

Welcome

MarramWind is a proposed floating offshore windfarm located off the northeast coast of Aberdeenshire. This exciting project, one of the first commercial floating offshore windfarms in the world, has the potential to deliver up to three gigawatts (GW) of renewable electricity, which could power the equivalent of more than 3.5 million homes.

In January 2022, Crown Estate Scotland awarded ScottishPower and Shell an Option to Lease Agreement for the MarramWind offshore windfarm and since then we have been developing our proposals. From 28 May – 1 July 2024, we held our first round of statutory consultation, presenting our early proposals and inviting stakeholder feedback. We have continued to refine the project design to account for this feedback and are now presenting our updated proposals as part of our second round of statutory consultation, which runs from 9 October to 19 November 2024. As part of this consultation, we have illustrated how stakeholder feedback received during the first round of statutory consultation has been considered in the development of the project.

This second round of statutory consultation is another key milestone in the preparations for our Environmental Impact Assessment (EIA) and consent applications, which we intend to submit in autumn 2025. We now invite you to read the banners around this room and learn more about our updated proposals and share your views. Further information on our proposals can be found in the consultation booklet.



Your feedback is important and will help us to develop a final project design for submission as part of our consent applications to the relevant authorities. Information on how to respond to this consultation can be found on the 'Have Your Say' banner at the end of this exhibition.





Working Together for a Cleaner Future

Scotland's offshore environment, with over 50 years' experience offshore in the North Sea. We also have over 15 years of combined experience in floating offshore wind energy. As world-leading energy developers, we bring together decades of experience working offshore, a long history of working in Scotland, and an innovative approach to delivering offshore energy projects.

About ScottishPower

ScottishPower is part of Iberdrola Group, a global energy leader and a major producer of wind energy. Responsible for progressing Iberdrola Group's renewable energy projects in the UK, ScottishPower manages the development, construction and operation of windfarms throughout the world and currently has 40 operational windfarm sites generating over three gigawatts (GW) of renewable energy.

ScottishPower continues to be one of the leading renewables developers in the UK and is investing almost £3 billion between 2023-25 across offshore and onshore wind and solar generation, increasing home grown green electricity generation in the UK to support energy security.

ScottishPower is the first integrated energy company to generate 100% green electricity in the UK. Focused on wind energy, smart grids and driving the change to a greener future, ScottishPower is investing over £8m every working day to make that happen.

About Shell

Shell has over 50 years of experience delivering complex offshore projects in the North Sea, and today employs around 1,200 in the North-East of Scotland. Floating wind is a natural extension of our capabilities in deeper offshore projects.

Shell today has more than 2GW of offshore wind capacity in operation and under construction. Globally, Shell is building an integrated power business that will provide customers with low-carbon and renewable energy solutions.

Shell's target is to become a net zero emissions energy business by 2050.





About MarramWind Floating Offshore Windfarm

The proposed MarramWind floating offshore windfarm will consist of floating wind turbines. Situated in deep waters approximately 75km off the northeast coast of Scotland at its nearest point, the wind turbines will be barely visible from shore.

The renewable electricity generated by MarramWind will play a pivotal role in achieving Scottish and UK net zero targets for 2045 and 2050 respectively, while also supporting energy security and promoting energy innovation.

MarramWind is being developed with sustainability embedded as a core value, from development through to construction, operation and maintenance, and decommissioning.

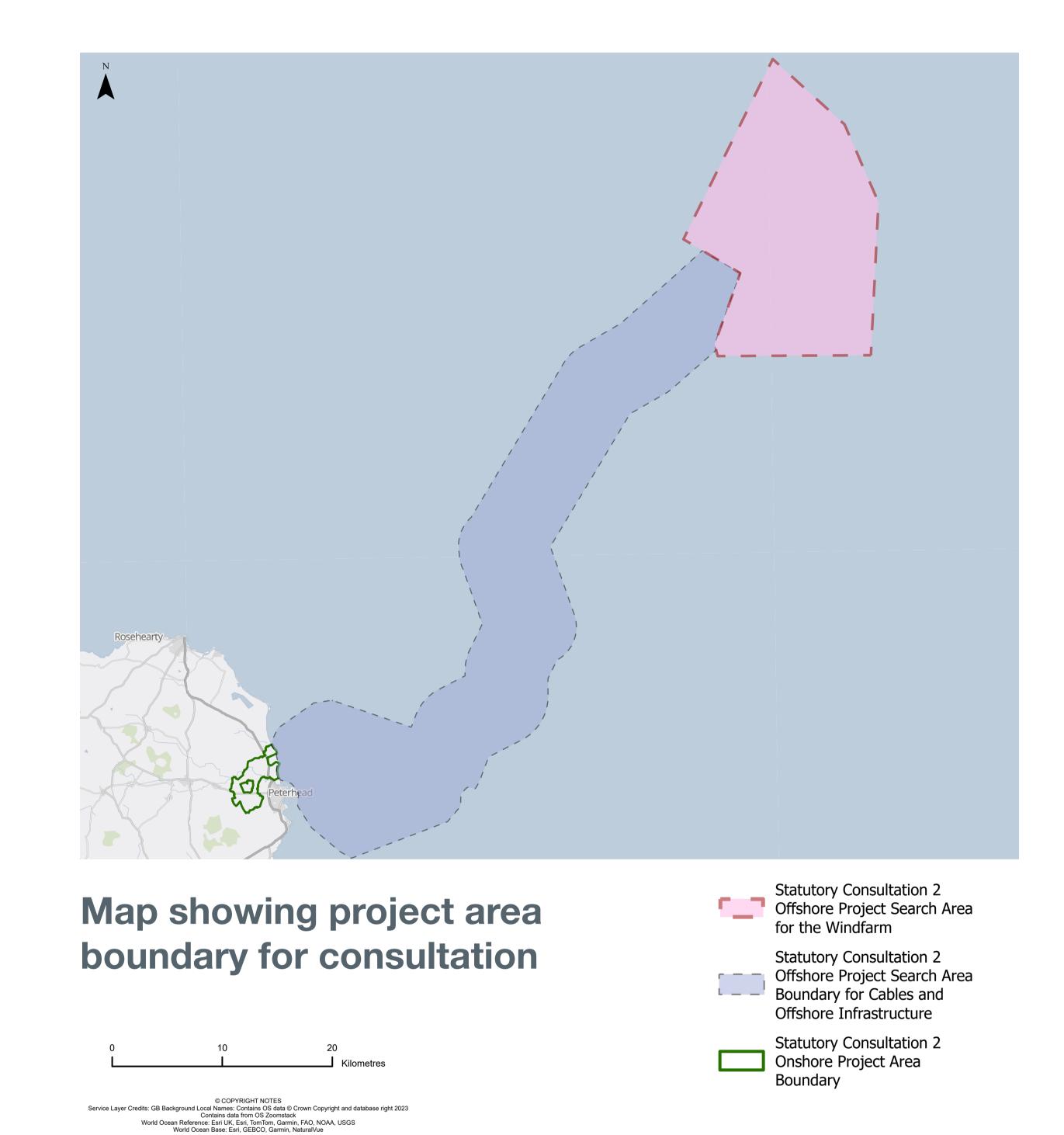
MarramWind has defined a project search area boundary, shown in the map, which has been refined since our first round of consultation. This does not show the final area the project will require but allows us to work across a larger area to identify the best locations for the project's infrastructure. It also ensures we can make adjustments in the project design.

The MarramWind project, generating up to 3GW of power, will connect to the national grid via the proposed Scottish and Southern Electricity Network's (SSEN) Netherton Hub substation to the west of Peterhead. This was confirmed by National Grid in their Holistic Network Design (HND) report and subsequent follow up exercise. While the HND is a crucial step for renewable energy connection, it is part of a larger picture. The Beyond 2030 Report builds on the HND, aiming for a clean, secure, and affordable energy future throughout the 2030s. This ambitious plan aligns with the UK Government's ambition to have a fully decarbonised electricity system by 2035 and will support delivery of the projects leased via ScotWind

Optimising Sustainability

We are adopting a strategic approach, reflective of ScottishPower and Shell's sustainability targets. We have identified four sustainability key priority areas:

- 1. Emissions Reduction.
- 2. Embedding Circularity by using reusing and recycling resources and materials.
- **3. Nature Positive Development** which aims to ensure negative effects on biodiversity are avoided or mitigated and that the project has an overall positive benefit on biodiversity.
- 4. Optimising Social and Economic Performance by maximising the project's net economic effect while supporting local and regional economic priorities.







Consents

The consenting process

Under the Scottish Government's National Planning Framework 4, MarramWind is classified as a National Development. This means the whilst the need for the project has been established through Government policy, planning permission, marine licences and other consents or licences are still required for construction and operation. We will need to make separate applications for the following key onshore and offshore consents:

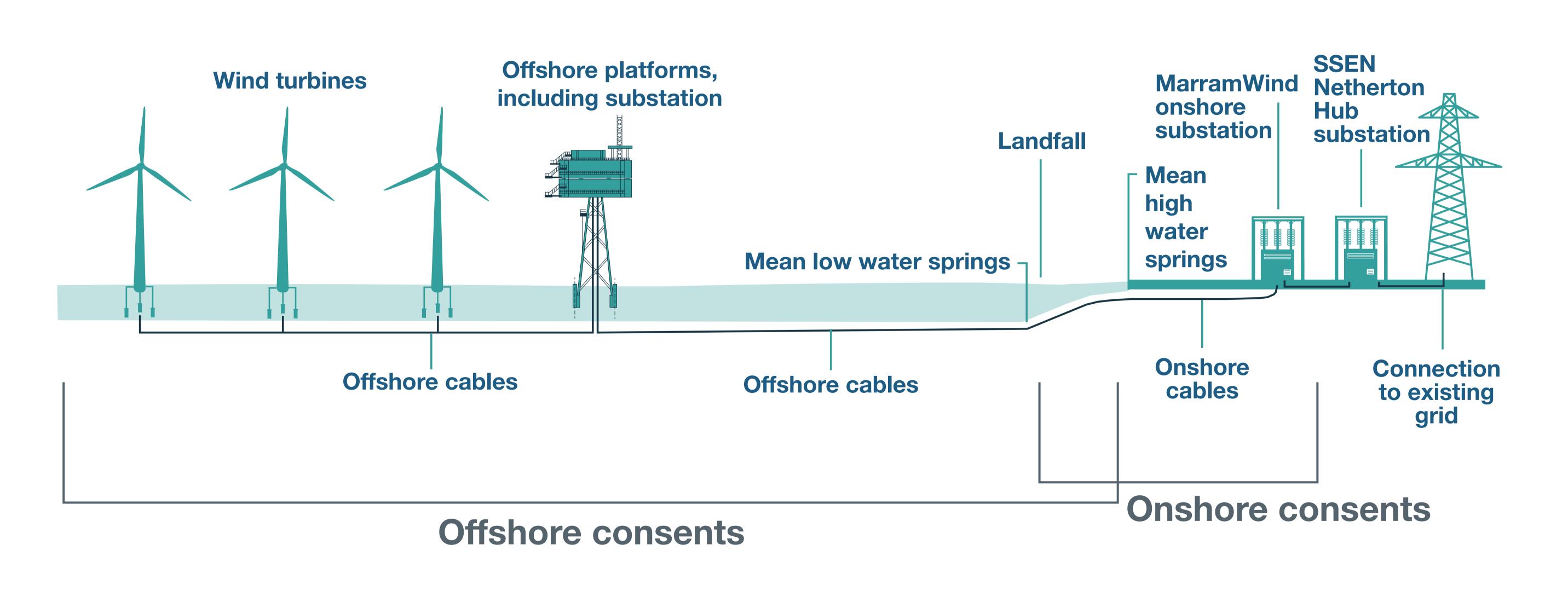
- Section 36 consent, under the Electricity Act 1989 (S36), is required for the offshore windfarm site. Permission is granted by the Marine Directorate (on behalf of Scottish Ministers), referred onwards as the Marine Directorate;
- Marine licences, under the Marine (Scotland) Act 2010 (0-12 nautical mile) and the Marine and Coastal Access Act 2009 (12-200 nautical mile), the Project is seeking marine licences. This is to undertake marine licensable activities, including the installation of cables or other infrastructure on or within the seabed. Permission is granted by the Marine Directorate;
- Onshore planning permission, under the Town and Country Planning (Scotland) Act 1997 (TCPA) is required for all infrastructure located above the average level of low tide (known as Mean Low Water Springs (MLWS)) and is granted by the local planning authority, Aberdeenshire Council.

Some consents and licences overlap between the MHWS and MLWS – this area is known as the intertidal zone. This consultation presents the project as a whole, including onshore, intertidal and offshore infrastructure.

Our first consultation, held earlier this year, was delivered in line with requirements set out in the TCPA. This second consultation will further fulfil the TCPA requirements, as well as the relevant marine licences requirements.

We will also be undertaking an EIA, which is the process of assessing the likely significant effects the project could have on the environment. We will also prepare reporting to support a Habitats Regulations Appraisal (HRA). Further information on our EIA and HRA can be found in the 'Environmental Impact Assessment' and 'Habitats Regulations Appraisal' banners.

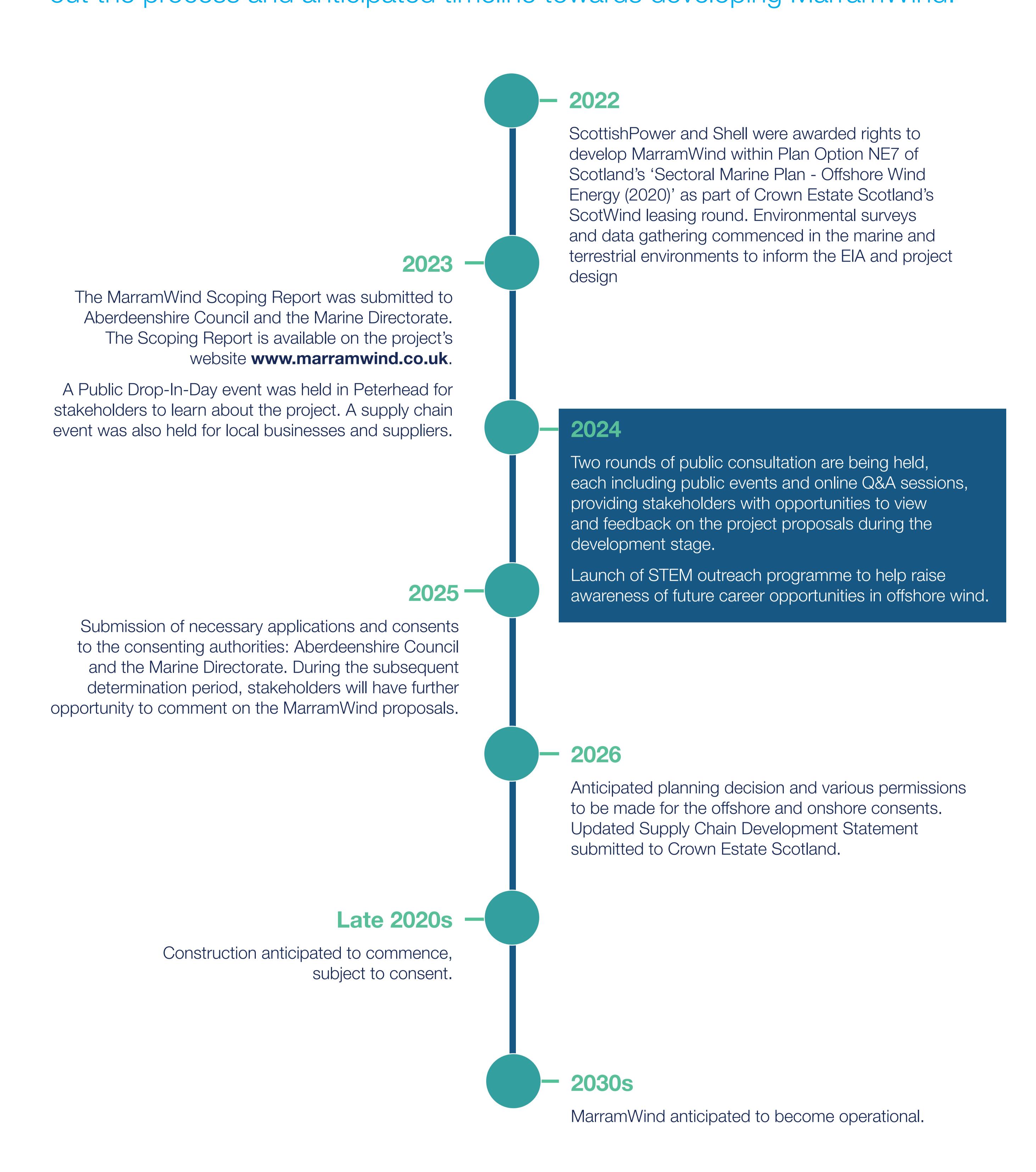
The diagram below shows the infrastructure required for the onshore and offshore elements of MarramWind, as well as which sections of the project are related to the different consents we need to apply for.





Project Programme

Developing MarramWind involves significant work, but our priority is to deliver a project that minimises effects on local communities and the environment, while delivering renewable energy. The programme below sets out the process and anticipated timeline towards developing MarramWind.





Offshore Key Infrastructure

The offshore infrastructure includes floating wind turbines, cables that connect the turbines together, offshore platforms, and cables that transmit the power generated to shore.

Electricity transmission

The electricity generated by our turbines will be transmitted by cables to the onshore substation site and the national grid. We are reviewing options for the electricity transmission, including High Voltage Alternating Current (HVAC) and High Voltage Direct Current (HVDC) transmission technologies, or a combination of the two.

The turbines will generate HVAC electricity - the same type distributed by the national grid. Due to the long distance of the cables, it is more effective to convert the HVAC transmission to HVDC transmission as HVD cables have lower electrical losses. The electricity is converted back to HVAC at a converter substation onshore.

The infrastructure required for both options is broadly similar, but HVDC will require an offshore converter station. HVAC requires an offshore platform for equipment to stabilise the voltage of the electricity generated. Differences include the number and size of the cables needed to deliver power to the national grid.

The floating wind turbines

Turbine technology is advancing quickly so we have not chosen the turbine models yet, but we expect each turbine to produce up to 25 megawatts (MW) of power. Depending on the size of the turbines, which could have a blade tip height of up to 350m, the windfarm is expected to have between 126 and 225 turbines, each with three blades. The maximum rotor diameter is expected to be around 326m. Navigational lighting will be installed on the turbines and floating units to reduce navigational and aviation risk.

Each turbine will sit on a floating unit, held in place by a mooring and anchoring system. These could be catenary, taut line or semitaut moorings. Catenary moorings are more slack than other options, which is good for areas where the water depth changes but this option can affect the seabed more. Taut line moorings have the tightest mooring lines which is good for stabilising the turbine. Semitaut moorings are a combination of both. Decisions on the most appropriate option will take place once the project has further developed.

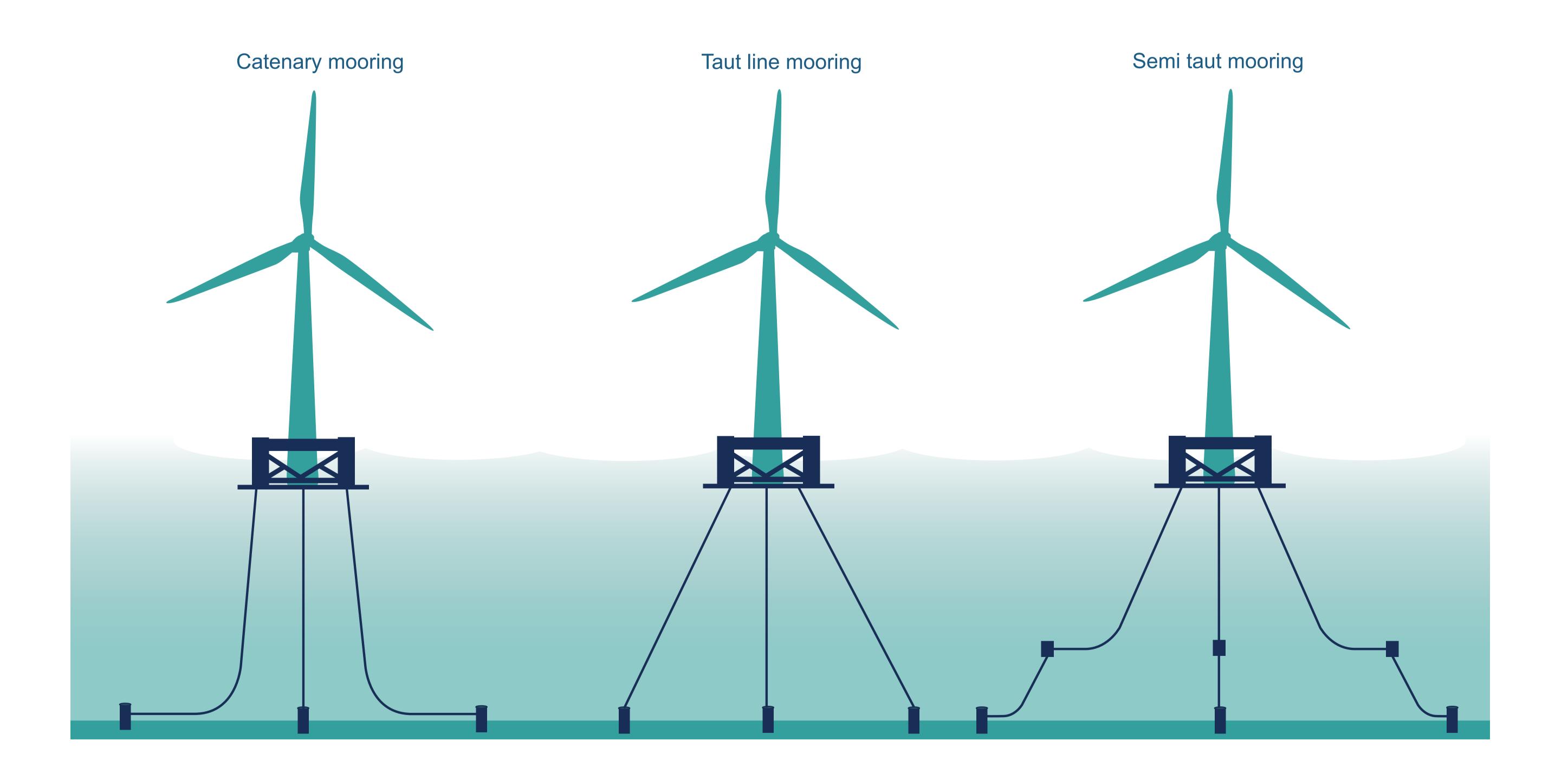
Offshore platforms and substations

Onshore platforms house electrical infrastructure and connect the cables between the turbines with the cables that will transmit electricity to shore.

If HVAC technology is used, equipment to support transmission may be required on offshore structures between the windfarm site and landfall (where the cables come onshore). An accommodation platform may also be required for staff.

Offshore cables

Cables will transmit electricity from the windfarm site to the onshore substation and then the national grid. The cables will be buried 1-2m (were possible) below the seabed. In the few areas where the cables cannot be buried, other protective measures, such as concrete mattresses or rock berms (a layer of fragmented rocks laid over the cables) will be used to protect them.

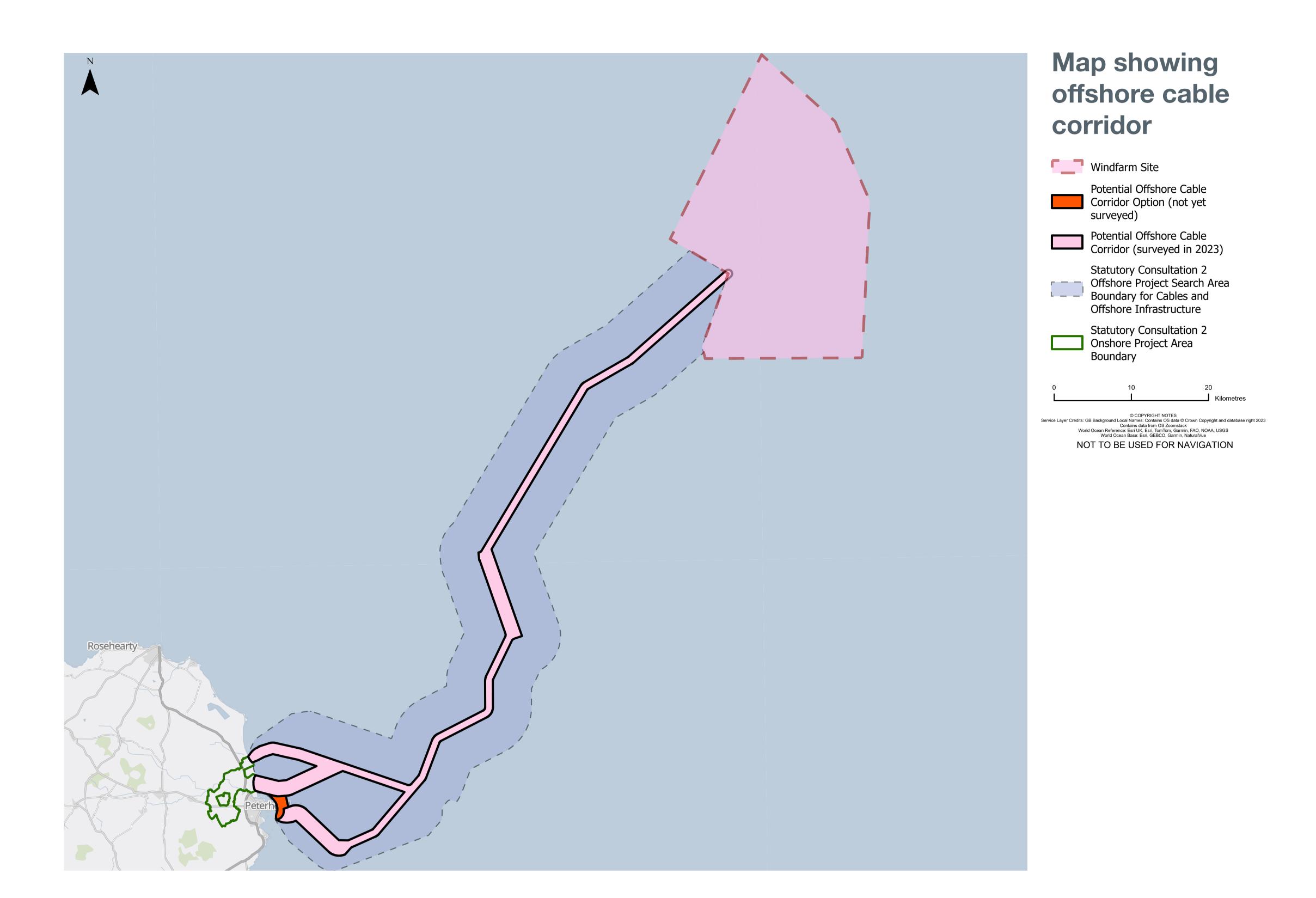




Offshore Project Updates

Since our first round of consultation, we have been working to refine our offshore project design. We have also been preparing to undertake collision risk modelling to determine the risk to seabirds from the wind turbines and analysing geophysical and environmental data obtained from the surveys we undertook in 2022 and 2023 to better understand the marine environment.

The offshore boundary includes the windfarm site itself and a broad potential offshore cable corridor for cables and offshore infrastructure between the windfarm and the coast, as shown on the map below. This corridor sits within a wider offshore project search area, which will allow space for potential changes to the offshore cable corridor as a result of our assessments.



The windfarm site

The windfarm site covers the area of Plan Option NE7, which was identified for development by the Scottish Government's Sectoral Marine Plan - Offshore Wind Energy in 2020. The windfarm site is 684km² and has water depths ranging between 87m and 134m. Work is ongoing to determine the windfarm site layout and exact locations of the required infrastructure. We are considering environmental sensitivities, marine users, seabed conditions, water depths, and the presence of existing infrastructure. The layouts are also being reviewed to enable coexistence with other projects such as those with licenses in the region.

Offshore cable corridor

Cable routing work is also ongoing to identify the best route for the offshore cables between the windfarm site and landfall(s) on the coast. This considers environmental sensitivities that need to be avoided as well as factors that could limit the technical feasibility of installation. We are engaging closely with technical stakeholders, such as NatureScot, commercial fisheries groups, and the Maritime and Coastguard Agency to understand how MarramWind's construction and operation could interact with other marine users in Scottish waters and what we can do to reduce effects and maintain navigational safety.



Offshore Project Updates

Landfall

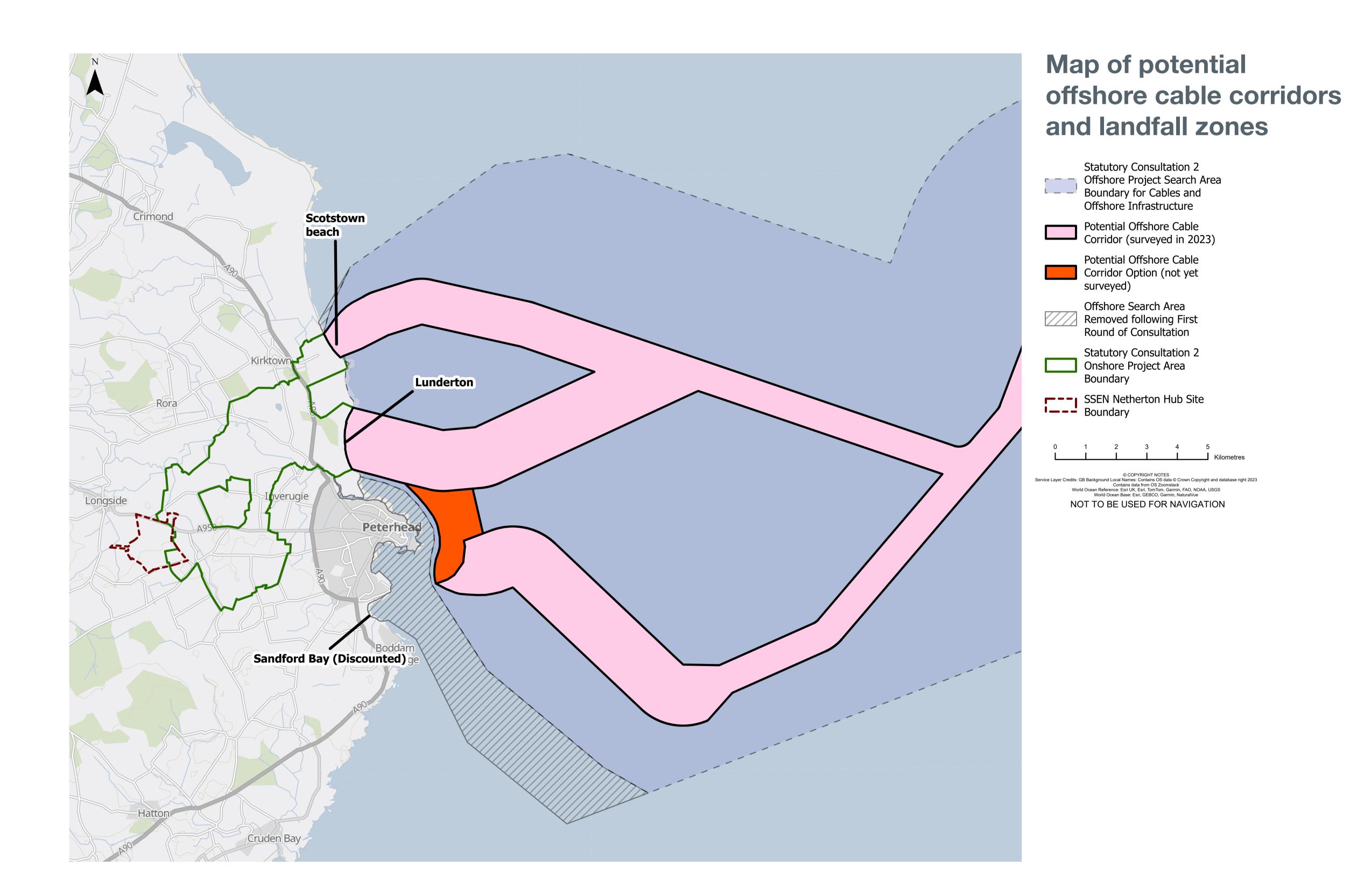
At our previous consultation, the potential landfall(s) of Scotstown Beach, Lunderton and Sandford Bay were presented.

With consideration of environmental and technical assessments and stakeholder feedback, Sandford Bay has been discounted. This is due to the proximity to the Buchan Ness to Collieston Coast Special Protection Area (SPA) - a designated breeding ground for seabirds and other projects in the vicinity that will limit space for cables and landfall infrastructure.

As the nearshore approach to Sandford Bay has been discounted, the southerly edge of the offshore project search area boundary has also been reduced (shown in the grey hatched area on the map). However, the southerly cable corridor remains in place as it can form the connection to the Lunderton landfall via a section around Peterhead (shown in orange on the map). This area is being explored for

feasibility but has not yet been surveyed. It is retained to offer design flexibility. It is probable that the southerly route and the orange connecting corridor will be discounted, but this is to be determined.

Scotstown Beach and Lunderton are still suitable locations for landfall(s) from environmental and technical perspectives. It is possible that both will be taken forward, although the preferred solution is a single landfall. It is not possible to confirm this yet as we must ensure there is adequate space for the cables to come ashore, and for the onshore infrastructure. Within the chosen landfall(s), a more refined landfall site will be identified where the offshore cables come onshore. These decisions will depend on further engineering and environmental considerations and technical surveys, stakeholder engagement, the location of other developments, the cable route itself, and the onshore substation location.





Onshore Key Infrastructure

The onshore infrastructure includes an onshore substation and onshore cables. The onshore cables run from landfall(s) to the onshore substation and subsequently to the point of connection at the SSEN Netherton Hub substation.

Onshore cables

The cables will be laid underground within a cable corridor at an average depth of 1-2m. Points of access will be required along the cable route for maintenance of the cables during operation. It is expected that the width of the temporary onshore cable construction corridor for the underground cable will be approximately 135m. Following cable installation the project will require permanent access rights for maintenance purposes.

Onshore substation

The onshore substation is a key part of the project's transmission system. This is where the voltage level of the electricity generated is transformed to the voltage level required for the national grid.

The substation will be fully or partially enclosed as shown by these illustrative images. As a final substation site has not been selected yet, these images are not site specific but are illustrative only and indicative of project requirements. The final design and layout will be determined as the project design evolves.

The substation infrastructure will comprise of outdoor and/or indoor high voltage electrical equipment, such as transformers, switchgear and, if necessary, equipment to convert HVDC into HVAC. A transformer is electrical equipment that helps change the level of electricity voltage. Switchgear is electrical equipment that helps connect and disconnect the circuits from the electricity network.

The substation infrastructure will vary in height, with the maximum approximate height up to 32m. Indoor equipment will be installed in several buildings. Work is ongoing to identify the best technical and environmental solutions, which will determine final equipment requirements and the substation's size.

The substation ssite could cover up to 16 hectares of land. A temporary construction area of up to four hectares will also be required. Subject to the substation design, additional land will be required for drainage, environmental mitigation and landscaping.

To minimise the substation's visual effects, we have carefully considered the use of tree planting. Planting native tree species around the substation creates a green buffer that blends seamlessly with the surrounding landscape as the trees grow. The introduction of these green spaces would also support local wildlife and improve air quality.

Illustrative conceptual design for a partially enclosed substation



Illustrative conceptual design for a fully enclosed substation







Onshore Project Updates

We are carrying out work to identify where the onshore cable corridor and substation will be located.

We are engaging closely with stakeholders to understand the potential effects from construction and operation and how to avoid or reduce these.

The current onshore project search area boundary has been refined from our first round of consultation. This reflects:

- the shortlisting of two onshore substation options (B and C on the map) from five;
- the removal of Sandford Bay as a landfall;
- confirmation the project grid connection point will be in the southeastern corner of the SSEN's Netherton Hub site; and
- refinement of the onshore cable corridor.

The map shows the search area around the grid connection point at the proposed SSEN Netherton Hub, and the previous five substatation site options. The land required for the substation will be smaller in size than shown by the squares.

Based on the results of further environmental and technical assessments undertaken since the first round of statutory consultation, and taking into consideration stakeholder feedback, substation options A, D and E have been removed as potential locations for the onshore substation.

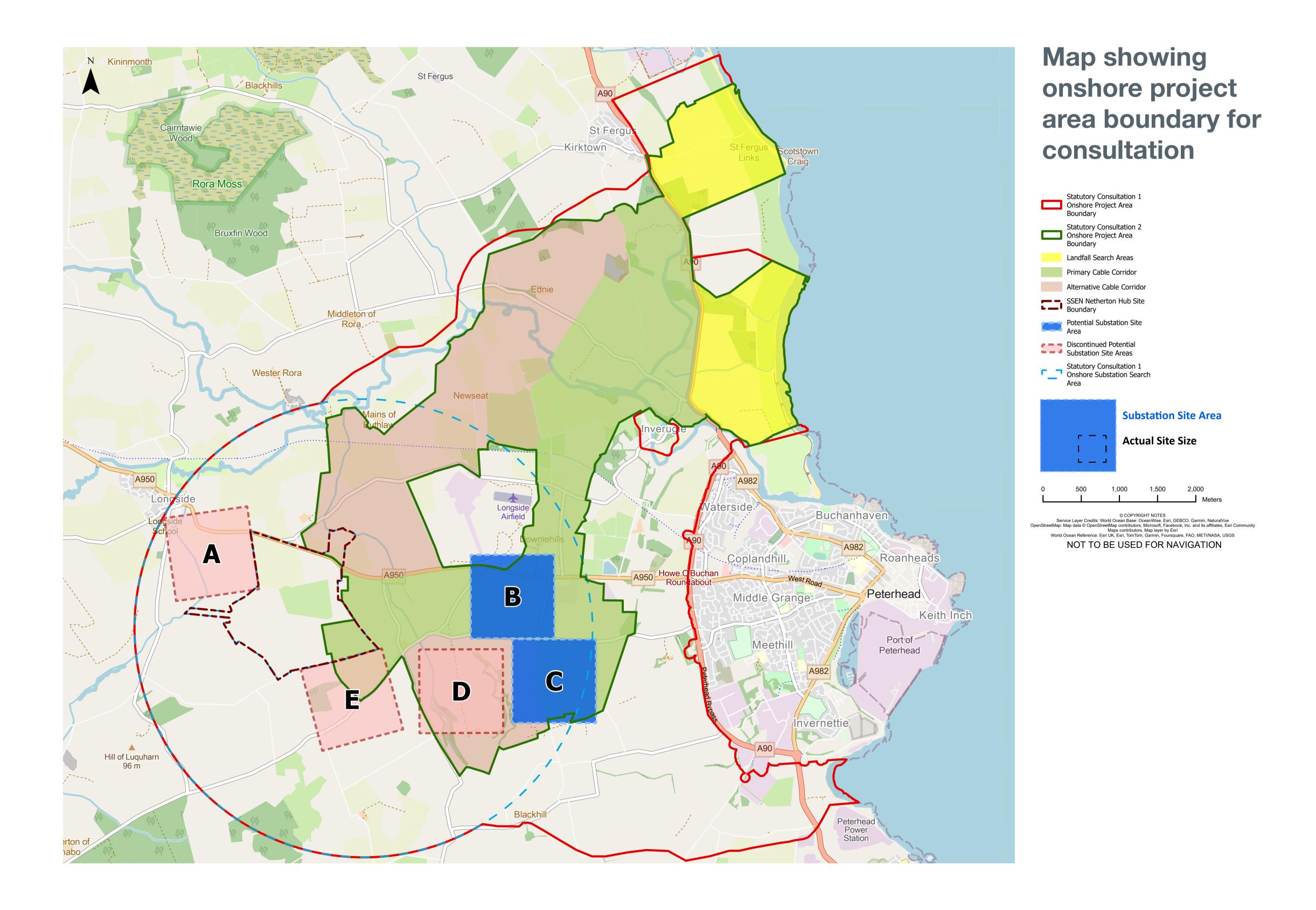
Options B and C are now being taken forward for further assessment to identify a preferred onshore substation that provides sufficient space for its construction and operation. This assessment will take into consideration stakeholder feedback received as part of this consultation, further environmental and technical assessments, and stakeholder engagement with statutory consultees. The outcome of this iterative design and site selection process will be reported on in the Environmental Impact Assessment Report.

Onshore cable corridor

With the removal of Sandford Bay, there is no requirement for a cable from Sandford Bay to the substation. With three substation options also removed, no cable corridor routes to these sites are required. The cable corridor search area has been adjusted to focus on a primary and alternative cable corridor (shown in green and brown respectively on the map).

These two cable corridors contain viable routes. The primary cable corridor is shorter and more direct, potentially reducing effects. However, there are other factors (e.g. landowner engagement, stakeholder feedback and environmental and technical constraints) that influence the selection of a preferred cable corridor.

The next step will be to identify a preferred onshore cable route.





Environmental Impact Assessment

Before we can build MarramWind, we need to consider the potential effects on the environment and local communities. We are completing an EIA that that will help us understand any potential environmental effects from MarramWind and how we can minimise them. Below you will find information on the potential effects we have identified and possible mitigation measures. Further information is available in our Consultation Booklet.

Offshore
wildlife and
habitate

We have conducted surveys to understand marine habitats and marine wildlife, including Digital Aerial Surveys, a Marine Environmental Survey to map the seabed and eDNA Samples to understand the fish species. eDNA Sampling involves analysing water samples for fish DNA. Future studies will involve underwater noise modelling to assess sound levels from construction and operation, fish and shellfish data analysis, wave modelling and examining the effects of electromagnetic fields on marine species. Good practice measures will be followed to minimise effects on water quality.

Commercial fisheries

We hold quarterly meetings with fishing organisations and have consulted with the Scottish Fishermen's Federation, the Scottish Pelagic Fishermen's Association, and individual inshore fishers. These discussions revealed interest in how electromagnetic fields from buried cables may affect crustacean distribution, as well as insights on key areas for scalloping, lobster potting and trawling.

Shipping and navigation

We have conducted vessel traffic surveys which have helped us understand maritime traffic patterns, which are crucial for our Navigational Risk Assessment (NRA). We will also engage with key stakeholders to identify potential hazards. The NRA will outline necessary mitigation measures to ensure safety for all maritime users.

Landscape and visual

We conducted landscape and visual surveys to understand the local landscape characteristics and visually sensitive areas. Substation options B and C were identified as the most suitable locations due to their lower landscape and visual sensitivity. This is largely due to existing development along the A950 corridor, which allows for better integration with the landscape. These locations also offer opportunities for landscape and architectural mitigation measures, such as screening and enhancement

Onshore wildlife and habitats

For two years we have conducted an ecological study to identify local habitats and species, including winter geese surveys and data collection on protected species such as otters and bats. Where possible, we will avoid resting, roosting or foraging sites of protected species. High-value habitats (e.g. woodland, rivers or dunes) will be avoided where possible.

Onshore water environment

We have identified private water supplies, such as springs and wells, and flood risk zones in the local area and have mapped aquatic habitats. During construction, we will follow industry good practice for pollution prevention and will avoid construction works close to watercourse channels. Horizontal Directional Drilling (HDD) will be used to install cables beneath watercourses without disturbing them. We will also maintain and reinstate field drainage systems after construction.

Cultural heritage

We aim to avoid or minimise potential harm to cultural sites, both onshore and offshore. We have undertaken surveys to identify and protect cultural and heritage assets offshore, ensuring that sensitive and significant sites are avoided. Our surveys have already discovered several shipwrecks, which we will carefully avoid. When found, we notify Historic Environment Scotland to ensure their preservation.

Traffic and transport

The local road network near the two substation site options provides good access from the A90, allowing construction traffic to mainly use the A90 and A950. We will assess and develop measures to mitigate any effects. Management and mitigation plans will be developed and will include a commitment to working with other contractors to mitigate effects from multiple sites, and enforcement of any restrictions on timings of deliveries. Operation, maintenance and decommissioning is not expected to have any noticeable long-term effects on the local road network.

Air quality

Air quality in the area is generally very good. Potential effects on air quality could arise from temporary construction activities, construction traffic and dust but these will be short-term with mitigation measures implemented.

Noise and vibration

Implemented.

There may be temporary noise and vibration from construction traffic and excavation. Mitigation measures will be implemented through a Construction Environmental Management Plan. Noise may also occur near the

necessary, mitigation measures will be applied.

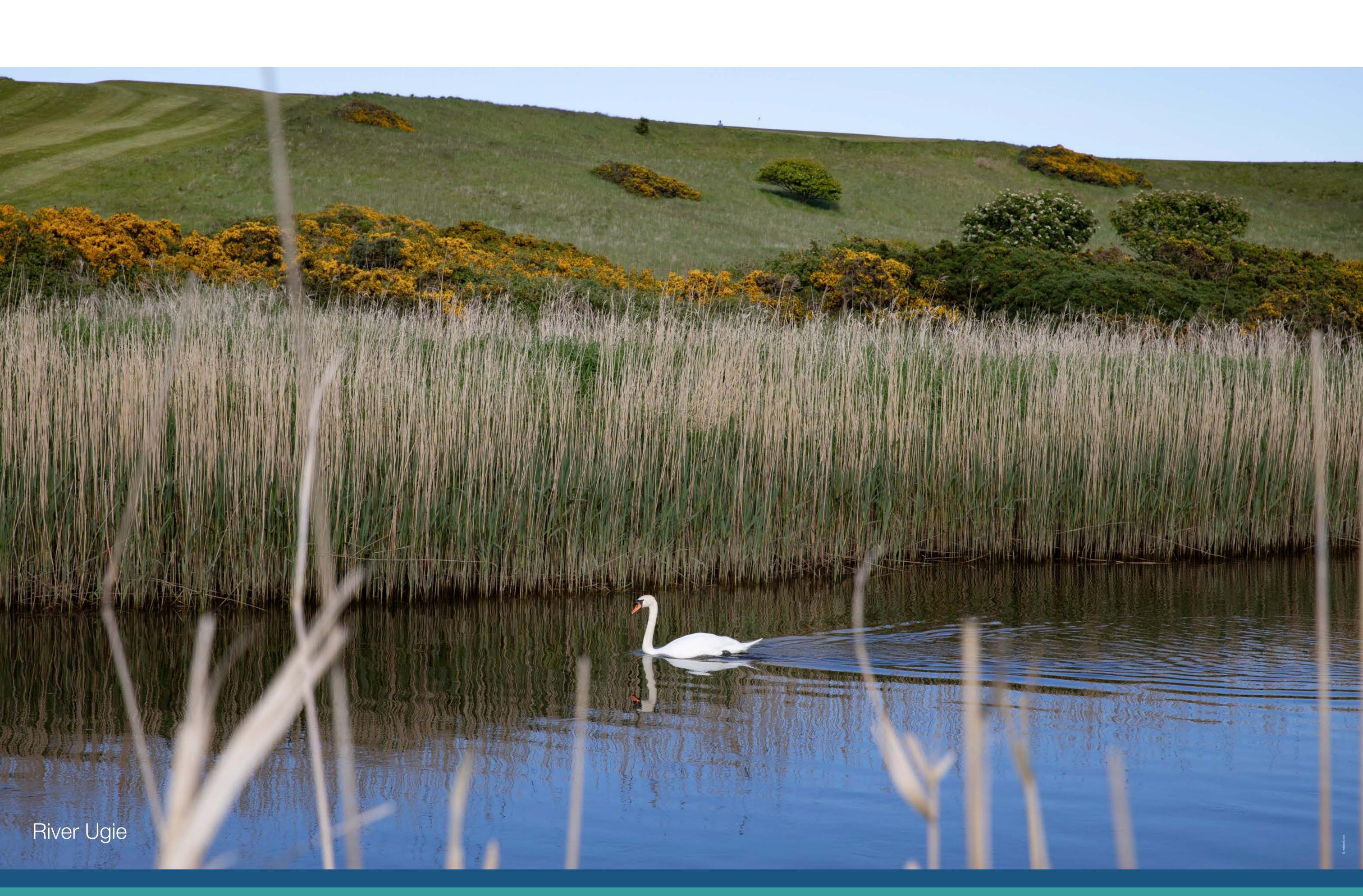
onshore substation. Baseline sound surveys will be undertaken and predicted noise levels will be assessed. If

Greenhouse gases and climate change

Some greenhouse gas emissions will occur during construction, maintenance and decommissioning. A full project life cycle assessment will identify mitigation measures. In line with our commitment to sustainability, we will seek opportunities to reduce greenhouse gas emissions, which will be reported in a carbon assessment as a part of the EIA.

Aviation

We are conducting an aviation and radar impact assessment to understand potential effects on aviation. This will involve research, analysis, and stakeholder engagement to develop mitigation strategies, ensuring safe coexistence with aviation operations.





Habitats Regulations Appraisal

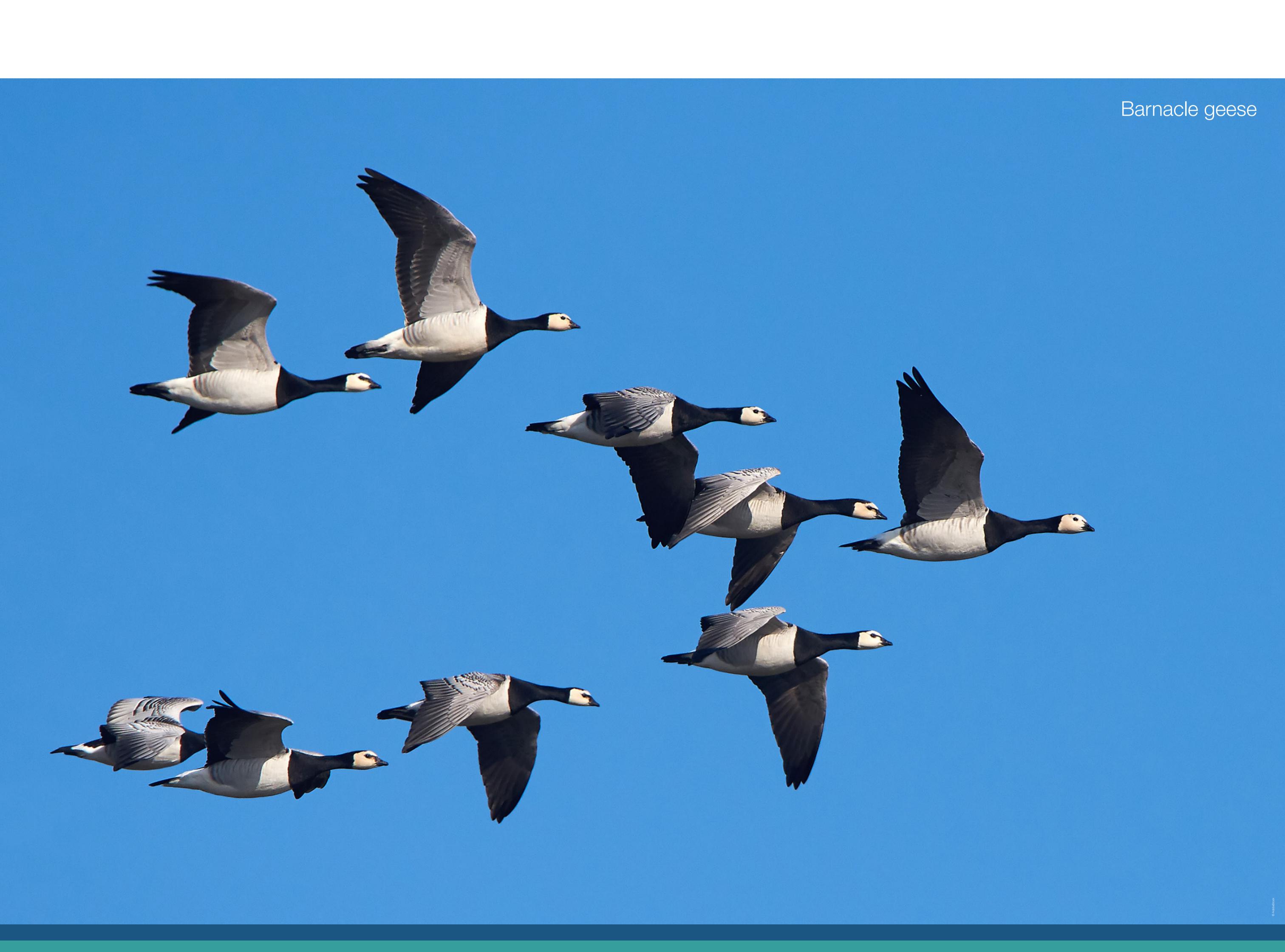
A HRA is required under Scottish law to be undertaken where there is potential for a project to affect certain types of nature conservation sites.

The conservation sites considered in HRA are:

- Special Areas of Conservation (including those proposed but not yet formally designated), which are designated for the presence of "qualifying features". These may include specific habitats, combinations of habitats, species or assemblages of species, or combinations of these;
- Special Protection Areas (SPA) (including those proposed but not yet formally designated), which are designated for the presence of "qualifying features". These may include bird species that are rare, vulnerable, in danger of extinction, or requiring protection due to their habitat needs. Migratory bird species are also included as qualifying features in some SPAs; and
- Ramsar Sites, which are designated for the presence of "qualifying features" that are defined by criteria set out in the Convention on Wetlands of International Importance (the Ramsar Convention). These are typically wetland habitats that support important communities of birds.

Alongside the work to deliver the EIA, the Project team has prepared an HRA Screening Report. That report explains the HRA process and identifies the sites that could be affected by the project. It was submitted to Aberdeenshire Council and the Marine Directorate for review and consultation on 16th August 2024 as they are the competent authorities with responsibility for HRA. They will respond to the report with a formal Screening Opinion that will be used to inform the next stage of the HRA. Where the HRA Screening Report identifies the potential for "likely significant effects" on a designated site to occur and the Screening Opinion agrees with this conclusion, it will become necessary for an Appropriate Assessment to be undertaken by Aberdeenshire Council and the Marine Directorate.

MarramWind will be responsible for preparing a Report to Inform Appropriate Assessment, which will be submitted to Aberdeenshire Council and the Marine Directorate alongside the EIA to support the consenting applications. If necessary, this will provide information on the compensatory measures that could be delivered to reduce any risks to designated sites. The Report to Inform Appropriate Assessment will be publicly available upon submission.





How will Marram Wind be built?

Project Programme

Construction works are anticipated to commence in the late 2020s, subject to consent. Given the scale of the project, construction may involve phased installation of both the onshore and offshore infrastructure over the course of the construction phase. It is anticipated that the infrastructure necessary for each phase will be installed sequentially. We will consider all options to minimise the impacts of a phased construction.

The total construction phase for the offshore infrastructure within the windfarm site, including the offshore wind turbines, is anticipated to be between eight and twelve years, but this timeline will be refined as details emerge about the project phasing design and supply chain availability. The offshore cables and landfalls associated with each phase of the wind farm will be installed towards the beginning of that phase's construction.

The role of ports

Ports are where component manufacturing, assembly, storage and/or marshalling take place. Operation and maintenance activities also depend on suitable ports.

We are developing a port strategy to help maximise economic, social and environmental benefits e.g. job opportunities. We are dedicated to investing in Scottish port facilities to enhance their capabilities and support the offshore wind supply chain. By identifying and investing in key port facilities, we will be supporting the growth of the Scottish offshore wind sector. No decision has been made on the ports to be used.

Offshore

Offshore cables

Before the installation of the offshore cables, the seabed will be prepared and cleared of obstacles. The cables will then be laid 1-2m beneath the seabed by cable laying vessels. Burying the cables or using concrete mattresses or rock berms provides protection.

Wind turbine installation

The wind turbines will likely be assembled onto the floating unit at a port, towed to site and then connected to the pre-installed anchor and mooring system.

Offshore substations

The foundations for the offshore substations will be built near to a port and transported to site. Once the foundations are installed to the seabed, the substations and associated infrastructure can be lifted into place.

Offshore worker accommodation

Crew accommodation will be onboard vessels or in an accommodation and welfare block on the offshore substation. A separate accommodation platform is being considered but is unlikely to be taken forward due to the environmental effects and cost. The offshore substation may have a helideck so crew can be transported to the offshore substation via helicopter, although vessels will also be used.





How will Marram Wind be built?

Landfall

The cables at landfall(s) will be buried and installed by open cut construction or HDD. Open cut construction involves digging a trench and laying the cables directly into it or within a duct. The trench is then backfilled. Cables may be installed in a single operation or drawn through ducts later on.

The maximum width of land required at the shoreline to install the cables will be 360m. The onshore part of the landfall(s) will include up to six underground transition joint bays where the offshore and onshore cables join together. The marine cables will be pulled into the transition joint bays within a temporary onshore construction compound. The location of the compound is to be determined. An inspection chamber or equivalent permanent access arrangement may be left in place at the transition joint bays.

Access to landfall construction site(s) may require temporary access routes and/or the strengthening of existing roadways. Construction vehicles accessing the temporary landfall construction areas will require access routes from the A90.

Onshore

Onshore cables

The temporary cable construction corridor is expected to be 135m wide and will provide access to construction traffic, and space for cable assembly, trench excavation and storage. The temporary corridor may require extending in certain locations for access at crossings, avoidance of obstacles, and HDD.

Up to two main, temporary, construction compounds will be required but their locations are to be determined. These will be logistic hubs and will include welfare facilities, storage, accommodate building materials, parking, and site offices.

A number of temporary construction compounds will be required to enable the construction of joint bays and installation of underground cables.

Underground cables and associated ducts may be laid in either a single operation in trenches, or ducts allowing the cables to be pulled through later. The trench is then backfilled. Haul roads and construction compounds will then be removed. Where we need to cross sensitive features, (e.g. watercourses, roads or railways) trenchless construction methods such as HDD will be used. Ducts will be installed and the cables are then pulled through.

The cables will be installed in sections. Joint bays will be required along the cable route to enable the cable installation and connections. These are underground structures with a link box located at or above ground level. Link boxes enable electrical checks and testing to be carried out during operation.

Access for construction vehicles will require temporary access routes.

Onshore substation infrastructure

The substation infrastructure will require site preparation works, installation of various infrastructure, drainage, environmental mitigation and landscaping. The substation infrastructure will be built within the site boundary over an anticipated eight to twelve years (the expected period for the offshore infrastructure construction). An access road(s) will be constructed and a temporary construction compound will be required but will be dismantled and the land reinstated.

Most construction vehicles will be HGVs, concrete mixer trucks, and vans. However, there will be a small number of abnormal loads for large electrical equipment.

Onshore worker accommodation

The accommodation requirements for onshore construction workers are not yet determined. The potential effects on accommodation and local community facilities and services will be assessed.





MarramWind in Operation

MarramWind is expected to begin generating electricity in the 2030s, with electrification in line with the relevant grid connection agreements up to the maximum grid connection capacity limit of 3GW.

Operational maintenance

When MarramWind is in operation, periodic testing of the onshore cables is likely to be carried out. This will require access to the link boxes along the cable route, which will involve attendance by light vehicles. The vehicles will gain access using existing field accesses.

The onshore substation is unlikely to be permanently staffed, although some maintenance and operational visits will be required. Infrequently, equipment may need to be maintained or replaced and HGVs may be used.

For the offshore elements of MarramWind, maintenance requirements will depend on the infrastructure used, depending on the type of wind turbine, floating platforms, electrical transmission infrastructure, and final layout of the windfarm.

Maintenance will typically be undertaken via a Service Operation Vessel. Helicopters or other specialised vessels may also be used where necessary to prevent damage to equipment, prevent and repair corrosion, and carry out all necessary repairs to maintain safe operation of the windfarm. For major component repair, it may be necessary to tow turbines to port, although technologies are being developed to prevent the need for this.

Decommissioning

Decommissioning MarramWind is anticipated to involve the removal of all offshore infrastructure above the seabed. The cables could be removed or left in place to minimise environmental effects and offshore navigational safety risks associated with their removal. The onshore substation is likely to be removed and the site then reinstated.

We will develop the project in a sustainable manner and will consider both operation and decommissioning during design and development. The decommissioning works are likely to be undertaken in reverse of the construction process of MarramWind. A decommissioning programme will be developed to define the decommissioning methodologies that might be used. It will be updated prior to construction and updated during the operational phase of the project to account for any changes to industry best practice, relevant legislation and policy, or developments in technology.





Benefits and Opportunities

MarramWind presents an opportunity to generate social, economic, and environmental value. ScottishPower and Shell are dedicated to delivering wider benefits, and leaving a positive legacy, particularly for communities in North-East Scotland.

We are developing several programmes to help maximise economic and social benefits, including supporting the growth of Scotland's offshore wind industry, over and above the programmes Shell and SPR already support.

Industry and Supply Chain

Scotland is a pioneer in floating wind. We are committed to helping Scotland and the UK capitalise on this market-leading position, including sourcing key products and services from Scottish and UK companies, as outlined in the MarramWind Supply Chain Development Statement.

The project is currently set to spend most of its early project development expenditure within Scotland and the UK, having awarded key contracts to UK-registered and Scottish companies. MarramWind will also create opportunities for new companies in the supply chain market, which will be an important area of focus for our planned £25m Offshore Wind Stimulus Fund.

ScottishPower and Shell have already been engaging with the supply chain and supporting the development of Scotland's offshore wind industry, including:

- running a supply chain event in Peterhead in November 2023;
- meeting supply chain companies;
- launching the enhanced MarramWind Supplier Interest Portal in July 2024, used to help companies target future events, activities and contract opportunities;
- providing support to Scotland's Strategic Investment Model, which builds the case for investment in vital new supply chain facilities and port infrastructure;

- supporting the development of a new Scottish Offshore Wind Energy Council study into the opportunities;
- engaging with Scotland's enterprise agencies; and
- continued engagement with public and private sector partners to explore opportunities.

Employment and skills

The growth of Scottish offshore wind will create opportunities for people entering the workforce or pursuing a new career. MarramWind will increase demand for local labour when the opportunities are better known.

To help local communities take advantage of these opportunities, we will continue working with education facilities to encourage interest from young people. We are exploring opportunities to support skills outreach activities and raise awareness of future offshore wind career opportunities within North-East Scotland. These will build upon our ongoing support for the National Energy Skills Accelerator.

Community Benefit Fund

ScottishPower and Shell take pride in being part of the communities surrounding our energy projects and we want the communities in North-East Scotland to benefit from a future powered by renewable energy. Feedback received at our first round of statutory consultation ranked the creation of a Community Benefit Fund as the most important opportunity. Going forward, we will work with stakeholders to determine how such benefits will be delivered.



Stakeholder Engagement

Stakeholder engagement and consultation is a critical part of the development of MarramWind. We are committed to developing an offshore windfarm in a considered way that is sensitive to the needs and expectations of local stakeholders and communities whilst creating long-lasting benefits and opportunities.

From the early stages of MarramWind's development, we have been engaging with a wide range of statutory and non-statutory stakeholders, and members of the local community. The engagement activities we have undertaken to date include:

- hosting a drop-in day for the local community to learn about the project and meet the team;
- attending the Floating Offshore Wind conference in Aberdeen to build stronger coordination with other developers;
- hosting a supply chain event with the DeepWind cluster in Peterhead;
- meetings with local Councillors;
- attending a fisheries awareness day with the Scottish Fishermen's Federation;
- organising an OffshoreWind4Kids event with Clerkhill Primary School;
- engaging with Buchan Development Partnership, which is an independent, community-led initiative working with communities across Buchan; and
- supporting Aberdeenshire Council's 2040 vision business development event.

Statutory consultation 1

Between 27 May and 1 July 2024, we held the first round of statutory consultation for MarramWind, which included online presentations and in-person events. These events, as well as a virtual exhibition space on our website, gave stakeholders the chance to provide feedback on our proposals and influence how the project is progressed.

Dedicated engagement sessions were also offered to locally elected representatives, Community Councils, landowners, and fishing stakeholders, enabling them to have direct conversations with the project team.

Staying updated

For the latest information on MarramWind or to stay up to date with future engagement events, please visit our website

www.marramwind.co.uk, scan the QR code or follow us on X at @MarramWind.

If you have any questions not covered in the consultation materials, you can email us at







Have Your Say

Providing your feedback

Thank you for taking the time to read through our proposals. Now that you have more information, we want you to share your feedback. Your feedback is important to us and all feedback received will be considered. You can provide your feedback through one of the following ways:

- Online, using the feedback form on our website www.marramwind.co.uk
- Email us your comments at stakeholder@marramwind.com
- Fill in a paper feedback form. These will be available throughout the consultation at our two consultation events and at Peterhead Library.
- Write to us at FREEPOST MarramWind.

This consultation will run from **09 October 2024** to **11:59pm 19 November 2024**.

Feedback received after the deadline may not be considered. We cannot respond to every response received individually.

We believe transparency in our decision making is important and we want to ensure that local stakeholders can see how their feedback has been considered in the development of the final design. We will present feedback received at both our consultations, and provide information on how it was considered, in a Pre-Application Consultation Report which will be published as part of our consent application.

Comments made to us at this stage are not formal representations to the Planning Authority or the Scottish Ministers. Following the submission of our planning applications, which we intend to submit in late 2025, you will have further opportunity to make representations to Aberdeenshire Council and the Scottish Government's Marine Directorate, who will determine whether to grant planning permission and other required consents for the Project.

Finding out more

All information related to the proposals is on our website www.marramwind.co.uk.

If you have any questions, including requesting materials in an alternative format, you can email stakeholder@marramwind.com.

Consultation events

We will be holding two public consultation events during the consultation. Members of our project team will be available to provide more information and answer any questions.

The events will take place on:

- Tuesday 29 October 2024, 1pm 7pm,
 Palace Hotel, Prince St, Peterhead AB42 1PL
- Wednesday 30 October 2024, 1pm 7pm, Longside Football Club, Davidson Park/ Station Rd, Peterhead AB42 4GR

Online consultation event

We will also be hosting an online presentation about our proposals on:

Thursday 07 November 2024, 6pm –7pm

If you would like to join, please email stakeholder@marramwind.com.

Next steps

The feedback received as part of this consultation will be used to further refine the project design. We will share our finalised proposals next year and will provide further information on how the feedback received at this consultation has been considered.

We will submit our consent applications in 2025 to Aberdeenshire Council and the Marine Directorate who will determine whether to grant permission for the project. During the representation period of the determination, you will have further opportunity to comment on our proposals for MarramWind.





You Said...

Stakeholder feedback is very important to us as it helps to further develop our project design. All responses received during our first round of consultation, held earlier this year, have been considered. Details of these and our responses to that feedback are provided here.

Listening to your feedback - planning for the future

You said...

"...MarramWind should consider future projects and potential extensions to the windfarm to minimise disruption."

Our response...

In the offshore environment, the wind turbine site is 684km², which is large enough to accommodate up to 3GW of wind turbine capacity. We are seeking consent to optimise this maximum capacity and the EIA process looks at the maximum effect that MarramWind could have. It is highly unlikely we would seek to extend MarramWind beyond its current boundaries due to the limits of the lease.

The boundaries presented in this consultation for the onshore infrastructure, including the cables and onshore substation, are the maximum areas that will be required for construction and operation.

Listening to your feedback - protecting and enhancing marine environment

You Said...

"...protecting and respecting marine life and habitats is important and disturbed areas should be left in a better condition than before."

Our response...

MarramWind is developing a Nature Positive Plan (NPP) that sets out how we intend to measure, monitor and enhance biodiversity. This will enable the project to achieve its biodiversity targets and meet the biodiversity requirements. The NPP will be submitted as part of our applications and therefore commitments will be secured through the consenting process in the same way as any mitigation and compensation measures.

Listening to your feedback - surveying crabs and lobsters

You Said...

"...a survey on brown crabs and lobsters should be undertaken before and after the offshore cable is installed."

Our response...

To inform the EIA, a survey of marine life on the seabed was undertaken in 2023 across the wind turbine site and along the offshore cable corridor. Burrows identified could possibly have been made by the Norway lobster. The survey did not identify brown crab or European lobster. However, this does not indicate these species are not present so we are working with commercial fisheries to understand marine areas, particularly in the nearshore environment that are targeted for these species. Any potential requirement to undertake species-specific surveys at the preconstruction or post-construction stage of the project will be subject to advice from the Marine Directorate and NatureScot and consent conditions.

Listening to your feedback - your key landfall concerns

You said...

"...key topics MarramWind should consider are:

- visual considerations;
- environmental protection;
- Construction methods and installation; and
- Intertidal wildlife, including birds."

Our response...

Seascape, landscape and visual considerations are extremely important; the effects from the project on these are to be minimised where possible. Scotstown Beach and Lunderton are located within the North-east Aberdeenshire Coast Special Landscape Area. However, the lasting visual effect of the project at landfall will be negligible, as the onshore and offshore cables and transition joint bays (where the two cable types meet) will be underground and the ground above them reinstated.

Sandford Bay is partially within the Buchan Ness to Collieston Coast Special Protection Area. This has been a major factor in the decision to exclude Sandford Bay.

All sites are considered relatively challenging for construction and installation. However Sandford Bay is considered the weakest option in this regard.

Listening to your feedback - working with other developers

You said...

"...MarramWind should share cable corridors with other developers at landfall."

Our response...

We are actively engaged in collaborative discussions with other developers. This allows us to exchange information and explore opportunities for cooperation. We are committed to open communication and will continue to work with other developers to identify synergies and optimise the project infrastructure development process.

You said...

"...there should be greater collaboration between developers delivering local energy projects."

Our response...

We are meeting regularly with other energy developers. Due to various factors, the pace at which each energy development progresses differs from project to project, posing significant challenges to coordination. Where potential overlaps in infrastructure are emerging, we are having discussions with these developers so that plans are taken forward sensitively and to ensure potential effects are minimised as much as possible.





You Said...

Listening to your feedback - your key onshore concerns

You said...

- "...the key topics that MarramWind should consider in siting onshore infrastructure are:
- Landscape and visual considerations
- Environmental protection
- Construction methods and installation
- Traffic and transport."

Our response...

An assessment was undertaken that incorporated, amongst others, the environmental topics listed as key aspects by stakeholders during our first round of statutory consultation. The two preferred onshore substation sites, B and C, are the best performing sites in all of the categories (as well as the best performing sites overall). Under the key themes identified by stakeholders, options B and C were considered the best performing sites over the other site options, as detailed below:

Landscape and visual considerations

The locations of Options B and C minimise the number of properties in proximity to the sites. In addition, due to the range of development and industrial influences along the A950 corridor they offer a better fit with the existing landscape and visual context than is found at any of the other site options. Furthermore, the sites offer the best potential for screening views of the substation.

Environmental protection

Options B and C have both been assessed to have a minimal effect on protected species and habitats and provide the best opportunities for enhancing surrounding habitats and increasing their ecological value.

Construction methods and installation

Both options B and C provide sufficient space for the construction of the substation, with the sites both having suitable topography. Due to their location, the distance over which the onshore cables need to be installed is also kept to a minimum.

Traffic and transport

Options B and C have good access for construction traffic, with Option B located adjacent to the A950 and Option C only a short distance from the A90 via local roads. The sites are located further to the east and therefore closer to the A90, reducing the distance construction traffic will be required to travel on the local road network from the A90.

Listening to your feedback - cable effects on rural areas

You said...

"...there is concern about the effect of onshore cable routes on rural areas such as Longside."

Our response...

The onshore cables will be installed underground, therefore no pylons or overhead lines will be required. The temporary construction footprint will be kept to a minimum and on completion of the cable installation, any construction compounds and haul roads will be removed, and the land reinstated.

Listening to your feedback - brownfield sites

You said...

"...brownfield sites should be used, rather than the countryside."

Our response...

The use of brownfield sites was considered. We evaluated various factors, including environmental effects and technical feasibility. While no suitable brownfield sites were identified near the grid connection point, we are committed to minimising the onshore substation footprint and implementing environmental mitigation measures.

Listening to your feedback - substation design

You said...

"...the substation should be built as low as possible and be sympathetic to its surroundings."

Our response...

The minimisation of landscape and visual effects is being pursued through various mitigation techniques involving landscape and architectural strategies. Ensuring that the development components are minimised will be a key approach.

Listening to your feedback - health considerations

You Said...

"...there is concern about the effect of Substation Site D on health for those that live in Blackhills."

Our response...

Substation Site D has been discounted with substation options B and C now being taken forward for further assessment to identify a preferred onshore substation that provides sufficient space for its construction and operation. The project substation will be constructed and operated in accordance with relevant health and safety legislation and consequently to avoid adverse effects on human health.

You Said...

"...there is concern about the effect of living within a large industrial area on health and wellbeing."

Our response...

We are making every effort to ensure that the onshore infrastructure is designed, constructed and operated sensitively, minimising any potential effects on health and wellbeing. We are exploring opportunities to improve and encourage, for example, biodiversity and strengthen existing nature networks with associated benefits for wellbeing.

Listening to your feedback - noise effects

You said...

"...there is concern about the noise from the operational substations on local house prices and the quality of life for local residents."

Our response...

A noise and vibration assessment will be prepared and will consider potential noise and vibration effects. The assessment will draw on the results of background noise surveys carried out at sensitive locations in proximity to the proposed onshore substation. Noise limits will be agreed with Aberdeenshire Council which we will be required to meet and, where necessary, appropriate mitigation measures will be implemented to ensure these limits are met.





You Said...

Listening to your feedback - landscape and visual considerations

You said...

"...there is concern about the visual effects from key viewpoints."

Our response...

The wind turbines will be located approximately 75km offshore. Even with their maximum blade tip height of up to 350m, on a clear day they will be barely visible on the horizon.

You Said...

"...substation sites C, D and E are too remote and rural – a large substation in those locations would greatly exceed that of agricultural vernacular and would therefore be an eyesore in the local landscape."

Our response...

Substation options D and E have a 'remote' character being some distance from the A950 corridor, within a rural setting, away from other development. Part of option E contains areas of woodland and option D is located between the wooded river corridors and valleys of East Den and West Den that would be less able to accommodate the substation. However, options D and E are not being taken forward. The northern part of substation site C is closer to the urban influences of Peterhead and the A950 indicating some reduced sensitivity. It is also however acknowledged that the southern part of substation option C (around Hillhead of Cocklaw) is visible from a wide area.

You Said...

"...Site D is preferred by some stakeholders as it is well-screened from neighbouring properties and would have little effect on the landscape or nearby villages."

Our response...

Substation site D was assessed as one of the less well performing site options as it is less able to accommodate the substation due to its remote and slightly elevated location. It would also be located between East Den and West Den. In addition, the site is worst performing in terms of ecology. Road access requirements to the site were identified as a further constraint. Substation site A also did not perform well due to the sloping topography and the likelihood that it would adversely affect the views from nearby communities and the landscape setting of Longside village.

Listening to your feedback - protecting and enhancing onshore environment

You Said...

"...that local habitats, flora, fauna and landscapes should be left in a better condition to encourage greater biodiversity."

Our response...

An ecological desk study and a programme of baseline surveys for habitats, protected species and birds have been undertaken across a two-year period, helping to avoid and mitigate effects, as well as identifying opportunities for ecological enhancement. These enhancement opportunities will be used to identify a suite of measures to improve and encourage biodiversity and strengthen existing nature networks.

Listening to your feedback - onshore water environment considerations

You said...

"...there is concern about damage to drinking water from wells."

Our response...

We have identified private water supplies (including springs and wells) which are being considered during the site selection process to help minimise potential effects. The project will comply with industry good practice for pollution.

You Said...

"...there is concern about field drainage and damage to water courses."

Our response...

Care will be taken to ensure that existing field drainage regimes are not affected and field drainage systems will be maintained during construction and reinstated on completion. We have made these commitments as part of environmental mitigation measures and will continue to do so as part of our water environment assessments.

Listening to your feedback - climate considerations

You said...

"...there is conern that developers have no interest in reducing climate change and are only interested in making money for themselves and their investors, many of whom are not from Scotland."

Our response...

ScottishPower and Shell are committed to tackling climate change. Shell has set an organisation target to become a net-zero emissions energy business by 2050 and Iberdrola, ScottishPower's parent company, has set a similar target for 2040. Both companies are making significant investment in renewable energy and low carbon projects, which includes offshore windfarms such as MarramWind.

MarramWind offshore windfarm is expected to generate enough electricity to power the equivalent of more than 3.5 million homes. This will help support the reduction in carbon intensity of the UK energy system, as well as enhancing the UK's drive for energy security and green energy independence.





Listening to your feedback - traffic and transport considerations

You said...

"...there is concern about the effect of Site D on local traffic in Blackhills."

Our response...

Substation option D has now been discounted, with options B and C identified as potential subtation sites. Site B is located adjacent to the A950, which in turn can be accessed from the A90 via the Howe of Buchan Roundabout. The A950 passes through a generally rural area, is of a good standard and is considered able to accommodate construction traffic.

Site C is located adjacent to the road which links the A90 with Kinmundy. The road is rural in nature, supports twoway operation and interchanges with the A90 and is considered able to accommodate construction traffic.

Both sites are located within 3km of the A90 which forms part of the trunk road network and provides a bypass around Peterhead. The location of the sites will support an access strategy which promotes access from the east to minimise the temporary effect of construction traffic on local communities including Blackhills.

You Said...

"...there is concern about the inconvenience caused by construction."

Our response...

A Construction Traffic Management Plan will be prepared in consultation with Aberdeenshire Council, with this supporting the implementation of measures to mitigate the temporary effects from construction traffic including:

- specifying acceptable construction traffic access routes;
- identifying any times HGV deliveries will be required to avoid;
- management of deliveries via a booking system to avoid vehicles arriving in convoy;
- providing a suitably sized storage area for stockpiling materials and reducing the number of deliveries;
- providing access arrangements to minimise vehicle delays; and
- car sharing to reduce employee vehicles.

Listening to your feedback - construction considerations

You said...

"...construction methods and installation should be efficient and limit disruption during construction."

Our response...

We are committed to utilising efficient construction methods and best practices to streamline the process and reduce any potential effects on the local community and environment. This includes careful planning and scheduling, use of modern construction techniques, and effective communication and engagement.

You Said...

"...there is concern about the number of companies involved in the development and the perceived detachment of the project infrastructure. The public should have been presented with a completed plan at consultation."

Our response...

A comprehensive plan is in place to coordinate the various contractors during the construction phase, and to ensure our compliance with relevant regulations and legislation for construction, design and management.

We will implement a robust Project Management System to oversee all aspects of construction that will ensure clear communication, coordination, and scheduling among all contractors.

A final project design will be presented to stakeholders in 2025. This will have followed the two rounds of statutory consultation we held in 2024. We value stakeholder feedback which we use to refine our project design. Presenting a completed project plan at consultation would have limited how much of our design stakeholders could influence.

Listening to your feedback - renumeration considerations

You said...

"...remuneration should be provided as a part of any agreement with residents who are affected by the substation/general works."

Our response...

Our priority for the design of MarramWind's onshore infrastructure will be to avoid adverse effects as much as possible. Direct financial remuneration would occur where the project is seeking to purchase land or use land for the onshore infrastructure.

Listening to your feedback - benefits and opportunities

You said...

"...a scholarship should be created for local high schools e.g. Mintlaw/ Peterhead."

Our response...

It is important for us that local communities benefit from the project, including from jobs created during construction and operation. We are committed to working with education institutions to provide support and to highlight career opportunities created by MarramWind. We are exploring a range of ways to do this and will consider scholarships.

You Said...

"...local communities should benefit from cheaper electricity and roads and associated infrastructure should be upgraded."

Our response... Delivering cheaper electricity from MarramWind to local communities would be dependent on us entering into an agreement with an energy utility who could develop and run an appropriate community energy tariff. We have not yet

completed detailed plans for how we will sell the electricity generated. We would seek to minimise effects of vehicle traffic by using temporary access roads. We may need to improve local road infrastructure to make it suitable for our vehicles. Road upgrades would be agreed with the local authority.

You Said...

"...the Community Benefit Fund should prioritise affected communities."

Our response...

We will explore a range of options for how we design and operate our Community Benefit Fund. We will seek views on how our Community Benefit Fund can deliver the best positive and lasting benefits. Community Benefit Funds are not intended to compensate for potential effects. Rather, it will be used to create a positive legacy and will help local communities benefit directly from opportunities created by the project.

You Said...

"...local suppliers should be used during construction."

Our response...

We have outlined our intent to use Scottish suppliers within the MarramWind Supply Chain Development Statement. Opportunities for local companies are broad and varied, but some of the larger opportunities may include the building and assembly of the infrastructure components and supporting the operations and maintenance.

