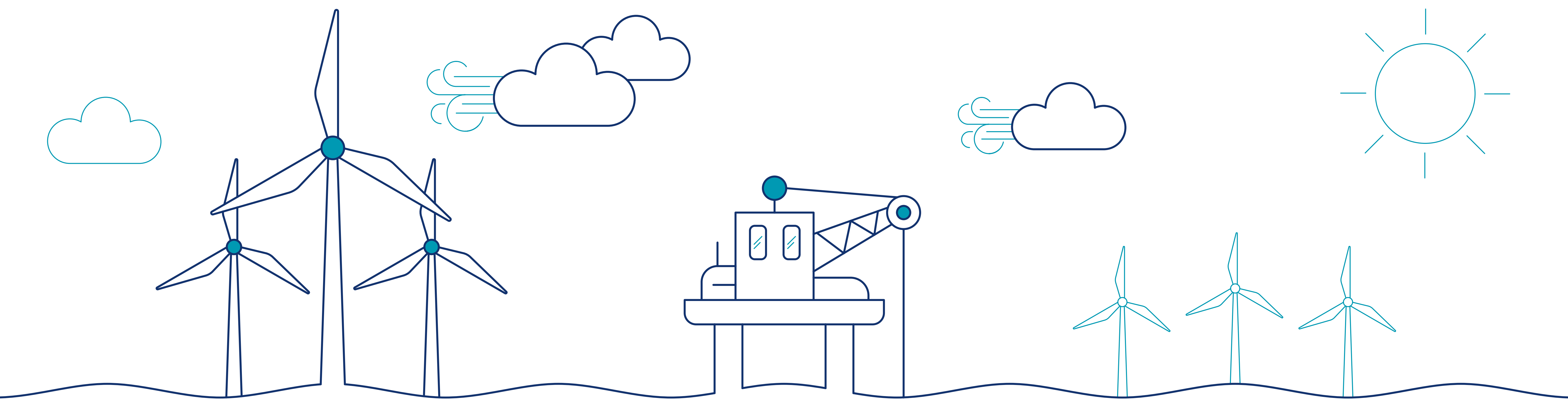




sse
Renewables



Berwick Bank
Wind Farm





Who we are

SSE is the leading generator of renewable electricity in the UK and Ireland, providing energy needed today while building a better world of energy for tomorrow.

It develops and operates low-carbon infrastructure supporting the net zero transition, including onshore and offshore wind, hydro power, electricity transmission and distribution grids, efficient gas and energy from waste, alongside providing energy products and services for businesses.

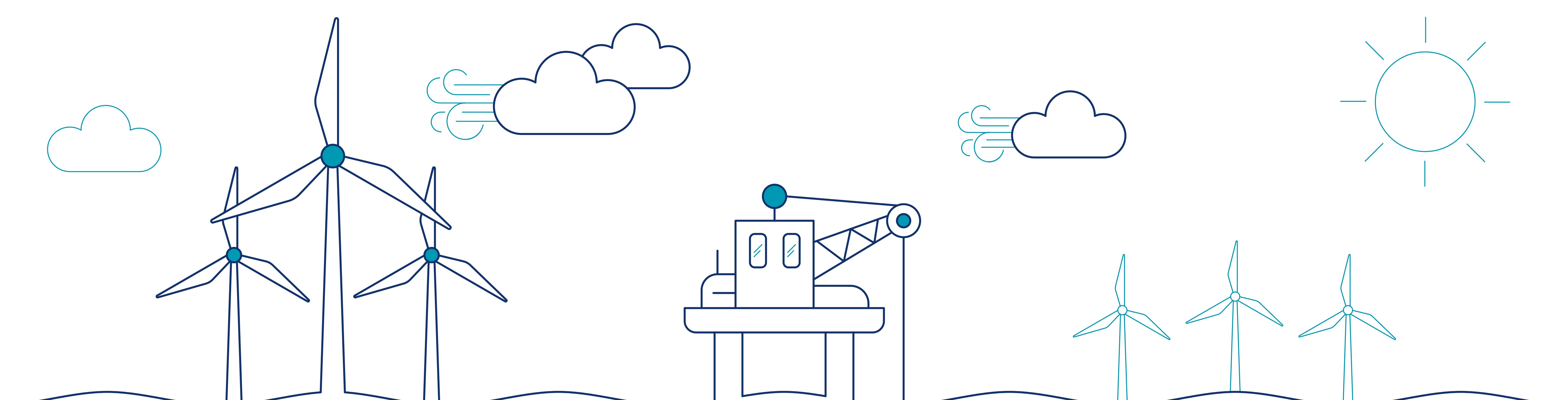
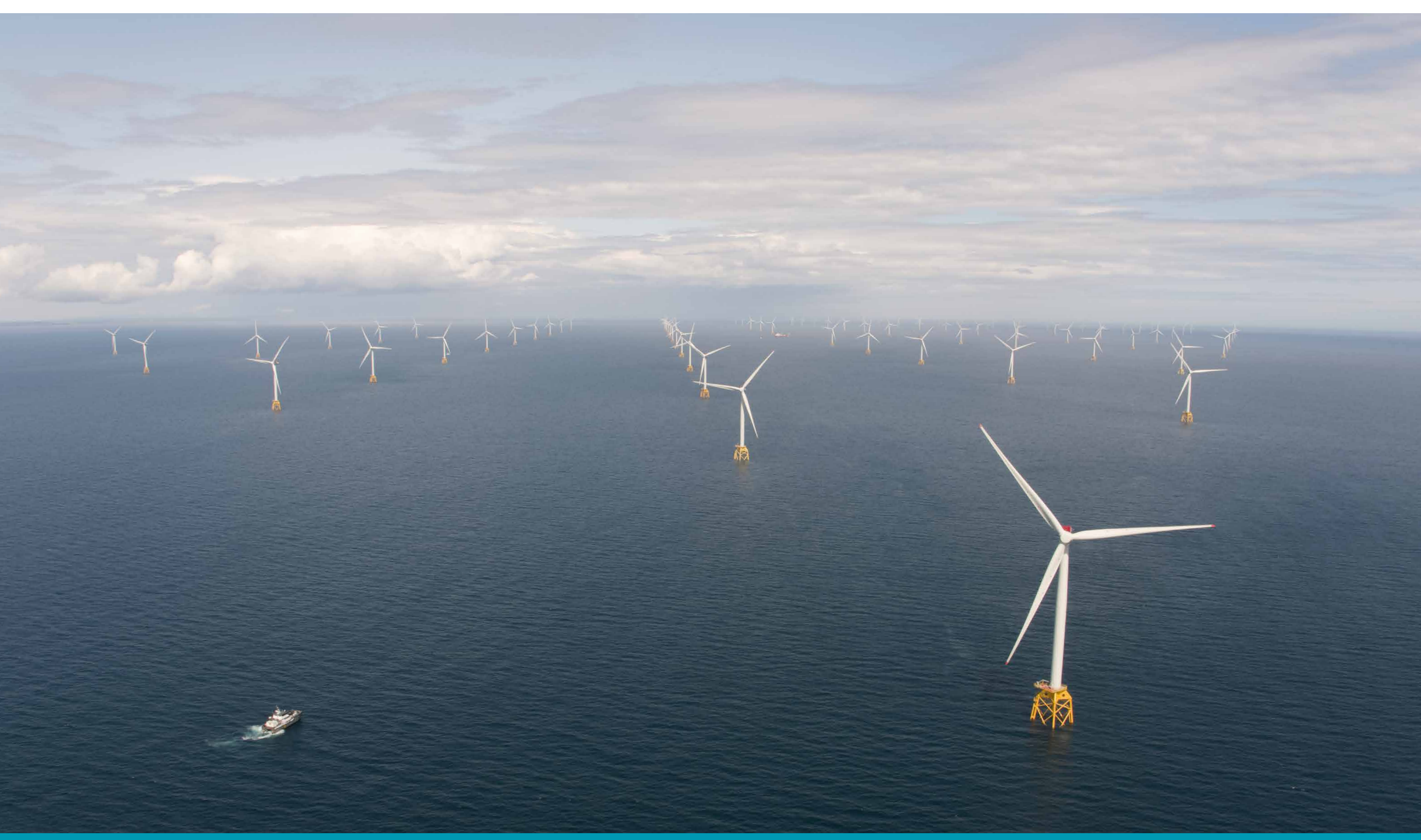
UK listed, SSE is a major contributor to the UK and Ireland economies, employs 12,000 people and is real Living Wage and Fair Tax Mark accredited.

SSE Renewables is a leading developer, operator, and owner of renewable energy across the UK and Ireland, with a portfolio of around 4GW of onshore wind, offshore wind, and hydro.

Part of the FTSE-listed SSE plc, its strategy is to drive the transition to a net zero future through the world-class development, construction, and operation of renewable energy assets. SSE Renewables owns nearly 2GW of operational onshore wind capacity with over 1GW under development.

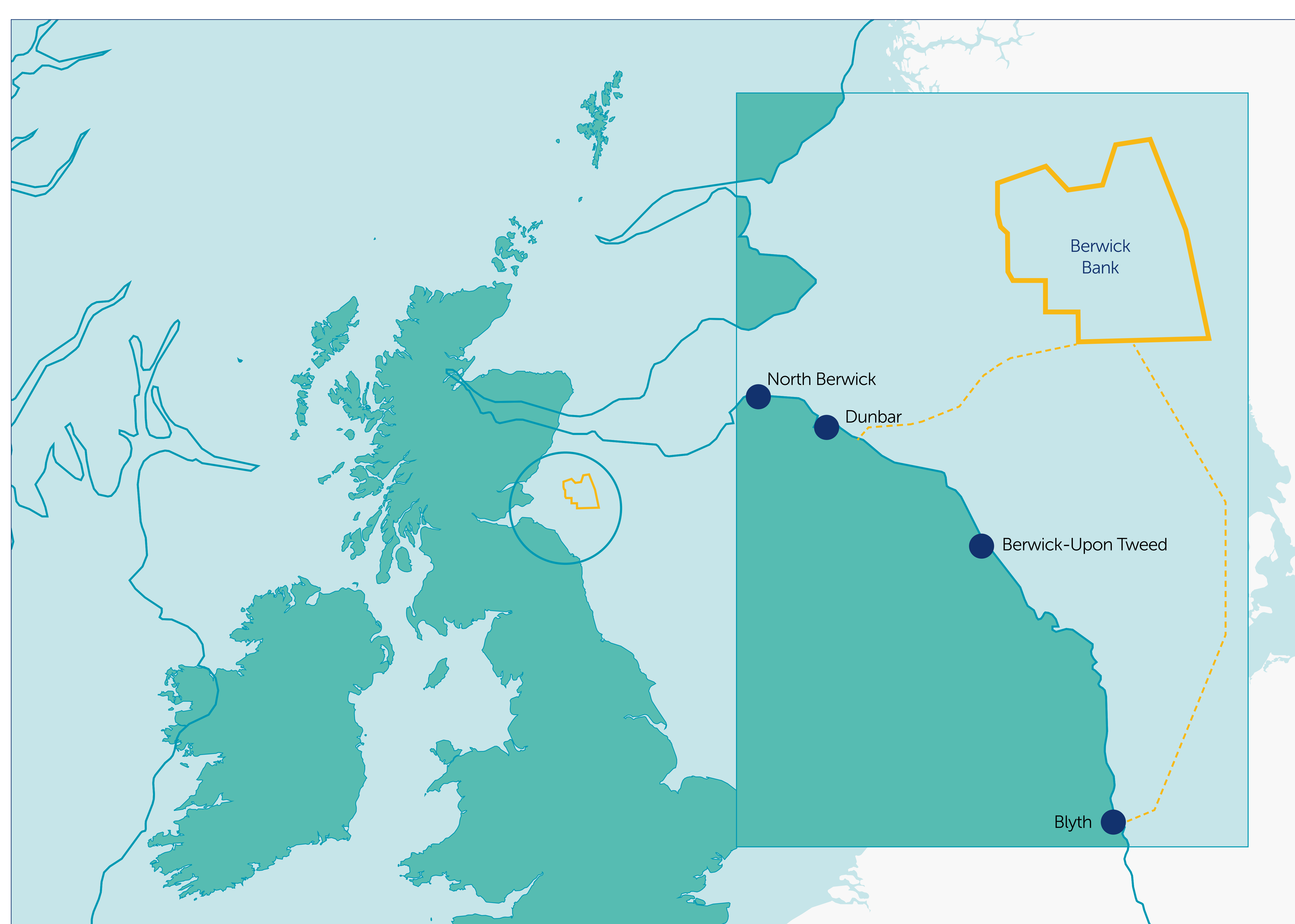
SSE Renewables currently has the largest portfolio of offshore wind developments in the UK and Ireland at over 7GW

We're aiming to deliver enough new renewable projects to generate 30TWh by 2030, trebling our renewable energy output from 2019 levels. We have committed to a £12.5 billion (net) capital investment spending plan by 2026 which will make a significant contribution to decarbonising the UK power sector and achieving net zero emissions by 2050.



Project Overview

Located in the North Sea, in the outer Firth of Forth, Berwick Bank Wind Farm has the potential to deliver up to 4.1 GW of installed capacity, making it one of the largest offshore opportunities in the world



Berwick Bank Wind Farm

Project Background

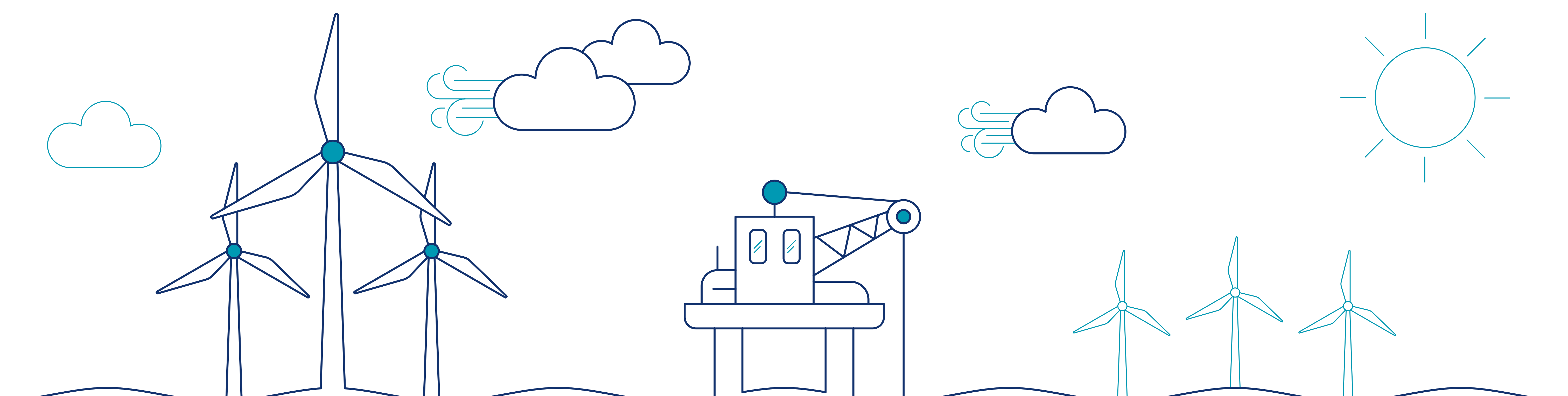
Berwick Bank Wind Farm is in the development stage and with a forecasted capacity of 4.1GW, it is currently the largest offshore Wind Farm in development in the UK.

The project will be capable of generating enough clean, renewable energy to power over five million homes. The UK Government has recently set themselves a target of achieving 50GW of installed offshore wind capacity by 2030, with a capacity of 4.1GW, Berwick Bank Wind Farm is crucial to the success of achieving this target.

Over the last ten years SSE Renewables have been refining our proposals for Berwick Bank Wind Farm and we are now able to progress through the planning process. Given the scale of the site, Berwick Bank Wind Farm will be required to connect at two locations on the National Electricity Transmission System – these have been determined to be at East Lothian, Scotland and Cambois, Northumberland.

In December 2022 we submitted our planning proposals for the offshore array area, associated offshore infrastructure and onshore infrastructure to the relevant planning authorities within East Lothian Council and the Scottish Government.

We are now consulting on our proposals for our proposed Cambois Connection in Northumberland.



The Cambois Connection

The Cambois Connection comprises two distinct proposals, or 'Schemes':

Marine Scheme

The installation of offshore export cables from within the Berwick Bank Wind Farm (BBWF) array area to a landfall near Cambois, Northumberland.

Onshore Scheme

The installation of a cable landfall, onshore High Voltage Direct Current (HVDC) cables, a new onshore converter station, High Voltage Alternating Current (HVAC) grid cables and works to integrate into the existing National Grid substation at Blyth.

Strategic Routeing

A wide range of potential options for connecting the BBWF with the grid connection location at Blyth have been considered. This process considered a range of potential hard and soft constraints (from an environmental, social, technical and commercial perspective) to help identify broad, strategic installation and connection options. The outputs from this process were used to inform detailed appraisals of connection options.

Landfall Selection

A number of potential landfalls were considered along the Northumberland coast, representing options which could support the installation of onshore cables and connection into the converter station of the Onshore Scheme and UK energy network. This process considered technical factors, including the viability of typical landfall construction techniques, as well as environmental, social and commercial factors.

Onshore Site Selection

Informed by the existing National Grid substation in Blyth, detailed studies were carried out to identify the best potential location for a converter station. This was not carried out in isolation - concurrently, studies were completed to confirm the best solution for the onshore HVDC export cable route and the onshore HVAC grid cable route (discussed further below).

Detailed Routeing (Onshore)

Informed by the outputs from the strategic optioneering, landfall selection and onshore site selection, we carried out a detailed appraisal of individual potential routes from the landfall to the grid connection location. This process considered a range of environmental, technical, commercial and social criteria.

Detailed Routeing (Offshore)

Informed by the outputs from the strategic optioneering and landfall selection we have carried out further assessments of different route options for the Marine Scheme.

The Cambois Connection

Project Timeline*

November 2022

Scoping Reports submitted to Northumberland
County Council and Marine Management Organisation



January/March 2023

Scoping Opinions Received



May 2023

Public consultation



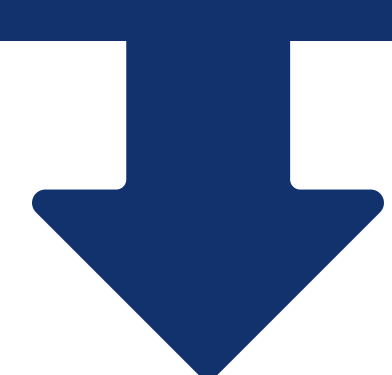
Summer 2023

Public consultation 2



Summer/Autumn 2023

Planning applications submitted



Winter – 2023/2024

Planning decisions expected



2027/28

Construction on Cambois Connection

*Timelines are indicative and subject to change

Project Details: Onshore

We considered converter station, landfall and cable route options within the vicinity of our agreed grid connection point at Blyth substation.

These were evaluated from an engineering, consents (planning and environment), commercial and land use perspective. A two-stage process was then undertaken

Stage 1: Identification and screening of the proposed converter station options and landfall areas

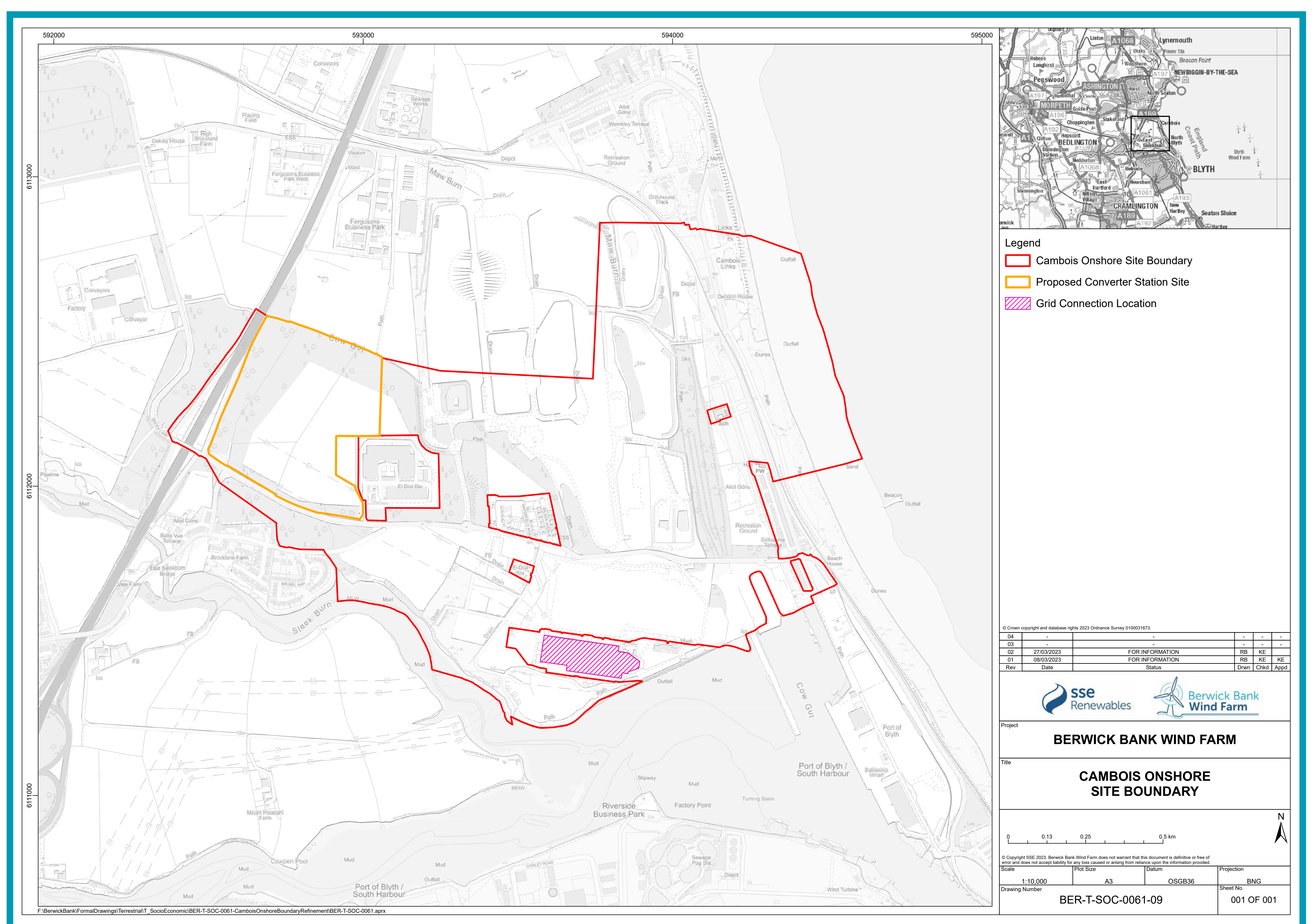
Following this site selection process, we have identified our preferred landfall area and converter station location for the Project which can be seen on the map below.

A key reason for the converter station site selection was to minimise the length of cable corridor where possible, thereby minimising the extent of potential environmental impacts.

We are currently considering Stage 2 of our site selection process.

Stage 2: Identification of landfall options and identification of cable route options.

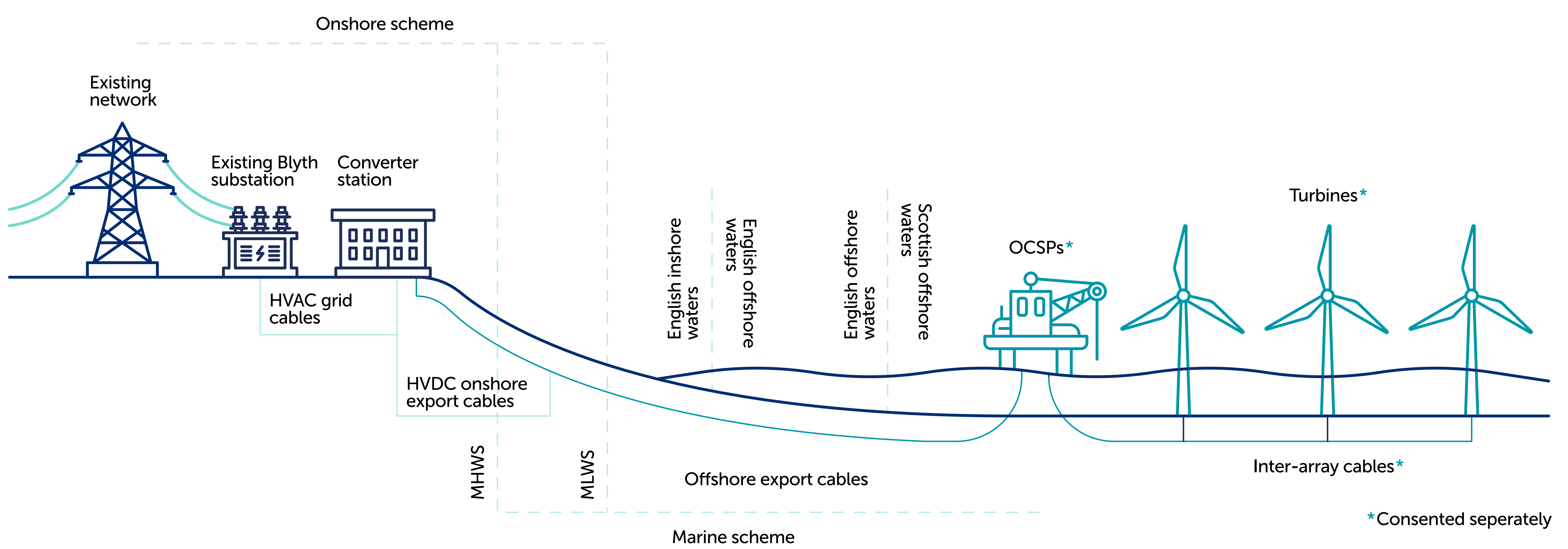
From landfall, our cable corridor will run west across industrial land and then connect to our proposed converter station situated to the north-west of the existing (North Sea Link) NSL converter station site.



We are currently completing our Environmental Impact Assessment (EIA). This will evaluate the potential impacts of our proposals to determine where we need to apply mitigation or control measures to lessen those effects.

The onshore EIA considers a broad range of potential impacts on, for example, the natural environment (e.g. woodland), wildlife (e.g. otters), and local residents. The findings of the EIA will be written in an EIA Report that will be published online and in print copy when we submit our planning application.

EIA: Onshore



The Environmental Impact Assessment (EIA) is a process to identify the potential effects that could result from a proposed development on sensitive receptors.

EIA is used to evaluate the design solution but can also influence the proposed construction, operation and decommissioning methods to remove or minimise the environmental impacts of the project.

As part of the EIA, we seek the views of a diverse range of organisations, from Northumberland County Council and their statutory consultation bodies to local parish councils' groups and residents. Our aim is to gain feedback on the project and where possible seek to find ways to avoid or minimise the impact we may have.

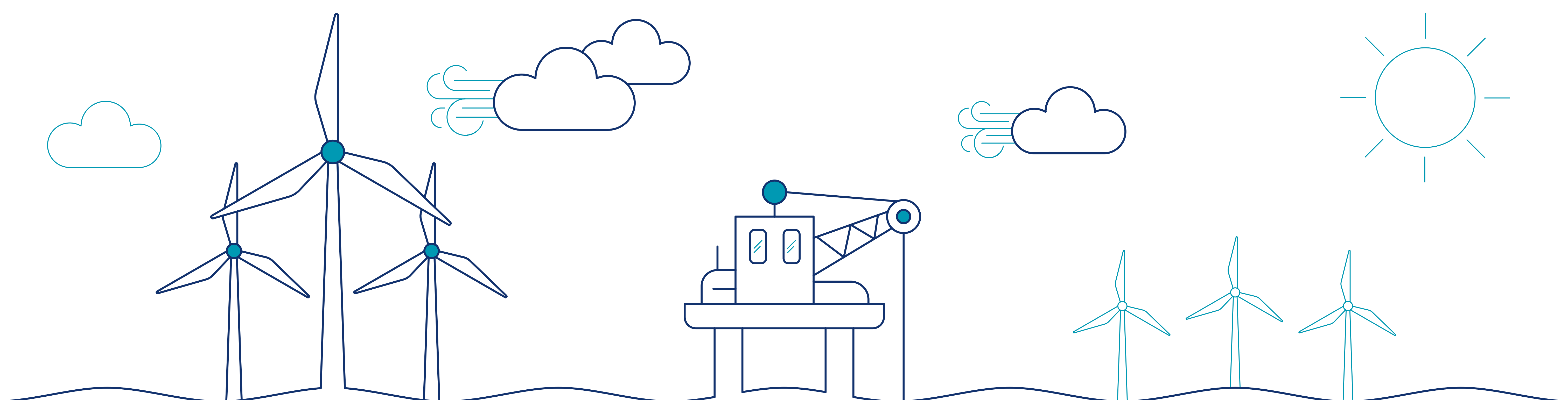
We consider the following aspects to be an important part of our onshore EIA process. This consultation exercise is designed to obtain any further feedback you may wish to provide.

Construction Traffic

We understand that with any large infrastructure construction project there are concerns about construction traffic using local roads. Whilst it is necessary for our construction traffic to use some of the local roads, we will develop a Construction Traffic Management Plan (CTMP), which would be implemented throughout the construction phase, with the aim of reducing the impact on local road users and residents living in the area. This would be subject to the approval of Northumberland County Council should we secure planning consent.

Noise Impacts

We understand there may be concerns about construction noise and noise generated by the proposed converter station. As part of our EIA process our noise specialists will complete a noise impact assessment that models noise levels and the potential impacts on nearby receptors.



EIA: Onshore

Wildlife & Habitats

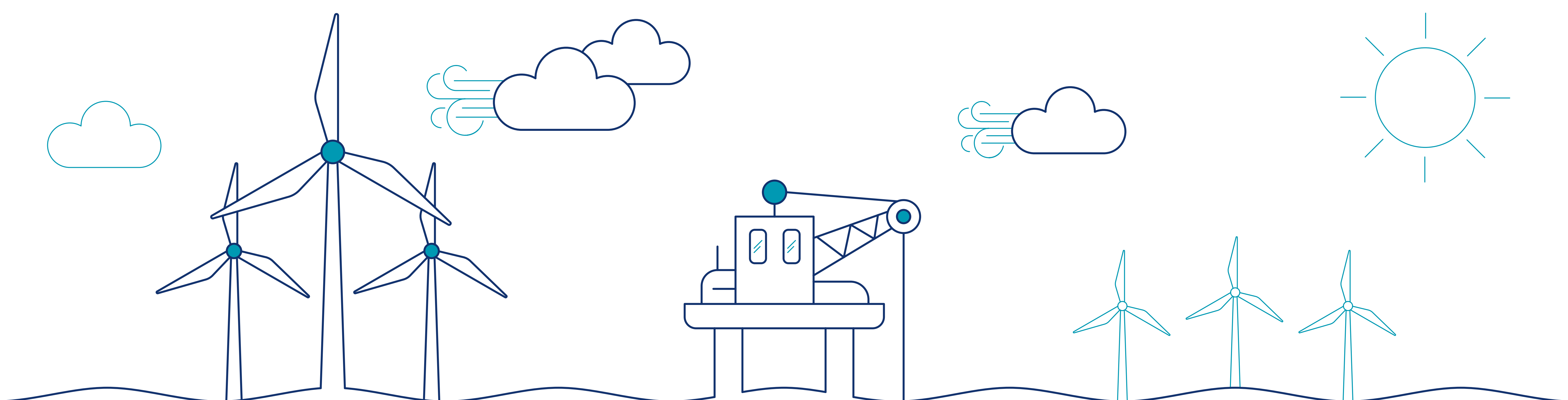
We are working with a team of ecologists to determine the impact on habitats and wildlife in the area. If any significant impacts are identified, we will develop suitable control and mitigation measures to avoid or reduce the impact.

Hydrology

We will undertake surveys to map out the watercourses across the area and will continue to work with specialist hydrologists to ensure we avoid or reduce the impacts during construction. This will include potential impacts on any identified Private Water Supplies as well as consideration of flood risk and climate change which will be detailed in the EIA Report.

Landscape & Visual Impact

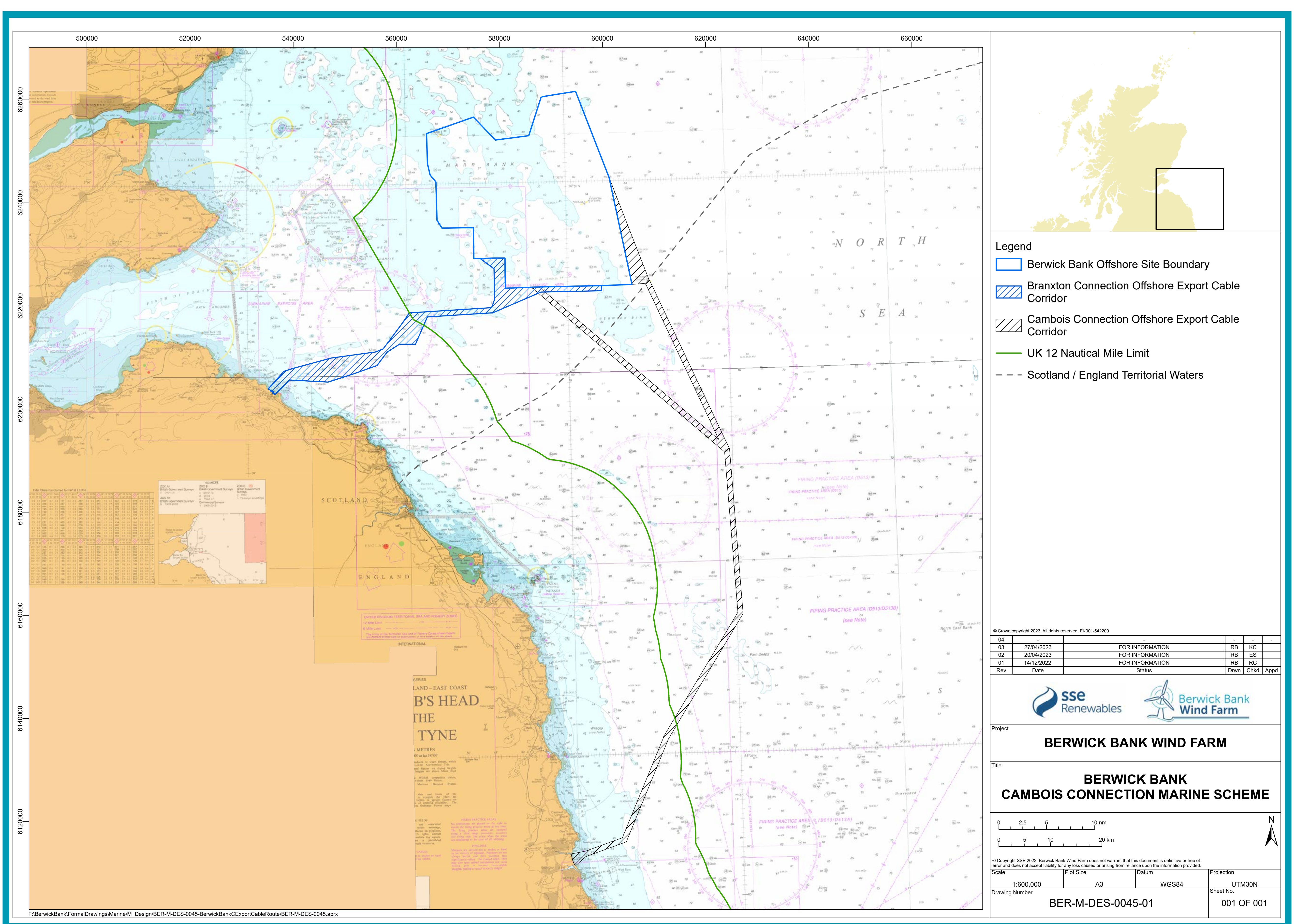
We appreciate that our convertor station will result in a feature in the landscape. During the design phase we will investigate options to help reduce the visual impact and, through the EIA process we will identify further mitigation to help minimise the impact on the landscape and the views experienced by residents.



Project Details: Offshore

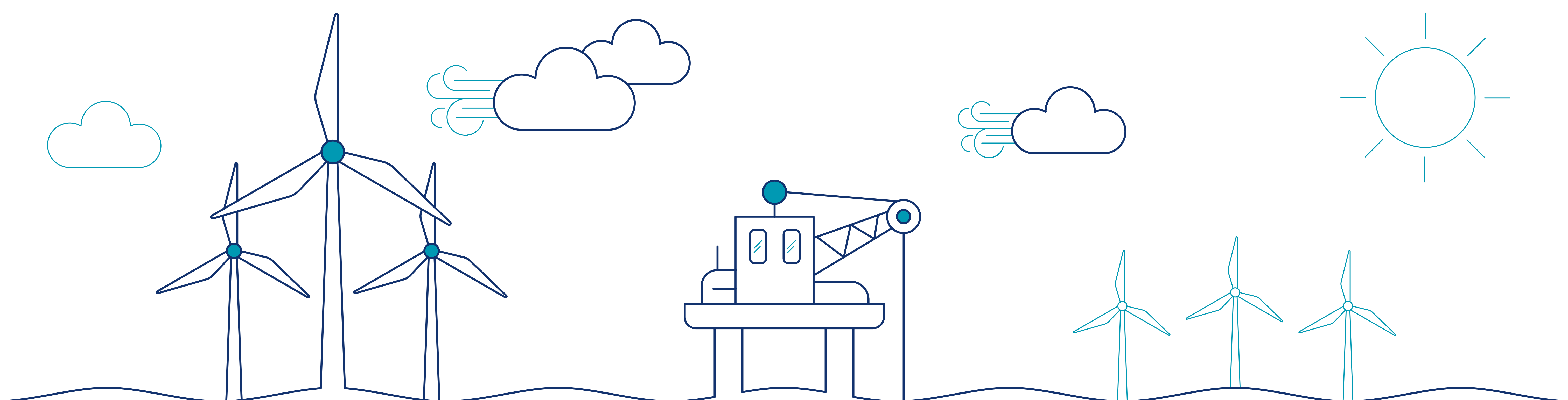
Project Overview

Berwick Bank Wind Farm will be located in the central North Sea, approximately 38 km offshore of the East Lothian coastline. It will have an operational design lifetime of upto 35 years.



The offshore export cable route to Cambos will be approximately 180 km in length. This is measured from the offshore wind farm site to the proposed landfall location at Cambos. The Cambos landfall location has been selected following the National Grid's Holistic Network Design Review. This is a process which National Grid has undertaken to identify the optimum locations across the UK for offshore wind energy developers to connect into.

The key offshore components of the Cambos connection will be up to four High Voltage Directional Current (HVDC) subsea export cables.



Other Considerations: Offshore

Additional elements and considerations which are being considered during our offshore EIA process are as follows.

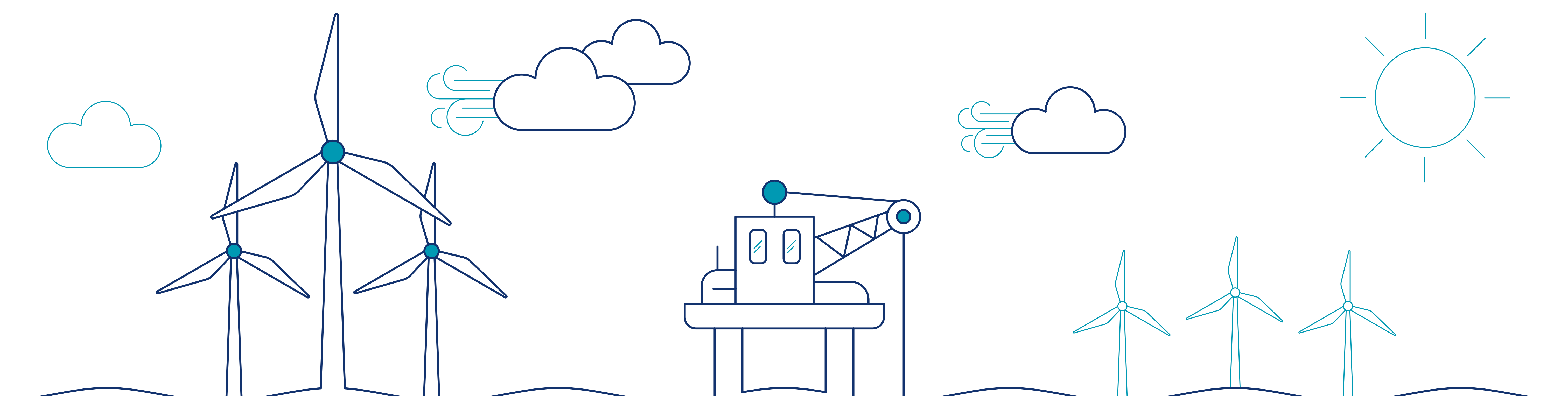
Ornithology

The Berwick Bank Wind Farm team have recently completed one of the largest known digital aerial bird surveys for a single project in the world and have collected vast amounts of data about the prevailing birds in the wind farm area. Overwintering bird surveys along the Cambois coastal area have also been undertaken.



Fishing

Commercial fisheries are an especially important sector to the coastal communities around the United Kingdom. Therefore, we will liaise closely with those stakeholders to understand the types of fishing within the proposed offshore export cable corridor, how important the area is to the sector and the concerns that they may have about the Cambois Connection. By doing this we can understand the effects that we may have on this sector during the different project phases and to also allow us to factor in mitigation that may lessen any effects and allow their activities to carry on with the least amount of interruption.



Other Considerations: Offshore

Marine Considerations

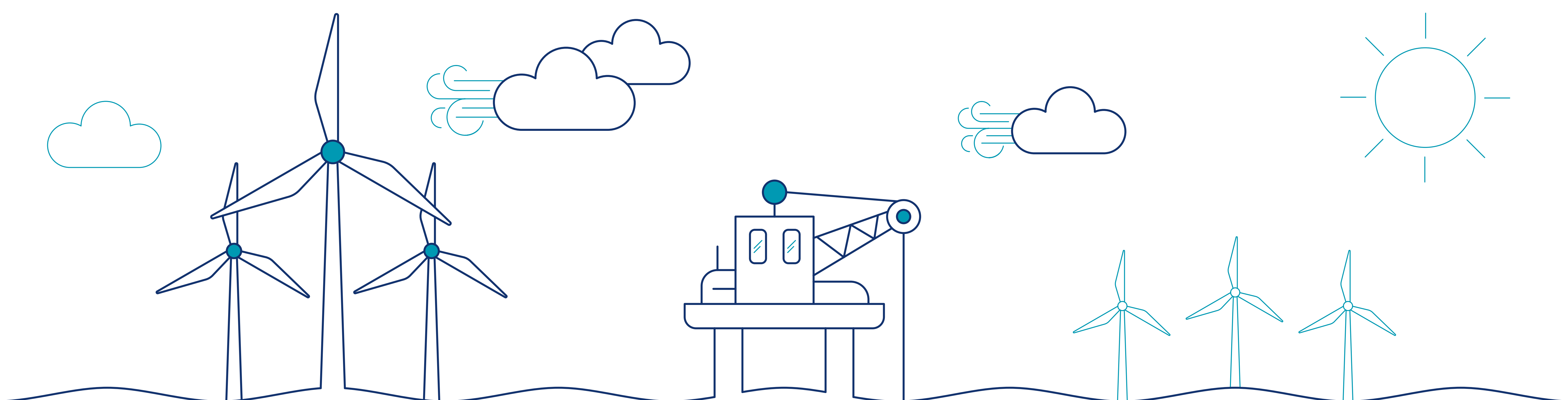
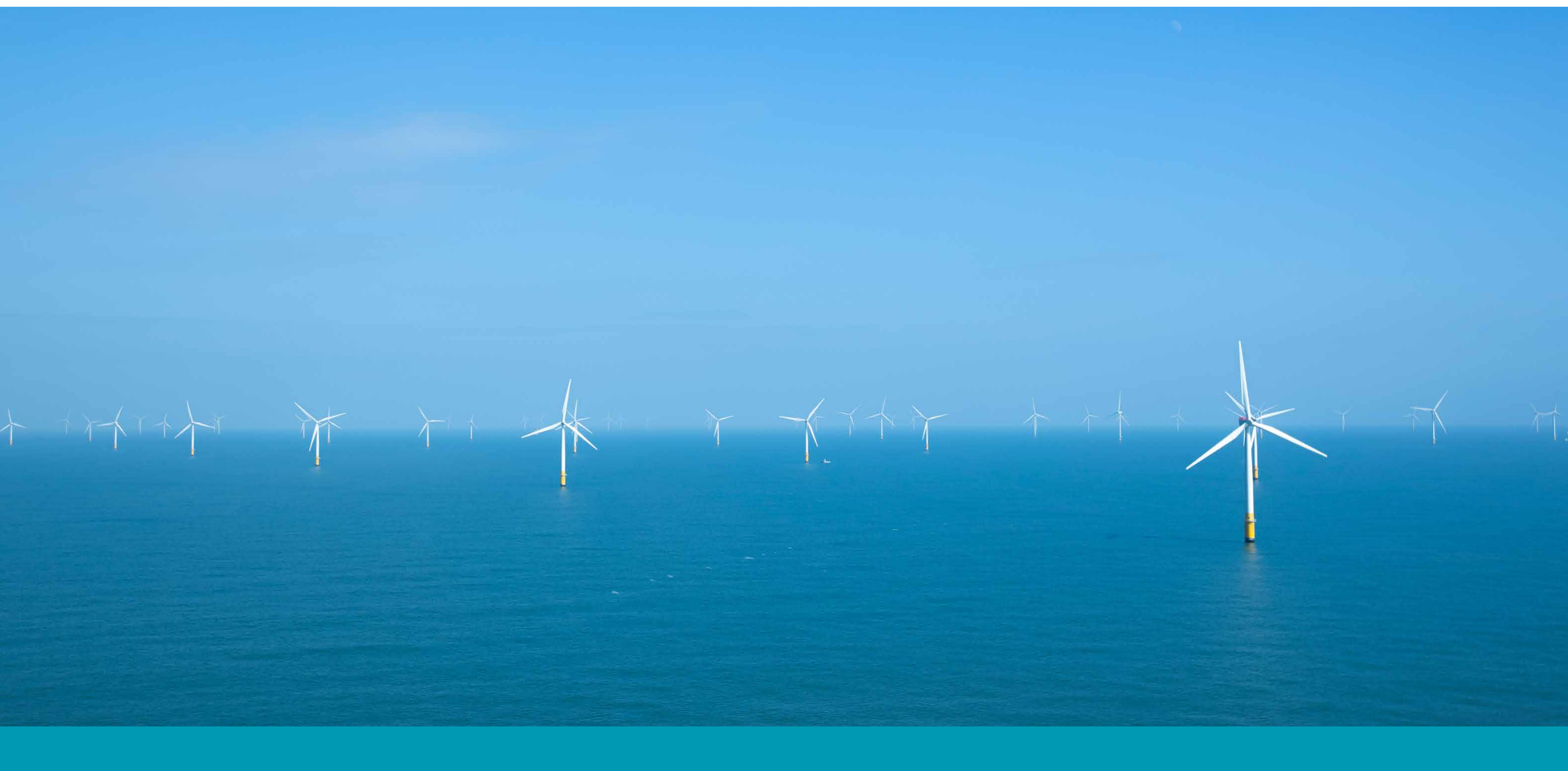
During the gathering of ornithology data as part of the aerial survey for the windfarm site, we were also able to gather large amounts of data on marine mammals within the windfarm area. Assessing the use of the area by marine mammals is particularly important as they may be impacted by works associated with the installation of the offshore export cables.

As we will be placing a cable under the seabed, it is important that we know what is living there. Therefore, we have undertaken an extensive benthic survey campaign in the windfarm site, along the offshore export cable corridor and within the nearshore area in Cambois to define the habitats and species present. This is particularly important as the Cambois Connection offshore export cable sits partially within a marine protected area (MPA) in Scottish waters, and route is in proximity to and overlaps with some Marine Conservation Zones (MCZ) in English Waters. We are also assessing the fish and shellfish ecology that is present as these can also be affected, positively and negatively, by the Marine Scheme. This includes assessing the effects of the offshore export cables on the species present.

The detailed survey work done to date will allow the team to propose the most environmentally sensitive design possible.

Shipping & Navigation

The Eastern Coast of the United Kingdom is an important area for commercial shipping. Therefore, it is important that we engage with affected stakeholders to understand what, if any, effects there may be on their activities. We have engaged a specialist navigational consultant and are currently developing a navigational risk assessment, which will be used to determine the potential effects of the Marine Scheme on commercial shipping interests in the area.



Project Opportunities

Supply Chain

Berwick Bank Wind Farm represents a multi-billion-pound investment and presents an enormous opportunity for the local and UK supply chain. Despite still being in the pre-planning stage, to date the Project team have engaged with and utilised several UK suppliers, ranging from the hospitality sector, communications sector, local ports, and harbors, UK based environmental, survey, geotechnical and engineer consultancies and local contractors.

In April 2020 we held an initial Supply Chain online seminar which was attended by approximately 700 businesses, and we are committed to continuing our engagement with the local supply chain. In February 2022 we attended a skills and apprenticeship fair sponsored by Ian Levy MP, which was held in Cramlington. In the event of a successful planning decision, we will look to engage further with local suppliers and businesses as part of our development process.

For further information on how your business can become involved with the Berwick Bank Wind Farm project please contact our procurement team at berwickbank@sse.com

Local Opportunities

To date the Project team have been delighted to work alongside various local organisations in Scotland. We are keen to ensure that Berwick Bank Wind Farm also provides benefits to the local community in the Cambois area and we look forward to working alongside local organisations and projects as our plans develop.



Keep In Touch

We would be delighted to hear feedback from all interested stakeholders, and you can submit any feedback directly to the project team at berwickbank@sse.com. You can also register for updates on the latest news relating to Berwick Bank on our project website; www.berwickbank.com

