



BUILDING SHETLAND'S ENERGY FUTURE





About SSE Renewables

SSE Renewables is a developer and operator of renewable energy across the UK and Ireland, with a portfolio of around 4GW of onshore wind, offshore wind and hydro. Part of the FTSE-listed SSE plc, its strategy is to drive the transition to a net zero future through the world class development, construction and operation of renewable energy assets.

SSE Renewables owns nearly 2GW of operational onshore wind capacity with over 1GW under development. SSE Renewables also has the largest offshore wind development pipeline in the UK and Ireland at over 6GW, of which around 3GW is in construction or consented.



About Viking Wind Farm

Viking Energy Wind Farm (VEWF) is a 103-turbine onshore wind farm set around the central Mainland of Shetland. The £580m project is owned by SSE Renewables and construction began last year.



About SSEN Transmission

SSEN Transmission, operating under licence as Scottish Hydro Electric Transmission, owns, operates and develops the high voltage electricity transmission network in the north of Scotland. Its network consists of underground and subsea cables, overhead lines on wooden poles and steel towers, and electricity substations, extending over a quarter of the UK's land mass crossing some of its most challenging terrain.

SSEN Transmission powers the communities its network serves by providing a safe and reliable supply of electricity, taking the electricity from generators and transporting it at high voltages over long distances through the transmission network for onwards distribution to homes and businesses in villages, towns and cities.

We are committed to inclusive stakeholder engagement, and conduct this at an 'Accomplished' level as assessed by AccountAbility, the international consulting and standards firm.

Keeping in touch

We are keen to hear your feedback, so if you have any questions about the newsletter or the works currently underway please contact:

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Viking Wind Farm Community Engagement Manager Julie.Graham2@sse.com / 07586 282236

To find out more about the projects and to register for updates please visit:

www.ssen-transmission.co.uk/projects/Shetland/
www.vikingenergy.co.uk/

Cover: Eshaness – Dave Donaldson Photography

VIKING ENERGY WIND FARM

CONSTRUCTION UPDATE

Since the last newsletter was published in early October, all eleven bases on Mid Kame have been concreted successfully. Work has now begun on backfilling these (along with residual capping of the roads) on Mid Kame to complete the turbine foundations there.

Steel fixing and concrete pouring has now switched westwards to the hills around Scallafield. Everything going to plan, up to 22 of the 103 bases will have been successfully concreted by the Christmas break.



A completed turbine base on Mid Kame with the concrete shuttering being removed. Pre-existing peat erosion can be seen in the background.

The wind farm is now close to its full geographical roll out, with over 60km of track out of circa 70km now in place. Whilst there is still much road capping work to do next year, the level of progress through Covid-19, and in often challenging weather conditions, has been truly remarkable. The full extent of the final track layout should be in place early in the new year.

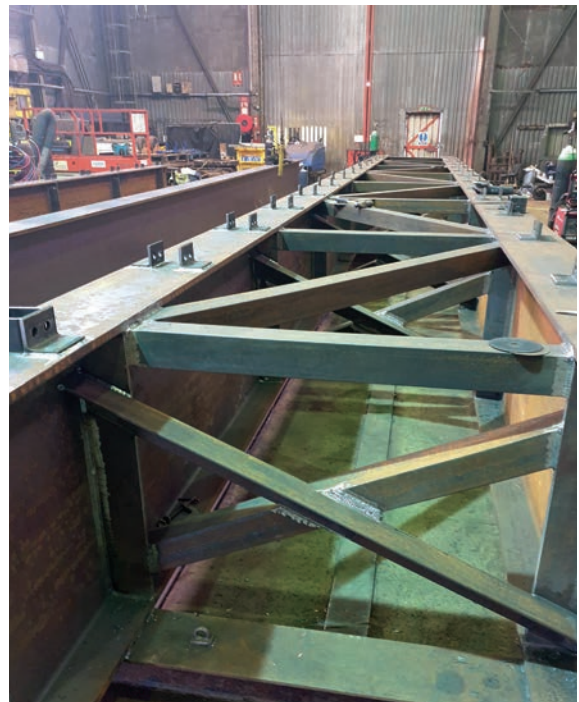
The workforce on the wind farm site still sits at around 200 with a roughly 60/40 split of travelling workers to local workers. The overall workforce on the SSE Renewables' projects is expected to grow to a peak of around 300 from the spring of next year. Regular testing for Covid-19 has continued throughout, and all Government guidelines/ measures will continue to be strictly enforced and applied.



The wind farm track network is nearing its full geographical extent. This picture shows good progress being made to the south of Scallafield in the west.

In the weeks ahead, RJ McLeod hope to open the new permanent bridge on the Sandwater Road and reinstatement work has now begun on the southern side of the cutting further along the new Sandwater Road. Extensive reinstatement work at the Hamaragrind cutting at the other end of the Lang Kames is also now well underway. Throughout the site, road capping, verge reinstatement and peat restoration initiatives will continue and will further intensify in the early part of next year. The level of existing peat erosion across the site is visible for all to see and initiatives, both in situ and under the longer term auspices of the Habitat Management Plan (HMP), will continue to seek to check and address this long term degradation of the peat habitat across the wider site. The area of ground disturbed during construction is expected to be circa 96 hectares, whilst under the HMP the area of degraded peat to be improved by active management is 260 hectares.

Two new permanent bridges are due to be delivered and installed in the South Nesting part of the site before Christmas. A further two bridges are being fabricated locally, for installation elsewhere on the site early next year. Cable drums continue to be delivered, and instalment of cables is expected to begin in the spring. Cable installation will allow final verge reinstatement and road capping to take place.



Two permanent bridges are being fabricated by LEF in Lerwick. These are expected to be completed and installed in the early part of next year.

It has been a year of remarkable progress and VEFW, together with principal contractor RJ McLeod, would like to thank everyone for making visiting workers so welcome and for their patience and forbearance as work on the ground has progressed so rapidly. Shetland stands poised to play its part in delivering the global energy transition, decarbonisation and delivering on net zero as the wind farm continues to take shape for first electricity export in the autumn of 2024.



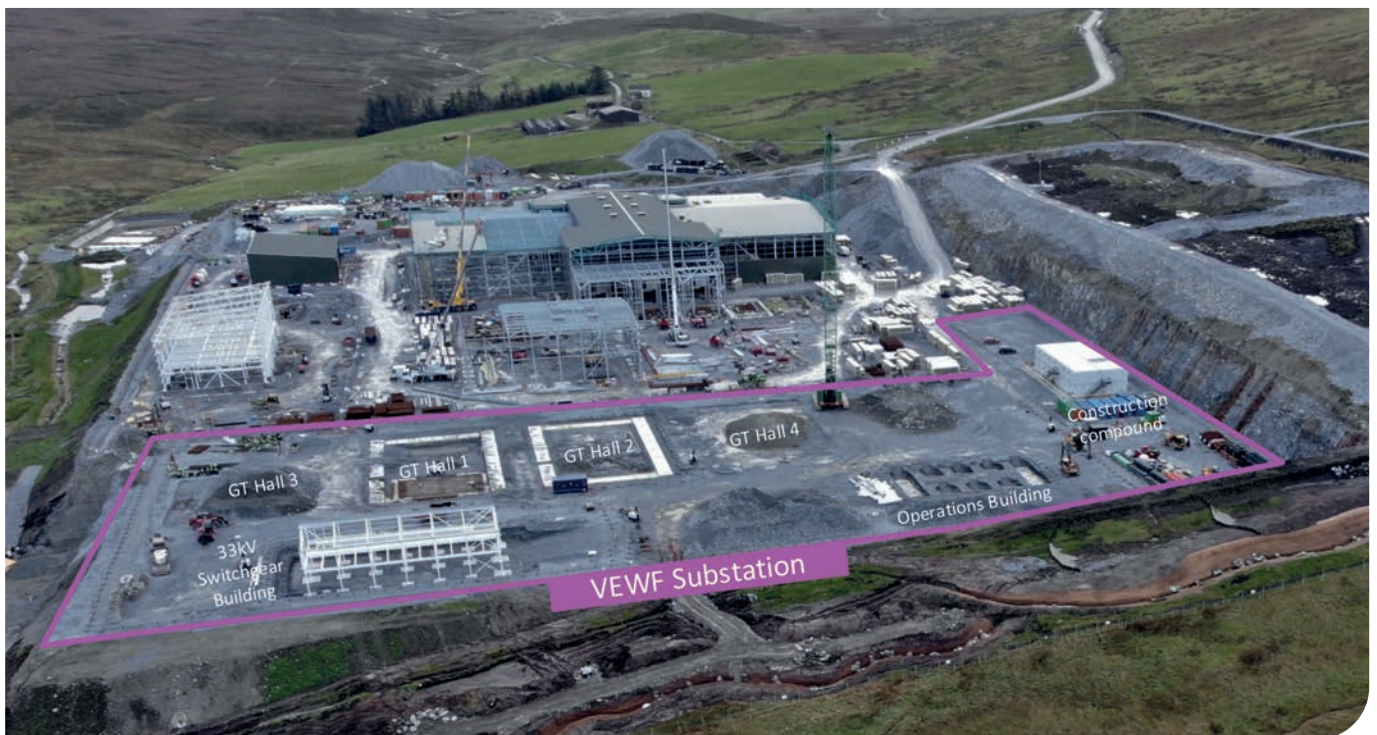
Existing peat erosion is widespread across the site as this picture taken in Nesting clearly demonstrates. Reinstating and recovering many of these areas is a key task in developing the wind farm and as part of a long term effort to restore them to active blanket bog.

VEWF SUBSTATION

CONSTRUCTION UPDATE

Construction of the VEWf Substation site at Upper Kergord is continuing successfully, with the construction compound and welfare facilities now fully operational with a high standard of set-up.

Main works commenced with the 33kV Switchgear Building, which now has steelwork fully erected. The Operations Building has had its foundations excavated and is awaiting pre-cast foundations to be installed. Grid Transformer (GT) Hall 1 was the first to have its foundations poured, with GT Hall 2 following shortly after. Excavation works for foundations have now also commenced on GT Hall 4. GT Halls 1 and 2 have had all their ducting installed for the grid transformer bunds, with steel fixing advanced on the GT1 bund. These bunds will house the 123 tonne 132/33kV VEWf Grid Transformers.



VEWF Substation - Overview.

Looking to the near future, the 33kV Switchgear Building basement will start to take shape and structural steelwork erection will also be starting shortly at GT Hall 1. The steelwork team will then either move to work on the Operations Building or GT Hall 2. All other equipment foundations within the GT Halls are to be pre-cast, off-site, and these sections will start arriving in coming weeks.



GT1 Bund Steel Fixing.



GT2 Strip Found & Duct Install.



33kV Building Steelwork.

ENVIRONMENTAL ROUND UP

All of us who live here in Shetland are aware of the constraints that the weather can put upon us, but we also know that life goes on and adaptation is the key to seeing us through. Such has it been with the environmental management of the construction of the wind farm, particularly against the backdrop of the challenges of the Shetland weather. Our aim has been to employ respected environmentalists and ecologists who are passionate about achieving the best environmental outcomes from construction of the wind farm. To that end, we have some notable local experts onboard striving daily to ensure the best ecological outcomes for the project.

This year started with the early lessons related to Sandwater firmly noted, having achieved the space and adaptability to instal the permanent drainage system. The larger culverts installed are considered an improvement in the control of the flow of water into Sandwater Loch. Detailed monitoring of Sandwater Loch continues and will do so throughout construction. Our monitoring regimes indicate that there has been no appreciable impact on the loch and nature itself continues to back that up with the successful breeding of the resident Whooper Swans and the visit of frequent Ospreys and a Great White Egret to the loch.

As 2021 continued, RJ McLeod (RJM) moved its construction effort into the hills. The control of water is an ever-present challenge as track construction progresses. However, having plenty of open areas and topography to use to their advantage has greatly helped in the successful separation of clean water and construction water run-off. The teams' attention is never down though, and monitoring of all areas of potential impact is regularly undertaken and drainage mitigation is installed in advance of the progressing tracks.

A cold snap in late April affected the bird breeding season throughout Shetland and the project noted similar effects. Steps were taken to deploy passive deterrents to discourage breeding pairs from setting up home too close to ongoing works. Nature being what it is though, means that not every eventuality can be foreseen and some of our feathered friends nested a little too close for their and our comfort, meaning that the construction schedule had to be adapted to allow nature to take its course. Due to this forward planning, and the adaptability in the construction schedule, no progress time was lost, and the data gained from season 2021 will be utilised to inform the scheduling of next season's construction activities.



Water crossing over Gossawater Burn.



Summers are never as good as we hope here in Shetland, but we had a relatively long dry period from June through to early August. With a reduction in water, dust became our challenge. Building nearly 70km of track will ultimately produce dust, especially in construction where the track formation is a phased process, meaning that a dusty surface can be present in the early phases of track being laid. Key to addressing dust is getting the final capping layer down when the right type of rock is available and, also, ultimately removing the heavy dumper trucks and other construction traffic when final capping is complete. The capping process was hindered somewhat by the grade of surfacing material being gained earlier on in the phased development of the tracks. The interim solution from the project was to increase the deployment of track wetting processes such as water bowsers and other measures which was successful overall.

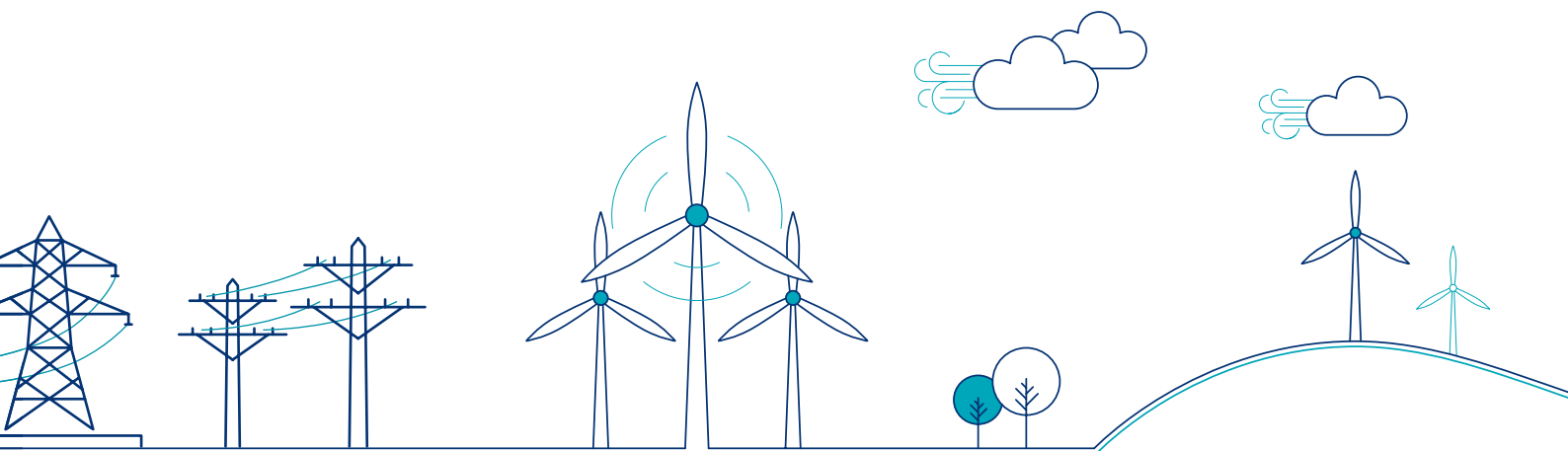
Autumn is the time when Viking's invertebrate and fish specialist comes to Shetland and carry out his comprehensive work. Fish population results from 2021 continue to demonstrate the highly variable nature of salmon and trout breeding, although there are indications that trout numbers may be on the rise for this year. This provides an indication that works have not affected the nutrient and food sources for the fry and parr in the water courses.

Progress in 2021 has thrown up some environmental challenges, but forward planning and anticipation has allowed the team to pre-empt issues and ensure mitigation was in place ahead of works. Track construction is expected to be completed early in 2022. With the geographical limits almost reached, the project can now focus on improving the temporary drainage measures installed and look toward the many longer term improvements in habitats that can be made under the Habitat Management Plan programme of



Restoration and Habitat Preservation on Scala Field.

works. This includes the ongoing commitment to the restoration of circa 260 hectares of historically eroded peatland and blanket bog, the improvement of red-throated diver habitats and engagement with the community in the open access project. More details on all of this will follow in 2022.





Reinstatement at Hamaragrind is now well underway. Cable installation will begin in the spring of 2022, allowing final reinstatement and road capping work to follow-on.

WHAT'S ON: NEXT YEAR

Winter is here and as the dark nights of December draw the curtains on 2021 it offers us an opportunity to reflect on the achievements of the past year here on the Viking wind farm.

Through the unprecedented challenge of a worldwide pandemic, we have worked hard to stay safe. We have taken care of ourselves, the community and each other throughout the year to make fantastic progress and we can be proud of the efforts of all involved.

As we bid farewell to friends on site and look forward to spending time with loved ones at home, preparations have already begun for the coming months when we return in the new year. We will arrive in January refreshed and ready to go again. We have made fantastic progress so far across the entire site, but there is still a lot of work to be done.

One of the first tasks will be completing the remaining 10% of the access track network in the first few months of 2022. Once completed, this will allow full access to all turbine locations and work will continue on installing the remaining reinforced concrete foundations. This work will continue on from the 20% of bases successfully completed in 2021. We anticipate the remaining concrete foundation pours to be complete by the late summer of 2022.

While tracks and bases are a primary focus of the civil

works, we will continue in earnest with the positive work on peat reinstatement and restoration in 2022. Throughout the year, we will continue in our aim to restore eroded blanket bog across the site as part of our long-term and extensive peatland restoration commitments.

The completion of ca 70 km of access tracks will also lead into another stage of construction in the form of cable installation, commencing in the spring. Over 200km of HV cables will be installed in parallel circuits next year, in preparation for the turbines arriving in the spring of 2023. Preparatory groundworks for cabling have already begun. Cabling at scale will present its challenges, however we are confident that we have the resources and detailed planning in place to complete the works safely whilst, at all times, protecting the environment.

There are always events and challenges on construction projects of this size, but with a solid team and forward planning we stand well prepared. We consider this past year to be a great success, not least down to the skill and dedication of our principal contractor RJ McLeod, its staff and those of the 48 local supply-chain businesses directly and indirectly involved in construction. Local direct supply chain spend is now approaching £16 million. We look forward to 2022 with renewed determination to deliver Viking and help transition Shetland towards a net zero, decarbonised future.

SAFETY MOMENT - AL'S WINTER'S TALE

I have been asked to contribute to this edition of the newsletter to give a safety advisor's perspective on the ever-looming snow and ice, gales, and darkness and how it affects me in my day-to-day tasks.

So, to put it into perspective, I hate it, from the moment I leave the house till I arrive at work and from the moment I leave work to the time I get home, I am on edge. I have received training; my car is prepared for the wintery conditions; it has good tyres all round; new brakes were fitted at its last service; the washer bottle is full of almost 100% screen wash; I have a bag of wet weather gear in the boot; along with a torch; gloves; hat; and I even have a tow rope with some shackles; a shovel; water; chocolate; – all set for the worst.

This is all great stuff to have, but perhaps the most important thing in my locker is the etched memory of a night-time drive home, where I looked at the sky and it looked a bit dodgy, fired up the car, looked at the computer and it indicated plus four degrees – ok

I thought no problem, it was black top all the way. It was, until I came into a downhill right-hand bend and lo and behold – hail on top of water on top of ice. I remember the car sliding across the road, down the embankment and rolling onto the roof. It was strange, somehow, but at low speed I knew I wasn't going to get hurt and I wasn't.

The following morning, I set off to recover the car and I met the crofter who owned the land and who, in a nice comforting manner, told me not to worry, "lots of people go off there."

So, from my perspective, at plus four degrees or below, water starts to freeze. I don't trust the computer to keep me safe, gut instinct is far more reliable and local knowledge is the key.

This winter certainly prepare the car but, more importantly, prepare your head and think about every turn, braking point, distance and don't be in a hurry.

COMMUNITY ENGAGEMENT

MIND YOUR HEAD - RAISING AWARENESS OF MENTAL HEALTH



Joanna Breeze from Mind Your Head with Site Construction Managers, Paul Nicolson, VEWf and Ryan Maclean, RJ McLeod.

As part of the Viking Community quarterly theme, 'We take care of ourselves, each other & the environment' RJ McLeod invited all site personnel to attend one of 4 sessions delivered by Mind Your Head in the Viking Community Hub.

The aim of the sessions was to raise awareness in recognising the symptoms of mental health issues amongst our families, friends and colleagues.

Unfortunately, it remains a type of illness that often goes undetected due to lack of knowledge or how to care for someone who is managing an invisible illness on a daily basis.

Mind your Head is a local charity that supports people facing a wide variety of mental health challenges. Both R.J McLeod and SSE Renewables each donated £500 to this worthy charity.

COMMUNITY ENGAGEMENT

SUPPORT FOR SCALLOWAY FC

Viking Energy have recently had a promotional board installed at Fraser Park in Scalloway, home to Scalloway football club and also TSB Junior football club. Money from the annual fee for siting this is used to help cover some of the costs associated with running these local teams. "This is another opportunity for Viking Energy to support sport in Shetland."



VEWF Environmental Manager David McGinty with Scalloway FC's Magnus Henry.



Gerry 'Ragnar of the Ravens' Hamill drops in to Stuart Smith's recent 'Taste of Shetland' fundraiser.

COMMUNITY ENGAGEMENT

DONATIONS TO CHILDREN IN NEED

BBC Radio Shetland recently thanked everyone on site on behalf of Children in Need for their generous donation. £800 was raised at site, with both RJM and SSER matching this to bring the total to £2400. A big thank you to everyone who donated to the site whip round arranged by Luke Fraser of RJM McLeod and to the "Taste of Shetland" event arranged by Stuart Smith of SSE Renewables - which was well received by all!!

VIKING COMMUNITY FUND

SOUTH MAINLAND KINDERGYM – PROVIDING CHILDRENS' ACTIVITIES IN A PANDEMIC.

The Kindergym is a friendly all-inclusive preschool toddler group. The pandemic has been particularly hard for young parents and infants as they have been isolated from their social network. The Kindergym has used an award from the Viking Community Fund to purchase outdoor play equipment and waterproof clothing. This support enables the group to re-start safely and in line with the covid regulations. The group provides a valuable activity for parents helping them build a support network and has enabled infants to have the peer interaction and play that they missed out on during lockdown.

" We just wanted to say a huge thank you from kindergym. The money was well spent, and we expanded our outdoor play. We also bought baby equipment and it has been excellent seeing younger babies at our toddler group. All our equipment has been locally sourced within Shetland to support small businesses." - Jodi, Kindergym Volunteer



The Viking Community Fund is already making a difference, the length and breadth of Shetland.

VIKING COMMUNITY FUND

The Viking Community Fund is operated by Shetland Community Benefit Fund and is available across all 18 community council areas. The funds are available to help projects which help sustain and develop Shetland's communities.

The scheme has been successful during its first 8 months of delivery with £221k being awarded to 87 community projects by October 2021.

The most common themes for projects to support are: promoting social inclusion and mental wellbeing; and developing or improving community assets. Many of the larger projects funded are still undertaking construction works and will be completed in 2022.



RJ McLeod Site Safety Managers Ann McAnallen and Donald Wilmore get a cuddle from Hera. Dogs Against Drugs conduct regular checks at site.

DOGS AGAINST DRUGS - HELPING TO EDUCATE YOUNG PEOPLE

Dogs Against Drugs has been awarded £27,500 from the Viking Community Fund to support the delivery of their educational programme across Shetland. The programme uses Thor, Axel and Oscar, the Shetland drug detection dogs, to engage young people and to help educate tomorrow's generations on the realities of illegal drugs. The funding will help the charity to deliver education sessions to six hundred young people in the next year. The sessions are focused on primary 7 and second year pupils and they gain an interactive learning experience where the dogs help to break down barriers and help children to discuss the impact drugs can have on people.

'Thanks to the Viking Community Funding for helping us to continue to keep Shetland safe' - Michael, Project Manager, Dogs Against Drugs.



Thor on duty in Lerwick.

COMMUNITY ENGAGEMENT

KEY STAKEHOLDERS ENJOY A TOUR OF THE WIND FARM

A group of local stakeholders were welcomed to the Viking Wind Farm earlier this month by the project's Community Engagement Manager, Julie Graham.

Despite the poor weather the group donned personal protection equipment and had a tour of the site.

Melanie Henderson from Lerwick Port Authority said:

"It was excellent to be on site to really appreciate the scale and the various strands of conservancy that are going into the project."

Kelly Nicol from Shetland Islands Council said:

"I was a little sceptical about the project on a personal level but the visit answered all the questions I could have had and more.

"I was delighted to see the conservation work being done and the emphasis on enhancing the area as far as possible with regards to the conservation, restoration and preservation of landscape and wildlife alike."

Emma Miller from Living Lerwick said:

"Actually seeing the scale of the construction on site was eye opening. I was really impressed with the scale of the conservation and peatland restoration and how well it has 'taken' on the ground."



Key local stakeholders on a recent site visit. Over twenty visits have been organised in the latter part of 2021.

Julie Graham said:

"It was great to welcome this group of local women to site so that they could see for themselves how work is being carried out and the care and attention which is being taken by our environmental experts.

"We are looking forward to hosting other local groups at site throughout 2022."

MERRY CHRISTMAS AND A HAPPY NEW YEAR
FROM EVERYONE ON VIKING ENERGY WIND FARM



THE VIKING WIND FARM SITE WILL BE CLOSED FROM:
21ST DECEMBER 2021 AND REOPENS ON 10TH JANUARY 2022.

YEAR 2 BEGINS, PROGRESS AT KERGORD HVDC

October saw the project celebrating one year of breaking ground and this is a snapshot of views from January to December.



January 21



April 21



August 21



November 21

Kergord update

As 2021 nears to an end and we are fast approaching the site closure for the Christmas and New Year holidays, we reflect back on 2021 and the many milestones that have been achieved safely and on programme by our principal contractor and their subcontractors.

The prolonged mild weather has helped achieve the majority of the earthworks by Q2 2021, with the basement of the Service building installed and the installation of the foundation pads for the rest of the main building. This included 160,000m³ of earthworks and 750,000 tonnes of rock processed.

Over the summer months you could start to see the main structure of the HVDC building rise from the ground as well as the spares building to the east. The weather conditions were generally favourable allowing good progress with steel erection.

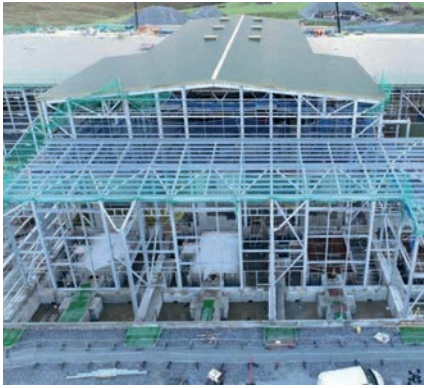
The weather in Q4 2021 was mixed with windy conditions, hampering the final erection of steel and cladding. However, work remains on programme to

have the main converter station building wind and watertight by the end of 2021. A total of 1,950 tonnes of steelwork has been delivered and erected onsite with cladding reaching 20,150m² in area when installation is completed.

Despite the evenings drawing in, work has continued at pace with lighting installed around site and within working areas to ensure works can be completed safely and to programme. Internal works have commenced with blockwork in the service building basement, fire master cladding in the reactor hall and floor preparations and concrete pours ongoing within the main HVDC building areas.

Three month lookahead January to March 2022

In the new year domestic fitout and M&E works will continue in each of the specific areas within the main HVDC building. This will include internal partition walls, electrical systems such as lighting and fire detection equipment. Works will also commence externally with cable troughs and establishment of the permanent access roads around the site. Hitachi Energy will also mobilise to site to commence their works.



Transformer pens and plinths.



High level cladding HVDC building east.



HVDC building floor slab works.

AC Substation and it's purpose with the HVDC Link

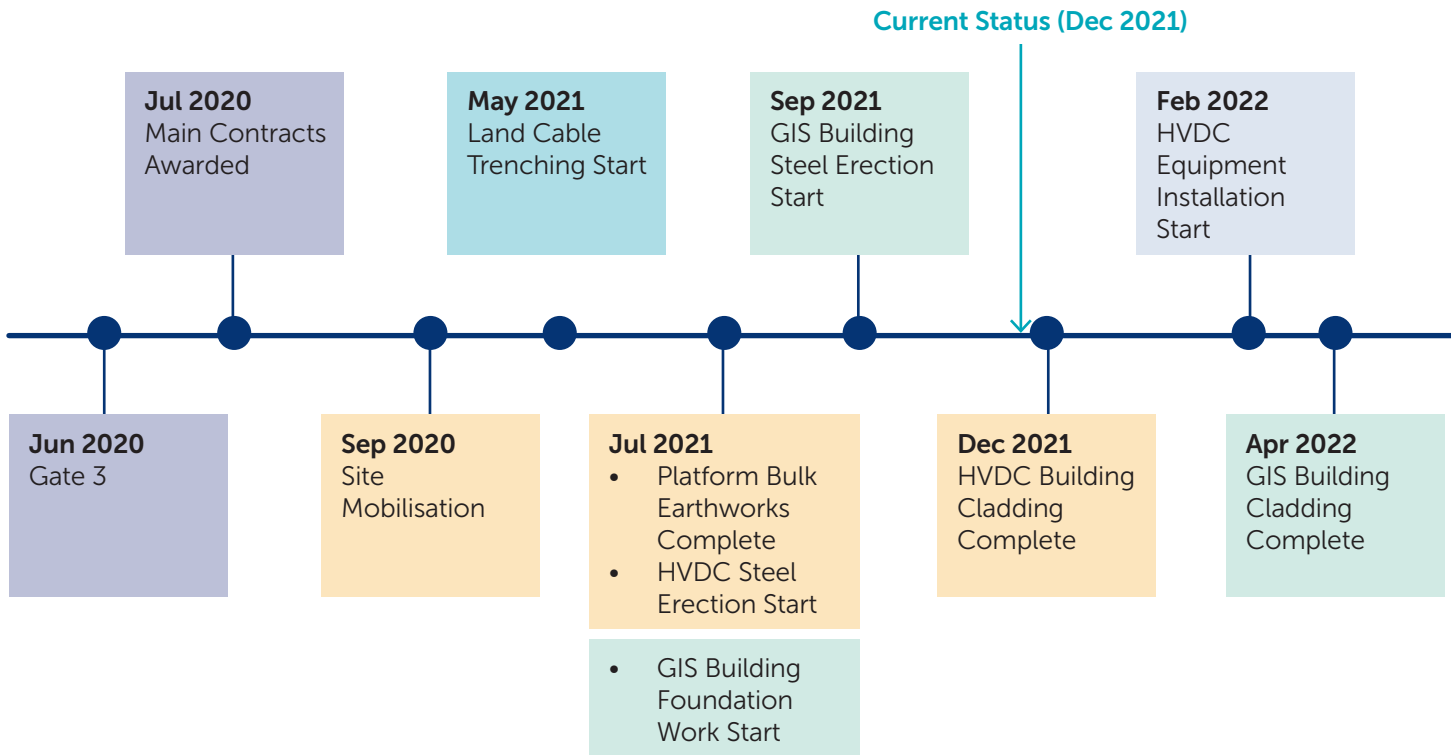
The Kergord 132kV Substation shall act as an interface between the Shetland HVDC link and the rest of the newly constructed Shetland Islands Transmission Network and onshore island generation.

All onshore island generation sites are planned to be radially connected to the Kergord 132kV substation, meaning all island generation will be collected at this site, before being transferred to the Kergord HVDC Converter Station where it shall be exported to the Main Interconnected Transmission System (MITS). Similarly, if the HVDC link is importing generation

to supply the Shetland Island load demand, this shall be transferred to the planned Gremista GSP connections via the Kergord 132kV Substation. The Kergord 132kV substation shall utilise Gas Insulated Switchgear (GIS) equipment to establish the busbars and connections to various other sites. The GIS will use Siemens GIS Blue technology, which uses an insulating gas known as Clean Air (79% Nitrogen + 21% Oxygen). Traditionally SF₆ has been used as the insulating medium. SF₆ has 23,900 times the global warming potential of CO₂.

The Clean Air insulating gas has a Global Warming

Shetland HVDC Timeline



Potential of zero (per 100 years), which has resulted in the removal of any gas which could impact global warming.

Progress

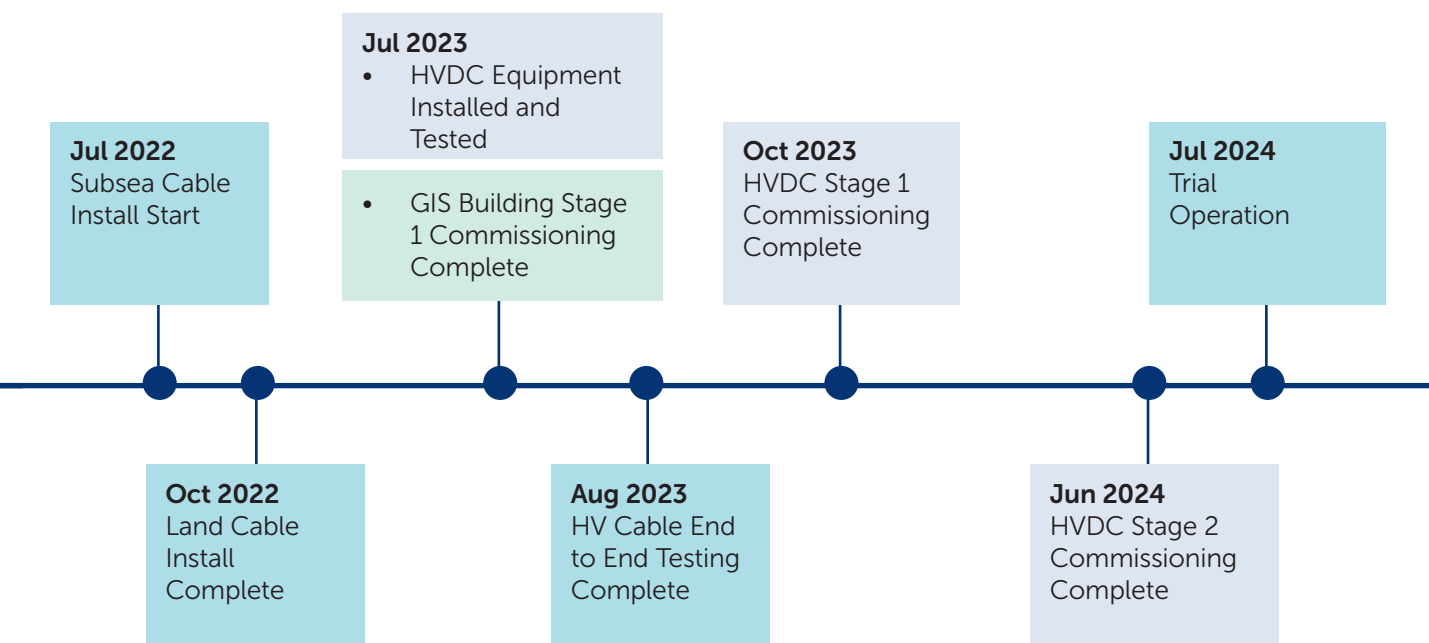
- Portal Frame construction fully complete – all structural steel erected
- Drainage works commenced and ongoing
- Reinforced concrete works ongoing for HVDC Pit (Cable Entry from the HVDC Station) and other cable sealing end foundations
- Internal Ducting on gonging and external to follow.

Lookahead over the next 3 months

- Completing reinforced concrete works for cable entry requirements
- Installing 1st Floor Steel decking and concrete slab works.
- Completing external drainage and all other internal ducting
- Placing cable troughing
- Commence and complete cladding to the building.



Model view of the 132kV GIS Building.





November 21: Roof Lining Sheets installed and wall cladding underway.

NOSS HEAD SWITCHING STATION

During Q4 2021 we continued to see excellent progress at the HVDC Switching Station in Caithness in the North of mainland Scotland. The roof cladding liners installation has been completed and the wall cladding has commenced with a target completion by end of December 2021 to make it wind and watertight.

During autumn the hydro-seeding of the bunds that surround the Switching Station was completed. The internal cable troughs and floor slabs have also been completed.

The Internal fit-out of the Control Building and 1st fix Mechanical & Electrical building services has commenced. Going forward the internal building fit-out and 2nd fix / final fix M&E building services will continue with completion of these elements of the works in Q2 2022.

The photograph above was taken on 15 November 2021 – 11 months after breaking ground at Noss Head.

LAND CABLE INSTALLATION WORKS

The installation of the onshore cable ducts is now 88% complete in Shetland with the works having been undertaken by our principal contractor for the subsea and land cable manufacture and installation works, NKT who are supported in Shetland by their subcontractor Tulloch Developments.

We are currently working on the section from the Scord of Sound to the Transition Joint Bay and are aiming to complete the duct installation on this section by Christmas. In January we will construct the landfall compound at Weisdale Voe and plan to complete this in the Spring of 2022.

Meanwhile the remaining section of ducting on the A971 is progressing well and is schedule to be completed in spring 2022.

We are also pleased to report that our land cables have now been delivered to Lerwick Harbour and that we plan to commence the joint bay construction and cable installation works in the first quarter of 2022.

We would like to thank the Shetland community for their patience during the construction of the haul road and associated HGV vehicle movements required to support this.



Land cables at Lerwick Harbour.



The Vessel Seawell.

SUBSEA WORKS

NKT, on behalf of SSEN Transmission, have now commenced boulder relocation along the Shetland HDVC link cable route between Noss Head, North of Wick and a landfall in Weisdale Voe, Shetland utilising the vessel Seawell. So far, the Seawell is making steady progress and even managed to take on Storm Arwen successfully. The Vessel Seawell will utilise a grab, similar to the illustration opposite, pick identified boulders and relocate within the consented corridor so that sufficient clear seabed is created for the safe installation of the cable. The locations of boulders picked and the location they are placed will be recorded.



Boulder grab.

MARINE STAKEHOLDER FORUM

Forums took place in Wick and Shetland on Monday 15 November and Tuesday 23 November respectively. This was a good opportunity for the SSEN Transmission Team to meet the various Marine Stakeholder that attended and was a good opportunity to give updates on the project so far and to discuss some of the achievements to date. We look forward to further meetings and the opportunity to meet all of the Marine Stakeholders.

SPOTLIGHT ON NKT

NKT are our Principal Contractor for the manufacture and installation of the Shetland HVDC Cable and associated accessories and equipment. Whilst NKT are a global company, the onshore project installation is managed by their UK based personnel, most of whom are based in the North of Scotland. In alignment with SSEN Transmission, NKT have endeavoured to utilise local resource where possible and on Shetland this has been primarily achieved by working with local company, Tulloch Developments Ltd who employ around 25 Shetland based personnel on the project. In addition to the benefits this brings to the Shetland economy this has also brought value to the Shetland HVDC Project in terms of utilising on island personnel and resources whilst also taking advantage of the local expert knowledge relating the various logistical and environmental factors unique to Shetland. NKT Victoria's capabilities are explained below.

Carrying 9,000 tons of high-voltage cable and over 100 years' installation experience

The installation process is a critical phase of a turnkey solution for a high-voltage cable system. It takes a combination of deep know-how and reliable equipment to perform these complex projects. By utilising historical experience of high-voltage cable projects while also employing and investing in state-of-the-art equipment, NKT is able to ensure the highest quality from start to finish.

A large blue and red cable installation vessel, the NKT Victoria, is shown at sea. The vessel has a prominent white crane structure on its deck. The NKT logo is visible on the side of the vessel. The background shows a calm sea and a clear sky.

Deadweight:
12,000 tons
at 7.80 m draft

Beam:
30 meters

Work deck area:
1,600 m²

Purpose built for cable laying

NKT Victoria's innovative and beachable vessel design is the result of our extensive experience of offshore installation operations. The vessel is capable of simultaneous dual HVDC and fibre optic cable laying and deep-sea HVAC installation using a high-capacity tensioner system. These, and many more cutting edge features, contribute to higher efficiency and precision of the installation and service execution, while offering maximum safety for both crew and cables.

Meeting safety requirements

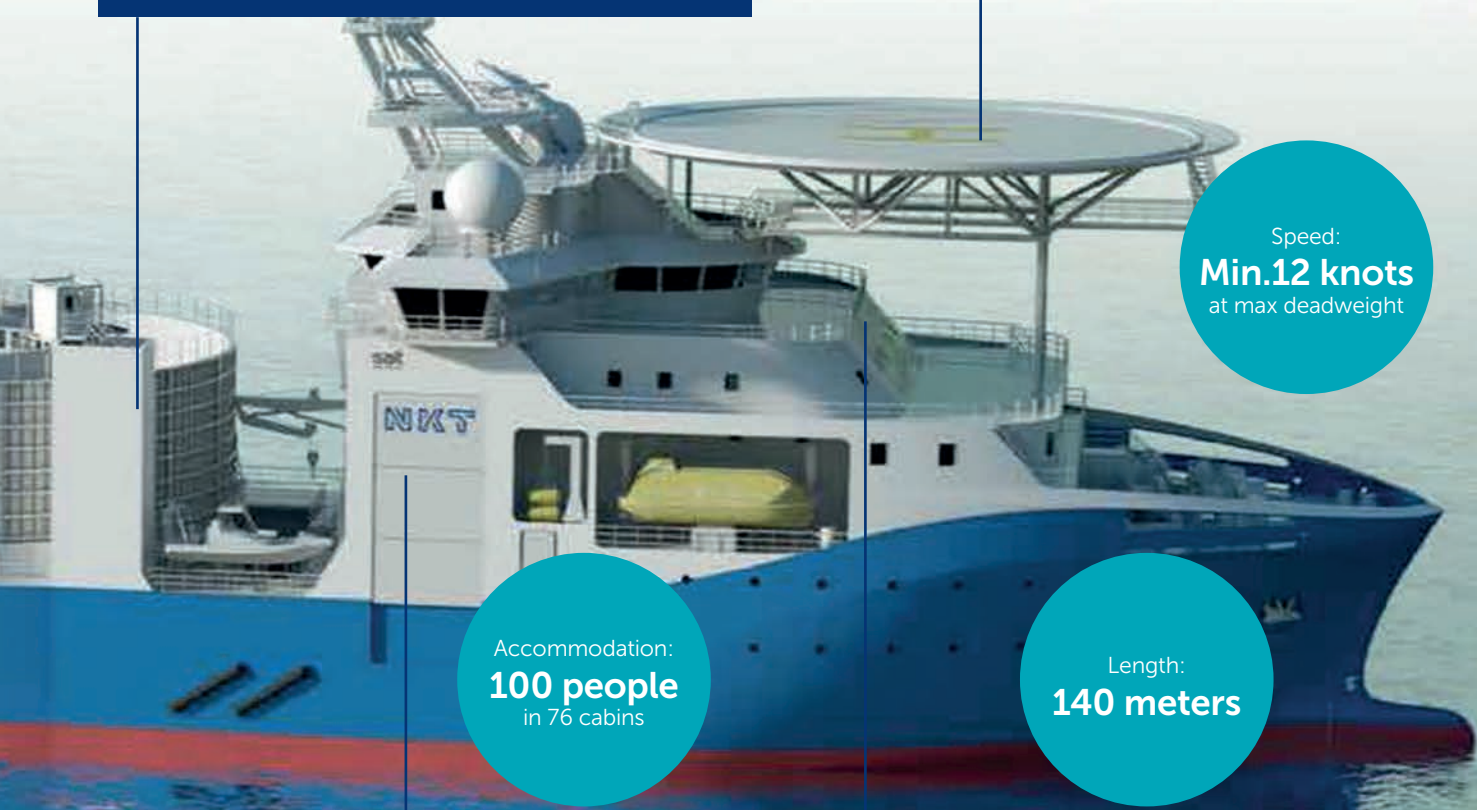
As part of a turnkey solution, this custom-built vessel will improve flexibility and execution. The many features onboard enable optimised benefit of weather windows, which allows safe and efficient vessel operation in high sea states/waves. The offshore market's stringent safety requirements are met throughout the installation process thanks to sophisticated roll reduction technologies that mitigate the effects of harsh sea conditions. Fire and flooding containment systems protect essential systems, ensuring ongoing operations are not compromised. Advanced remotely operated vehicles (ROVs) equipped with cameras and sonar are used for subsea operations, while also contributing to increased safety.

Precision and accuracy

Superb precision and accuracy are two hallmarks of NKT Victoria. Both are achieved using dynamic positioning technology of the highest class (DP3), enabling stable and precise cable laying. An advanced system of sensors, monitoring hardware and software enables data to be sent to shore via a satellite link. This allows the onshore technical centers to remotely troubleshoot and support the vessel offshore, and together with advanced advisory software for motion monitoring, forecast and decision support, it also ensures cable integrity and crew safety. The Vessels beachable design, flat bottom and six-point mooring system enables operation in shallow waters near landfalls.

Designed by industry leaders

Capturing NKT's extensive experience and expertise in submarine operations, the NKT Victoria is custom-built according to specifications. It comes equipped with all the features necessary to successfully perform even the most advanced installation procedures. The vessel has been developed by some of the most acknowledged industry leaders, including SALT Ship Design, MAATS, ABB Marine and Kleven, ensuring highest flexibility and accuracy in installation execution.



Speed:
Min.12 knots
at max deadweight

Accommodation:
100 people
in 76 cabins

Length:
140 meters

Energy efficient operations

The NKT Victoria uses a power-from-shore solution together with onboard technologies such as Azipod propulsion units, an energy storage system for marine applications and ABB Marine's Onboard DCC grid. This reduces fuel consumption significantly compared to other cable-laying vessels available on the market for any given project. The power-from-shore connection can be maintained while loading the cable onto the vessel – a unique advantage which results in a more environmentally-friendly operation. With the new cable laying vessel as part of NKT's portfolio, a turnkey solution will de-risk the installation operation by providing full control of everything from cable design and manufacturing to installation and service – the complete value chain from start to finish.

Outstanding competence for complex projects

Excellent competence is key to successful installation and service projects. The teams manning the vessel and executing the installation of high-voltage cable systems are all highly experienced and skilled. NKT can therefore provide the right competence for these complex projects, ensuring that operation and equipment run efficiently. The vessel is designed to accommodate 100 people. It includes a gym, day-rooms, entertainment facilities, office space, a helicopter platform and a lounge – all to create a comfortable environment for the crew onboard.

FOCUS ON SAFETY

SAFETY IS OUR NUMBER ONE PRIORITY

To date, our Health & Safety performance on the Shetland HVDC Link Project has been excellent. This is reflected in our annual Total Recordable Injury Rate of 0.00 which given the hundreds of thousands of hours worked, is a terrific achievement. A fantastic safety culture has been instilled across the project which should allow us to continue to work safely and go home safely. Our culture is underpinned in our day-to-day activities such as assessing risks, delivering toolbox talks, performing inspections and proactively identify safety observations. With over 1100 safety observations to date, it demonstrates that our teams are empowered to use their safety licence; if it's not safe, we don't do it!

The nature of our construction work doesn't come without risk. From manual handling to heavy crane lifts. From slips and trips to falls from height. From power tools to forklift trucks, there are risks in everything that we do. That is why our dedicated Safety Teams work together with our Contract Partners to overcome challenges and



continuously assess, mitigate, and monitor our risks to achieve zero harm to our teams.

As we enter Winter, our risk profile changes. Strong winds, heavy rain, ice and snow are only some of the elements which can make lifting activities, driving and even walking from A to B much more hazardous.

We continue to engage with the Shetland Island Council

and emergency services to raise awareness of the risk of winter driving and help to keep our teams safe as we travel to and from work. Finally, the risk of COVID-19 hasn't gone away. We must remain vigilant and continue to follow Government guidance as well as our robust processes including frequent testing and health screening. In summary: so far so good but still a long way to go.

FOCUS ON THE ENVIRONMENT

KERGORD HVDC CONVERTOR STATION

SEEN Transmission are constructing a new HVDC convertor station at Upper Kergord. A key environmental element of these works is the construction of new watercourses around the perimeter of the site to divert the original channels which flowed through the site to the Weisdale Burn. The intention is to design and construct channels

which use green engineering techniques to create natural channels, avoiding hard engineering methods of construction which often result in poor aquatic habitats. By constructing the channels to mimic nature and to replicate natural hydraulic processes they will ultimately be more biodiverse, providing more suitable habitats for aquatic plants and invertebrates.



Paula Moss Photography

PROTECTING ECOLOGY

Protected Species

Throughout the lifecycle of our project's, consideration is given to potential impacts on protected species. At the earliest stages of development, surveys are undertaken to assess the baseline so that projects can if possible be sited away from known sites where protected species are present. Between Weisdale Voe and Kergord Converter station Otters are the only European protected species of mammal present. Detailed surveys were undertaken prior to the start of works and the Environmental Clerk of Works for both the converter station and the cable route continue to monitor for otters throughout the duration of the works.

Nesting Birds

During bird nesting season from April to August there is continual monitoring for birds to ensure that our works do not disturb any birds. All wild birds are protected from disturbance during the nesting season and some species are afforded greater levels of protection through the EU Birds Directive. It has been important throughout the course of our construction to monitor for nesting birds in the vicinity of our works. On several occasions during the 2021 nesting season works were ceased in certain locations to allow birds to complete their nesting cycle and for the chicks to fledge.

Biodiversity Net Gain

Biodiversity worldwide is declining at an unprecedented rate. Human life and societies rely on a host of

ecosystem services such as food production, pollination, clean water, nutrient cycling, and carbon sequestration, all of which are dependent on biodiversity. Therefore, preventing biodiversity loss and restoring degraded habitats is critical for the path to sustainable development. SSEN Transmission aims to positively contribute to the UN and Scottish Government Biodiversity strategies by designing new infrastructure projects with the potential to achieve a no net loss (for project consented 2020) or a net gain (for projects consented 2025) in Biodiversity. Although Kergord was consented well before this target we are still assessing the potential to create biodiversity enhancements on the site.



Typical habitat found around the project.

BAM STAFF RAISE £1000 FOR CHILDREN IN NEED

The annual Children in Need fundraiser was held on Friday 19 November 2021 and people from all over Shetland participated in a range of activities to raise money for the cause.

Children in Need is a charity that provides grants and funding to projects based in the UK that have the aim of helping disadvantaged young people. This year BAM staff from the Kergord site raised over £1000.

Local charities including Ability Shetland and Shetland Befriending Scheme benefit from the appeal. Shetlands current total raised is £16,500.



RNMDSF ANNUAL APPEAL

With many vessels fishing in our waters, Shetland is the first port of call when something goes wrong, and fishermen are regularly landed here if they have taken ill whilst onboard their vessels or indeed have suffered an injury.

The Fishermen's Mission supports fishermen whilst in hospital providing clothes and other necessary items as well as a much-needed visit. On discharge they are often able to assist with overnight accommodation, transport, and homeward travel arrangements as well as liaising with skippers and families back home.

With so many families connected to fishing or seafaring more generally, the Mission is often asked for assistance in times of bereavement, supporting and visiting families and conducting funeral services throughout the isles.

Retired fishermen and widows of fishermen are always glad of a visit either at home or if they indeed need to go into hospital. They partner with other seafaring charities in order to



bring financial help where we are aware of the particular need of an individual or family. Keeping up with the active fishermen through regular harbour visits and conversations on the Quayside is also a priority.

This month the Fishermen's Mission celebrates its 140th Anniversary. Since 1881 the organisation has undergone many changes, but its core purpose remains the same 'Being a Christian presence in UK fishing ports to provide practical, financial, emotional and spiritual care as well as assistance in emergency situations to fishermen and their families'.

This year SSEN Transmission who along with other local businesses have helped sponsor the Shetland

Appeal Leaflet 2021. This means that most of the costs in the printing and distribution of the leaflet are met so that the money donated can go directly to the work of the Fishermen's Mission. This year the leaflets were delivered by Royal Mail on the week beginning 22nd November to every home and business in Shetland – a distribution of almost 12,500.

The Mission are always thankful to so many in the Shetland community who respond and give generously to the Appeal. Entirely dependent on voluntary contributions, the Annual Appeal is one of our main fund-raising events of the year which helps us care for fishermen and their families, active and retired, particularly in times of difficulty and distress.



BAM DONATE £3000 TO RNLI AITH

Staff members recently raised £1500 for the RNLI Aith station and their employer BAM Nuttall equalled this amount meaning £3000 was donated to the station from the project in November.

RNLI Aith spokesperson Alexander Simpson said "A huge thank you form the station and Crew, the donation will be used to help improve the station and to help us do what we do.

"Your donation will be used to improve the health, safety and welfare of the 22 strong crew who never fail to put the boat to sea to help people in need without a thought for themselves or the weather.

"We are intending to use the donation to assist us with projects which help us repair and improve the station at Aith.

"The donation BAM have provided will be allocated to help us work toward achieving the target sum to repair the station wind turbine which has been out of service for some time, the turbine is something which we would really like to bring back into operation to help with the operating costs of the station and the help with the important environmental aspects of running the service."



SHETLAND RENEWABLE CONNECTIONS

The overhead line from Kergord to Gremista Grid Supply Point (GSP) is critical to support Shetland's future security of supply, connecting Shetland to the GB transmission system for the first time and supporting the connection of renewable energy. The proposed overhead line alignment is being carefully designed to try and mitigate impacts on the local landscape and community and the iterative design process will consider feedback provided through our recent public consultation and the findings from the ongoing Environmental Impact Assessment.

Following the consultations in September a number

of changes have been considered with the alignments due to comments from landowners, the community councils and the general public.

The planning application for the GSP was submitted on the 26th November 2021 and the Section 37 planning application for the Kergord to Gremista Overhead lines will be submitted in February 2022.

"We would like to thank the local community for their engagement to date and we look forward to continued constructive engagement as we take forward our plans to help secure Shetland's future energy needs."

SSEN Transmission is a stakeholder-led business and we deliver leading stakeholder engagement standards through our work with global consulting and standards firm, AccountAbility. AccountAbility works with organisations internationally to adopt responsible business practices and transform long-term performance and as committed to in its Stakeholder Engagement Strategy, SSEN Transmission works to achieve the externally accredited AA1000 Stakeholder Engagement Standard. This is considered the 'gold standard' in stakeholder engagement accreditation. As of December 2021, following our latest AA1000 Follow-up Consultation, SSEN Transmission has achieved a further uplift in stakeholder engagement performance, now operating at 76% within the 'Accomplished' level of AccountAbility's Stakeholder Engagement Maturity Ladder. We've increased our score overall by 14% since our initial 2019/20 review and we hope our strong performance provides stakeholders with confidence in the quality of our stakeholder engagement and our commitment to continuously improving.



THE PROJECT TEAM
WISH YOU A MERRY CHRISTMAS
AND A HAPPY NEW YEAR.