

# WELCOME TO THE NORTH CHANNEL WIND PUBLIC EXHIBITION

Welcome to our exhibition and thank you for joining us to find out more about North Channel Wind, a flagship renewable energy development for Northern Ireland.

Using the latest floating wind turbine technology, we are proposing to build and operate two offshore wind farms in the Irish Sea - North Channel Wind 1 & 2.

This exhibition is the first of a number of consultation events designed to keep you informed and encourage feedback, as we move forward with the development of North Channel Wind.

## THIS EXHIBITION INCLUDES INFORMATION ON THE FOLLOWING TOPICS:

- ✔ Project location and development approach
- ✔ Northern Ireland's aspiration to develop offshore wind
- ✔ Current project status and development timeline
- ✔ Generating electricity from offshore wind
- ✔ Description of the project
- ✔ Environmental Impact Assessment
- ✔ Visualisations of what the wind farms could look like
- ✔ Fishing engagement
- ✔ Community and supply chain
- ✔ How to get in touch

## YOUR FEEDBACK

Your feedback plays a significant role in the ongoing development of the project. Please take your time viewing the information and get in touch if you have any questions or comments in one of the following ways:

- ✔ Fill in a feedback form at the end of this exhibition or via [northchannelwind.com](https://northchannelwind.com)
- ✔ Request a call-back by phoning **+44 (0)28 9051 1382**
- ✔ Email our stakeholder manager Fiona Stevens: [fiona.stevens@northchannelwind.com](mailto:fiona.stevens@northchannelwind.com)

## DEVELOPMENT TEAM

North Channel Wind is a wholly owned subsidiary of SBM Offshore and the front end development work is being carried out by NMK Renewables Limited. SBM Offshore is a global market leader in floating offshore solutions for the energy industry. A deep-water specialist with over 60 years of experience and innovation, SBM brings engineering and technical expertise to the projects.

The NMK Renewables team has decades of experience in the renewable energy sector and are passionate about delivering offshore wind projects that can enhance coastal communities and enable Northern Ireland to achieve its energy and climate targets.



# SBM OFFSHORE



SBM Offshore is a worldwide provider of floating solutions to the offshore energy industry.

Our experience in the oil and gas industry allows innovation in renewables, bringing strong engineering and technical capabilities to the North Channel Wind projects.

SBM Offshore's strategy is founded on the three components of environmental, social and governance:

- ✓ Environmental: focusing on energy transition towards net-zero
- ✓ Social: creating a safe and inclusive environment where people inspire and empower each other
- ✓ Governance: carrying out values-based actions to achieve high ethical standards

## TRANSITION TO NET ZERO

At SBM Offshore we use our oil and gas know-how and tried and tested marine capability to develop and deliver new forms of renewable energy technology, including floating wind turbines, wave energy converters and energy storage, aiming to be net-zero by 2050.

### Provence Grand Large

Construction is underway at Provence Grande Large, France's first floating offshore wind farm. SBM is delivering the design and EPCI (engineering, procurement, construction, installation) of the floating platform and mooring system, based on our tension leg platform design. Jointly owned by EDF Renewables and Maple Power, Provence Grande Large will account for approximately 10% of the globally installed floating wind electricity generation capacity in 2023



### Health, Safety & Security

We are committed to safeguarding the health, safety and security of our employees, subcontractors and assets, as well as minimising the impact of our activities on local ecosystems and proactively protecting the environment. SBM Offshore's Total Recordable Injury Frequency Rate has remained below the International Association of Oil and Gas Producers' (IOGP) average since 2018.



### Deepwater experience

We have successfully delivered 15 deep water projects in depths between 500 and 2000+ metres.

### Global presence

Our 7000 staff operate from 15 locations globally, covering 72 nationalities.



# PROJECT LOCATION AND DEVELOPMENT APPROACH



North Channel Wind 1 and 2 are proposed floating offshore wind farms in the North Channel of the Irish Sea. North Channel Wind 1 (NCW 1) is off the east coast of County Antrim, with turbines positioned between 9 km and 25 km from the shore (nearest to farthest).

North Channel Wind 2 (NCW 2) is located off the south-eastern coast of County Antrim and north east coast of County Down, with turbines between 15 and 24 km from shore (nearest to farthest).

## WHY THE NORTH CHANNEL?

Many factors are taken into consideration when identifying areas suitable for potential floating offshore wind farms. North Channel Wind has undertaken comprehensive work to determine the optimum area for the development of financeable floating offshore wind projects. These include:

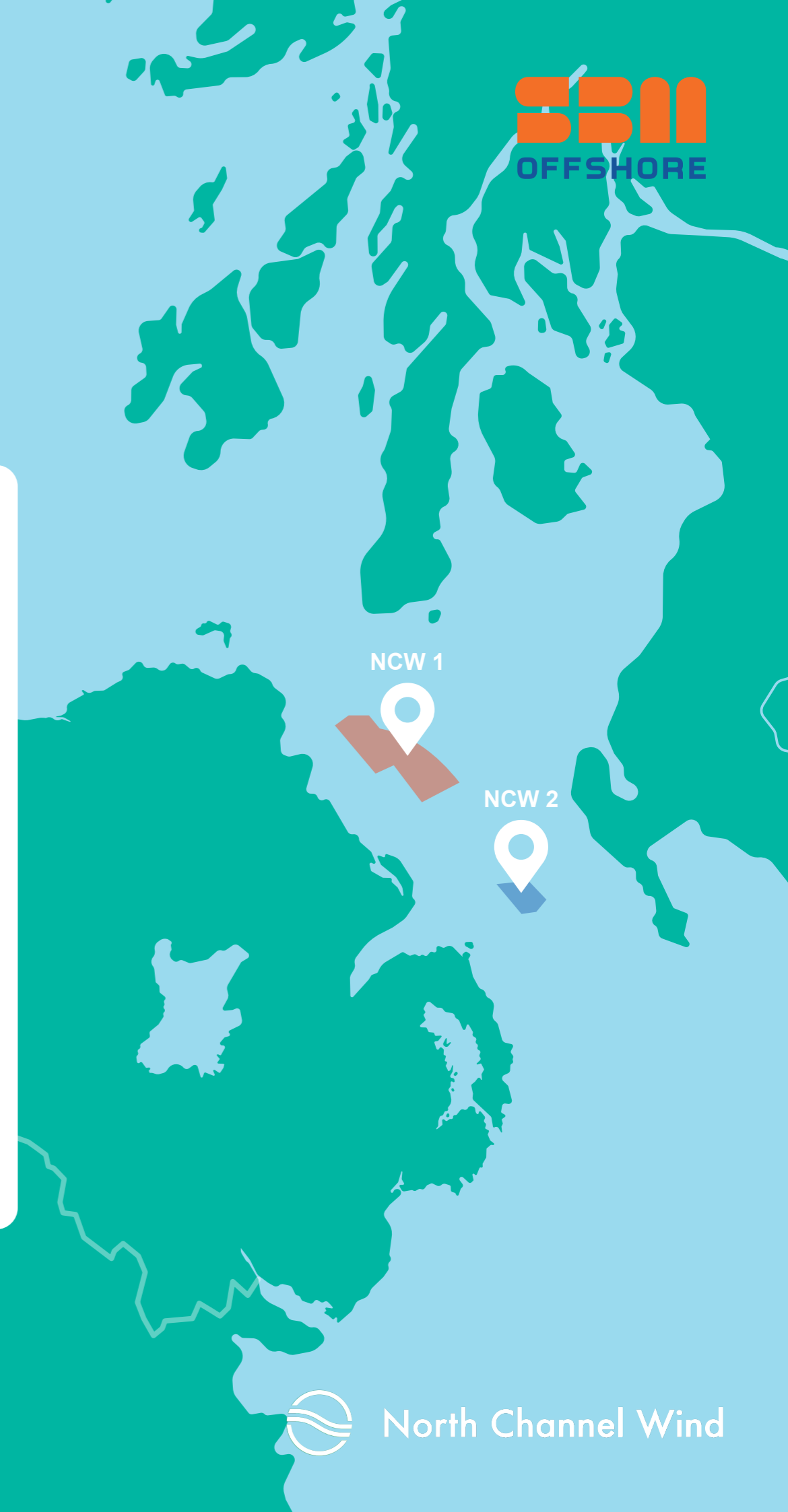
- ✔ The availability of good wind resource
- ✔ Potential to connect to the electricity grid
- ✔ The constraints in Northern Ireland territorial waters
- ✔ Absence of hard constraints, such as areas already leased by the State for other uses
- ✔ International shipping routes
- ✔ Water depth or seabed conditions
- ✔ Environmental, technical and economic considerations

The combination of all the above factors are the main reasons why we have identified the North Channel as an excellent location for a floating offshore wind development.

## OUR DEVELOPMENT APPROACH

Our approach to the development of North Channel Wind is based on a number of fundamental principles, including:

- ✔ **Stakeholder Engagement**  
We are committed to sharing our proposals for the project widely and openly. We welcome feedback from all project stakeholders including the local community.
- ✔ **Delivering a Buildable Project**  
North Channel Wind will be one of the first floating offshore wind farms in Northern Ireland and the technology is evolving all the time. We are taking a “technology neutral” or “design envelope” approach by describing a range of different designs and configurations that may be deployed. These are described in our Scoping Report.
- ✔ **Whole Project**  
In line with international best practice, and as far as possible, we will design a project that considers all the elements of the wind farm development, both onshore and offshore. This also includes considering all project phases from the current development stage, through construction and operation, to decommissioning.



# NORTHERN IRELAND'S ASPIRATION FOR OFFSHORE WIND



In 2022 the Northern Ireland Assembly set a target that by 2030, at least 80% of electricity consumed in Northern Ireland should come from renewable energy sources. To help reach this goal, the Northern Ireland Government announced the ambition to achieve 1 gigawatt of offshore wind energy.

## Benefits of North Channel Wind

Northern Ireland has excellent wind speeds. The North Channel Wind projects offer an opportunity to help our environment and deliver benefits to our economy and communities.



### Security Of Supply

Generating our electricity locally from offshore wind will reduce our reliance on imported fossil fuel-based energy and significantly improve energy security.



### Investment

NCW would be Northern Ireland's largest generator, bringing substantial investment to the local economy, supporting the development of a local supply chain and job creation.



### Community

NCW is committed to citizen engagement and will work closely with local communities throughout the development to maximise the benefit to the local area. There are various mechanisms and schemes to support communities in different jurisdictions. NCW plans to investigate best practice internationally, and through meaningful dialogue with communities and stakeholders develop a bespoke process which will support local communities and other marine stakeholders.



### Renewable Electricity

We estimate that NCW 1 has the potential to generate electricity equivalent to around 58% of NI's total electricity consumption, based on 2022 figures. NCW 2 has the potential to generate around 24% of consumption.



### Climate Change

We estimate NCW 1 could potentially save over 1.8 million tonnes of carbon emissions every year compared to the equivalent generation by non-renewables. NCW 2 could potentially save over 794,000 tonnes every year.



### Biodiversity

Development of an equitable marine 'net gain' system, enabling both strategic and site-based programmes to enhance marine biodiversity.

*Potential electricity equivalent has been estimated by dividing the estimated annual generation (for NCW 1 based on 1000 MW installed capacity or for NCW 2 based on 420 MW installed capacity) by the Dept. for the Economy's figure for total electricity consumption in Jan-Dec 2022 (Issue-26-Electricity-Consumption-and-Renewable-Generation-in-Northern-Ireland-January-2022-to-December-2022)), multiplied by 100.*

*Potential carbon reduction has been estimated by multiplying the estimated annual generation (for NCW 1 based on 1000 MW installed capacity or for NCW 2 based on 420 MW installed capacity) by the number of tonnes of carbon which fossil fuels would have produced to generate the same amount of electricity, based on the Dept. for Energy Security and Net Zero's "all non-renewable fuels" emissions statistic of 432 tonnes of carbon dioxide per GWh of electricity supplied in the Digest of UK Energy Statistics (July 2022) Table 5.14 ("Estimated carbon dioxide emissions from electricity supplied")*



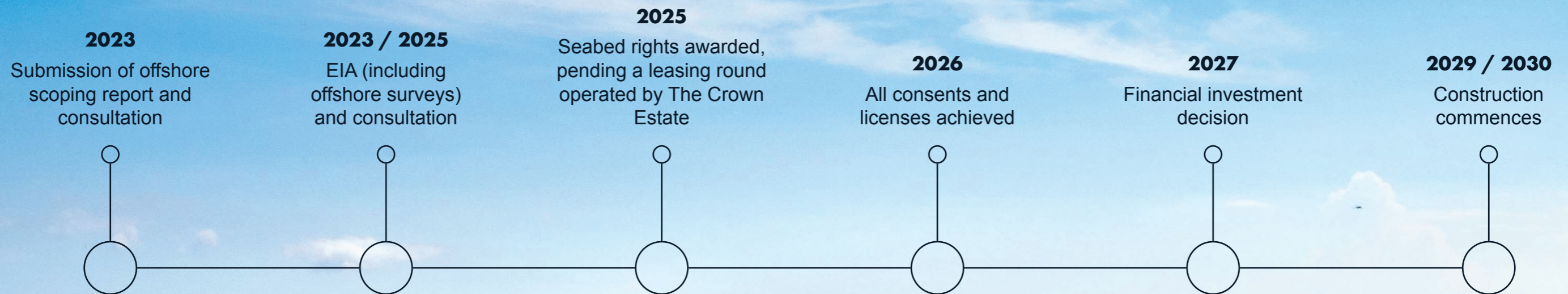
# CURRENT PROJECT STATUS



We are currently at the scoping stage of development, which gives us the opportunity to engage with stakeholders to identify all the factors to be considered in the assessment of the project and help inform development of the most suitable proposals.

## IN PROGRESS

- ✓ Scoping consultation
- ✓ Aerial Bird and mammal surveys (24 month survey period started September 2022)
- ✓ Engagement with fishing industry
- ✓ Offshore and onshore survey scheduling
- ✓ Engineering and grid studies
- ✓ Preliminary turbine array design



*The results of the scoping consultation will inform the next phase of assessment, which is preparing a marine licence application. This will be supported by an Environmental Statement, a Habitats Regulations Assessment and a Navigational Risk Assessment.*

*Rights to lease the seabed are granted by The Crown Estate. We intend to submit an application once a leasing round for Northern Ireland waters is open.*



# GENERATING ELECTRICITY FROM OFFSHORE WIND



## HOW WILL NORTH CHANNEL WIND PRODUCE ELECTRICITY?

Wind turbines generate electricity by capturing the natural power of the winds.

The force of the wind rotates the turbine blades which spins a generator where mechanical energy is converted into electricity. The electricity generated is transmitted through cables inside the tower, extending down to the seabed where they are buried or otherwise protected. Groups of turbines are interconnected by submarine cables, which then connect to an offshore substation where a transformer boosts the electricity to a higher voltage, allowing for more efficient power transmission to the shore.

The offshore cables are connected to the onshore cables at what is called a Transition Joint Bay (TJB). Underground onshore cables will carry the power from the TJB to an onshore substation where the electricity is regulated and harmonised to meet the specifications required for connection into the national electricity transmission system. A short connection then links the substation to the existing electricity network.

## EVOLUTION OF THE OFFSHORE WIND ENERGY INDUSTRY

Since the first large-scale offshore wind farm was installed, the industry has matured rapidly, with innovation in design and increased focus on reliability and maintainability.

Floating offshore wind is also accelerating rapidly. There are several large-scale demonstration projects being deployed across Europe and forecasts from Wind Europe and the Carbon Trust anticipate between 7 and 13 gigawatts respectively being deployed globally by 2030.

The Crown Estate has been successful in working closely with industry and a wide range of stakeholders in promoting innovation with plans to unlock 4 gigawatts of floating wind in the Celtic Sea, off the south western coasts of Wales and England. The recent ScotWind seabed auction rounds in Scotland saw 60% of successful projects utilising floating technology, which has given a huge vote of confidence for this technology to deliver our future energy requirements.



# OFFSHORE DEVELOPMENT

**Offshore wind farms require infrastructure both offshore and onshore.**

**The key offshore components will include:**

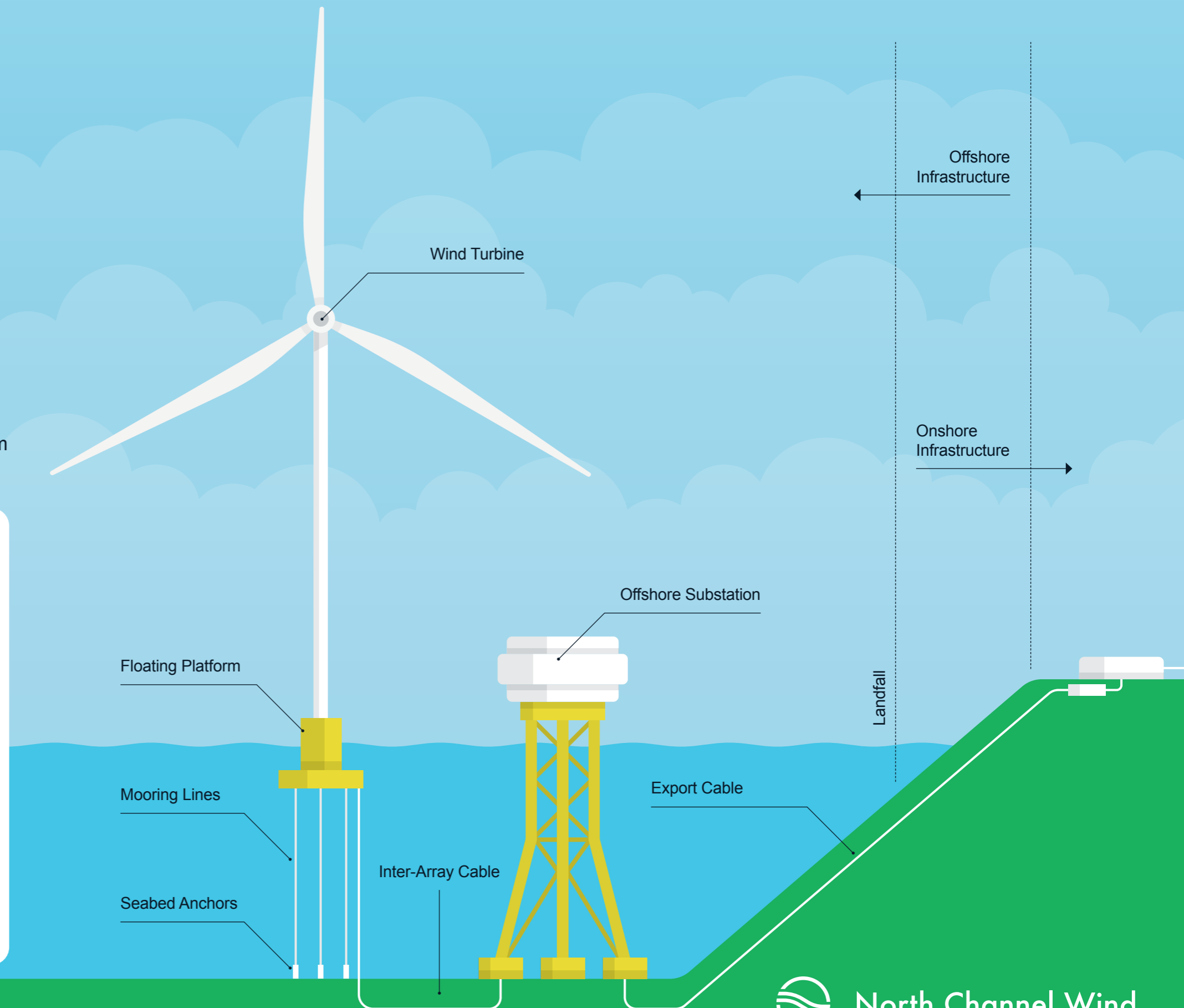
- ✓ Wind turbines
- ✓ Floating platforms (on which the turbines sit)
- ✓ Mooring infrastructure (to anchor the platforms to the seabed)
- ✓ Offshore substation(s)
- ✓ Inter-array cables (connecting the wind turbines together and to the offshore substation)
- ✓ Offshore export cables (to export the electricity from the wind farm to landfall)

Turbine size will be dependent on a number of factors including site conditions, logistics and turbine availability in the market.

We anticipate the turbines will have a capacity of between 15 megawatts and 22 megawatts each, with rotor diameters between 240 m and 290 m respectively and a maximum tip height of 325 m above sea level. Depending on the final size of the turbine, we estimate NCW 1 could consist of between 46 and 68 turbines and NCW 2 could consist of between 19 and 28 turbines.

We estimate a maximum total installed capacity of around 1000 megawatts for NCW 1 and 420 megawatts for NCW 2.

Once constructed, we anticipate the wind farms will operate for around 35 years.





# ONSHORE DEVELOPMENT

## THE KEY ONSHORE INFRASTRUCTURE AND CONSTRUCTION ACTIVITIES WILL INCLUDE:

- ✓ Electrical grid infrastructure to connect the wind farm to the electricity network onshore
- ✓ Operations and maintenance infrastructure to support the wind farm

## ELECTRICAL GRID INFRASTRUCTURE

The electrical grid infrastructure includes one or more landfall sites where the offshore cables come ashore, with associated transition joint bays to connect the offshore and onshore cables; underground onshore export cables and onshore substation(s).

All construction areas related to the works required at the landfall and along the cable route will, where feasible, be restored to their original condition following the completion of the works.

The point of connection of the project to the Northern Ireland electricity network will be determined by the transmission system operator (SONI).

The following 275kV substations are the most likely points of connection:

- ✓ Ballylumford 275kV substation located close to the coast, adjacent to Ballylumford natural gas fired power station at the tip of the Islandmagee peninsula.
- ✓ Kilroot 275kV substation located at the coast near Carrickfergus, adjacent to the Kilroot Coal (and oil) fired power station.

The substation(s) may require additional infrastructure to facilitate the transmission of electricity from new renewable energy generation capacity, as determined by SONI studies and requirements.



## CURRENT POSITION

Work continues to establish the most suitable location for the electrical grid infrastructure. North Channel Wind is currently assessing multiple options in terms of engineering, environmental and land use planning characteristics. Our aim is to confirm the final onshore locations and provide additional information during future consultation phases during the environmental impact assessment phase.

## ASSOCIATED DEVELOPMENTS - OPERATIONS AND MAINTENANCE

Onshore operations and maintenance (O&M) facilities will support the offshore wind farm. An O&M building will have office space for wind farm employees responsible for maintaining the safe and reliable operation of the wind farm. The O&M infrastructure will also include storage areas, electrical components and laydown areas and associated general works as necessary for the construction, operation and final decommissioning of the North Channel Wind projects, including all ancillary development.



# ENVIRONMENTAL IMPACT ASSESSMENT 1/2



## EIA Process

A comprehensive Environmental Impact Assessment (EIA) is undertaken to assess the impacts of the project on a range of receptors. The results from these assessments are reported in an Environmental Statement, which forms the main supportive information that is submitted with consent applications.

The assessment methodologies used are informed by consultations and a range of guidance documents and best practice principles from recognised sources.

Details of the proposed environmental approach offshore, and the works we will undertake as part of the assessment process, are contained in our Offshore Scoping Report. These include:

- ✓ Physical environment: (Marine Processes and Subsea Noise)
- ✓ Biological Environment: (Benthic and Intertidal Ecology, Fish and Shellfish Ecology, Marine Mammals and Sea Turtles, Birds)
- ✓ Human environment: (Commercial Fisheries, Shipping and Navigation, Aviation, Military and Communications, Marine Archaeology and Cultural Heritage, Seascape, Landscape and Visual, Infrastructure and Other Users of the Sea, Population and Human Health.

Details of the proposed environmental approach onshore will be described in the Onshore Scoping Report due to be released later this year.

## Environmental Surveys and Studies

Environmental surveys and studies began in 2022 to understand the baseline environment in relation to the receptors that will be considered in the EIA. These receptors include birds, marine mammals, benthic (seabed) ecology, fish populations and marine archaeology. Onshore ecological surveys are due to commence later this year.

Further surveys are planned for the North Channel Wind turbine array areas, offshore export cable corridor areas of search and onshore export cable corridor area of search.



- NCW 1 Turbine Array Area of Search
- NCW 2 Turbine Array Area of Search
- NCW 1 Export Cable Corridor Area of Search
- NCW 2 Export Cable Corridor Area of Search



# ENVIRONMENTAL IMPACT ASSESSMENT 2/2



Further surveys are planned for the North Channel Wind turbine array areas, offshore export cable corridor areas of search and onshore export cable corridor area of search. These surveys are necessary to:

- ✓ Determine suitable cable landing points
- ✓ Inform the technical and electrical design and layout of the project, including the substation, methodologies for laying and burying cables and landfall site selection
- ✓ Better understand the ground conditions to inform foundation design and choice
- ✓ Collect information on waves and tides across the site through deployment of wave buoys and current measurement instrumentation
- ✓ Identify and manage risks and any technical, environmental and socioeconomic constraints across the site
- ✓ Collect environmental data that will be assessed and submitted in the Environmental Statement as part of the application for consent

## Marine surveys

### Geophysical surveys:

Conducted to explore the physical features of the seabed which includes water depth, definition of seabed structures (e.g. sand waves), identifying sediment type and distribution (sand, mud, gravel) both on and below the seabed, and potential archaeological features.

### Metocean surveys:

Carried out to gain an understanding of the meteorological and oceanographic conditions that exist in the North Channel.

### Ecology and ornithology:

Undertaken to consider the biological environment and will include:

- ✓ Fish and benthic/seabed habitat
- ✓ Marine mammals
- ✓ Birds

## Onshore studies

Environmental assessments will be undertaken of the landfall site(s), transition joint bays, onshore underground cable, temporary construction areas, onshore project substation(s), and cables connecting the onshore project substation to the existing transmission grid substation(s)

Studies and surveys are required to further define the onshore aspects of the project, including the locations of the above infrastructure, and a scoping report detailing these elements is currently being developed. Consultation on this will be undertaken with the relevant bodies and it will be made available on our project website:

**northchannelwind.com**

The surveys to be undertaken will inform onshore impact assessments in the following areas:

- ✓ Ecology
- ✓ Landscape & visual
- ✓ Archaeology and cultural heritage
- ✓ Traffic and transport
- ✓ Hydrology and hydrogeology
- ✓ Noise and vibration
- ✓ Geology and soils
- ✓ Amenity and community aspects



Little Egret



Grey Seal



# FISHING ENGAGEMENT



North Channel Wind is committed to working with fishing and marine communities to ensure we understand their views, so that we can minimise and mitigate any potential impacts of the wind farm projects

## Fishing Engagement Meetings

Initial engagement meetings have been held with commercial fishers operating from the ports and harbours around Antrim and Down coastlines, including Larne, Bangor, Portavogie, Ardglass and Kilkeel, and the Clyde Fisheries Association in Glasgow, as well as with representatives from the Northern Ireland Fish Producers' Association (NIFPO), the Anglo-North Irish Fish Producers Association (ANIFPO) and the Northern Ireland Scallop Association.

## Impact Assessment

Feedback received at the engagement meetings to date has helped to inform the commercial fishing section of the scoping report, to ensure the potential impacts raised will be taken account of in the environmental impact assessment. We continue to welcome any further feedback from stakeholders in the fishing and marine communities on the factors you think should be considered in the environmental impact assessment. Have your say by filling in the feedback form.

## Fisheries Liaison Officer

We will continue to ensure the local fishing industry is kept up-to-date and to gather feedback as we move forward with the project development. SeaSource Offshore is the Fisheries Liaison Officer (FLO) for North Channel Wind. The FLO is the primary point of contact and works to maintain strong lines of communication between the fishing industry and North Channel Wind.

If you have any questions please contact Brian Chambers:



**Brian Chambers**

*SeaSource Offshore*

flo2@seasource.com

+44 (0)7355744942





# COMMUNITY AND SUPPLY CHAIN BENEFITS

We are committed to developing the North Channel Wind projects in a sustainable way, that brings benefits to our environment, society and economy for years to come. An important part of this is working with local communities, businesses and other stakeholders.

As well as the wider benefits offered by the North Channel Wind projects in terms of reducing carbon emissions and improving the security of our energy supplies, communities & businesses will also benefit



## COMMUNITY BENEFIT FUND

North Channel Wind is committed to citizen engagement and will work closely with local communities throughout the development to maximise the benefit to the local area.

There are various mechanisms and schemes to support communities in different jurisdictions. We plan to investigate best practice internationally, and through meaningful dialogue with communities and stakeholders develop a bespoke process which will support local communities and other marine stakeholders.

## SUPPLY CHAIN OPPORTUNITIES

North Channel Wind represents one of the largest energy infrastructure investments in Northern Ireland this decade. The development, construction and operation of the wind farms will generate a large number of jobs and support economic development in the local economy. There will be significant opportunities for the supply chain, such as contractors, sub-contractors, vessel supply, facilities and service providers. If you would like your business to be considered for work on the projects please get in touch. You can register your interest on our website, [www.northchannelwind.com](http://www.northchannelwind.com) or speak to a member of our team.





# GIVING US YOUR FEEDBACK



North Channel Wind believes in meaningful engagement with all stakeholders at every stage of the projects' development and see consultation as an integral part of the development process. Listening to and addressing the views of interested parties helps to ensure a robust EIA and deliver a better project.

## This Consultation

This current public consultation will run for four weeks, starting on Wednesday 31st May 2023 and continuing until Wednesday 28th June. It gives the opportunity for people to provide input to North Channel Wind at the scoping stage, which will then be taken into consideration in the subsequent environmental impact assessment.

## We would particularly like to hear your views on:

- ✔ What topics should be scoped into our environmental impact assessment?
- ✔ What information would you like to see about the North Channel Wind project in future consultations/communications and how can we improve our public exhibitions?
- ✔ Any other thoughts you have on the project

*Once this public consultation has closed a report will be prepared summarising the feedback received, providing responses to issues raised and outlining next steps. This will be shared with stakeholders.*

## Next Steps & Ongoing Engagement

The formal scoping consultation, led by the Department of Agriculture, Environment & Rural Affairs (DAERA), will progress over the coming months, and will conclude with DAERA issuing a formal scoping opinion. This will be used to inform further project design and the full environmental impact assessment phase will begin. We aim to hold a further public consultation during the impact assessment process, during which we will share our latest plans and there will be further opportunity for you to give us your feedback.

Listening to and engaging with the public and all our stakeholders is an important part of the development of our project at all stages, not just during public consultation.

The North Channel Wind team will remain available to talk with anyone who has questions and wishes to learn more about the project and will continue to engage in the months and years ahead.

All the latest project news will be on our dedicated website. To sign up for project updates, speak to the team or arrange a meeting, please get in touch in one of the following ways:

## Get in Touch



**Fiona Stevens**  
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**Melanie O'Driscoll**  
Project Coordinator  
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**+44 (0)28 9051 1382**

Visit our website:  
**northchannelwind.com**

Please let us know your views by filling in our feedback form: [LINK](#)