OUR VIRTUAL **EXHIBITION**

Thank you for visiting our virtual public exhibition event where we will introduce the Berwick Bank Wind Farm project to the community.

The virtual exhibition includes traditional exhibition boards that you would expect at a village hall exhibition, along with live Q&A opportunities and a FAQ page.

If you cannot make the virtual public exhibition event, please send through any queries to **berwickbank@sse.com** or call Gary Donlin on 07384 798 101. You can also view further information on the project website at **www.sserenewables.com/berwickbank**

Between **Monday 23rd and Thursday 26th November,** the project team will be available to answer any further questions you may have on a live chat function in the virtual public exhibition during the following times:

- Monday and Tuesday 12pm to 2pm
- Wednesday and Thursday 6pm to 7pm

This is the first of a number of consultation events designed to keep local residents and other interested parties up-to-date and to encourage feedback as Berwick Bank progresses. We anticipate further events in Spring 2021, at which point feedback from this first round will have been taken into account with engineering, environmental and land surveys and studies progressed.

The Marr Bank Wind Farm is a separate project and is in the early stages of project development. We will keep the public, interested organisations and consultees updated as it progresses to the next phase.

ABOUT US

SSE Renewables is the leading developer, operator and owner of offshore wind energy across the UK and Ireland, with around 3GW of consented or in construction projects in UK and Irish waters out of a total development pipeline of over 6GW. SSE Renewables has the largest offshore wind development pipeline in the UK and Ireland. Part of the FTSE-listed SSE plc, our strategy is to drive the transition to a net zero future through the world class development, construction and operation of renewable energy assets.

3GW
of consented or in construction offshore wind projects out of a total development pipeline of over 6GW in the UK and Ireland

2GW
of operational onshore wind capacity with over 1GW under development

300MW
of pumped storage

750MW
of flexible hydro

580MW
580MW operational wind portfolio across three offshore sites, two of which we operate on behalf of joint venture partners

Berwick Bank Wind Farm

If consented, Berwick Bank could be one of the world's largest offshore wind farms

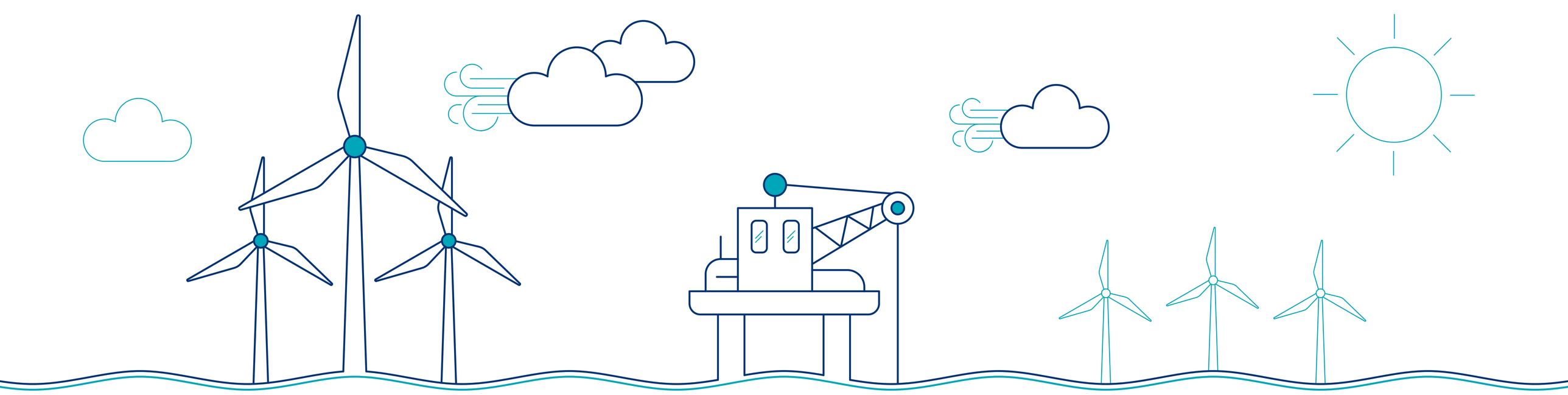
Berwick Bank can be shovel ready by 2024 and generating clean electricity by 2027

Berwick Bank – 2.3GW of clean renewable energy - can power all of Scotland's homes

If approved, Berwick Bank would be a multi-billion pound investment

The Scottish Government has recently announced its increased ambition to deliver 11GW of offshore wind energy by 2030 - Berwick Bank would play a will play a significant role in meeting this target along with the UK and Scotland's net zero targets

Berwick Bank will mean 4 million tonnes of carbon dioxide is avoided every year - similar to removing more than a two-thirds of all of Scotland's annual car emissions



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^ 3.5 million homes powered per annum based on Typical Domestic Consumption Values (Medium Electricity Profile Class 1, 2,900kWh per household; OFGEM, January 2020), minimum projected 50% wind load factor, and projected installed capacity of up to 2.3GW. All homes in Scotland based on Household Estimates Scotland 2019 (National Records of Scotland, June 2020). Quoted 4m t/CO2 reductions per annum based on expected annual output against average 446 t/CO2 per GWh (BEIS Digest of UK Energy Statistics, July 2020). Quoted removal of cars based on projected annual carbon abated and calculated against recorded average of 5.89m/tCO2 by cars on roads in Scotland in 2017 (Carbon Account for Transport 2019, Transport Scotland

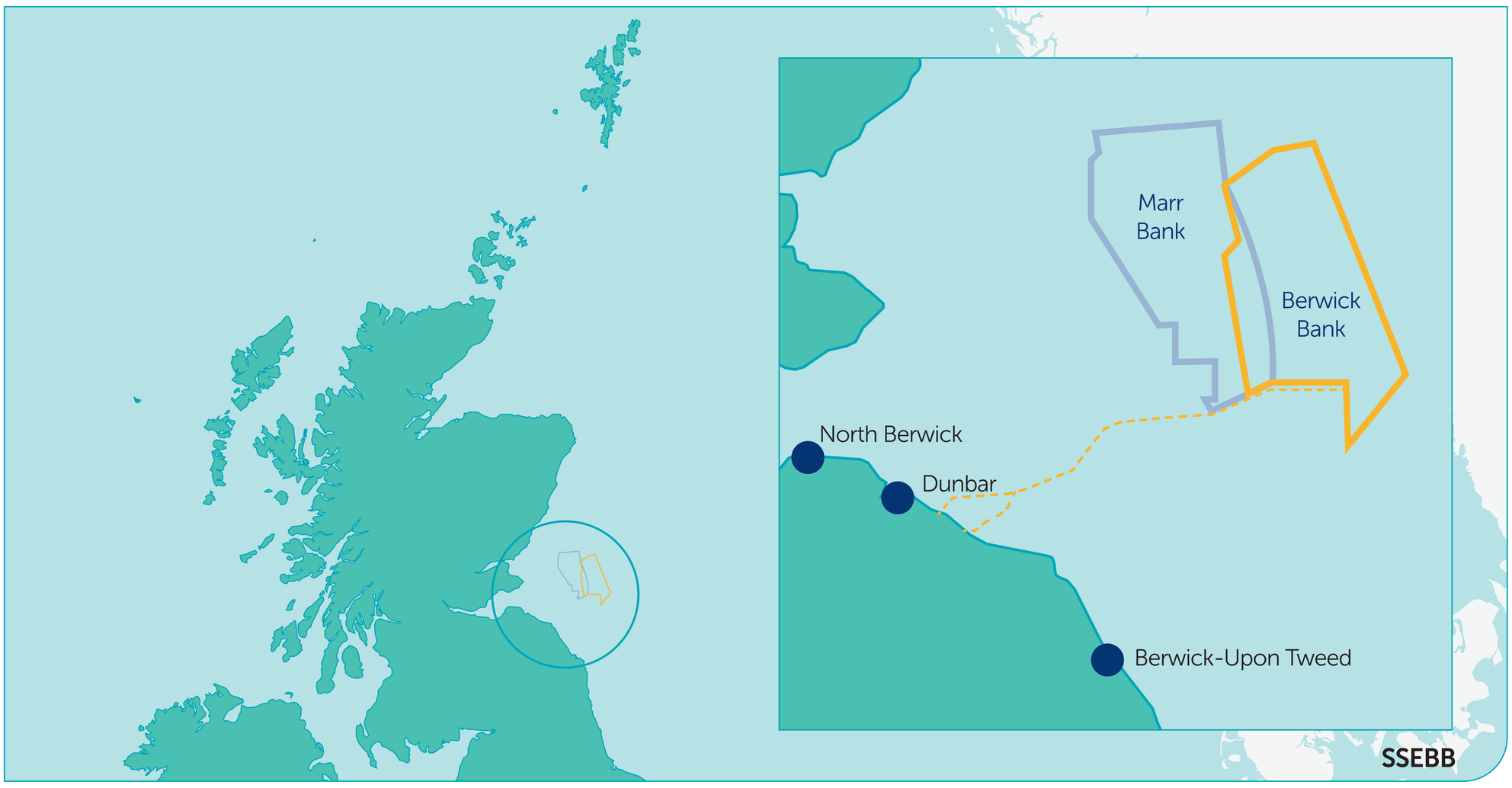
ABOUT THE **PROJECTS**

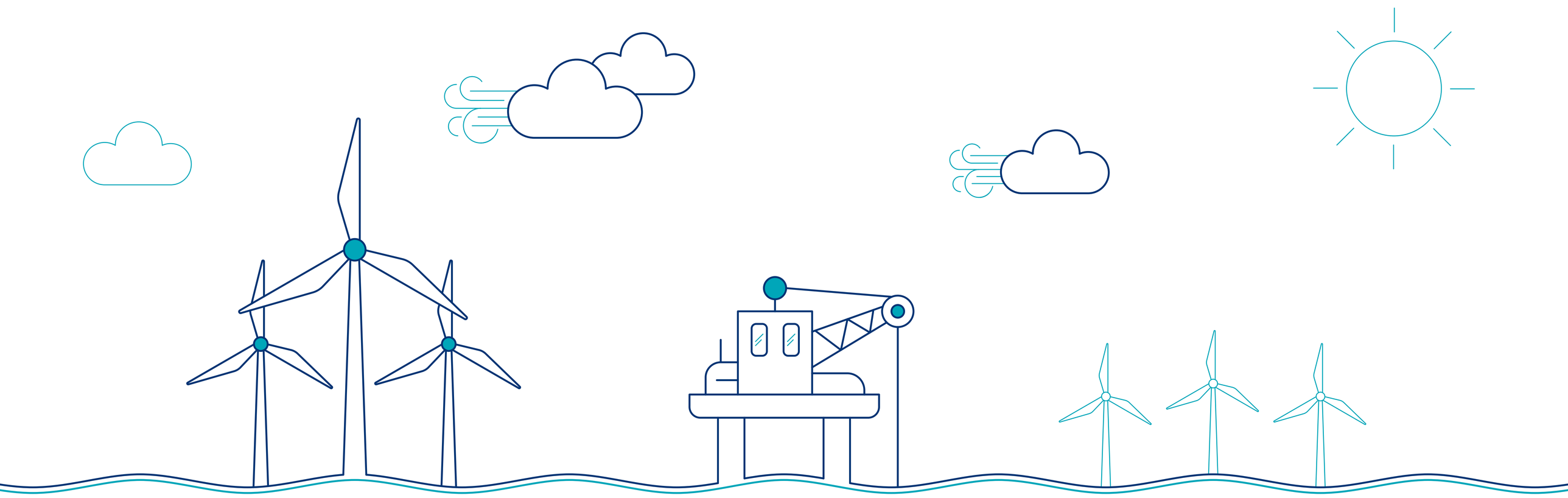
Welcome to the virtual exhibition for our Berwick Bank Wind Farm proposals. We are following Scottish Government guidance in line with Covid-19 and currently moving our exhibitions online to ensure the safety of our staff and the local communities in which we work.

SSE Renewables is bringing forward the Berwick Bank Wind Farm proposals, alongside our plans for the neighbouring Marr Bank Wind Farm. These projects have different timescales, with the exhibition focusing on Berwick Bank.

Berwick Bank and Marr Bank are proposed to be located in the outer Firth of Forth, over 54km and 40km, respectively, from the East Lothian coast and further away than the consented Neart na Gaoithe (NNG) and Inch Cape offshore wind farms.

Scotland's ambitious climate change legislation sets a target date for net-zero emissions of all greenhouse gases by 2045. Net-zero emissions for Scotland would benefit our environment, people, and economy. Offshore wind power will be a significant contributor to this target, and Berwick Bank and Marr Bank will play a key role in meeting this.





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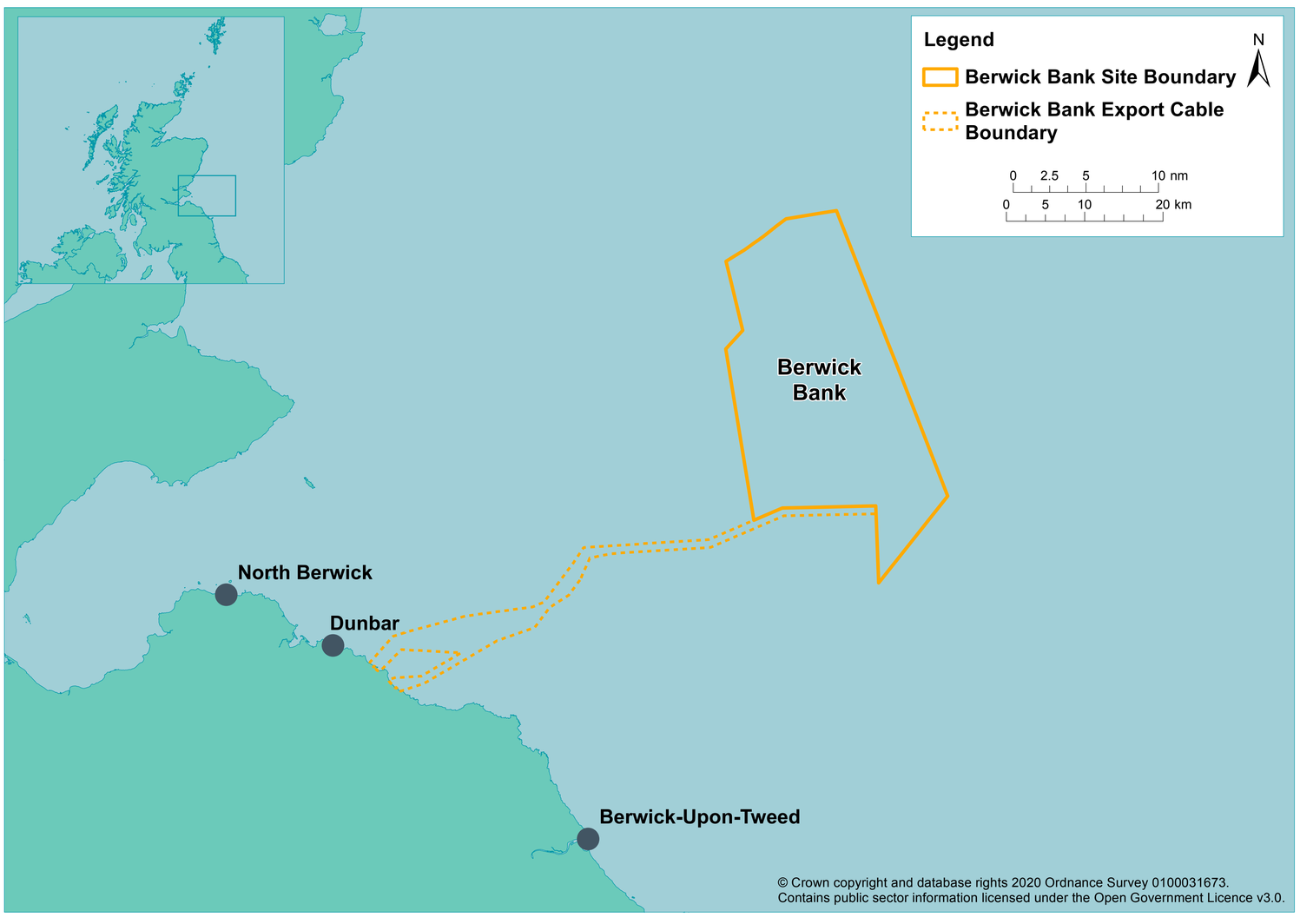
BERWICK BANK
PROJECT SUMMARY

Berwick Bank is proposed to be located in the North Sea, in the outer Firth of Forth, approximately 54 km off the East Lothian coast.

Berwick Bank has an anticipated installed capacity of up to 2300MW and the project has secured a grid connection at Branxton, south of Torness Power Station, in East Lothian.

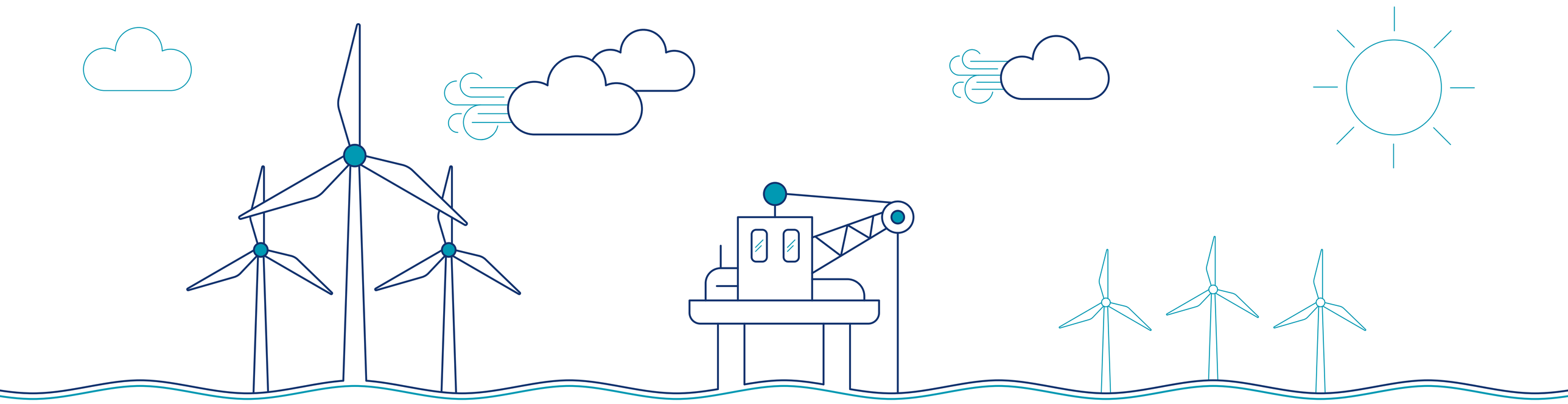
To facilitate both the Berwick Bank grid connection and another project in development, electricity grid upgrades are required by ScottishPower Transmission (SPT). SPT will propose separate development works for this upgrade, which will be separately consulted upon by SPT.

Berwick Bank's design is in its early stages and will be refined over the next year. We are hosting a virtual exhibition to introduce our plans for the project. We plan to engage further with the public in Spring 2021, where the project definition and design will be presented in more detail, and progress on environmental impact assessments will be fed back.



OTHER DEVELOPMENTS

We are conscious that there are other renewable energy projects either in development or going through construction within the East Lothian area and in the outer Firth of Forth, including Seagreen 1, Inch Cape, and NNG offshore wind farms and SPT transmission works. We are working with and are in regular communication with other developers in the area, primarily Seagreen 1, NNG and SPT, and are sharing lessons learned.



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BERWICK BANK
PROJECT DESCRIPTION

OFFSHORE

The proposed array area of Berwick Bank comprises an area of approximately 775 km^2 located to the east of the large-scale morphological banks 'Marr Bank' and overlapping the 'Berwick Bank' in the south.

The offshore infrastructure works will generally comprise:

- up to 242 wind turbines (each comprising a tower section, nacelle and three rotor blades) and associated support structures and foundations
- substation platforms and associated support structures and foundations
- a network of inter-array cabling linking the individual wind turbines to the offshore substations and
- offshore export cables connecting the offshore substations to the onshore substation.

Thorntonloch Beach

Skateraw

ONSHORE

Two landfall locations are being considered on the East Lothian coast, one at Thorntonloch Beach and the other at Skateraw.

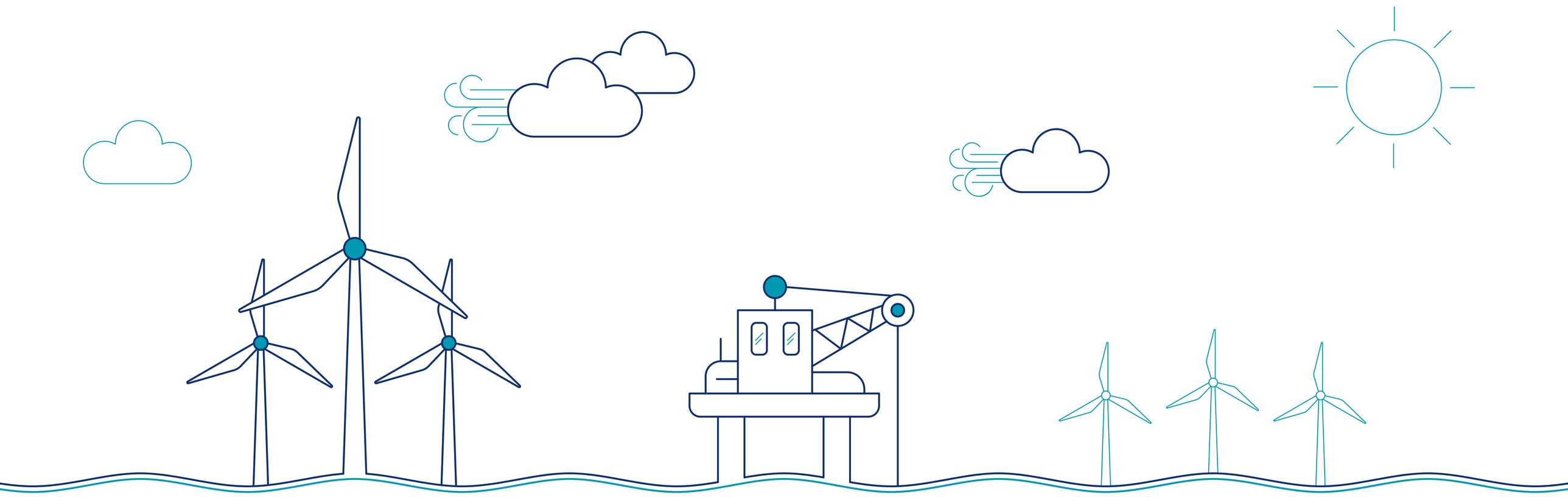
Three substation sites are being considered in the vicinity of Thorntonloch, Skateraw and Crowhill. Their locations and sizes are being refined as part of the design process.

A grid connection point has been confirmed at a new SPT 400kV Branxton substation, south west of Torness Power Station under an existing grid connection agreement for 2.3 GW.

The onshore transmission works will generally comprise:

- up to two landfall locations and transition pits
- a new wind farm onshore substation
- the connecting, primarily underground, onshore cables with the potential options of a short section of overhead lines and a cable bridge
- potential new and upgraded access tracks to the substation, cable construction corridor and landfall(s) and associated ancillary infrastructure

Construction of the onshore proposals could take around 36 months.



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KEY INFRASTRUCTURE
OFFSHORE SITE SELECTION

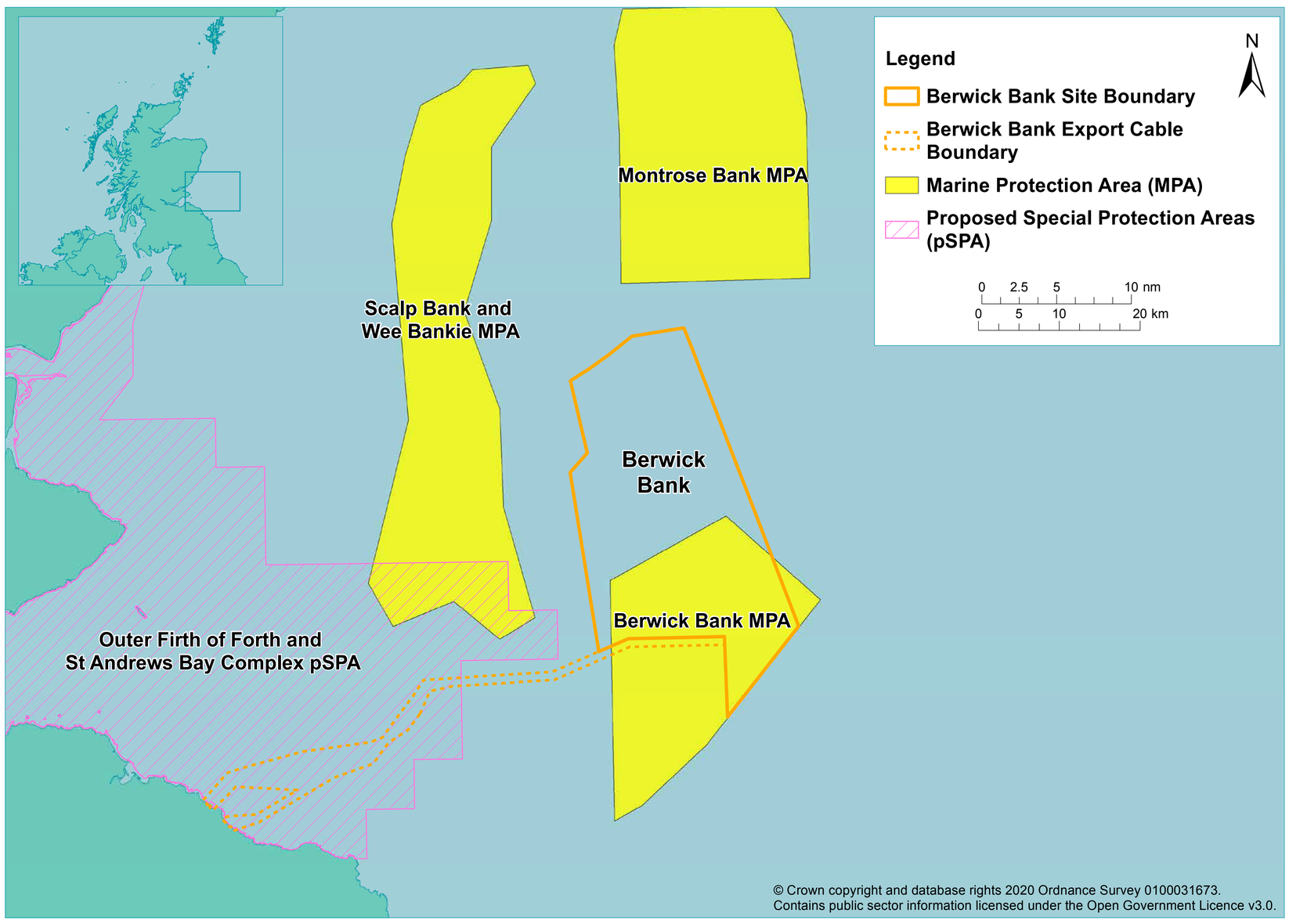
Berwick Bank forms part of the wind farm development in the former Firth of Forth Zone. The Firth of Forth zone was part of the Round 3 offshore wind development programme instigated by The Crown Estate in 2008 and was designed to facilitate delivery of a larger scale offshore wind farm development than had previously occurred in the UK. Suitable areas for the development of offshore wind were assessed through a statutory process of environmental assessments undertaken by the government.

Key issues considered for offshore site selection included:

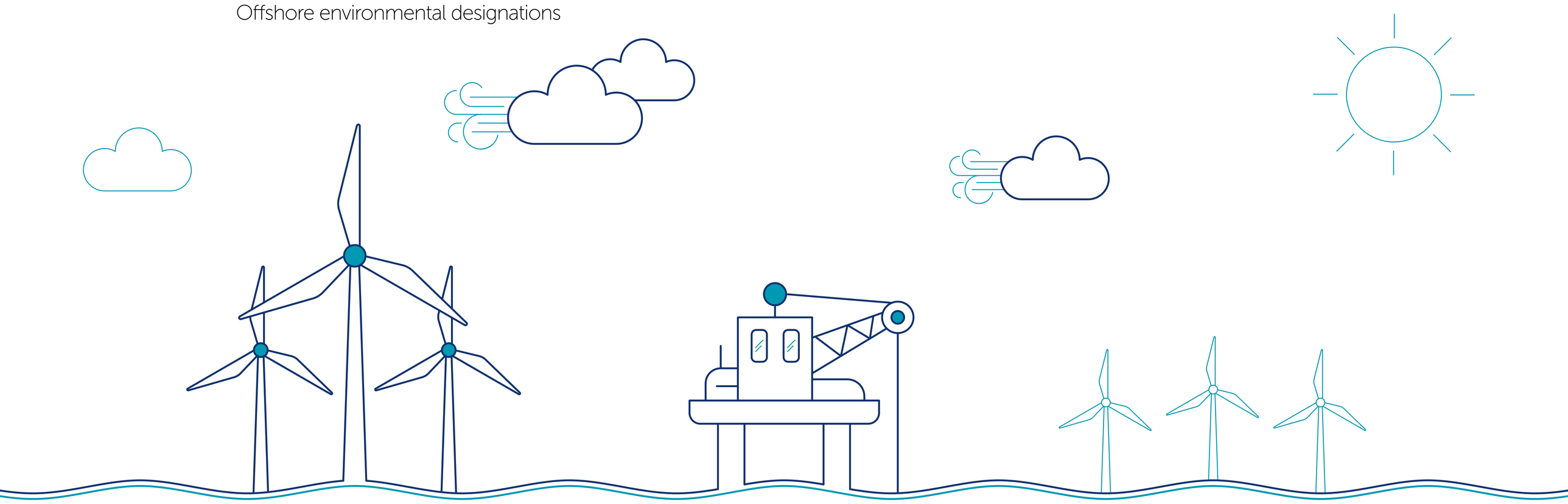
- water depth and distance to the shore
- wind, wave and climate conditions (metocean conditions)
- various environmental designations
- marine habitats
- marine ecology such sea birds (ornithology), organisms living on the seabed (epifauna), those living in the sediments (infauna) and marine mammals such as cetaceans and seals
- shipping and navigation

The boundary was identified through consideration of several parameters within the wider Firth of Forth Zone, including:

- fishing effort
- seascape and landscape
- archaeology and cultural heritage
- aviation and telecommunications issues, such as civil and military aspects
- oil and gas infrastructure, cables and pipelines
- emergency services



Offshore environmental designations



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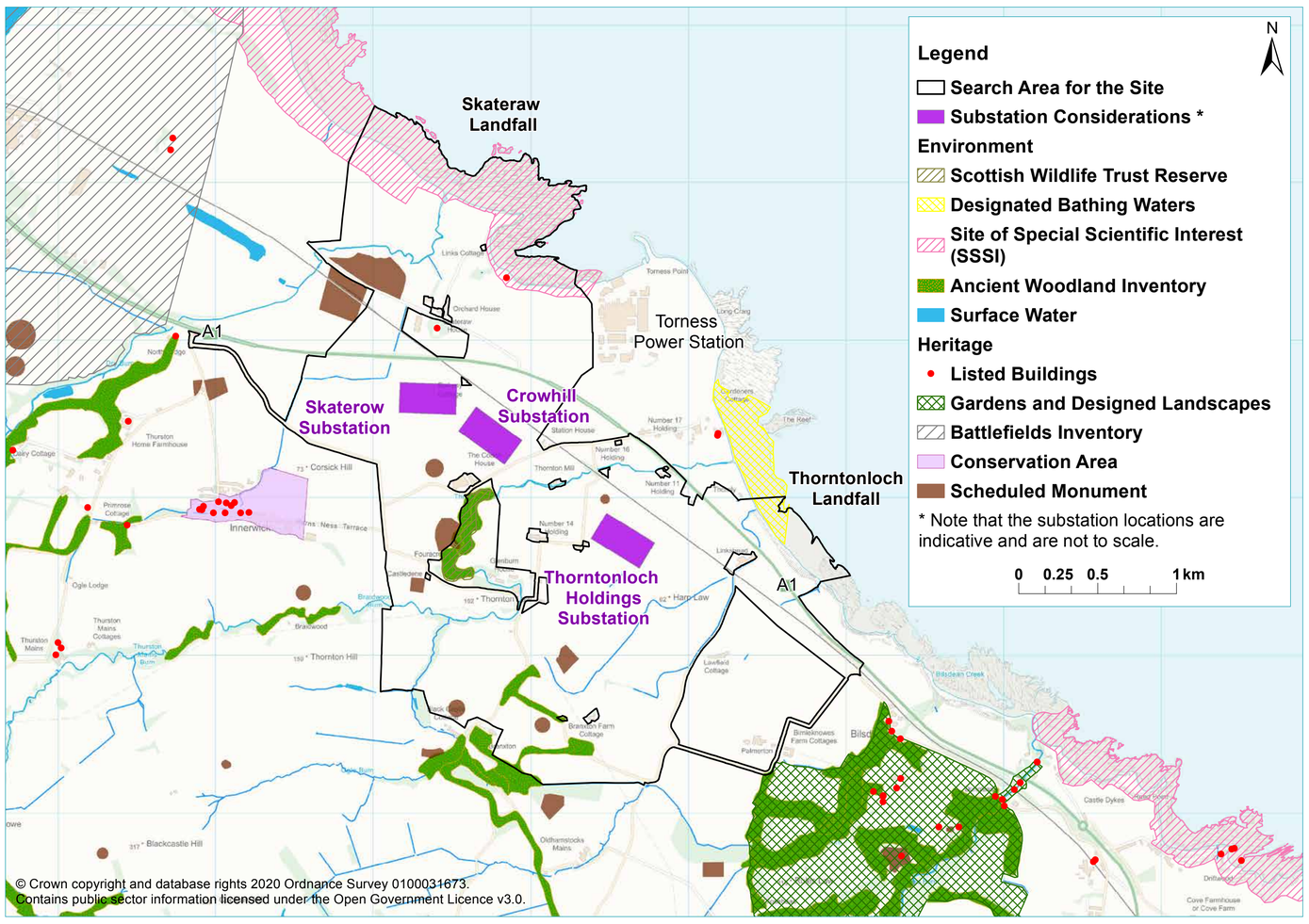
KEY INFRASTRUCTURE
ONSHORE SITE SELECTION

The grid connection location for Berwick Bank in Branxton was determined by the grid network operator SPT. This led to the East Lothian coast being studied for suitable landfall locations. Once landfall options were identified, various sites were studied within the East Lothian area for the onshore infrastructure associated with the offshore wind farm. A key consideration to siting infrastructure was proximity to this grid connection.

Two landfall sites and three substation sites are being considered in detail for Berwick Bank. The selected landfall(s) and substation location will be presented at the next public exhibition. These will be assessed as part of the onshore EIA Report, which will form part of a forthcoming planning application.



Onshore key environmental constraints

Landfall

Key issues in consideration at the landfall sites:

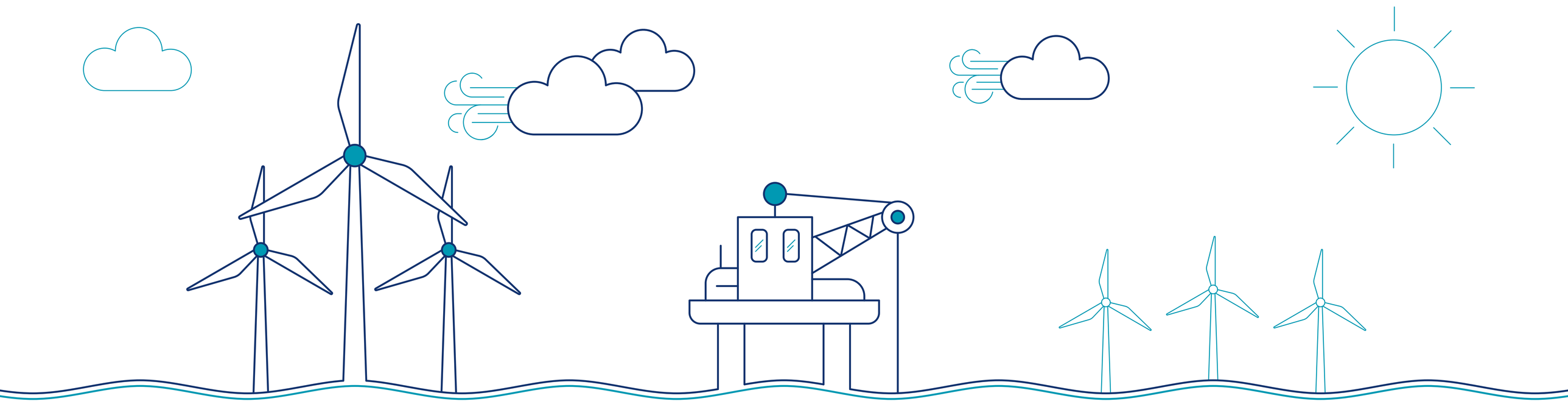
- geotechnical (earth materials such as soil and rock)
- bathymetric (sea bed features)
- topography (the shape and features of the land's surface)
- underground/ overground infrastructure such as cables, utilities etc.
- natural obstacles such as rivers
- unexploded ordnance devices, historic mining, quarrying
- various environmental constraints and designations
- distance and width of the proposed sub-sea export offshore cable corridor

Substation

Key issues in consideration at the substation sites:

- topography (the shape and features of the land's surface)
- availability of space
- underground/ overground infrastructure such as cables, utilities etc.
- various environmental constraints and designations
- national, regional and local planning policy
- cable route length from landfall

Various environmental, engineering, design and ground investigation studies and workshops will continue to refine site selection to determine the most feasible options, minimising disruption and environmental impacts as much as reasonably possible.



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THE CONSENTING **PROCESS**

Separate applications for consent will be made for offshore and onshore proposals, to Marine Scotland and East Lothian Council (ELC), respectively. An application for planning permission will be made to ELC in respect of onshore infrastructure. We are engaged in early discussions with ELC and Marine Scotland, which will continue over the coming months.

ENVIRONMENT IMPACT ASSESSMENTS

What is EIA?

EIA is a process which identifies and assesses the potential significant effects of a project, informs the design of the project from an environmental perspective, and sets out standard industry and additional mitigation measures to eliminate or minimise the project's effect on the environment.

Our approach for Berwick Bank

Our EIA approach reflects the consenting approach and distinguishes between offshore and onshore infrastructure, with separate EIA Reports to be prepared in respect of each. The Onshore EIA Report will assess the environmental impacts of the onshore transmission works and will be submitted to ELC as part of the planning application in support of the onshore proposals' consents application. The Offshore EIA Report for the offshore proposals will be submitted to Marine Scotland in support of the offshore proposals' consents application.

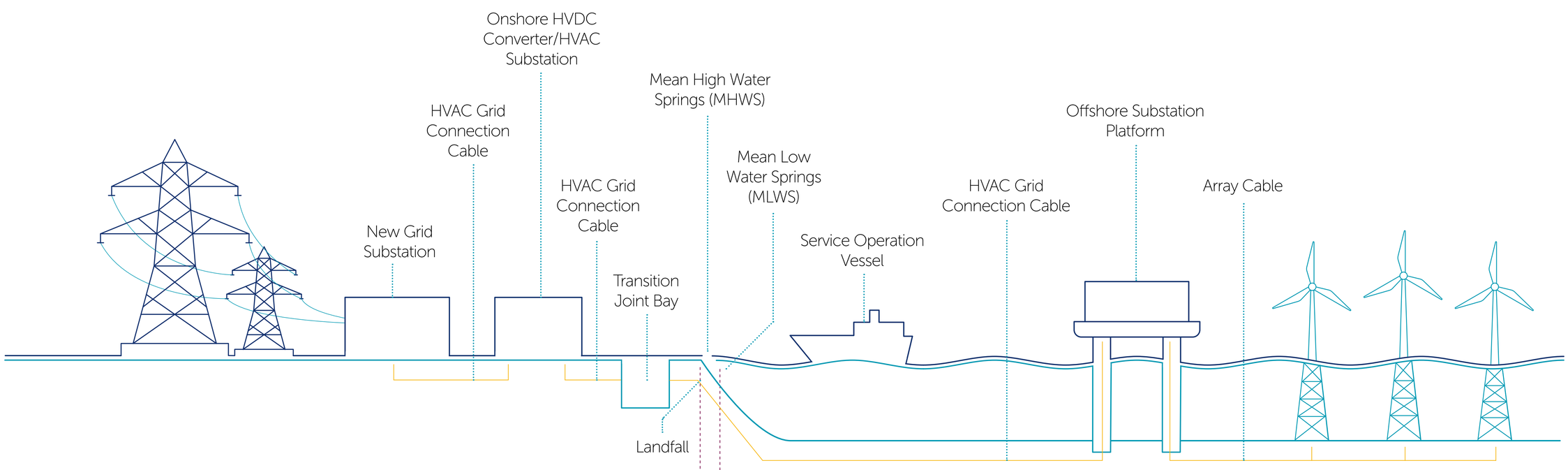
Submission of offshore and onshore applications for consent is anticipated towards the end of 2021.

Where are we in the EIA process?

Onshore and offshore EIA scoping reports were submitted to East Lothian Council and Marine Scotland, respectively, in August 2020. The scoping reports can be downloaded from the project website here: **www.sserenewables.com/berwickbankmarrbank**

BERWICK BANK PROPOSED WORKS AND EIA

This figure illustrates the split between the onshore and offshore proposals and the associated technical topics which will be assessed as part of the EIAs. Note that the 'New Grid Substation' and connection to the grid are SPT's 400kV Grid Substation located at Branxton. This proposal is a separate consents Application being delivered by SPT.



Onshore EIA Report		Offshore EIA Report
Physical Environment	Geology, Hydrology, Soils and Flood Risk	Physical Processes
		Subsea Noise
		Airborne Noise
		Air Quality
Biological Environment	Ecology and Ornithology	Benthic Ecology
		Fish and Shellfish Ecology
		Marine Mammals
		Ornithology
Human Environment	Traffic and Transport	Commercial Fisheries
		Shipping and Navigation
		Aviation, Military and Communications
	Cultural Heritage	Marine Archaeology and Ordnance
	Landscape and Visual	Seascape and Visual Resources
	Land Use, Tourism and Recreation	Infrastructure and Other Users
	Socio-economics	Socio-economics and Tourism
	Noise	Addressed in offshore physical environment topics

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THE DEVELOPMENT **PROCESS**

Consultation

WE ARE HERE

Informal Virtual Public Exhibition Event

Public Exhibition Events
The project designs and EIAs will be presented to the public ahead of the applications being submitted. Public feedback will inform EIAs and the design process.

Consultation period
A statutory period of consultation will allow interested parties and the public to have the opportunity to formally comment on the project's proposals, both onshore and offshore.

Process

Site Selection
A thorough review of potential offshore sites and locations for key onshore infrastructure.

Scoping
In August 2020 the onshore and offshore EIA scoping reports were submitted to East Lothian Council and Marine Scotland, respectively, to obtain feedback and help define the scope of the onshore and offshore EIAs.

Environmental and baseline studies
Desk based assessments, consultation and field studies are underway. These will define the baseline environment for the onshore and offshore EIAs.

Preparation of the onshore and offshore EIA reports
The impacts of the proposed onshore and offshore designs are assessed using the relevant baseline information collected, various guidance and good practice guidelines. All findings will be presented in the onshore and offshore EIA reports.

Submission of application
There will be two distinct packages of application, one for the offshore infrastructure comprising applications for a Marine licence and consent under Section 36 of the Electricity Act 1989 and a second, comprising a planning application for the onshore transmission works under the Town and Country Planning (Scotland) Act 1997. Onshore and offshore applications will be submitted to Marine Scotland and East Lothian Council, respectively. Copies will be made available for the local community to view.

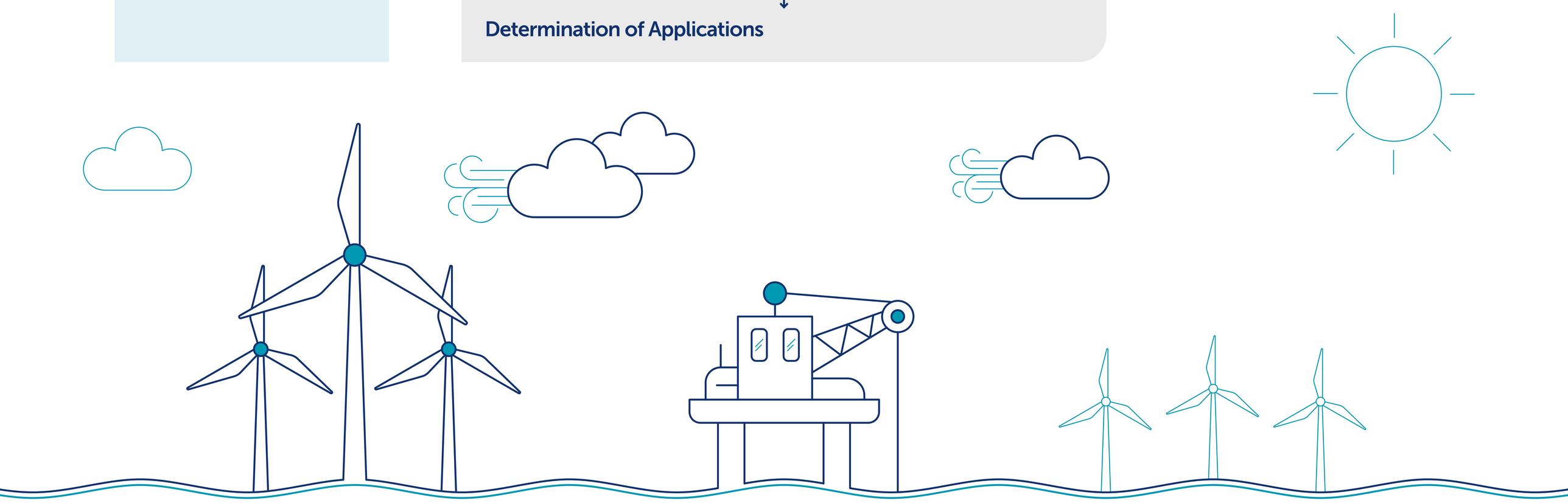
Consideration of the Applications

Determination of Applications

Formal Publication

Onshore EIA Scoping Report and Offshore EIA Scoping Report

Applications including the onshore offshore EIA Reports



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SURVEY **CAMPAIGNS**

ONSHORE

To date, surveys and investigations across the wider onshore study area have comprised:

- ecology surveys including breeding birds, habitat, a preliminary bat roost appraisal, badger, otter and wintering birds
- a hydrology survey to understand the surface water features across the site
- ground investigation works including exploratory boreholes and trial pits to determine the ground conditions and its characteristics.

In 2021, onshore environmental surveys will continue, including further ecology surveys, traffic and transport, noise, landscape and visual, and cultural heritage.

Thorntonloch Burn

Ground investigation works

Dry Burn

OFFSHORE

To date, the surveys across the wider offshore study area have comprised:

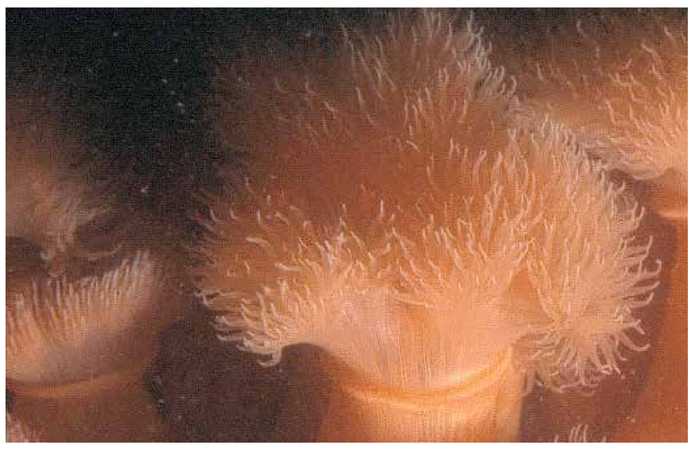
- a geophysical survey where data has been analysed to form detailed bathymetric (water depth) and geological maps. The results of this survey will also give an understanding of the marine archaeology present at the site
- geotechnical surveys to understand the properties of the seabed
- the deployment of three metocean buoys which measures the sea condition including wave heights
- the deployment of a Floating LiDAR which measures wind speeds
- aerial bird and marine mammal surveys which have comprised a plane flying over the proposed wind farm area once a month to record bird and marine mammal densities
- shipping density surveys
- benthic surveys which investigate the ecology of the sea bed.

Wave buoy as part of the metocean survey

Guard buoy used as a marker as part of the metocean survey

Wave buoy as part of the metocean survey

Bottlenose dolphin



Anemone

Kittiwakes

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PROJECT **OPPORTUNITIES**

LOCAL OPPORTUNITIES

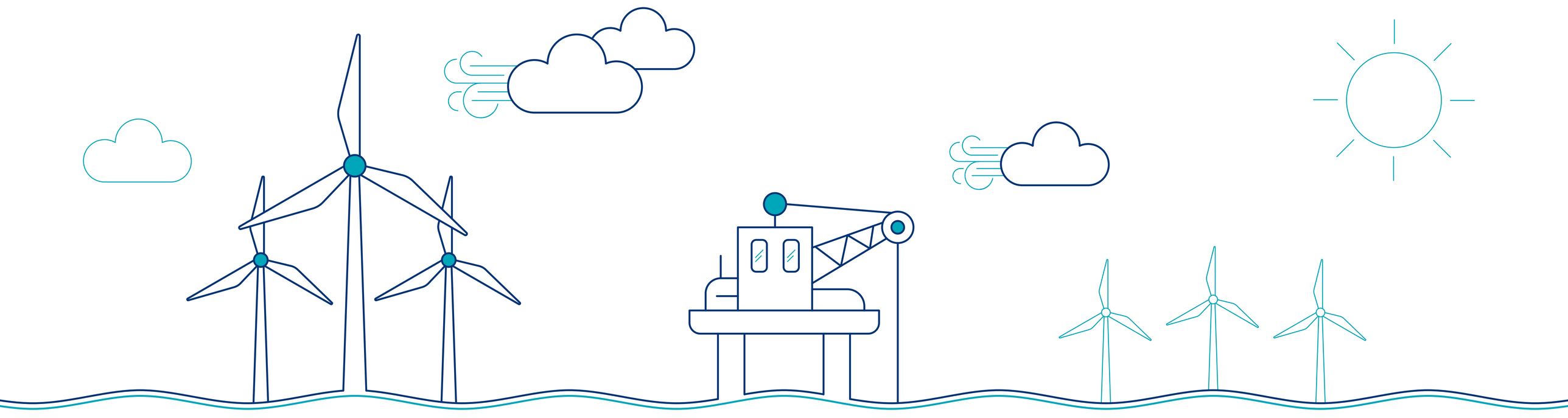
Some activity we have carried out for the project to date:

- Early correspondence and engagement with local community councils and residents around the proposed onshore works through letters and virtual meetings to provide updates and obtain initial feedback on the project plans.
- Member of Midlothian and East Lothian Chamber of Commerce Industry and Education Partnership group. Working with Developing Young Workforces (DYW) to implement an innovative, technologically challenging and fun Science, Technology, Engineering and Mathematics (STEM) programme into schools within the East Lothian area - in line with Covid-19 guidance.
- Virtual meeting with the Scottish Seabird Centre in North Berwick to explore education and conservation initiatives as well as support the Centre through their Covid-19 fundraising appeal.

PROCUREMENT

- We are keen to work with the local supply chain on this project. To date, we have worked alongside a number of Scottish environmental, survey specialist, geotechnical and engineering consultancies, to assist with the EIA studies, engineering and ground investigation works. We have also worked with SFF Services based in Aberdeen, specifically to provide offshore guard vessels and Fisheries Liaison Officers. Over the past two years, the offshore contractors and vessels have used port facilities in Leith, Eyemouth, Dundee, Montrose, Port Edgar, and Peterhead to carry out their works. We look forward to engaging with the local supply chain further as the project progresses and will organise a number of Meet the Developer events to outline opportunities.
- These projects, if consented, can be shovel ready for 2024 – we want to work with local authorities and government to ensure that we have a strong supply chain that is ready to help deliver these projects, which if consented will represent a multi-billion pound investment.
- If consented, Berwick Bank and Marr Bank will be built before the ScotWind offshore wind projects (the next set of offshore wind farms circa 2030 onwards) - these projects will be central to gearing up a long term and sustainable Scottish supply chain for Scotland's offshore renewables sector.

We are undertaking a socio-economic study to help inform our requirements and will share with local authorities, port authorities, government in 2021.



NEXT STEPS
FOR BERWICK BANK

NEXT STAGES

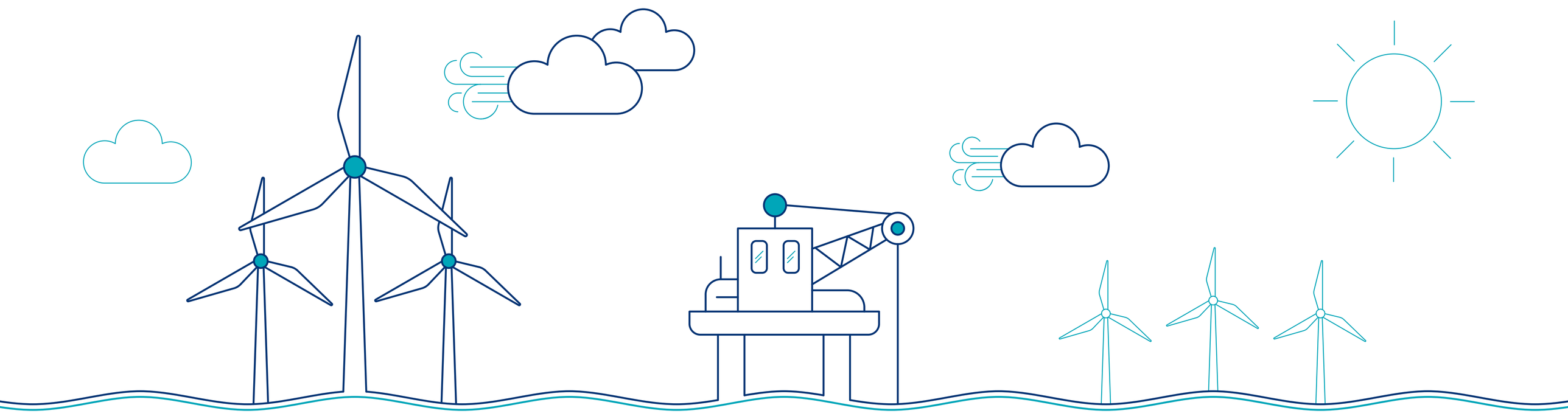
Currently, we are continuing with our onshore and offshore environmental surveys and studies, working closely with the engineering teams on the project design and definition, and continuing our ongoing stakeholder engagement activities.

Key dates for the programme are:

- Onshore and offshore environmental surveys – **2019 to 2021**
- Second public exhibition – **anticipated Spring 2021**
- Drafting of the onshore and offshore EIA reports – **2021**
- Submission of the onshore and offshore consents applications, both including the respective EIA reports – **anticipated end of 2021**

COMMUNITY INVOLVEMENT

Covid-19 has unfortunately delayed opportunities for our team to be in the community to explain the plans and to build partnerships with local groups – we hope to attend Gala Days and Summer Shows in 2021 dependent on Covid-19 restrictions. In the meantime, we would welcome the opportunity to meet with community groups and organisations online, and in person in the future when restrictions ease. As the project progresses, we will develop local opportunities and community benefits in liaison with the community and as part of the public engagement process.



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