]

On 22 December 2025, the Department of the Interior ordered a pause on the construction of five offshore wind projects along the U.S. east coast, citing "emerging national security risks" associated with wind turbines, such as potential radar interference. According to DOI, the pause will give the government time to "assess the possibility of mitigating the national security risks," although all five projects have already undergone review and entered into agreements with the government related to radar.[37]

Multiple coastal states (including New York, New Jersey and Massachusetts) and industry participants have publicly opposed the federal moratorium and federal orders halting wind project development, citing economic, climate and grid reliability benefits presented by offshore wind. However, certain New England states are pulling back on offshore wind procurement due to federal uncertainty, focusing on completing existing projects rather than evaluating new ones.[38]

Stop Work Orders

Coastal Virginia Offshore Wind (CVOW)

CVOW is a 2.6 GW offshore wind energy project located off the coast of Virginia, being developed by Dominion Energy. The CVOW project's construction and operations plan was given BOEM approval on 28 January 2024, and construction began shortly thereafter. As of August 2025, the project was at least 60% complete, with expected completion by the end of 2026.[39]

31. See https://www.govinfo.gov/content/pkg/FR-2025-04-14/pdf/2025-06379.pdf.
32. See https://www.govinfo.gov/content/pkg/FR-2025-04-14/pdf/2025-06381.pdf.
33. See https://www.govinfo.gov/content/pkg/FR-2025-07-10/pdf/2025-12961.pdf.
34. See, *e.g.*, https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/BOEM%20Director%26%23039%3Bs%20Order%20Empire%20Wind.pdf.
35. See https://www.boem.gov/newsroom/notes-stakeholders/boem-rescinds-designated-wind-energy-areas-outer-continental-shelf.
36. See https://www.doi.gov/pressreleases/interior-launches-overhaul-offshore-wind-rules-prioritize-american-energy-security.
37. See https://www.law360.com/articles/2424751/doi-pauses-work-on-east-coast-offshore-wind-projects; https://subscriber.politicopro.com/article/eenews/2026/01/05/how-offshore-wind-permits-handled-military-concerns-before-interiors-pause-00707732.
38. See https://www.eenews.net/articles/how-new-england-is-handling-trumps-offshore-wind-assault/.
39. See https://virginiabusiness.com/us-government-halts-nearly-complete-offshore-wind-farm-is-virginias-next/.

On 22 December 2025, DOI suspended CVOW's lease effective immediately (as part of a broad suspension of offshore wind leases that included four other projects under construction).[40] Dominion Energy filed a lawsuit the following day asking a federal judge to block the order suspending work at CVOW, arguing DOI's action was arbitrary, capricious and would cause serious irreparable harm to Dominion and its customers.[41] On 16 January 2026, the U.S. District Court for the Eastern District of Virginia issued a preliminary injunction allowing Dominion to resume construction on CVOW.[42] As of the time of this publication, litigation is ongoing. See Section 4 for more information about CVOW's construction progress.

Empire Wind

Empire Wind is an offshore wind project being developed by a subsidiary of Equinor off the coast of New York, proceeding in two phases (810 MW in Phase 1 and 1,260 MW in Phase 2). After successfully negotiating ORECs with the New York State Energy Research and Development Authority (NYSERDA) and receiving its permits to proceed with the project from the N.Y. Public Service Commission (PSC), Phase 1 (Empire Wind 1) began construction in the spring of 2024.[43]

On 16 April 2025, the Secretary of the Interior directed BOEM to order Empire Offshore Wind LLC to Stop Work related to the Empire Wind 1 project. A month later, on 19 May, after negotiations between the federal government and the state of New York, BOEM reversed the Stop Work Order for Empire Wind 1. Construction resumed, targeting commercial operation by mid-2027,[44] until DOI again suspended construction on 22 December 2025 (as part of a broad suspension of offshore wind leases that included four other projects under construction). On 2 January 2026, Empire Wind 1 filed a lawsuit in federal court challenging the DOI's suspension of its lease, arguing *inter alia* that the project already completed a lengthy review that included addressing national security concerns.[45] On 15 January 2026, the U.S. District Court for the District of Columbia issued a preliminary injunction allowing Equinor to resume construction on Empire Wind 1.[46] As of the time of publication, this litigation is ongoing.

Revolution Wind

Revolution Wind is a 704 MW joint venture project off the coast of Rhode Island between Ørsted and Global Infrastructure Partner's Skyborn Renewables. Revolution Wind acquired permits and began construction in 2023 with a commercial operation date set for 2026.[47]

The project was nearly 80% complete when BOEM issued a Stop Work Order on 22 August 2025, citing unspecified national security concerns.[48] Connecticut and Rhode Island sued the federal government on 4 September 2025, arguing the Stop Work Order violates principles of administrative law and state sovereignty. Ørsted and Global Infrastructure Partners also sued the federal government, requesting a preliminary injunction that would allow Revolution Wind's offshore construction to resume, arguing BOEM lacked legal authority for the Stop Work Order.[49] On 22 September 2025, a federal judge issued a preliminary injunction preventing enforcement of the Stop Work Order, noting that the Revolution Wind project was halted by BOEM without any "factual findings" and that Revolution Wind was likely to succeed on the merits of its claims against the government.[50] The case is ongoing.

On 22 December 2025, DOI again halted construction on Revolution Wind due to "national security risks" (as part of a broad suspension of offshore wind leases that included four other projects under construction). On 1 January 2026, Ørsted filed a lawsuit in federal court seeking to block DOI's order. On 12 January 2026, the U.S. District Court for the District of Columbia issued a preliminary injunction in Ørsted's favor, allowing construction to resume immediately.[51] As of the time of publication, litigation is ongoing.

Other outstanding legal challenges

There are numerous other active lawsuits challenging previous Biden-era approvals for eight offshore wind farms that have not yet started construction, including revisiting recently-issued construction and operation plan approvals.[52] In several ongoing court cases, the federal government has indicated its intent to reconsider approvals of the construction and operations plans for a number of other prominent projects.[53] And in DOI's recent 22 December 2025 action, the leases for several projects were also suspended. However, recent in-court wins for Revolution Wind, Empire Wind 1 and the states challenging the implementation of the Executive Memorandum may provide some reasons for optimism for wind developers dealing with federal permit reconsiderations and delays.

40. See https://www.doi.gov/pressreleases/trump-administration-protects-us-national-security-pausing-offshore-wind-leases.
41. See https://ncnewsline.com/2025/12/30/dominion-energy-sues-trump-administration-over-delay-to-11-2b-offshore-wind-project/.
42. See https://www.bloomberg.com/news/articles/2026-01-16/dominion-energy-can-resume-wind-project-trump-halted-judge-says.
43. See https://dps.ny.gov/news/psc-greenlights-offshore-wind-transmission-line-work; https://www.empirewind.com/project/.
44. See https://www.empirewind.com/2025/05/20/stop-work-order-lifted-empire-wind-project-resumes-construction/; https://www.reuters.com/sustainability/climate-energy/equinor-says-us-lifts-stop-work-order-new-york-offshore-wind-farm-2025-05-19/.
45. See https://www.nytimes.com/2026/01/02/climate/trump-offshore-wind-lawsuit-national-security.html.
46. See https://www.bloomberg.com/news/articles/2026-01-15/equinor-wins-ruling-to-resume-us-wind-project-halted-by-trump.
47. See https://revolution-wind.com/about-revolution-wind.
48. See https://www.boem.gov/sites/default/files/documents/renewable-energy/Director%26%23039%3BsOrder-20250822.pdf?VersionId=VO3AWAHsV_kDvT048xf8dG7A.Rsj6HZJ.
49. See https://portal.ct.gov/ag/press-releases/2025-press-releases/connecticut-and-rhode-island-to-sue-to-overturn-baseless-revolution-wind-stop-work-order; https://revolution-wind.com/news/2025/09/revolution-wind-to-file-preliminary-injunction-against-stop-work-order.
50. See https://www.canarymedia.com/articles/offshore-wind/trump-revolution-halt-judge-ruling-lawsuits.
51. See https://www.bloomberg.com/news/articles/2026-01-12/orsted-wins-ruling-to-resume-us-wind-project-halted-by-trump.
52. See https://www.canarymedia.com/articles/offshore-wind/trump-revolution-halt-judge-ruling-lawsuits.
53. See https://www.reuters.com/legal/litigation/trump-administration-reconsider-southcoast-wind-permit-legal-filing-says-2025-09-02/; https://www.canarymedia.com/articles/offshore-wind/trump-cancel-permits-maryland-marwin-project, https://www.reuters.com/sustainability/climate-energy/us-plans-revoke-approval-another-massachusetts-offshore-wind-farm-2025-09-03/.

Virginia's offshore wind

Dominion Energy's Coastal Virginia Offshore Wind

The Coastal Virginia Offshore Wind (CVOW) project is an offshore wind project currently under construction 27 miles off the coast of Virginia Beach, Virginia.[54] CVOW currently consists of two turbines which became operational in late 2020 and will expand to a total of 176 turbines, three offshore substations, and nine buried offshore export cables generating a total of 2.6 GW.[55] As of September 2025, CVOW has completed 100% of its monopile installations.[56] If the construction timeline goes as anticipated, first power will be delivered to Dominion's customers in late Q1-2026.[57]

Dominion Energy initially expected to invest $10.9 billion in the project.[58] In a 30 January report, Dominion Energy announced that it would raise the cost estimate of the project to $11.5 billion due to new federal tariffs on imported materials and components used in the project's construction.[59]

CVOW has received all required federal, state and local approvals for construction and is on track for completion by early 2027 subject to resolution of legal challenges described elsewhere in this section.[60]

Following DOI's 22 December 2025, pause on CVOW's lease, construction on the project was paused until 16 January 2026, when the U.S. District Court of the District of Eastern Virginia issued a preliminary injunction allowing construction to resume.[61]

Charybdis, the Jones Act compliant vessel

Section 27 of the Merchant Marine Act, commonly referred to as the Jones Act, requires that the transportation of merchandise between two points in the United States be performed by qualified United States-flagged vessels owned and operated by United States citizens.[62] Briefly, under the Outer Continental Shelf Lands Act, a "point" is anything permanently or temporarily attached to the seabed "erected thereon for the purpose of exploring for, developing or producing resources."[63]

The practical effects of the Jones Act are very important for U.S. offshore wind development. Currently, there are no operating United States -flagged jack up vessels (vessels designed to install offshore wind turbine structures).

As a result, Dominion Energy began developing Charybdis, the first Jones Act-compliant wind turbine installation vessel, built in the United States.[64] The vessel is equipped with a 426-foot crane capable of lifting up to 2,200 tonnes, making it one of very few vessels capable of large wind turbine installation. Charybdis began sea trials in Brownsville, Texas in February 2025 and completed sea trials and received regulatory sign-offs in September 2025.[65] Charybdis has now arrived in Portsmouth, Virginia, and began loading and installing turbines in January 2026.[66] Once ready, Charybdis will install wind turbines for the CVOW project site.

OBBBA federal tax changes

As noted above, President Trump signed the reconciliation bill on 4 July 2025, unofficially known as the "One Big Beautiful Bill Act" (OBBBA), into effect as Public Law 119-21. The OBBBA resulted in notable changes to the existing tax regime. The United States now confronts a shifting terrain, with new uncertainties emerging that contrast with the previous period of significant growth in tax provisions for renewable projects derived from the 2022 Inflation Reduction Act (IRA).

Tax credit changes

The OBBBA added new provisions ending the clean electricity energy production tax credits for solar and wind facilities[67] placed in service after 31 December 2027.[68] The legislation also phases out the clean electricity investment tax credits for solar and wind facilities placed in service after 31 December 2027.[69] Executive Order 14135 directs the Secretary of the Treasury to enforce these provisions through sections 45Y and 48E of the Internal Revenue Code.[70] Deadlines applicable to establishing the beginning of construction for projects were also modified by the OBBBA. Aside from a few exceptions, taxpayers will now exclusively rely on satisfying the Physical Work Test to demonstrate construction began.[71] Taxpayers may no longer rely on the Five Percent Safe Harbor to establish the beginning of construction on wind facilities.[72]

54. See https://coastalvawind.com/about/the-project.
55. See https://tethys.pnnl.gov/wind-project-sites/coastal-virginia-offshore-wind-cvow, https://coastalvawind.com/about/the-project.
56. See https://www.canarymedia.com/articles/offshore-wind/dominion-virginia-offshore-wind-online-2026.
57. See https://www.windpowermonthly.com/article/1935731/first-power-uss-largest-offshore-wind-farm-due-within-six-months.
58. See https://www.constructiondive.com/news/dominion-virginia-wind-construction-tariffs-trump/756787/.
59. See https://d18rn0p25nwr6d.cloudfront.net/CIK-0000715957/2bc58b34-2e61-4799-8a2c-e918801d9543.pdf.
60. See https://d18rn0p25nwr6d.cloudfront.net/CIK-0000715957/2bc58b34-2e61-4799-8a2c-e918801d9543.pdf.
61. See https://www.bloomberg.com/news/articles/2026-01-16/dominion-energy-can-resume-wind-project-trump-halted-judge-says.
62. We note that the industry must also be aware of the Passenger Ship Act of 1886 that applies to the transportation of passengers in United States waters and the Dredge Act that applies to vessels engaging in coastwise trade and dredging. Customs and Border Protection has issued multiple rulings interpreting the Jones Act and these other laws in the context of offshore wind projects.
63. The United States Congress added an amendment to the National Defense Authorization Act to make it clear that the Jones Act applied to offshore energy development on the OCS.
64. See https://news.dominionenergy.com/press-releases/press-releases/2021/Dominion-Energy-rsted-and-Eversource-Reach-Deal-on-Contract-to-Charter-Offshore-Wind-Turbine-Installation-Vessel-06-01-2021/default.aspx.
65. See https://www.wtkr.com/news/in-the-community/portsmouth/dominion-energys-offshore-wind-project-still-on-track-despite-vessel-delay#google_vignette.
66. See https://d18rn0p25nwr6d.cloudfront.net/CIK-0000715957/2bc58b34-2e61-4799-8a2c-e918801d9543.pdf.
67. Section 70512(a)(2)(B) of the OBBBA https://www.congress.gov/bill/119th-congress/house-bill/1/text defines an "applicable wind facility" according to the Internal Revenue Code § 45(d)(1). https://www.law.cornell.edu/uscode/text/26/45D.
68. Sections 70512 of the OBBBA https://www.congress.gov/bill/119th-congress/house-bill/1.
69. Section 70513 of the OBBBA https://www.congress.gov/bill/119th-congress/house-bill/1; Section 70513(a)(B)(i) of the OBBBA https://www.congress.gov/bill/119th-congress/house-bill/1/text , An "applicable wind facility" is defined in Internal Revenue Code § 45Y(d)(4)(B)(i) https://www.law.cornell.edu/uscode/text/26/45Y.
70. See Executive Order section of Report.
71. Notice 2025-42, Section 3.02 https://www.irs.gov/pub/irs-drop/n-25-42.pdf.
72. Notice 2025-42, Section 6 - https://www.irs.gov/pub/irs-drop/n-25-42.pdf.

Foreign Entity of Concern requirements

Additionally, the OBBBA introduces new "Foreign Entity of Concern" ("**FEOC**")[73] requirements to qualify for federal tax credits. The IRA previously introduced FEOC restrictions for electric vehicle tax credits under section 30D of the Internal Revenue Code, restricting the application of referenced tax credits if any critical minerals in the battery originated from, or if the battery itself was manufactured or assembled by, a FEOC.[74] The OBBBA extends FEOC restrictions by introducing the term "prohibited foreign entities" ("**PFE**").[75] PFE refers to a "specified foreign entity" ("**SFE**"),[76] a "foreign-controlled entity" ("**FCE**")[77] and a "foreign-influenced entity" ("**FIE**").[78] The FEOC restrictions are complex and expansive for taxpayers seeking to qualify projects for federal tax credits under sections 45Y,[79] 48E[80] or 45X.[81] The FEOC requirements restrict taxpayers by denying tax credits for projects receiving any "material assistance" from PFE. For qualified wind energy components, "material assistance" refers to a cost ratio dependent on whether projects are qualified facilities, energy storage technology or produce eligible components.[82] These stringent requirements introduce uncertainty in the internal due diligence and compliance for taxpayers and result in increasing barriers to project development.

U.S. interconnection and transmission regulation

When connecting an offshore wind project to the United States transmission grid, a developer must follow interconnection procedures and pro forma interconnection agreements developed and implemented by the interconnecting utility or regional transmission organization (RTO), as set forth in its open access transmission tariff accepted by the Federal Energy Regulatory Commission (FERC). These interconnection procedures and agreements were designed for onshore projects and generally require that the developer pay the costs of engineering, designing and constructing generation tie lines (gen-ties), related interconnection facilities and transmission network upgrades necessary to connect its project to the transmission grid. For offshore projects, the costs associated with these facilities and upgrades can be prohibitively expensive. Although developers can leverage economies of scale and share costs by developing shared gen-ties, FERC is evaluating other ways to facilitate offshore wind interconnections.

On 27 October 2020, FERC convened a technical conference to consider whether RTO interconnection and transmission planning rules require revision to accommodate the anticipated growth of offshore wind generation in the United States. Testimony submitted on behalf of trade groups, offshore wind developers and state utility commissions highlighted challenges associated with interconnecting each prospective wind project individually. Multiple entities suggested that integration of offshore wind would benefit from consolidated transmission planning, which could mitigate the time and expense of constructing offshore projects. Separately, on 17 June 2021, FERC announced the creation of a joint federal-state task force to, among other things, identify barriers that inhibit the planning and development of necessary transmission to achieve federal and state policy goals, as well as potential solutions to those barriers.

FERC has been evaluating ways to encourage more effective and longer-term regional transmission planning, which would help address the need for additional transmission to alleviate constraints and transmit electric energy from offshore wind projects to load. On 13 May 2024, FERC issued Order No. 1920, which reformed its pro forma Open Access Transmission Tariff to improve regional transmission planning and cost allocation for certain types of transmission facilities. The order requires transmission providers to conduct regional transmission planning on a long-term, forward-looking basis to satisfy transmission needs driven by changes in generation resource mix and demand. In developing their transmission plans, transmission providers must consider federal, state, local and federally recognized Tribal laws and regulations addressing the generation resource mix, demand, decarbonization and electrification. In addition, transmission providers must consider state-approved integrated resource plans, generator retirements and interconnection requests, along with trends in the cost, performance and availability of generation, electric storage resource, and building and transportation electrification technologies.

In an effort to streamline the generator interconnection process, FERC issued a long-awaited final rule on 28 July 2023, Order No. 2023, in which it directed transmission providers, including RTOs, to revise their standard large generator interconnection procedures and pro forma interconnection agreement to address the growing backlog of projects requesting interconnection with the transmission grid. Among the reforms adopted, FERC directed revisions of the large generator interconnection procedures to implement a "first-ready, first-served" cluster interconnection study process, meaning that projects demonstrating commercial readiness will move ahead first in the study process.

73. "A foreign entity is a FEOC if it is *"owned by, controlled by, or subject to the jurisdiction or direction of a government of a foreign country that is a covered nation (as defined in 10 U.S.C. 4872(d)(2) https://www.federalregister.gov/documents/2024/05/06/2024-08913/interpretation-of-foreign-entity-of-concern)."*" https://www.federalregister.gov/documents/2024/05/06/2024-08913/interpretation-of-foreign-entity-of-concern." "The "covered nations" are the People's Republic of China (PRC), the Russian Federation, the Democratic People's Republic of North Korea, and the Islamic Republic of Iran (10 U.S.C. 4872(d)(2)) https://www.govinfo.gov/link/uscode/10/4872. BIL section 40207(a)(5) provides no further definition of the term "foreign entity" or of the terms used in subparagraph (C)." https://www.federalregister.gov/documents/2024/05/06/2024-08913/interpretation-of-foreign-entity-of-concern.
74. 2022 Inflation Reduction Act - Public Law No. 117-169, § 13401(e)(2) https://www.congress.gov/117/plaws/publ169/PLAW-117publ169.pdf , Internal Revenue Code § 30D(d)(7) Clean vehicle credit https://www.law.cornell.edu/uscode/text/26/30D.
75. Restrictions Relating to Prohibited Foreign Entities Section 70512(b) of the OBBA https://www.congress.gov/bill/119th-congress/house-bill/1/text, Material Assistance from a Prohibited Foreign Entity Section§ 7701(a)(52) of the OBBA https://www.law.cornell.edu/uscode/text/26/7701.
76. Definitions Relating to Prohibited Foreign Entities 70512(c)(51)(B) of the OBBA https://www.congress.gov/bill/119th-congress/house-bill/1/text.
77. Definitions Relating to Prohibited Foreign Entities § 70512(c)(51)(C) of the OBBA.
78. Definitions Relating to Prohibited Foreign Entities § 70512(c)(51)(D) of the OBBA.
79. Internal Revenue Code § 45Y(b)(E)1 Clean energy production credit https://www.law.cornell.edu/uscode/text/26/45Y.
80. Internal Revenue Code § 48E(c)(3) Clean electricity investment credit https://www.law.cornell.edu/uscode/text/26/48E.
81. Internal Revenue Code § 45X(c)(1)(C) Advanced manufacturing production credit https://www.law.cornell.edu/uscode/text/26/45X.
82. Internal Revenue Code § 7701(a)(52)(A) https://www.law.cornell.edu/uscode/text/26/7701.

To satisfy the commercial readiness requirements, developers must provide a commercial readiness deposit at the beginning of each study in the cluster study process. In addition, FERC established increased study deposit and site control requirements while implementing penalties for withdrawing a request from an interconnection queue. These reforms are intended to discourage speculative interconnection requests, which can clog up the interconnection queue. Offshore wind projects with sufficient funding for study costs and network upgrades should benefit from FERC's reforms by being able to progress through interconnection queues faster.

While FERC was working on Order No. 2023, the largest RTO in the United States—PJM—chose to proceed with reforms of its interconnection process to address a backlog of interconnection requests. Consistent with the FERC initiative, PJM moved from a prior "first-come, first-served" approach to a "first-ready, first-served" approach. Accordingly, developers of projects that plan to interconnect to the PJM grid, including offshore projects in Maryland, Virginia and New Jersey, must pay increased interconnection study deposits and "readiness" deposits at three decision points throughout the interconnection process.

To prepare for offshore wind development in California, the California Independent System Operator (CAISO) adopted a 2024-2025 transmission plan which forecasts the addition of over 4.5 GW of offshore wind to the CAISO system. The transmission plan forecasts 2.9 GW of offshore wind interconnecting in the central coast area near Morro Bay and 1.6 GW of offshore wind interconnecting in the north coast area near Humboldt. These transmission plan assumptions will allow CAISO to work alongside other state agencies to study the cost and technical impact of interconnecting these offshore wind resources to the grid. If the associated transmission impacts are approved as part of the state's integrated resource planning process, the costs of these upgrades could be spread among all state utilities and community choice aggregators.

ISO New England, Inc. (ISO-NE) forecasts significant additions of offshore wind across Connecticut, Maine, Massachusetts and Rhode Island. In early 2025, wind projects (both onshore and offshore) comprised approximately 47% of the resources in the ISO-NE interconnection queue, with offshore wind representing the majority of those interconnection requests.[83] To accommodate the influx of offshore wind, ISO-NE intends to increase the limits of the North-South and Maine-New Hampshire interfaces. However, ISO-NE's transmission studies have determined that approximately 9,600 MW of offshore wind could interconnect in New England without new transmission infrastructure.[84]

The New York Independent System Operator's (NYISO) Winter 2024-2025 Operating Study projected 800 MW of offshore wind would come online in 2025.[85] Larger projects, such as the $3.3 billion Propel NY Project, are planned for completion by May 2030 to contribute to New York's Climate Leadership and Community Protection Act target of 9 GW of offshore wind by 2035. The Propel NY Project will include three new underground cables and a 345 kV transmission backbone to facilitate delivery of 3,000 MW of Long Island offshore wind to the rest of New York state.[86]

While PJM did not forecast significant offshore wind additions in 2025, transmission planning efforts are underway to accommodate high-demand energy centers like Northern Virginia and to address needs created by delays in the development of approximately 7.5 GW of offshore wind in New Jersey. Specifically, as part of its 2025 Regional Transmission Expansion Plan, PJM has recommended a NextEra/Exelon proposal to construct a 222-mile, 765 kV line from the Kammer substation in West Virginia to Juniata in Pennsylvania and two 765/500 kV substations to facilitate the import of power from western regions of the PJM footprint to the eastern load centers.[87]

83. See https://www.iso-ne.com/static-assets/documents/100025/oet_july2025_txplanning_final.pdf.
84. See https://www.iso-ne.com/static-assets/documents/100021/2050_osw_report_final.pdf.
85. See https://www.nyiso.com/documents/20142/47402002/Winter2024-25%20Operating%20Study%20Report%20DRAFT.pdf/9e5188aa-6f9f-0b43-117d-24906bb04ecd.
86. See NYISO Board Selects Transmission Project to Deliver Offshore Wind Energy, New York Independent System Operator (June 20, 2023), https://www.nyiso.com/-/press-release-%7C-nyiso-board-selects-transmission-project-to-deliver-offshore-wind-energy.
87. See https://www.investor.nexteraenergy.com/news-and-events/news-releases/2025/12-08-2025-210541869.

Gulf update

In late 2024, BOEM announced it would move forward with a competitive lease issuance process for the Gulf region, primarily in response to projects proposed by two energy project developers.[88] BOEM additionally announced it was prepared to hold another offshore wind competitive lease sale in the region as soon as 2026.[89] However, the series of executive actions in 2025 described above have significantly impeded the development of new offshore wind projects in the waters off the coast of Texas and Louisianna.

As noted earlier, the Executive Memorandum directs agencies to indefinitely halt the leasing and permitting of offshore wind projects on the OCS.[90]

On 29 July 2025, DOI Secretary Burgum issued Order 3437 "Ending Preferential Treatment for Unreliable, Foreign Controlled Energy Sources in Department Decision-Making," providing guidance to agencies regarding the implementation of the Executive Memorandum.[91] In accordance with Order 3437, BOEM took further action, rescinding all designated Wind Energy Areas (WEAs) on the OCS.[92]

Given that all offshore WEAs in the Gulf are on the OCS, all new or renewed approvals, rights-of-way, permits, leases and loans in the region handled by DOI and BOEM have been paused pending a review of federal wind leasing and permitting practices.[93]

Map 26: United States offshore wind activity in the Gulf Coast

United States Department of Energy, Office of Energy Efficiency & Renewable Energy Offshore Wind Market Report: 2024 Edition.

88. See https://www.boem.gov/renewable-energy/state-activities/gulf-america-activities; https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Hecate%20Energy_Gulf%20Wind%20Lease%20Application%20WEAs%20C%20and%20D_0.pdf; https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/GOMW-EOI-Invenergy-GOM-Offshore-Wind-LLC.pdf; https://www.boem.gov/newsroom/press-releases/boem-announces-next-steps-competitive-leasing-process-offshore-wind-energy.
89. See https://www.boem.gov/newsroom/press-releases/boem-announces-next-steps-competitive-leasing-process-offshore-wind-energy.
90. See https://www.whitehouse.gov/presidential-actions/2025/01/temporary-withdrawal-of-all-areas-on-the-outer-continental-shelf-from-offshore-wind-leasing-and-review-of-the-federal-governments-leasing-and-permitting-practices-for-wind-projects/.
91. See https://www.doi.gov/document-library/secretary-order/so-3437-ending-preferential-treatment-unreliable-foreign.
92. See https://www.boem.gov/newsroom/notes-stakeholders/boem-rescinds-designated-wind-energy-areas-outer-continental-shelf.
93. See https://www.boem.gov/renewable-energy/state-activities/gulf-america-activities.

Pacific update

California sustained some momentum in 2025 despite federal headwinds. The state continued to implement its offshore wind policy under Assembly Bill 525 and the California Energy Commission's ("**CEC**") Offshore Wind Strategic Plan, which reaffirm goals of 5 GW by 2030 and 25 GW by 2045 and outlines priorities for ports, transmission, permitting and workforce development.[94] In January 2025, the U.S. Department of Energy released the West Coast Offshore Wind Transmission Study and Action Plan, projecting that floating offshore wind could deliver up to 33 GW by 2050 with appropriate transmission infrastructure.[95] From February through March 2025, BOEM advanced its Programmatic Environmental Impact Statement for California offshore wind through a public comment period, part of ongoing federal environmental review for California lease areas.[96] In March 2025, the CEC proposed about $43 million in Clean Energy Program funding to upgrade waterfront facilities for floating offshore wind support.[97] In May 2025, the California Independent System Operator approved its 2024–2025 Transmission Plan, which includes transmission upgrades that can support offshore wind on the North and Central Coasts, and selected a firm to develop transmission for North Coast lease areas.[98] In the same month, California also joined a multistate lawsuit with 17 states and Washington, D.C. challenging the federal offshore wind leasing pause.[99]

In September 2025, the California Legislature approved approximately $227–228 million in Proposition 4 climate bond funding for offshore wind port infrastructure deployment.[100] In October 2025, the CEC awarded approximately $42.75 million in Proposition 4-supported grants to ports in Long Beach, Oakland, Richmond, Port San Luis and Humboldt to advance offshore wind port readiness.[101] Throughout 2025, ports, labor and industry partnerships advanced supply-chain planning and early engineering work, while advocacy groups continued pushing for additional funding in the FY 2026–27 budget.[102] Meanwhile, Oregon and Washington saw limited offshore wind activity in 2025, with no major new federal lease sales or significant project commitments.

Map 27: United States offshore wind activity in the Pacific

United States Department of Energy, Office of Energy Efficiency & Renewable Energy Offshore Wind Market Report: 2024 Edition.

94. See https://www.offshorewindca.org.
95. See https://www.energy.gov/eere/wind/articles/doe-releases-west-coast-offshore-wind-transmission-study-and-action-plan.
96. See https://www.boem.gov/renewable-energy/state-activities/california-offshore-wind-programmatic-environmental-impact.
97. See https://www.energy.ca.gov/programs-and-topics/programs/offshore-wind-waterfront-facility-improvement-program.
98. See https://www.caiso.com/about/news/news-releases/iso-board-of-governors-approves-2024-2025-transmission-plan.
99. See https://www.utilitydive.com/news/states-sue-trump-halt-wind-energy-development-approvals/747224/.
100. See https://lao.ca.gov/Publications/Report/5076.
101. See https://www.energy.ca.gov/programs-and-topics/programs/offshore-wind-waterfront-facility-improvement-program.
102. See https://lao.ca.gov/Publications/Report/5076.

URUGUAY

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Uruguayan offshore market

Uruguay is advancing an offshore wind strategy to channel world-class maritime wind resources into scalable production of green hydrogen and derivative products. Building on an energy mix that is already, on average, >90% renewable, Uruguay's plan to utilize its offshore wind resources is focused on green hydrogen production. Its Green Hydrogen Roadmap (2023) outlines an export-oriented pathway to approximately 1 million tons per year of green hydrogen by 2040, supported by roughly 18 GW of renewables and 9 GW of electrolyzers.

To achieve this objective, Uruguay has launched the H2U Offshore program, led by ANCAP (state-owned oil company) with technical support from the IFC – World Bank. The program adapts and applies proven oil-and-gas round mechanics to offshore wind-to-hydrogen, offering multi-phase, long-dated contracts designed to mature multi-GW projects at developers' own cost and risk.

Uruguay's strategy prioritizes hydrogen-derivative products anchored in export demand, grid complementarity and biogenic CO^2 access for e-fuels. For investors, the Uruguayan proposition combines transparent institutions, efficient permitting traditions, pragmatic contract design and a robust logistics base centred on Montevideo—together forming an investable platform for bankable, phased development.

Offshore wind sector and potential

Uruguay's Atlantic margin features a broad, shallow continental shelf with depths of approximately 20–50 meters beyond 43 km from shore, creating favorable conditions for fixed-bottom offshore wind. National assessments identify substantial technical potential, including an estimated 275 GW of offshore wind capacity in available areas and extensive complementary onshore wind and solar resource. The country's electricity matrix averaged 94% renewable generation over 2016–2022, with hydropower, wind, solar and biomass providing a stable backbone for hybridized electricity-and-molecules development models.

From a competitiveness perspective, modelled levelized costs of energy (LCOE) for large-scale projects indicate strong fundamentals. For 2030, offshore wind LCOE is projected around USD 1.2-1.4/kg by 2040 under favorable scenarios, complementing onshore wind and solar cost curves that are expected to remain globally competitive. Correspondingly, onshore green hydrogen production costs at 500+ MW scale are estimated at approximately USD 1.0–1.1/kg in the west and USD 1.2–1.4/kg in the east by 2040, exclusive of transport and storage. Downstream, e-methanol and e-jet fuel cost trajectories are projected to converge toward competitiveness under tightening carbon constraints, mandates and certification schemes in key import markets.

Uruguay's geographic and institutional profile further enhances bankability. The Port of Montevideo is a regional hub with expansion potential for fuels, chemicals and bulk export logistics, and the central railway link integrates resource-rich interior zones. Water use for the Roadmap's 2040 targets is estimated to be a fraction of current authorized withdrawals, and biogenic CO^2 availability—estimated at roughly 11 million tons per year—enables competitive e-fuel pathways. Governance quality, contract reliability, investment-grade ratings and strong ESG credentials reduce sovereign and execution risk compared with many emerging-market peers.

The ANCAP H2U Offshore Round: structure, scope, and implications

ANCAP is implementing the H2U Offshore chapter as an international tender system for the production of green hydrogen and derivative products from offshore wind, leveraging more than a decade of experience administering offshore oil and gas rounds. IFC is providing technical support. The framework is designed to accommodate the long-lead, capital-intensive nature of multi-GW hydrogen-derivative projects, prioritizing flexibility and phased commitments at developers' own cost and risk.

The contract template adapts production-sharing features to a "molecules-first" product definition. The evaluation period may extend up to 10 years, subdivided into phases with incremental work commitments.

ANCAP has proposed an initial offering of four offshore areas averaging approximately 700 km^2 each, located more than 43 km from shore in water depths between 20 and 50 meters. The areas were delineated to minimize interference with ecologically sensitive zones and maritime activities, including shipping corridors, fishing grounds and subsea cable routes, and reflect industry and expert input.

Participation requires legal, financial and technical qualification. Consortium participation is expected to be permitted both at bid and throughout the contract life. If multiple bids are submitted for a given area, awards will be made using an objective evaluation methodology incorporating economic parameters and commitments to acquire new data. The overarching premise is transparent competition among qualified sponsors with the appetite and capability to underwrite early-stage offshore wind-to-hydrogen development risk.

Uruguay's strategy for green hydrogen and derivative products

Uruguay's Green Hydrogen Roadmap, coordinated by the Ministry of Industry with an inter-institutional group and supported by international partners, sets a 2040 ambition of around 1 million tons per year of green hydrogen, underpinned by approximately 18 GW of new renewables and 9 GW of electrolyzer capacity. The Roadmap outlines a phased approach: pilots and enabling regulation through 2025; domestic scaling and first export-scale projects by 2030; and post-2030 acceleration to large-scale export of hydrogen and ammonia while deepening domestic decarbonization and potentially initiating offshore production.

Near-term domestic use cases include heavy-duty road transport, shipping bunkering development and green fertilizers, with the Roadmap indicating potential domestic market turnover of roughly USD 60 million in 2030 and USD 540 million in 2040 in a reference scenario. The national grid's renewable profile enables hybrid configurations for processes requiring higher availability, potentially reducing LCOE 5–10% relative to off-grid designs in specific applications. Over time, conversion of existing thermal plants to green fuels may provide seasonal balancing and further decarbonization of the power system.

By 2040, Uruguay targets capturing around 3.5% of select export markets across hydrogen, ammonia and e-fuels—equating to approximately USD 1.3 billion per year from exports alone, and roughly USD 1.9 billion when combined with domestic markets. E-jet fuel is expected to dominate export revenues by 2040, followed by hydrogen and shipping fuels (ammonia/e-methanol).

The H2U Program (Presidential Resolution 294/2022) institutionalizes cross-government coordination spanning regulation, infrastructure, investment promotion, capacity building and citizen dialogue. The Uruguayan Energy and Water Regulatory Office holds powers to regulate production, storage and transport of hydrogen and derivatives; environmental permitting is long-standing and structured; and land use and water governance frameworks are well developed. Existing investment promotion regimes, together with Uruguay's strong ESG profile and legal predictability, provide a conducive platform for capital formation.

Achieving the 2040 Roadmap targets could create more than 30,000 skilled jobs, contribute up to USD 1.9 billion in annual turnover and abate approximately 6 $MtCO^2$ per year. The program is framed as a second energy transition that not only deepens decarbonization, but also diversifies the productive matrix and strengthens Uruguay's positioning in sustainable global value chains.

Next steps for market participants

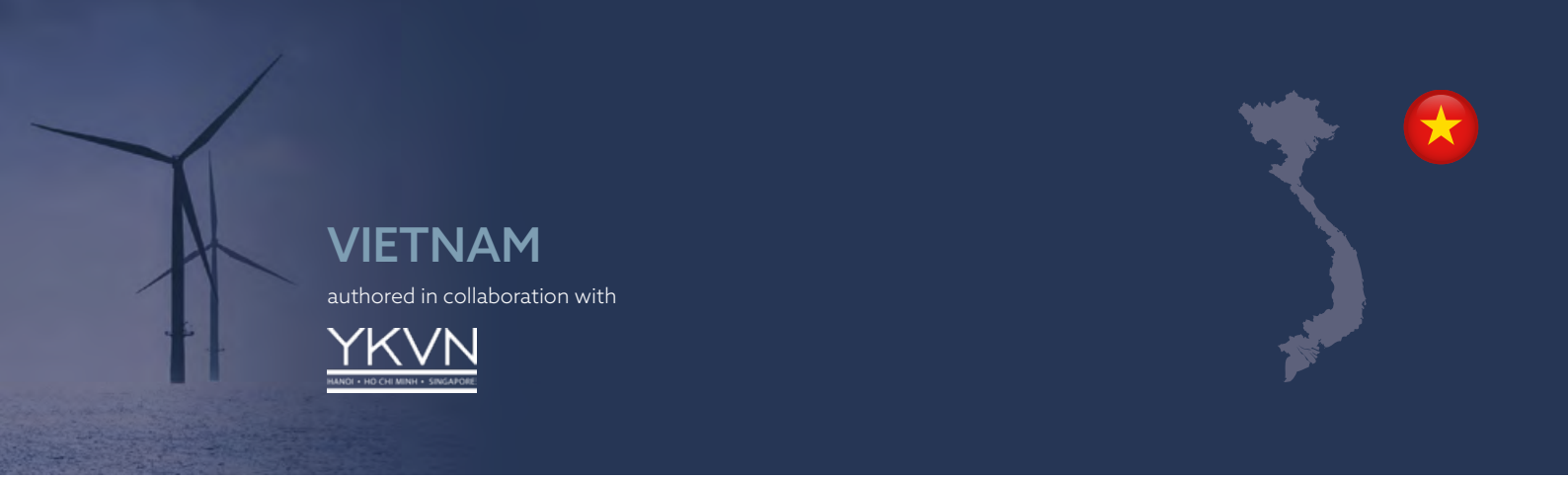
ANCAP initially communicated that the bidding terms and contract model for the H2U program were expected to be officially launched during 2025. While ambitious programs like this can be delayed, Uruguay's commitment to its second energy transition generates expectation to an imminent release of the terms and contract model.

Conclusion

Uruguay's offshore wind strategy is tightly coupled with an export-oriented hydrogen and derivative products vision, supported by an institutional framework that is pragmatic, investor-friendly and grounded in Uruguay's track record of delivering complex energy infrastructure.

The ANCAP-led H2U Offshore program offers a clear, phased entry point to multi-GW molecules projects, while the national Roadmap provides the policy scaffolding to build domestic demand, certification readiness and export capacity through 2040. ANCAP's participation guarantees a professional and international-standards proceeding, with blue-chip companies participating.

For investors, Uruguay presents a distinct Latin American opportunity: a stable, transparent jurisdiction purpose-built for bankable offshore-to-molecules development at competitive cost, with logistics and biogenic CO^2 advantages that complement a highly renewable grid.



VIETNAM

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The Power Development Master Plan VIII

Vietnam's Power Development Master Plan VIII was initially approved on 15 May 2023 and subsequently revised on 15 April 2025, with the implementation plan for such revised master plan adopted on 30 May 2025 (collectively, the "**Revised Master Plan VIII**"). The Revised Master Plan VIII is aimed at transitioning Vietnam away from its reliance on conventional power sources, such as coal, towards greener sources of energy production, such as solar, onshore and offshore wind, in order to reach net zero emissions by 2050. Offshore wind is one of the natural candidates for Vietnam to achieve this, given the country's 3,260 km of coastline, shallow water and consistent high winds, making the country widely viewed as one of the most promising new offshore wind markets. Pursuant to the Revised Master Plan VIII, offshore wind capacity is projected to reach 6 GW to 17 GW by 2030 - 2035, exponentially increasing to approx. 139 GW by 2050, which would represent from 14.7 to 16.6% of total national electricity capacity.[1]

According to the Revised Master Plan VIII, the development of offshore wind power projects in Vietnam is allocated by region as follows:

By 2030, the planned offshore wind capacity by region is:[2]

1.	Northern Region	2.5 GW
2..	South Central Region	2 GW
3.	Southern Region	1.5 GW

By 2035, the planned offshore wind capacity by region is:[3]

1.	Northern Region	11.2 GW
2..	South Central Region	4.3 GW
3.	Southern Region	1.5 GW

To start Vietnam's journey in achieving these goals, the Vietnamese government has designated PetroVietnam ("**PVN**") as the lead entity for piloting investment in offshore wind power projects in Vietnam. In this role, PVN has been working closely with the Ministry of Industry and Trade ("**MOIT**") to develop a pilot framework for offshore wind power development in Vietnam. PVN, through its subsidiaries and affiliates, has completed extensive surveys and prepared comprehensive technical documentation in support of the pilot. In parallel, PVN is undertaking technical and legal assessments to facilitate future project development, with a particular focus on the South Central and North Central coastal regions, where wind resources are most favorable.

On 11 November 2024, the National Assembly of Vietnam officially adopted the new law on electricity ("**2024 Electricity Law**"). The 2024 Electricity Law took effect on 1 February 2025 and provides the basis for the fundamental rules on the development of offshore wind projects in Vietnam. The implementation of the 2024 Electricity Law is further guided by Decree No. 58/2025/ND-CP (Government, 3 March 2025) ("**Decree 58**"), which sets out detailed regulations for the development of renewable energy and new energy, including offshore wind projects, in Vietnam.

In addition, following Resolution No. 70-NQ/TW (Politburo, 20 August 2025) on Vietnam's comprehensive energy strategy to 2030 (with a vision to 2045), the National Assembly adopted Resolution 253/2025/QH15 (National Assembly, 11 December 2025) ("**Resolution 253**"), effective from 1 March 2026. Resolution 253 introduces an enhanced regulatory framework for offshore wind development for the 2025–2030 and 2031–2035 periods (see discussion below).

PPA bankability issues

One of the key hurdles to offshore wind development in Vietnam to date relates to the form of Vietnamese law power purchase agreement ("**PPA**") into which developers of offshore wind projects have previously been required to enter with the state-owned power company, EVN. At present, this PPA is not widely seen as being bankable, which is an essential requirement to attract the syndicates of financiers required to finance the development of Vietnam's offshore wind farms.

The PPA omits a number of protections that international financiers would be expected to require for the PPA to be bankable, including the inclusion of:

1. lender step-in rights;
2. settlement of disputes in neutral jurisdictions;
3. credit support for EVN—the PPA is not proposed to be backed by a state guarantee nor other credit support (notwithstanding that the credit rating of the offtaker is below the level which many international financiers would ideally like to see);
4. payment protection for political *force majeure*;
5. change in law protection;
6. curtailment protection; and
7. termination payment provisions.

1. Revised Master Plan VIII, Sections III.1(b) and (c).
2. Revised Master Plan VIII, Table 17 of Appendix II.1.
3. Revised Master Plan VIII, Table 18 of Appendix II.1.

However, as noted below, corporate power purchase agreements are now possible, and this may open up the market for a more bankable form of offtake structure.

Support regime

Another key area of focus for developers and financiers is whether an offshore wind project in Vietnam will be entitled to benefit from a financial support regime. The Feed-in-Tariff ("**FiT**"), which would provide developers with a guaranteed revenue stream for their renewable energy project, was discontinued in November 2021.

International developers therefore want surety on what the FiT is going to be replaced with and at what level this financial support is going to be set so that figures can be modelled for the purposes of raising debt to finance development and construction. Based on the latest legislative developments, it is unlikely that any new FiT will be approved. Instead, the electricity generation price framework applicable to offshore wind powerplants for 2025 is differentiated by region, with indicative ceiling prices of VND 3,975.1 per kWh for the Northern Region, VND 3,078.9 per kWh for the South Central Region, and VND 3,868.5 per kWh for the Southern Region.[4] Overall, the new ceiling tariffs represent a meaningful improvement over earlier proposals. While some international developers have expressed concerns about market viability, these regulatory and commercial developments signal stronger government commitment to offshore wind. The coming period will show whether these enhancements are sufficient to further build investor confidence and support the commercial viability of offshore wind and large-scale renewables in Vietnam.

Under Decree 58, offshore wind power projects that (i) are decided or approved in principle for investment by a competent government authority prior to 1 January 2031 and (ii) in the case of projects supplying electricity to the national power system, fall within the 6 GW capacity quota approved under the Revised Master Plan VIII, are eligible for a defined incentive regime. Whilst not a price-based support mechanism, this incentive regime provides meaningful support to offshore wind developers during the construction and early operational phases of an offshore wind farm, including:[5]

i. **sea area fees:** full exemption during the construction period for up to three years from commencement, followed by a 50% reduction for the subsequent 12 years.

ii. **and-related fees:** full exemption from land use and land rental fees during the construction period for up to three years, with any post-construction incentives subject to the applicable laws on investment and land.

iii. **offtake support:** a long-term minimum contracted electricity output of 80% during the principal loan repayment period, capped at 15 years, for projects selling electricity to the national grid, subject to agreed exceptions and excluding certain project and system-related risks.

Extensive permitting procedures

Offshore wind farms are multi-year development projects, typically requiring multiple permits and licenses for a sponsor to carry out various activities at an offshore site. In more established offshore wind markets, governments have recognized the benefits of having only a few or a single point organization(s), which issues such permits and licenses. This adds transparency to the application process and inevitably ensures a streamlined, consistent approach to permitting, which developers can take confidence in. At present, this is not the case in Vietnam. In total, nearly 20 different permits and licenses are required to develop an offshore wind farm in Vietnam. These need to be obtained from multiple different authorities and stakeholders at varying governmental levels, which naturally makes the permitting process slow, costly, inconsistent and bureaucratic.

Grid connection issues

The quality of Vietnam's grid varies by province, and with potential offshore wind sites located down the breadth of Vietnam's coastline, grid improvement works will be required in certain areas to transmit the power generated from offshore wind farms to load centers, including from the South-Central region where the grid is already congested due to it being a hotspot for renewable power generation. These grid upgrade costs are unlikely to be able to be completed in parallel to the development and construction of offshore wind farms in grid-constrained regions, such that there will be a bottleneck of development in these areas.

Grid improvement works that are necessary to supply the increased capacity flowing to Northern Vietnam (where there is a significant lack of grid connectivity) would be costly at a time when EVN is under pressure to keep electricity prices low to counter inflation. However, since March 2022, it is now possible for grid connections to be privately financed, which should ease the burden on EVN and promote development. However, how such new regulations are implemented by the MOIT remains to be seen.

Lack of regulatory framework

Vietnam currently lacks the robust regulations needed to develop large offshore wind farms. Nonetheless, recent government actions indicate an initial shift toward facilitating offshore wind investment. As offshore wind power is a relatively nascent industry in Vietnam, both business and local authorities alike are attempting to scale the learning curve.

The Ministry of Agriculture and Environment ("**MOAE**") made a proposal to the Prime Minister for a temporary halt in appraisal and approval for the surveying of offshore wind power projects until a comprehensive legal framework can be established, *e.g.*, wind measurement, geological and topographic survey and environmental impact assessment at sea. Recent progress in this respect has been made, as the national maritime spatial plan has been enacted on 28 June 2024.[7] According to the MOAE, this will serve as the basis for the amendment decree to Decree No. 11/2021/ND-CP, which regulates the allocation of specific marine areas to organizations and individuals for the exploration and utilization of marine resources. This amendment is expected to address obstacles related to the allocation of marine areas for investigation, measurement and survey.

4. Decision No. 1824/QĐ-BCT (MOIT, June 26, 2025) approving the 2025 electricity generation price framework for offshore wind power plants.
5. Decree 58, Article 25.
6. Law No. 03/2022/QH15, amending the Law on Electricity, Article 6.
7. Resolution No. 139/2024/QH15 (National Assembly, June 28, 2024) on national maritime spatial planning for the period of 2021-2030 with a vision towards 2050.

Notably, the 2024 Electricity Law provides that enterprises wholly owned by the Vietnamese State ("**SOE**") are eligible to conduct offshore wind site surveys, including, for example, PVN. Decree 58 elaborates on the eligibility criteria applicable to other investors seeking to participate in offshore wind site surveys. To obtain approval, investors are required to, among others, submit a clear and feasible survey scheme consistent with the Revised Master Plan VIII, commit to prioritizing domestic labor, goods and services, and acknowledge that all survey-related costs are non-refundable. In addition, investors must demonstrate sufficient financial and technical capacity, either on a standalone basis or through qualified partners, and obtain written concurrence from the relevant authorities, including the Ministry of National Defense ("**MOND**"), the Ministry of Public Security ("**MOPS**"), MOIT and the Ministry of Foreign Affairs ("**MOFA**") (collectively, the "**Managing Authorities**"). MOAE is responsible for reviewing applications, selecting eligible entities and issuing decisions to allocate sea areas for offshore wind power surveys.[8]

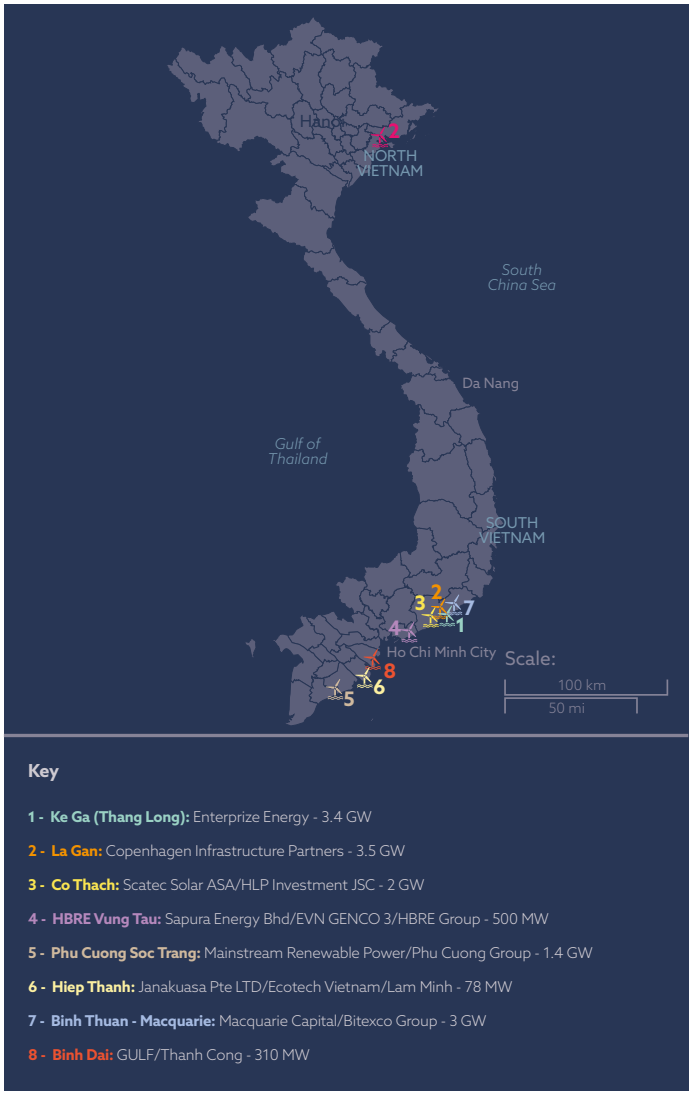
Decree 58 further sets out eligibility conditions for foreign investors and foreign-invested enterprises ("**FIEs**") participating in offshore wind power projects. Such investors must demonstrate prior offshore wind development experience (*i.e.*, at least one offshore wind project developed in Vietnam or overseas (compared to one energy project applicable to onshore investors)), either independently or through consortium members, and meet minimum financial capacity requirements, including a capital contribution of at least 15% of the total estimated project investment (compared to 5% applicable to onshore investors) and a minimum equity ratio of 20% of the participating capital. In addition, projects must include a qualified domestic enterprise (being an SOE or an enterprise majority-owned by an SOE) holding at least a 5% equity or voting interest, obtain written concurrence from the MOND, MOPS and MOFA, and commit to prioritizing the use of domestic labor, goods and services throughout the development, construction and operation phases.[9]

In relation to offshore wind power projects proposed by enterprises with 100% of their equity interest held by the Vietnamese State or an SOE, the Prime Minister may issue the investment policy decision and investor approval concurrently, removing the need for a competitive bidding process. It should be noted that Decree 58 also seeks to address where such projects require additional capital and experience from additional investor(s) in order to progress through development and construction. In this scenario, the relevant state-owned enterprise(s) may form joint ventures or associations with private sector investors to implement their first offshore wind power project, provided that the proportion of shares and capital contributions of the state-owned enterprise in the economic organization implementing the project must exceed 50%.

It is further noted that, the Resolution 253 introduces the following key enhancements, among others:[10]

i. the Prime Minister may approve certain offshore wind projects without a land-use rights auction or bidding, provided they (A) sell electricity to the national grid, (B) meet national defense, security, maritime, environmental or oil and gas requirements and (C) are included in the national power development plan with an expected commercial operation date ("**COD**") in 2025 – 2030.

Map 28: Vietnam's more progressed offshore wind projects



ii. for projects expected to achieve COD in 2031 - 2035, (A) provincial People's Committees may approve investment policies with prior written opinions from key ministries (including the Managing Authorities, MOAE, Ministry of Finance and Ministry of Construction); and (B) competent authorities may allocate sea areas to SOEs to conduct surveys where investment policy approval has not been issued or no complete survey application has been filed.

Any transfer or sale of shares or capital contributions, or the transfer of part or all of an offshore wind project involving foreign investors or FIEs must obtain the written concurrence of the Managing Authorities. For projects that have not yet commenced commercial operation, the transferee must satisfy the applicable eligibility requirements for foreign investors. For projects that are already in operation, the equity requirements, state enterprise participation requirements and domestic resource utilization commitments must continue to be met. In addition, the SOEs, or their affiliates, are granted a right of first refusal to acquire part or all of the transferred participating interests under the relevant cooperation agreements for offshore wind project development.[11]

8. Decree 58, Article 26.
9. Decree 58, Article 28.1.
10. Resolution 253, Articles 11 and 12.
11. Decree 58, Article 32.3.

Corporate PPAs

Vietnam has embraced corporate power purchase agreements for offshore wind electricity, marking a significant step forward for offshore wind energy development in the country. Decree 57/2025/ND-CP (Government, 3 March 2025) ("**Decree 57**") provides two options for private offtakers ("**Consumers**"), consuming at least 200,000 kWh per month (or such other capacity and consumption thresholds as may be approved from time to time), to purchase electricity from participating power plants ("**Private Generators**"):

1. **Physical DPPA**: Consumers purchase electricity directly from Private Generators via private transmission lines.
2. **Financial DPPA**: Consumers purchase electricity from Private Generators through the national grid.

   For Physical DPPAs, Decree 58 stipulates that such projects must be fully implemented by domestic investors (including, for example, economic organizations established and operating under Vietnamese law) or investors participating in capital contribution with a shareholding ratio of over 50% of the charter capital in the economic organization implementing the project.

For financial DPPAs:

- **Private Generators** must have a minimum installed capacity of 10 MW connected to the national grid and participate in the Vietnam Wholesale Electricity Market.
- **Consumers** must use the electricity for production purposes with a connection voltage of 22 kV or higher and a monthly consumption of at least 200,000 kWh (or such other capacity and consumption thresholds as may be approved from time to time).
- **Authorized electricity retailers** are required. These retailers are authorized by Consumers in industrial parks/clusters to purchase electricity from the Electricity Corporation (operated by EVN) and enter into forward contracts with Private Generators.

There is currently no standard model CPPA for private energy transactions between Private Generators and Consumers. However, certain mandatory key terms must be included, such as the purpose of use, standards and quality of service, electricity pricing, payment methods and payment terms, *etc*. Private Generators and EVN possess a degree of flexibility to negotiate the terms and conditions of the CPPA with the key provisions set out in Decree 57. Additionally, Decree 57 includes key provisions for (i) the CPPA between the Consumers (or an authorized electricity retailer in industrial parks or clusters) and the relevant power corporation (a subsidiary of EVN), and (ii) the forward contract between Private Generators and Consumers.

Although the pricing condition for Physical PPAs generally align with those applicable to traditional PPAs, the introduction of a more flexible framework represents an encouraging step toward broadening commercial pathways for offshore wind projects. While further differentiation in tariff structures may enhance investor incentives, the current developments signal the Government's growing willingness to accommodate diverse transaction models and may lay the groundwork for more competitive pricing mechanisms as the market matures.

Outlook

Vietnam's recent regulatory reforms reflect some commitment to establishing a structured framework for offshore wind development. Although the transition away from FITs creates greater reliance on market-based pricing, the new regime provides clearer planning signals, defined eligibility requirements and targeted incentives to support early-stage project viability.

Developers are watching these developments with interest. While Ørsted and Equinor recently decided to exit the Vietnamese offshore wind market, significant interest remains, with developers including Copenhagen Infrastructure Partners (through a partnership with PVN), Mainstream Renewable Power, PNE AG, Enterprize Energy and Sumitomo Corporation all seeking to progress offshore wind opportunities in Vietnamese waters.

In this context, international developers with proven experience, technology and capital remain well-positioned to partner with Vietnamese authorities and domestic enterprises to advance offshore wind projects in Vietnam.

OTHER KEY JURISDICTIONS

Authored by Adam Smith (Orrick) and Milo Dunne (Orrick) – refer to page 141 for contact details.

China

China's offshore wind market continues to scale at pace, faster than any other jurisdiction in the world.

The country currently boasts around 41 GW of installed offshore wind capacity (half of the total global installed capacity), with a further 200 offshore wind farms currently in planning or under construction.

The Global Wind Energy Council expects China to add an additional 65 GW of offshore wind capacity up to 2029, noting that the government has introduced a regulatory framework which paves the way for up to 200 GW of additional capacity in China's exclusive economic zone.

In the coming years, China plans to shift its focus away from near-shore wind farms to floating offshore wind farms, located in deeper water. Indeed, Ming Yang has announced plans to build the world's largest floating wind turbine—with a 50 MW capacity, the two-headed turbine would be more than double the size of the 20 MW Qihang prototype installed by CRRC (the state-owned manufacturer) in January 2025, which CRRC claimed to be the world's largest floating offshore wind turbine.

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Greece

Greece currently has no offshore wind capacity, but is targeting at least 2 GW of installed offshore wind capacity by 2030 and has a draft plan that includes 25 eligible development areas covering a total area of 2,712 square km in the Aegean, Ionian and Mediterranean seas. With its deep seas, Greece is ideally suited for floating offshore wind projects and it should benefit as floating turbine technology continues to evolve in the coming years.

The Greek government approved a legislative framework in 2022, which provided for the development of the first offshore wind farms in the country. Greece's authorized support mechanism is yet to be outlined by the European Commission, but it is expected that the government will adopt a sliding feed-in-premium scheme to support offshore wind development. The National Offshore Wind Program was finalized in 2024 and is expected to be adopted by way of a joint ministerial decree, but has not yet been formally approved.

Notwithstanding the pace of legislative action, interest from international developers is high. For example, Motor Oil and Terna Energy have formed a joint venture to develop the country's first offshore wind farm, a 400 MW pilot project in the sea area south of Alexandroupolis and north of Samothrace, and the incumbent utility, the Public Power Corporation, is also planning to develop the 216 MW Thrakiki Wind 1 project.

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Latvia

Energy security continues to be a major priority for Latvia (as well as the other Baltic states) as it seeks to cut its reliance on energy imports from Russia.

Although there are no operational offshore wind farm projects in Latvia, the country's National Energy and Climate Plan aims to increase its target wind capacity from approximately 70 MW to 800 MW by 2030. Additionally, although the country does not yet have a dedicated offshore wind regulatory framework for offshore wind (i) in September 2020, the Latvian Energy Minister, together with those of other countries around the Baltic Sea, signed a declaration committing to closer cooperation on offshore wind; (ii) in August 2022, Latvia and other countries around the Baltic Sea agreed on improving their cooperation to strengthen the region's energy security and increase the current wind energy capacity of the Baltic Sea sevenfold by 2030; (iii) in April 2024, those same countries signed a joint declaration on closer collaborating to secure critical offshore energy infrastructure in the region against the threat of Russian sabotage; (iv) in February 2025, the Energy and Environment Agency (a newly-formed state body) began work, with the stated purpose to streamline the implementation of renewable energy projects and environmental impact assessments; and (v) in March 2025, the Ministry of Climate and Energy in Latvia published the first draft of Energy Strategy for 2050, which foresees significant investment in renewable energy sources and a future energy mix dominated by renewables, including wind and solar energy, to reduce dependence on fossil fuels (next steps include further development and implementation of the Strategy through legislation and regular policy updates supported by a monitoring mechanism).

Latvia's only current offshore wind project is the ELWIND project, a 1 GW joint Estonian-Latvian state-run cross-border offshore wind project, in respect of which early-stage development work and legislative planning is continued throughout 2025 in collaboration with the Estonian government. The ELWIND project will also seek to improve interstate electricity connectivity as between Latvia and Estonia, underpinning interconnection as a key feature of Latvia's offshore wind plans. To this end, Latvia, together with seven other countries around the Baltic Sea, is a member of the Baltic Energy Market Interconnection Plan, which will support the energy transition of the Baltic Sea region and aims to achieve an open and integrated energy market amongst the EU countries of the Baltic region. Latvia's interconnection plans extend beyond the transfer of electricity—in September 2024, the gas transmission system operators of Finland, Estonia, Latvia, Lithuania, Poland and Germany completed a pre-feasibility study on the Nordic-Baltic Hydrogen Corridor, which is expected to transport up to 2.7 million tons of renewable hydrogen annually between the countries by 2040 and which will also be key to unlocking the region's power-to-X potential.

Aside from the ELWIND project, a number of global players have, in recent years, announced joint ventures with the stated aim of exploring opportunities for offshore wind in the Baltic region, including Latvia. Notable examples include Ørsted and Enefit (a subsidiary of Eesti Energia), Copenhagen Infrastructure Partners and Ignitis Renewables, RWE and Latvenergo, Vattenfall and Synthos, PNE and Eolus and European Energy and Vargronn.

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Malta

Malta currently has no operational offshore wind capacity and its power system is small and islanded, with demand largely met by onshore generation and the Malta–Sicily interconnector, which supplies roughly 30% of the country's power. The government has not set a specific offshore wind target (for 2030 or otherwise), but aims to be "climate-neutral" by 2050.

Physical conditions in Malta favor floating technology, as water depths increase rapidly close to shore, fixed-bottom siting options are limited, and maritime uses are dense relative to sea area. Accordingly, the first offshore wind project in Malta is intended to utilize floating turbine technology.

Malta launched its first offshore wind tender in December 2024 seeking bidders for a potential 280-320 MW floating project, to be located 25 km off the coast in one of two potential sites, in the country's exclusive economic zone. Electricity generated will be supplied to the Maltese DSO (Enemalta), with the benefit of a CfD (although the specific form of the country's CfD regime has not yet been finalized). The project will also be required to provide operation and maintenance services for the offshore substation and export cable system, although these assets will be state-owned.

Three bids were submitted in July 2025. These came from: (i) the Code Zero consortium (led by Shanghai Electric Power, with partners Kornelio Energy 1, M. Demajo and NMK Renewables); (ii) the Atlas Med Wind consortium (led by GreenIT, with partners Seatrans Shipping, Central European Advisors and Copenhagen Infrastructure Partners); and (iii) MCKEDRIK (a sole applicant from Greece). These bids are currently under evaluation, and it is expected that selected candidates will be invited to submit initial proposals in early 2026.

Authored by Adam Smith (Orrick) and Milo Dunne (Orrick) – refer to page 144 for contact details.

New Zealand

The New Zealand government has an aspirational target of 100% renewable electricity generation by 2030 and, given that New Zealand has some of the best wind resources of any country in the world, the New Zealand government intends to capitalize on this through the build-out of offshore wind.

In 2023, the New Zealand government introduced their Offshore Renewable Energy Bill, which was intended to create a new regulatory regime that would enable developers to construct offshore wind farms off the coast of New Zealand. During the legislative process, offshore wind developers raised concerns regarding projects co-existing with seabed mines (this resulted in some developers, such as BlueFloat Energy, withdrawing from the market). To address these concerns, the government pledged in September 2025 to "clear a path" for offshore wind by pausing the granting of permits for seabed mining in areas designated for offshore renewable projects.

Notwithstanding such challenges, interest by international and incumbent developers continues to grow. Copenhagen Infrastructure Partners and NZ Super Fund are jointly developing the 1 GW South Taranaki offshore wind project in the South Taranaki Bight. Venterra Group and Tonkin + Taylor, as well as ParkWind and the Meridian Energy, have entered into MoUs to explore offshore wind developments in the country.

Authored by Adam Smith (Orrick) and David O'Donovan (Orrick) – refer to page 145 for contact details.

Turkey

Turkey is positioning itself as a new player in offshore wind, building on its strong renewable energy base and extensive coastlines. In 2022, the country's National Energy Plan introduced a target of 5 GW of installed offshore wind capacity by 2035. In 2024, the government, in partnership with the World Bank, released its first Offshore Wind Roadmap (the "**Roadmap**"), outlining strategic priorities for sector development, identifying potential sites in the Aegean, Marmara and Black Seas and highlighting the need for regulatory clarity and grid upgrades. While there are currently no operational offshore wind farms, the Roadmap set an indicative ambition of up to 7 GW of installed offshore wind capacity by 2040 and notes that Turkish waters comprise a "total technical potential offshore wind resource estimated at 75 GW".

Momentum increased in January 2026 with the government's announcement of the country's first offshore wind auction, a significant milestone for the sector. The auction is expected to attract both domestic and international investors, with further details on capacity, location and support mechanisms to be released soon. As the regulatory framework is finalized, Turkey's offshore wind market is poised for growth, offering new opportunities for investment and supply chain development, though challenges remain around permitting, technical deployment and grid integration.

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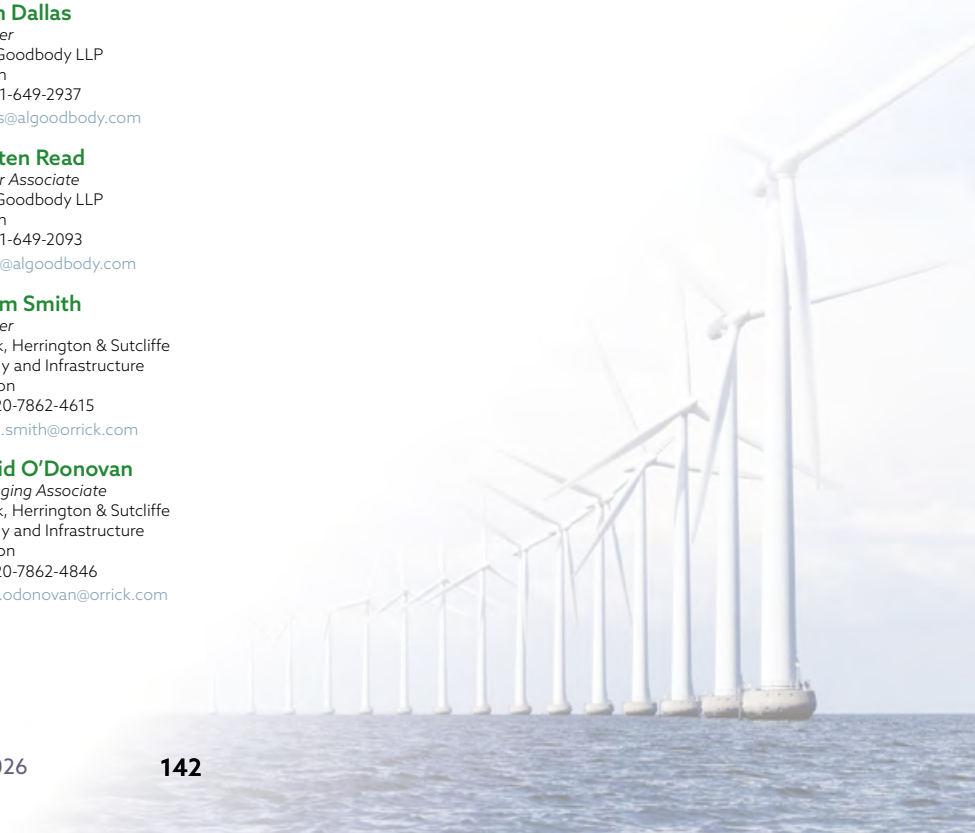

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