

ESB WELCOMES YOU TO



Photo: TetraSpar Demonstrator ApS

WHO IS ESB?

ESB
Ownership

96.9% Irish State

3.1% ESB employees

ESB, founded in 1927, is Ireland's leading energy company and has been operating in the UK since 1993. ESB has a significant portfolio of renewable energy projects in development across Scotland comprised of 2GW of onshore wind and over 2GW of offshore wind.

Our Values

WE'RE
COURAGEOUS

WE'RE
CARING

WE'RE
DRIVEN

WE'RE
TRUSTED

ESB is a value driven organisation and we believe in acting with integrity and transparency, protecting the world around us and creating an inclusive and flexible culture that protects and empowers people.

ESB is applying these values and successfully collaborating with international partners to develop large scale offshore wind projects in the UK. Our projects include Galloper Wind Farm (353MW), Neart na Gaoithe (450MW) and Inch Cape (1,080MW). We are also in early stage development of Havbredey (1500MW) and Spiorad na Mara (900MW) both located in Scottish waters, as well as Gwynt Glas (1500MW) located in Welsh Waters.

ESB STRATEGY

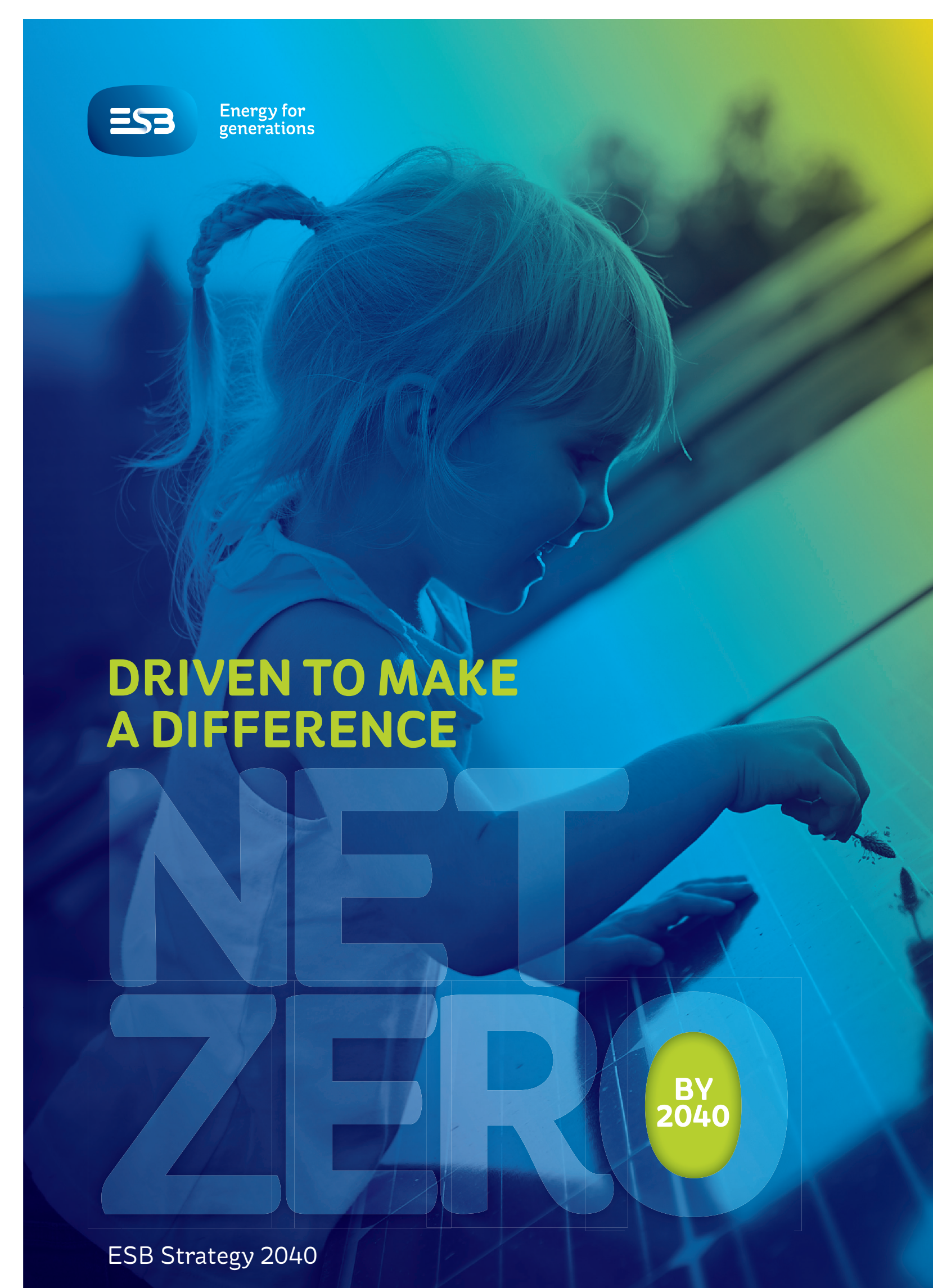
In 2022 we launched our ambitious strategy – ***Driven to make a Difference: Net Zero by 2040.***

This strategy has the central aim of putting in place the infrastructure and services to enable our customers and broader society to live more sustainably.

Delivery of this strategy will require a significant increase in ESB's renewable generation portfolio across the UK and Ireland.



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STOURA
OFFSHORE WIND FARM



WHY DEVELOP OFFSHORE WIND?

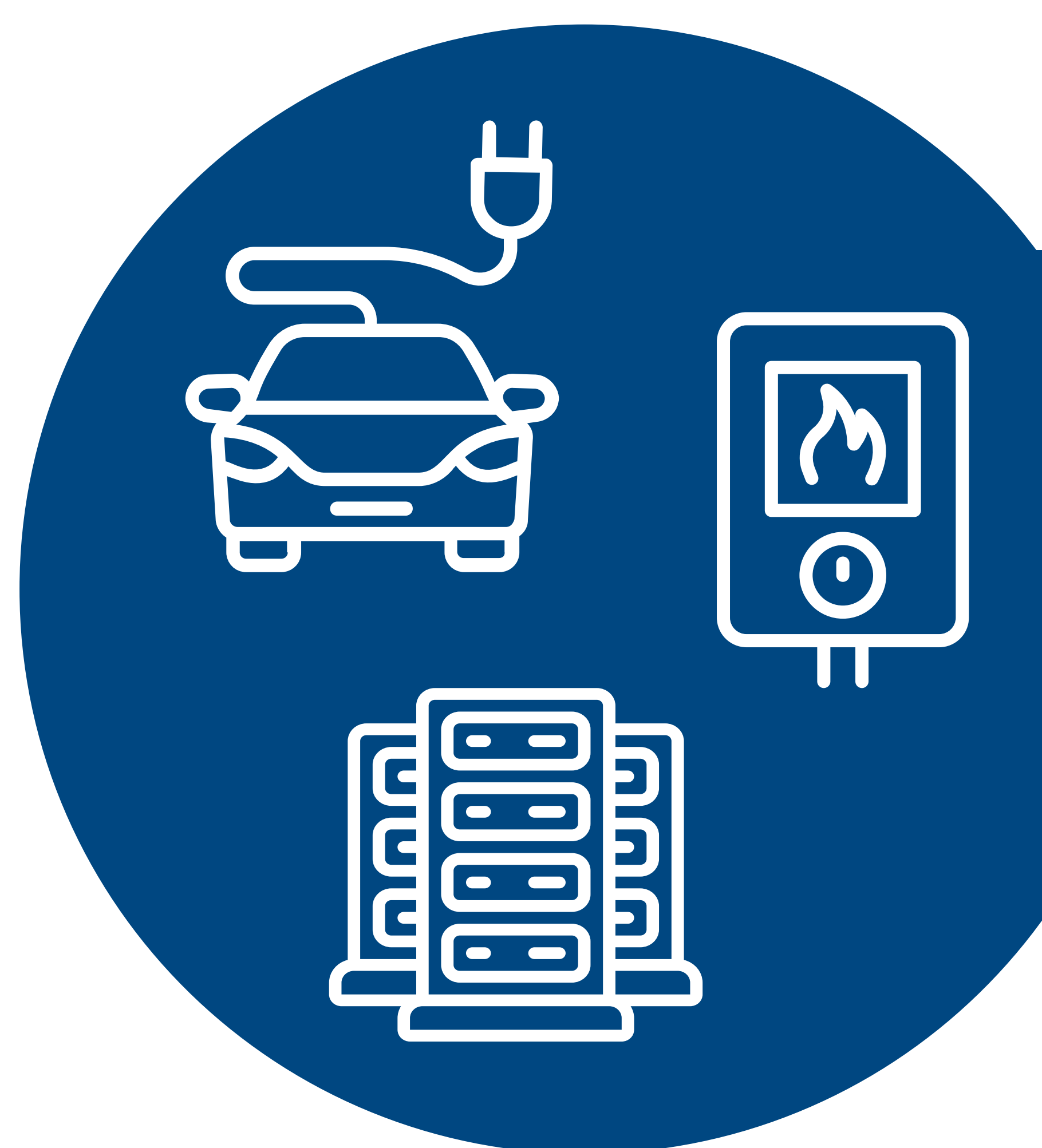
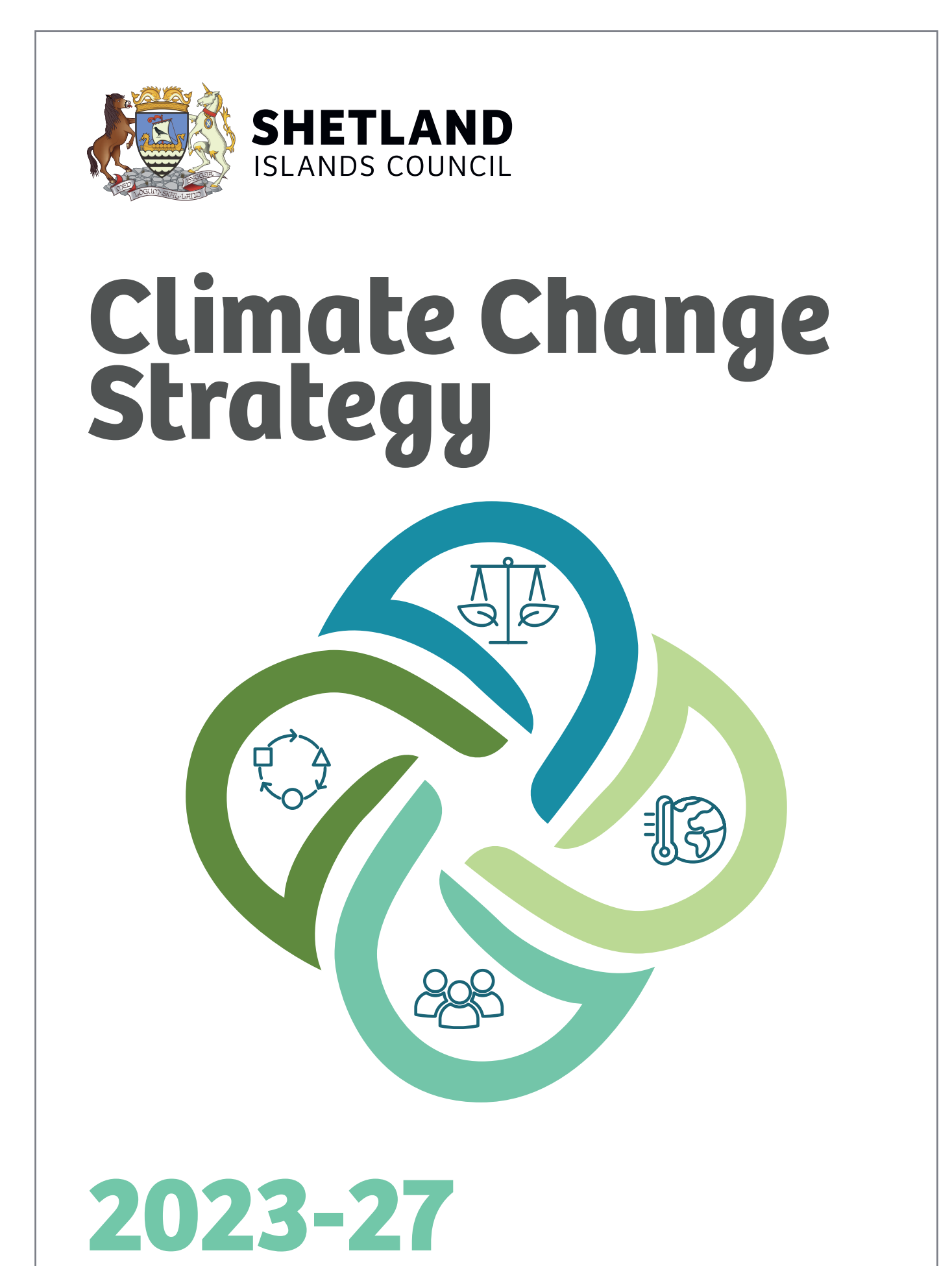
Offshore Wind generated energy will play a major role globally in mankind's fight against climate change and our transition to a low/zero carbon economy by replacing energy generated by burning carbon intense fossil fuels with clean renewable electricity.

The Scottish Government has set a range of targets and ambitions to cut greenhouse gas emissions and to generate more energy from renewable sources. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 commits the Scottish Government to reach net zero emissions of all greenhouse gases by 2045. Additionally, the Scottish Government has set a target to generate 50% of Scotland's overall energy consumption from renewable sources by 2030.

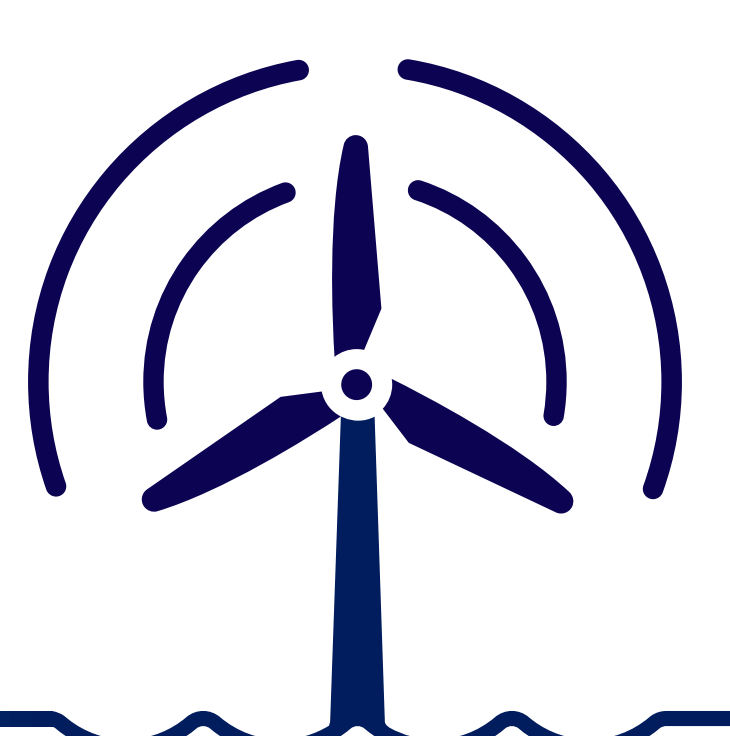
ESB's values and Net Zero strategy are mirrored by the values and strategy set out in the Shetland Islands Council (SIC) Climate Change Strategy and the Net Zero Roadmaps. ESB will strive to ensure alignment with these values throughout the development and construction of Stoura Offshore Wind Farm as we seek to ensure local social, economic and environmental benefits.

ESB will work in collaboration with SIC to interpret and apply the Energy Developer Principles in the context of floating offshore wind with a particular focus on enabling a just transition.

Stoura understands Shetland's pivotal role in Scotland's energy transition and acknowledges the principles outlined in the "Fair Share for Shetland" initiative. Led by the Energy Transition Task Force the initiative seeks to ensure Shetland benefits equitably from renewable energy developments. Whilst our plans are still evolving, Stoura is committed to engaging openly, and exploring ways to contribute to inclusive and sustainable outcomes for Shetland.



In addition to the significant increase in renewable electricity targets, it is forecast that electricity demand is set to rise in the coming years, with the connection of new large energy users (such as data centres) and the transition to electricity for transport (electric vehicles) and heating of buildings (electric heat pumps) being the key drivers.



WHAT IS STOURA OFFSHORE WIND?

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Nacelle

Rotor Hub

Blade

Tower

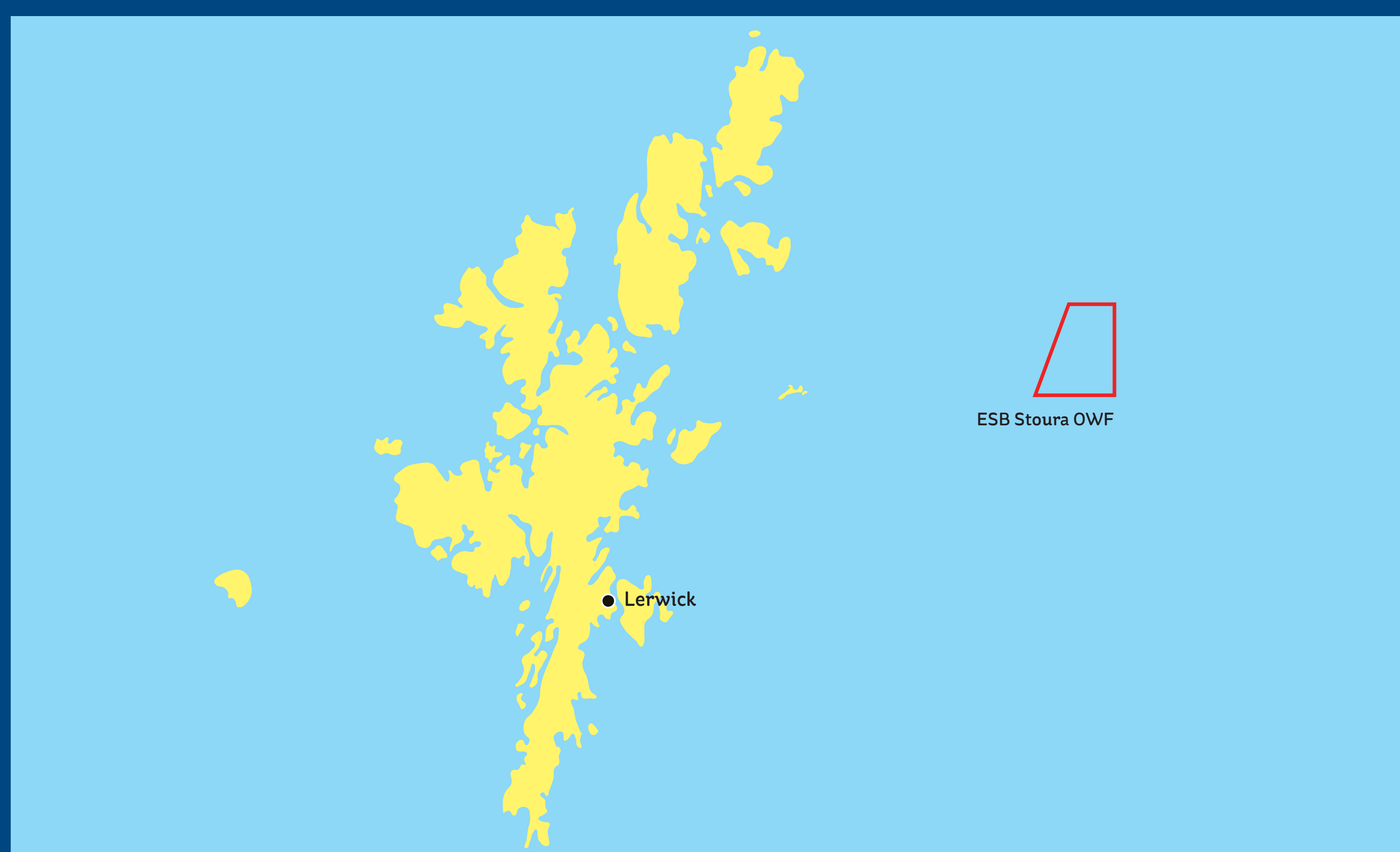
An offshore wind farm is the equivalent of an onshore wind farm albeit much larger in scale and located at sea. The wind turbine generators that make up the wind farm each consist of three **blades** mounted to a rotor hub which connects to a gearbox and a generator housed within a **nacelle**. The nacelle is located on top of a vertical **tower** which connects to a floating foundation. When the wind blows strongly enough to make the wind turbine blades rotate, the energy from the wind turns the generator and creates electricity.

Stoura Offshore Wind is ESB's proposed 500 megawatt (MW) floating offshore wind project located off the East coast of Shetland, in an area of seabed identified in the Scottish Government's Sectoral Marine Plan for Offshore Wind.

In late 2023, ESB held a naming competition among all Shetland primary school children. Entries were judged by four Shetland residents. The winning name Stoura is, in the words of the competition winner,

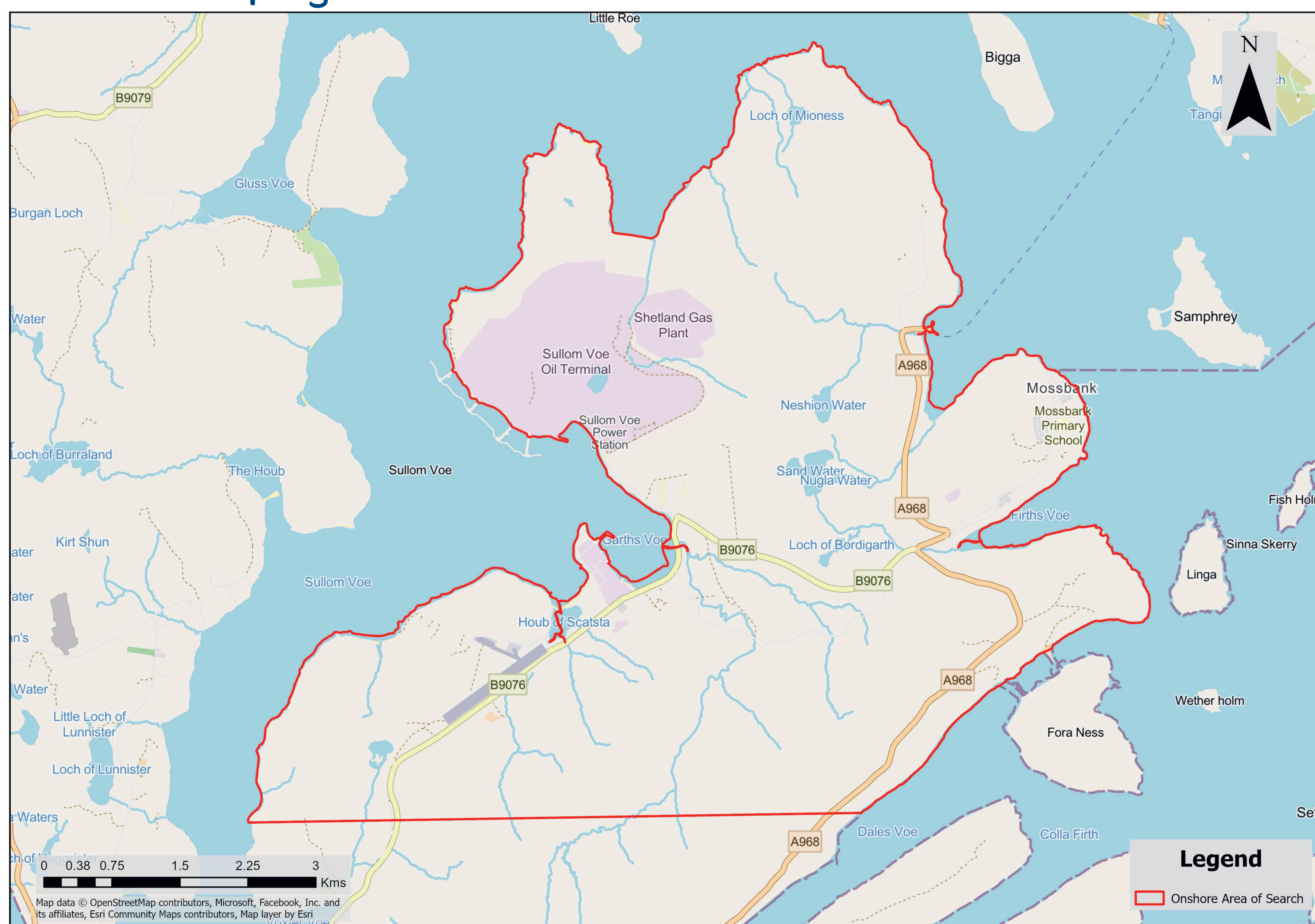
“an old Shetland word which has two meanings. Firstly, it can mean windy. It can also mean wide open space.”

The site is located approximately 40km from Skerries, 50km from Yell and 65km from Lerwick, in water depths between 100m and 130m. Once operational, Stoura Offshore Wind Farm will produce enough clean energy to power 350,000 Scottish homes.



ONSHORE SCOPING

Onshore Scoping Area of Search



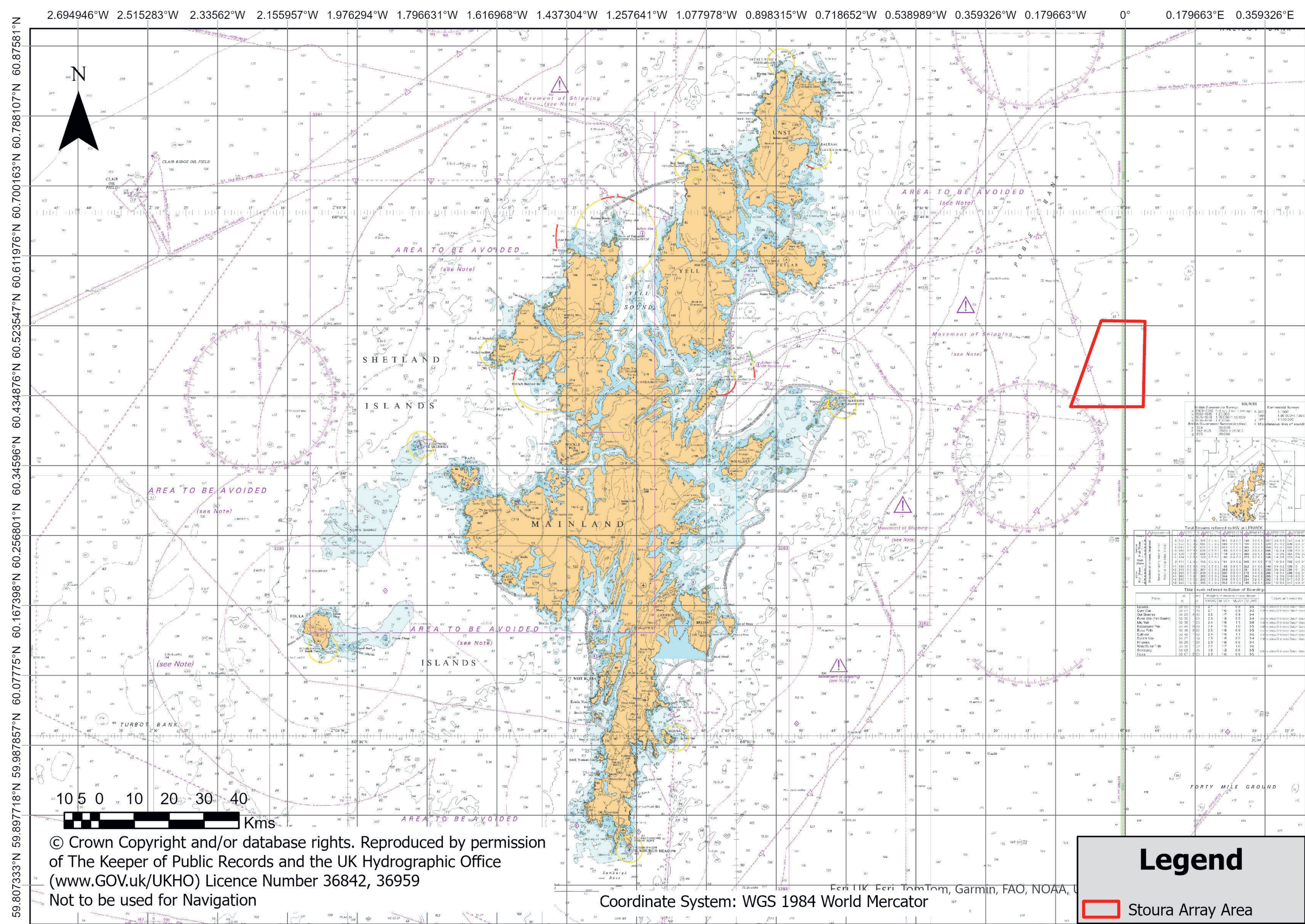
Within the area identity, we will be seeking to locate a landfall, onshore cabling and an onshore substation. Details of these pieces of infrastructure are provided on other boards.

Scoping is the process of identifying the potential significant impacts of the project on the physical, biological and human receptors that should be addressed by the Environmental Impact Assessment Report (EIAR). Scoping is also intended to identify the baseline information needed to support the EIAR, together with the methods that will be used to identify and assess the impacts that could arise from the project. The output of the scoping process is a scoping opinion which formally sets out the requirements for the contents of the EIAR.

Onshore scoping – The onshore project included in the Onshore Scoping Report consists of the infrastructure landward of Mean Low Water Spring (MLWS), which includes the landfall, transition joint bay, onshore export route (buried cables/overhead lines), and onshore substation.



STOURA OFFSHORE WIND SEA LEASE OPTION AREA



Coordinate system: WGS 1984

Point	Latitude_DD	Longitude_DD	Degree Decimal Minutes
1	60.52910707	0.05058551	60° 31.74642427' N 000° 03.03513076' E
2	60.52988042	-0.06209536	60° 31.79282546' N 000° 03.72572180' W
3	60.42073705	-0.1409399	60° 25.24422298' N 000° 08.45639396' W
4	60.42073705	0.0461019	60° 25.24422298' N 000° 02.76611418' E



COMMUNITY ENGAGEMENT AND PARTNERSHIP

ESB believes that it has a unique responsibility by virtue of its heritage and values to support government and SIC policy to fight climate change by leading the low carbon transition. In doing so, we are committed to playing a strong role in developing offshore wind with due care for our social, economic and environmental responsibilities.

We commit to proactively engage with the public and particularly those communities most likely to be affected by the project. We will do this in at least five ways:



We will share all relevant information about our offshore wind projects in a comprehensive and timely fashion. We will listen to the concerns of the local communities, and we will work in partnership with those communities to resolve any issues that might arise.



ESB is committed to the long-term environmental monitoring of Stoura are working with with UHI Shetland and other key stakeholders to understand how we can replicate the success of the SOTEAG model.



ESB has a long track record of establishing Community Benefit Funds for our renewable energy developments. The project team intend to continue this for Stoura and are working to understand how any local benefit fund should be structured.



We will show due respect for our marine environment at all times, and we will work only to the highest environmental and ethical standards.



We are working with key representatives of the fishing industry to better understand the marine environment around Shetland.



PROJECT SUPPLY CHAIN AND ASSOCIATED OPPORTUNITIES

ESB is committed to supporting local suppliers in the development of our Stoura Offshore Wind project. Since securing a lease option in 2022, we have consistently engaged with representatives of the local supply chain through regular update meetings facilitated by Highlands and Islands Enterprise (HIE), the signing of a Memorandum of Understanding with Lerwick Port Authority and the co-hosting with Shetland based companies and agencies of stands at major national energy conferences.

As part of our commitment to developing Stoura in a manner which provides opportunities for the local supply chain, ESB commissioned a local capabilities study by the Shetland based consultancy Voar. This report will be a key input into the selection of a suitable floating platform for Stoura along with the development of our transport and installation and operation & maintenance strategies.

This approach will help to ensure that the selected solution for Stoura is compatible with existing and planned Shetland capabilities.



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Typical goods, services, skills required:

- Technical Consultancy and Services
- Professional Services
- Marine Services
- Vessels
- Onshore Ground Works
- Inspection and Certification
- Offshore HV Services
- Onshore Electrical System
- Operation and Maintenance
- Ports and Related Specialist Services
- Administration
- General Support Services

Should you wish to contact ESB regarding this aspect of the Stoura Offshore Wind project or to inform us of the services your organisation may offer, please visit the supply chain section of our website at **www.stouraoffshorewind.com**, contact any member of our team or complete our supplier database.

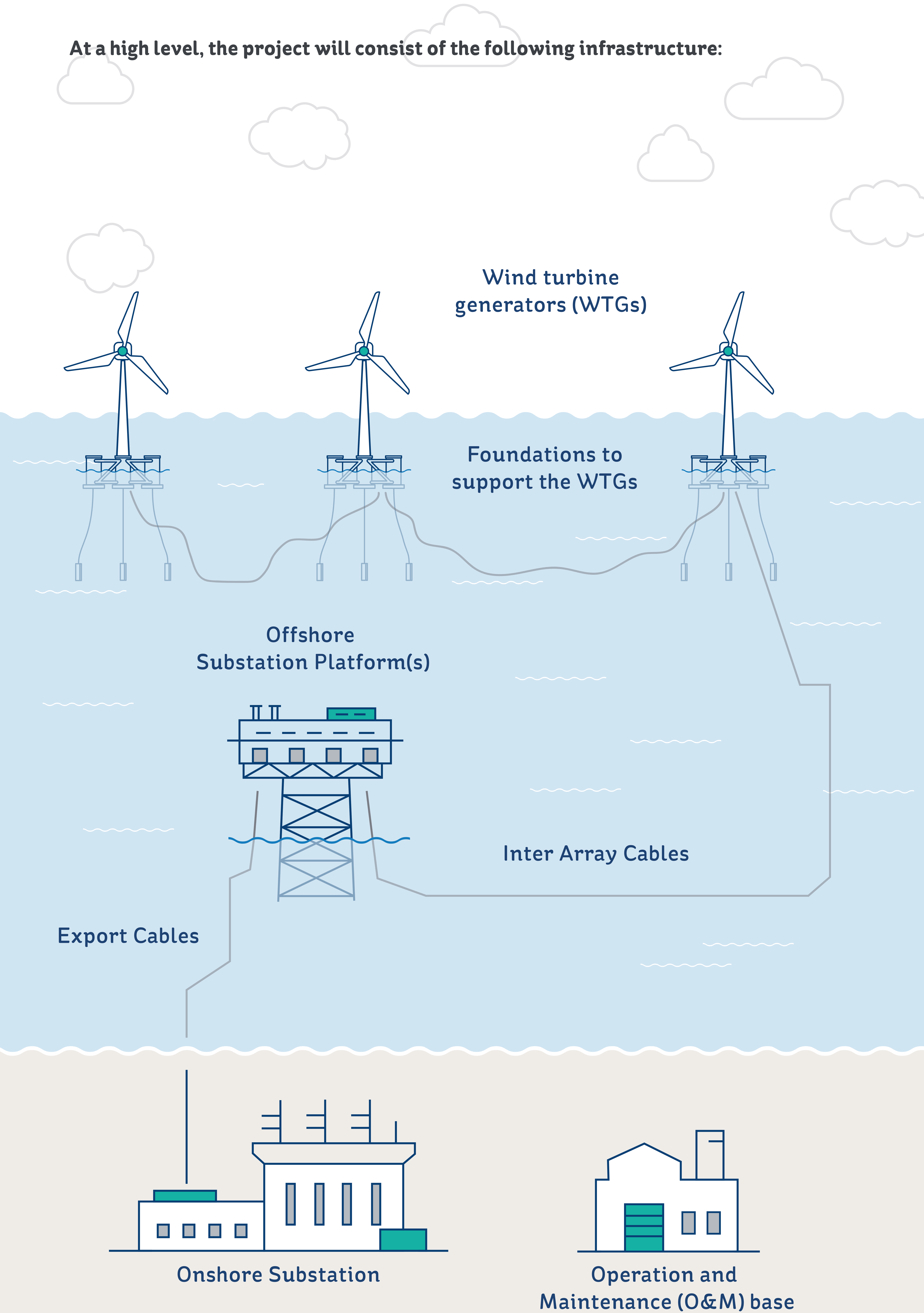


<< Scan for our supplier database



PROJECT INFRASTRUCTURE

At a high level, the project will consist of the following infrastructure:



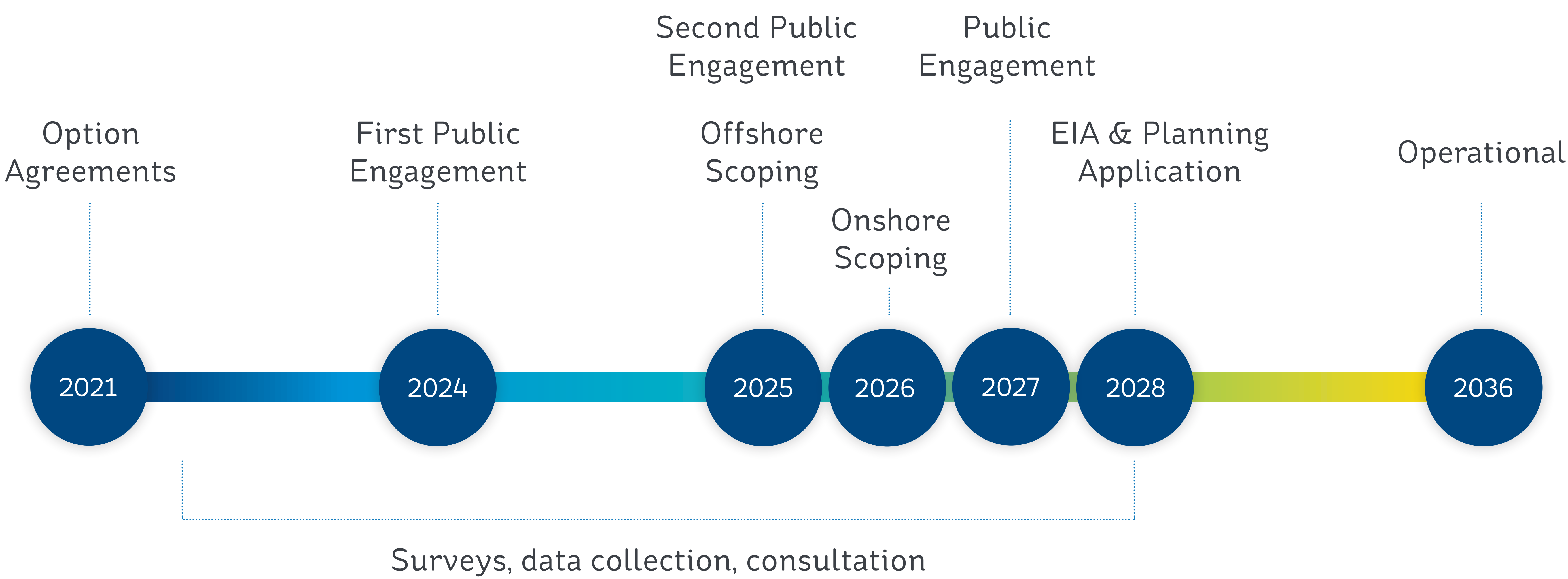
STOURA OFFSHORE WIND PROJECT & TIMELINE

The Stoura Offshore Wind project is in early-stage development. Following a Public Exhibition on the offshore elements of the project in September 2024, the Offshore Scoping Report was submitted to Marine Directorate in July 2025.

The project is now switching its focus to the onshore elements. The Public Exhibition held in September 2025 will be followed by further consultation and analysis with the aim of submitting an Onshore Scoping Report in 2026.

These Onshore and Offshore Scoping Reports set out the approach that the project will take to assess the environmental impact of the proposed developments.

Other work currently ongoing includes assessment of onshore grid-route options and substation locations, technical design work, supply chain engagement and continuation of baseline surveys, ecological land surveys, etc. Stakeholder engagement has been ongoing since lease award and will continue throughout all stages of the project.



CASE STUDY: NNG O&M FACILITY

In early 2023, ESB and its partners EDF opened an operations and maintenance (O&M) base in Eyemouth, Berwickshire on the East Coast of Scotland. This state-of-the-art facility will service the needs of the 450 MW Neart na Gaoithe (NnG) wind farm. Whilst NnG is a fixed offshore wind farm and is closer to shore, it is a similar scale to Stoura and so this O&M facility is a useful reference for what ESB would hope to develop in Shetland.

- Eyemouth has a population of c. 3,600 people and is a working fishing port.
- NnG is located c. 35km from the O&M base.
- The three storey facility provides 1,050m² of office accommodation and control rooms, and 530m² of warehouse storage.
- The O&M base is creating up to 50 high quality jobs in Eyemouth Harbour for the 25-year lifespan of the wind farm.
- The base monitors the performance of the wind farm and coordinates the extensive logistics necessary for all O&M activities.
- The building services as a base for training, retraining and apprenticeship opportunities which are offered locally.
- Increased staffing for maintenance in the summer months brings additional economic benefit to the surrounding area.
- The O&M base was sensitively designed by Corstorphine + Wright architects and built by Fife-based Muir Construction.
- The land on which it is located is leased from Eyemouth Harbour Trust with the revenues from the lease supporting further investment by the Trust in the harbour itself.
- Alongside the O&M base, a high-quality berthing pontoon has been installed on the marine side of the harbour.



STOURA O&M BASE

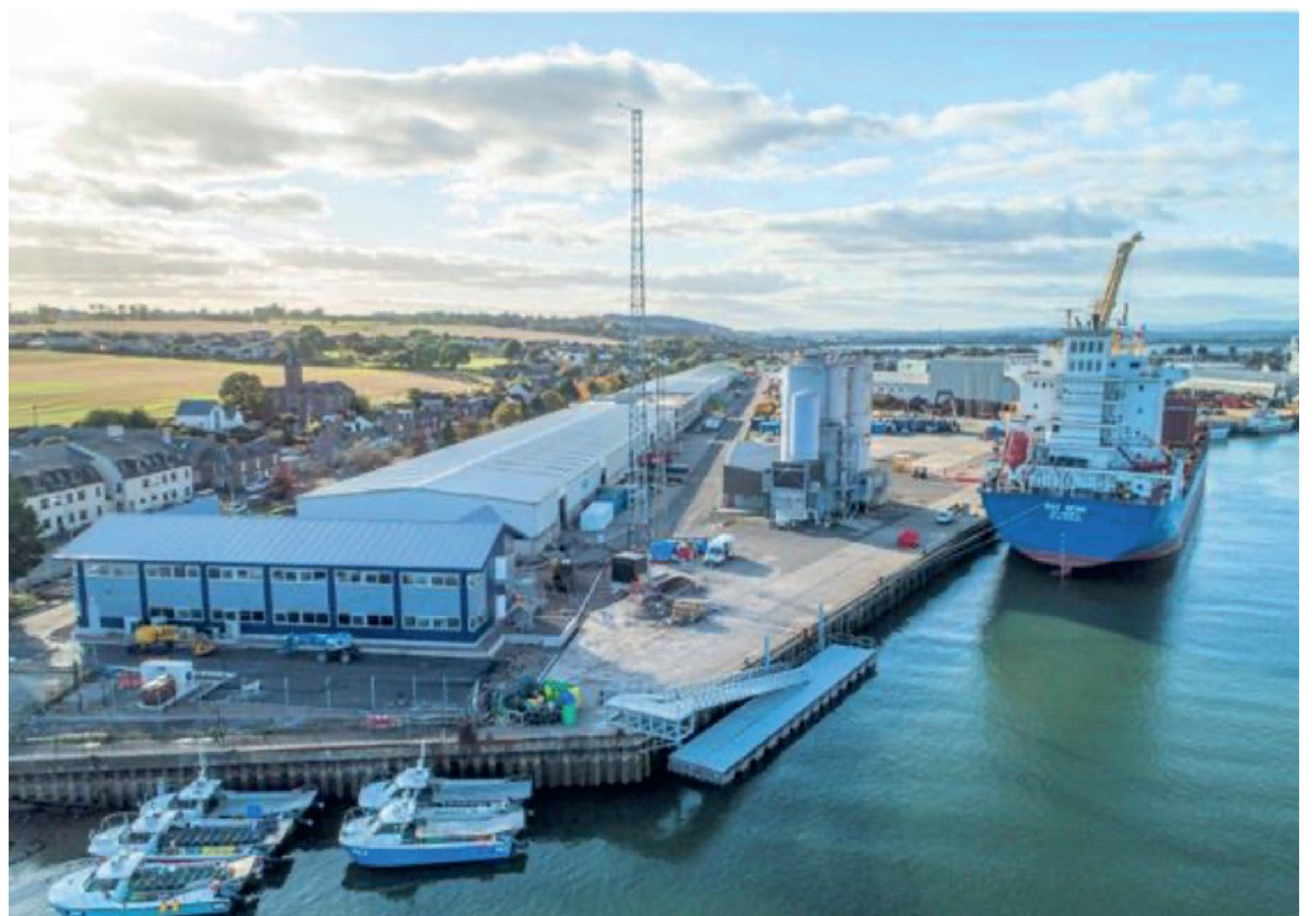
ESB intends to provide state-of-the-art facilities for the Stoura project. A new operation and maintenance base is a prime example of how new offshore installations can create high-quality employment opportunities, and bring wider, long-lasting benefits to the local community, businesses and economy.

The location of the Stoura O&M base will be influenced by many factors, including available port infrastructure, weather conditions, distance to the wind farm and the logistics solution chosen to operate it. ESB will collaborate with local authorities and stakeholders to find the optimal location.

A typical O&M base would include a 1,000-1,500m² multi-storey building, alongside a 500-800m² main warehouse. The total plot required highly depends on project characteristics. The O&M base will be sensitively designed to fit in with its surroundings in Shetland.



Galloper O&M Base (Harwich)



Seagreen O&M Base with CTV Pontoon (Montrose)

O&M services will include:

- SME services
- BOP services (mech/elec)
- Warehousing
- HV services
- Marine coordination & communication
- Communications mast
- IT & telecommunication services
- Catering & cleaning
- PPE provision
- Operations & maintenance services
- CTV supply contract/ctv crew
- Port related services
- Vessel related services
- Logistics management
- Waste management
- Statutory inspections - LOLER and other
- Accommodation
- O&M base facilities management
- Weather monitoring services
- Vessel inspections
- Staff training
- Landfall support services (security, landscaping)
- Photography
- Data analysis and management



SUBSTATION

The Stoura onshore substation is integral to the operation of the offshore wind farm, primarily tasked with transforming and transmitting the electricity generated by offshore wind turbines to the grid.

This facility converts the power to the appropriate grid voltage, which can reach up to 400 kV. The site will incorporate a diverse array of technological solutions to safeguard both the grid and the wind farm from potential faults. This infrastructure ensures that the electricity generated offshore is efficiently and reliably delivered to households and businesses onshore.

The proposed substation will incorporate advanced switchgear systems to manage electricity safely and efficiently. Two types of switchgear may be used, depending on the final design:

- **Gas-Insulated Switchgear (GIS):** Ideal for areas with limited space, GIS is compact and enclosed, helping reduce the overall footprint of the substation.
- **Air-Insulated Switchgear (AIS):** Used in more open areas, AIS requires a larger overall footprint.

While detailed design is ongoing, the estimated size of the substation will vary depending on the switchgear system selected:

- GIS layout – approximately 8.5 acres
(about the size of Gilbertson Park, Lerwick)
- AIS layout – approximately 12 acres
(about the 1.5 times the size of Gilbertson Park, Lerwick)



Substation with Air Insulated Switchgear
(Triton Knoll, Lincolnshire)



Substation with Gas Insulated Switchgear



CABLE ROUTES

As part of our offshore wind project, we need to bring the electricity from the landfall to the substation. These cable routes are investigated from a technical, environmental and planning perspective. The next stage will be to identify the preferred onshore routes once the landfall point and grid connection location is known.

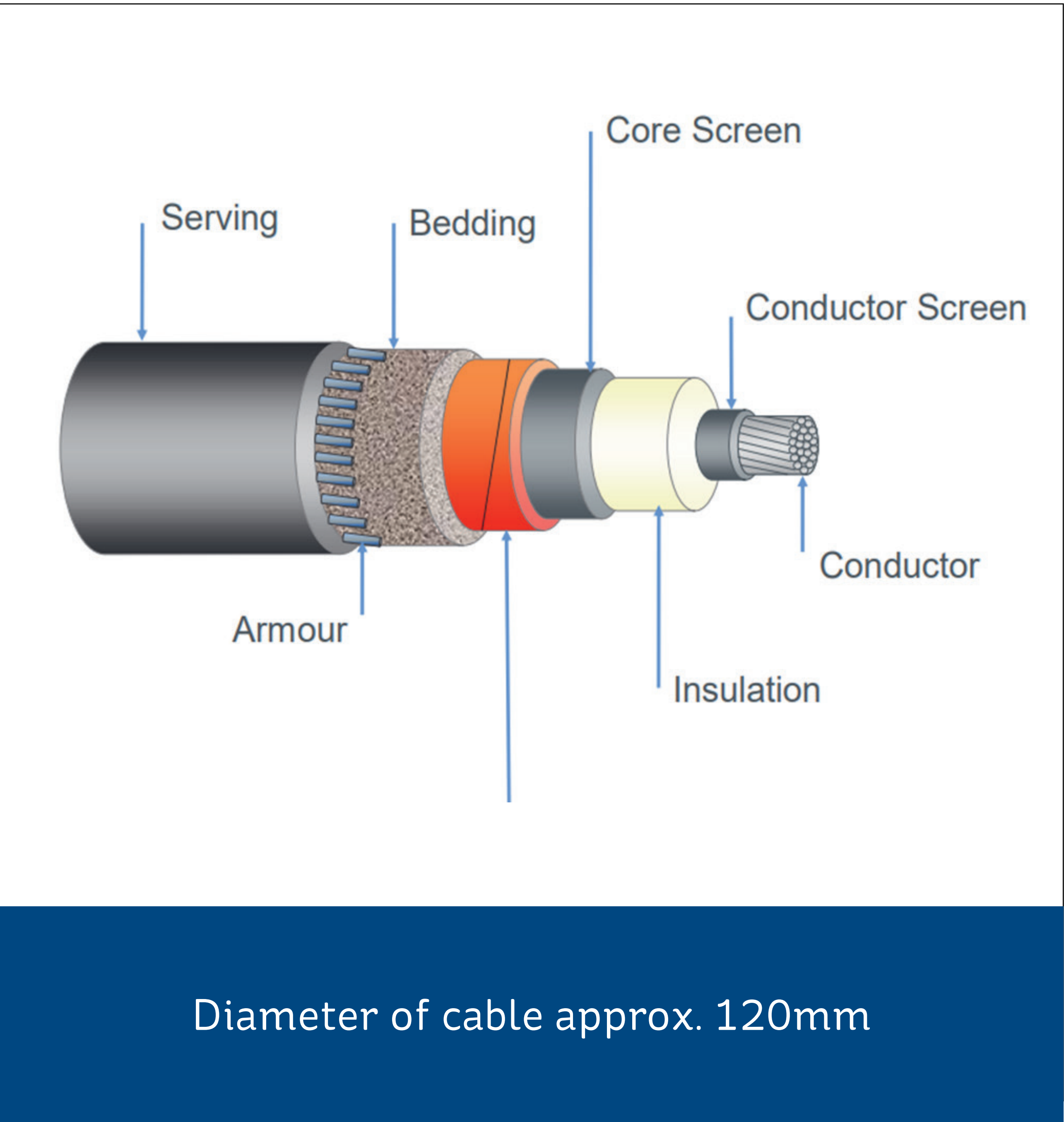
Underground vs Overhead

Both options are being considered, below is a brief comparison of the potential impacts.

Impact Area	Overhead Lines (OHL)	Underground Cables (UGC)
Visual Impact	Pylons and wires are visible across the landscape.	No visible infrastructure once installed.
Land Use	Permanent land needed for pylons and access routes.	Temporary land use during construction; land is restored afterward. Access routes required
Construction Disruption	Less ground disturbance, but longer construction time.	More excavation and potentially greater traffic disruptions during installation. Greater short-term soil disturbance.
Maintenance	Easier and quicker to access and repair.	More complex and costly to locate and fix faults.
Cost	Cheaper and less complex to install.	Much higher installation costs.

Underground Cables

The cable used for underground cable would be a high-voltage XLPE (Cross-Linked polyethylene) cable with copper or aluminium core, installed along with fibre optic communication cable(s) within plastic ducts. This technology for electricity transmission is proven across Scotland and internationally.



LANDFALL

A landfalls assessment has been carried out to identify the least constrained and most technically favourable options. The grid connection point has not yet been identified but indications have been given which will likely result in a location toward the North of the main island. A number of suitable landfall locations have been identified in this area, including around the area of Toft Voe.

It is expected that for the nearshore, the cable will be installed either by an open trench technique or a trenchless methodology, generally via Horizontal Directional Drilling (HDD).

- An open trench is designed for soft geotechnical soils. In this instance, the trench can be cut with excavators both on and offshore.
- The trench would then be cut nominally 2-3 m wide and to a depth of 1.5-3 m deep.
- HDD is a trenchless methodology for cable installation in geotechnically challenging areas.
- The drill can be directed around features or other areas to be avoided.
- The drill is started with a pilot, or small bit that initiates the bore, once complete the hole is widened with larger bits (reamed) until the required diameter is reached.
- Finally, the pipe, or duct, is pulled back through the hole which forms a conduit for the cable to be pulled into.



Horizontal Directional Drilling Rig
(image: AMS Trenchless)



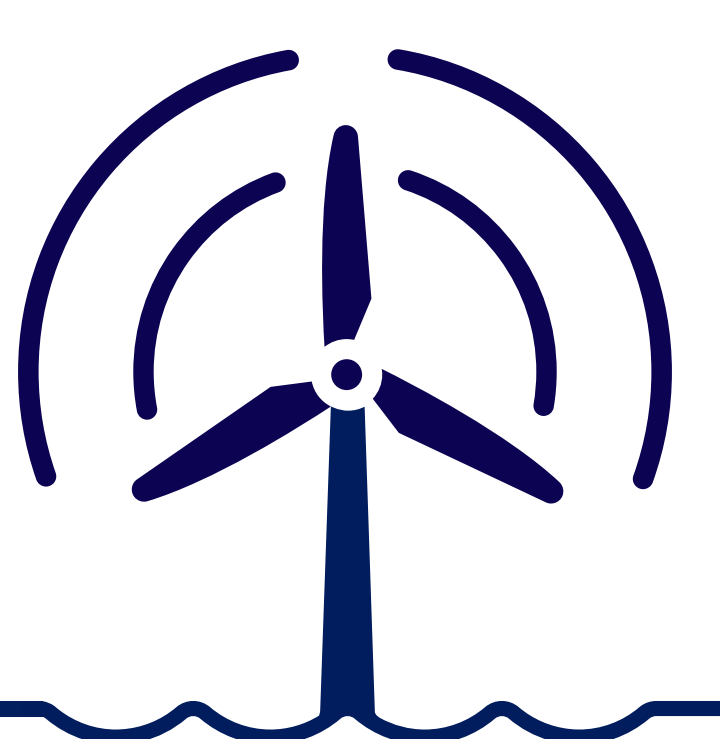
Typical offshore open trench rig



Example of open trench technique during installation



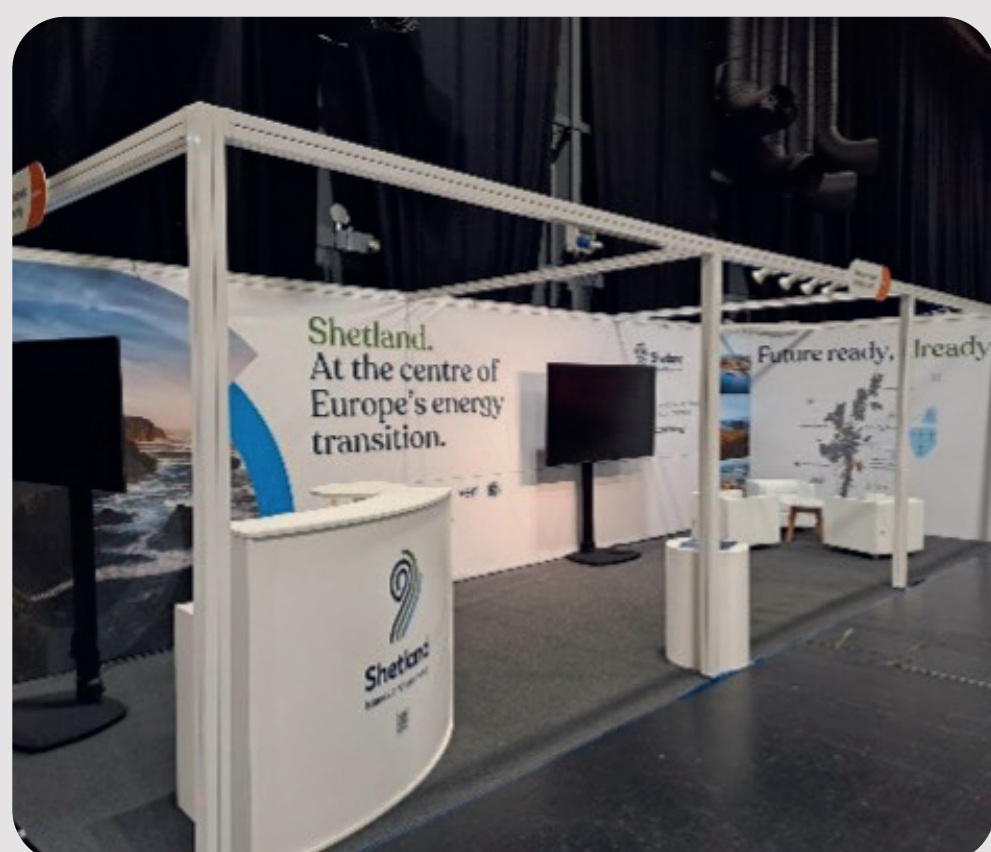
Same example post installation



NEWS



In July, Stoura Offshore Wind Farm reached a significant milestone with the submission of its Offshore Scoping Report and Habitat Regulation Appraisal (HRA) Screening report to the Marine Directorate.



Stoura joined Shetland partners at the UK's largest low-carbon energy event, All-Energy 2025, held at the SEC in Glasgow. Together with Shetland Islands Council, Lerwick Port Authority, Highlands and Islands Enterprise, Arven Offshore Wind Farm, and others, the project was proud to represent the Shetland: Islands of Opportunity stand.



Stoura supported important seabird monitoring efforts in Shetland during the 2024 summer season, working in collaboration with Arven Offshore Wind Farm and regional partners. The aim is to complete updated seabird colony counts across several Shetland Special Protection Areas (SPAs).



Stoura has successfully completed two years of environmental baseline surveys in the North Sea, marking a key milestone in the project's development. Appointed specialist APEM Group led a comprehensive programme of monthly aerial seabird and marine mammal surveys across the proposed wind farm site and surrounding areas, concluding in November 2024.



Stoura has partnered with ORE Catapult and other developers in the Fit 4 Offshore Renewables Island Initiative. The programme kicked off in mid-April and the Stoura team is delighted that two businesses from Shetland will be taking part. The fully funded programme is aimed at helping suitable businesses in the Scottish Islands and coastal communities prepare for supply chain work for offshore wind.



Stoura and UHI Shetland had their first collaboration under their Memorandum of Understanding with the delivery of a Joint Nature Conservation Committee (JNCC) recognised Marine Mammal Observer (MMO) training course in Scalloway.

This initiative has been officially endorsed by the United Nations Decade of Ocean Science for Sustainable Development (2021-2030) – UN Ocean Decade.



CONTACT OUR TEAM



For any feedback, questions
or comments please contact our team.



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THANK YOU FOR ATTENDING



Photo: TetraSpar Demonstrator ApS