Western Link 2

Scotland is producing more clean, green energy than ever before, and we need to strengthen the transmission network so we can get it to the homes, schools and businesses that need it.

One of the ways we increase capacity on the network is by building new infrastructure to transmit more electricity securely and reliably.

Western Link 2 is a new high voltage direct current (HVDC) subsea electrical link that will connect Ayrshire in Scotland with the transmission network in Wales. It will play a key role in the fight against climate change, and the UK's transition to net zero.

Western Link 2 will also help to boost the Scottish economy. Greater capacity means that new industry, housing, development and transport can connect to the network as demand for electricity increases, providing more opportunities for investment across the country.

We want to hear your views!

Our public consultation runs until Friday 28 November 2025.

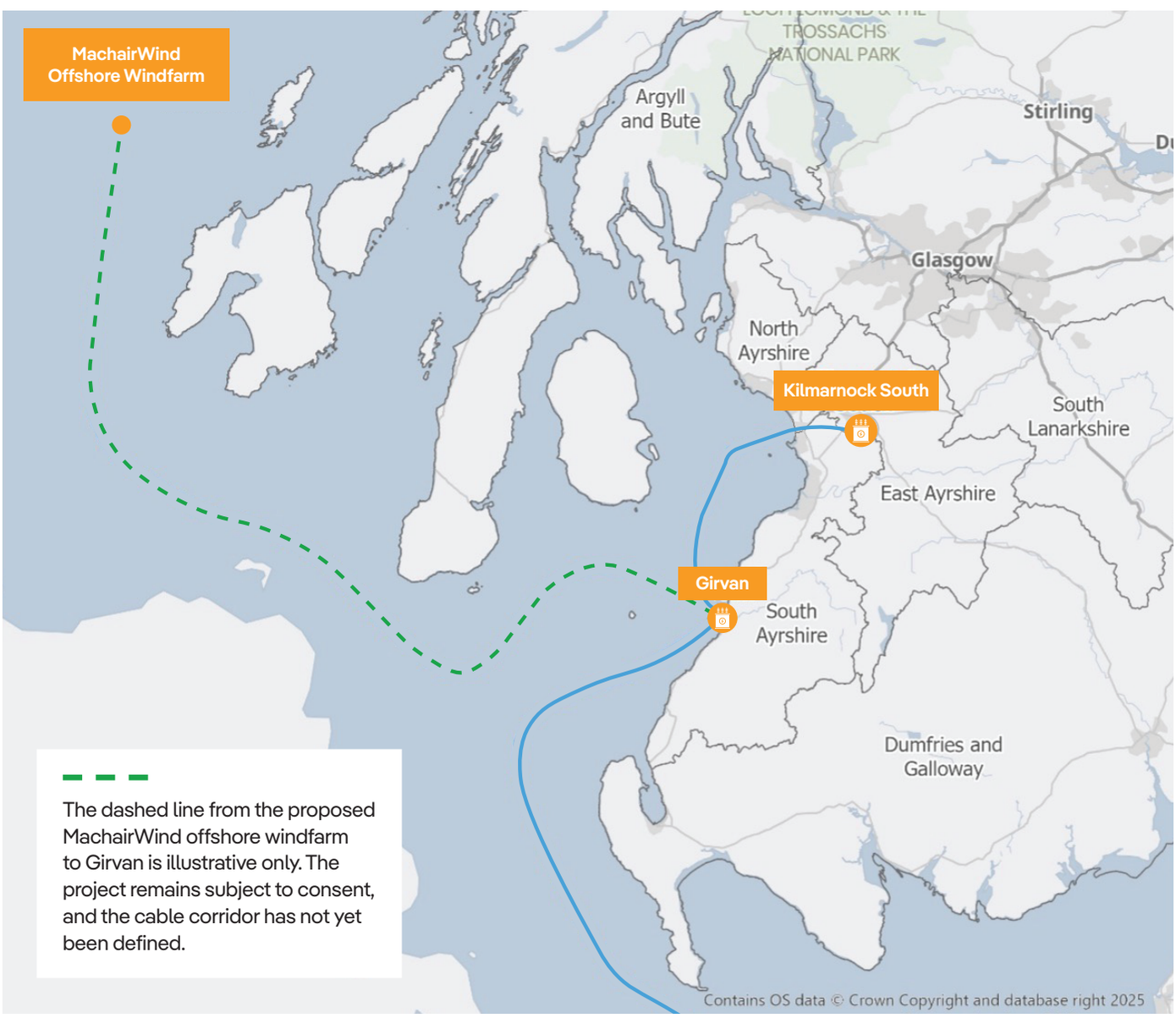
SP Energy Networks is now consulting local people on the Scottish part of the project. This leaflet tells you about our plans, where to find more information and how you can give us your views.

What is Western Link 2?

Western Link 2 is a major investment developed by SP Energy Networks in partnership with National Grid Electricity Transmission. It is made up of four parts:

- a 13km underground cable linking a new converter station next to Kilmarnock South Substation with a landfall point on the coast near Monkton, Ayrshire
- a 30km offshore HVDC cable between Monkton and a new switching station at Grangestone industrial estate, north of Girvan in Ayrshire
- an offshore HVDC cable between Grangestone industrial estate and Wales
- a new underground cable and a converter station in Wales.

Western Link 2 will enable electricity to flow between Scotland and Wales via subsea cables, reducing the need to build new electricity infrastructure on land. The switching station at Grangestone industrial estate would allow the proposed MachairWind Offshore Windfarm, located north-west of Islay and west of Colonsay, if consented, to connect into the transmission network, bringing 2 gigawatts (GW) of additional clean, green energy into the network – enough to power the equivalent of up to two million homes.



Why is Western Link 2 needed?

The Scottish and UK Governments are committed to increasing the use of renewable energy and have targets to achieve net zero greenhouse gas emissions by 2045 in Scotland and 2050 in the UK.

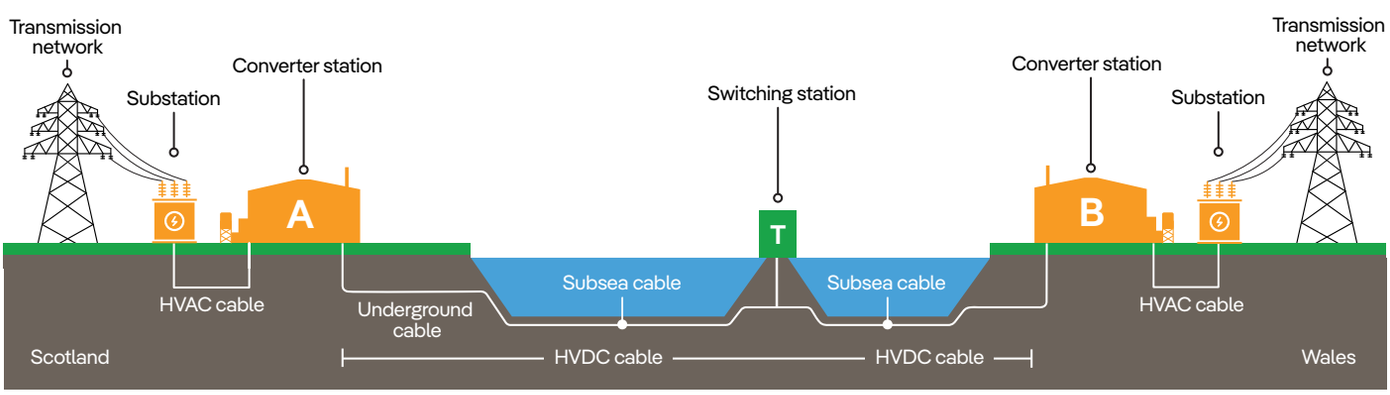
As the country shifts away from traditional forms of fuel to heat homes and power businesses and transport, there is growing demand and greater need for clean electricity. By the end of this decade, the UK Government also aims for every home in the country to be powered by offshore wind and has set a 50GW offshore wind connections target by the early 2030s.

Much of the new offshore and onshore wind is in or around Scotland, which produces more energy than it uses. The existing electricity network does not have enough capacity to transmit all this additional clean, green energy from where it's produced to where it's needed, so projects like Western Link 2 are needed to help guarantee the security of energy supplies and make the network more resilient.

Western Link 2 will be able to transmit up to 2GW of clean, green renewable energy at 525kV (525,000 volts). It will be the latest in a series of offshore HVDC projects that will significantly increase the capacity of the UK electricity transmission network. The first Western Link, between Hunterston in Ayrshire and Connah's Quay in North Wales, is already in operation, while five Eastern Green Link projects on the opposite coast are in construction and planning.

Marine cable-laying vessel

Western Link 2: How it works



The electricity we use in our homes, schools, hospitals and businesses is alternating current (AC) electricity, which can have its voltage increased or decreased by transformers so it's safe for everyday use. But to transmit electricity over long distances it is more efficient to use high voltage direct current (HVDC) electricity, which operates at a fixed voltage, requires fewer conductors (cables or wires) and incurs less power loss than AC networks.

AC electricity is converted into HVDC electricity using specialised equipment at a converter station. The HVDC electricity can then be transmitted over hundreds of kilometres via underground and subsea cables to a second converter station, where it is converted back to AC to flow into the local electricity network. MachairWind Offshore Windfarm would, if consented, generate electricity and transmit it via an HVDC converter platform to shore, thereby allowing it to connect directly into the new HVDC link at the Grangestone switching station.

HVDC projects like Western Link 2 can remove bottlenecks on the existing transmission network while reducing the need for more onshore power lines and associated infrastructure.

Public consultation

Our public consultation runs until Friday 28 November 2025.

SP Energy Networks attaches great importance to the effect our work may have on the environment and local communities. We want to hear what local people think about our proposed landfall, converter station and switching station sites, and our onshore and offshore cable routes, to help us develop the project in the best way. Please come along to one of our public exhibitions, where you can see our plans in more detail and ask questions of the project team.

Date	Location
Tuesday 4 November, 2pm to 7pm	Glenfield Bowling Club, Queens Drive, **Kilmarnock** KA1 3XF
Wednesday 5 November, 2pm to 7pm	Westcliffe Hotel, 15–16 Louisa Drive, **Girvan** KA26 9AH
Friday 7 November, 10.30am to 3.30pm	Carvick Webster Hall, 12 Main Street, **Monkton**, KA9 2QL

Project documents are available on our website, where you can also fill in an online feedback form. If you prefer, we can send you a paper feedback form and a Freepost envelope so you can complete it and return it to us free of charge.

How to contact us

Website: **www.spenergynetworks.co.uk/pages/western_link_2.aspx**
Email: **wl2@communityrelations.co.uk**
Freephone: **08000 336103**
Freepost: **FREEPOST SPEN WL2**

What happens next?

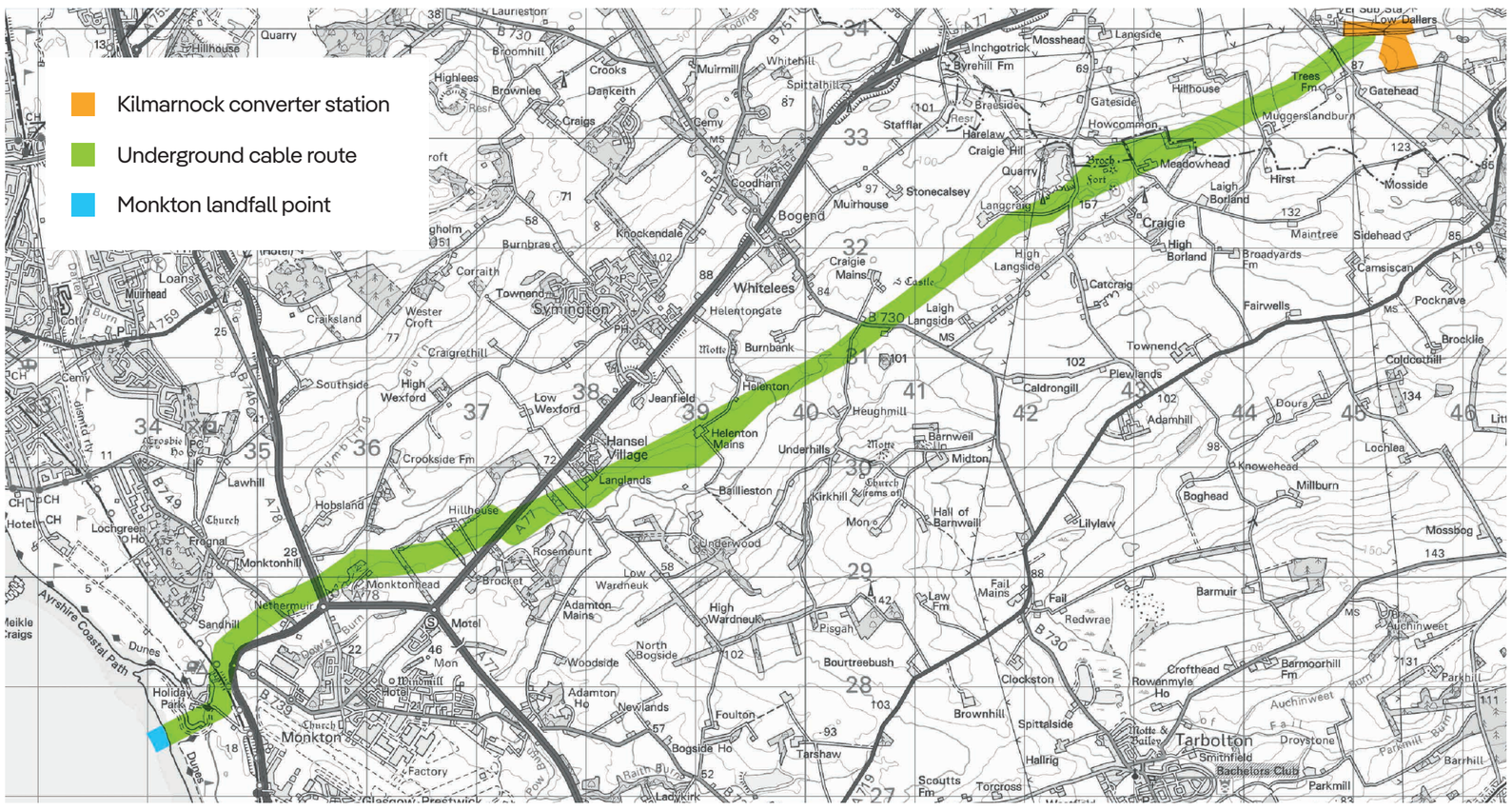
Following this round of consultation, we will develop detailed designs for the landfall, converter station, switching station and cable routes, including locations for access routes and working areas. We will publish a report summarising the feedback received in this first round of consultation and how this has influenced our plans.
We will then carry out detailed environmental appraisals on the marine and onshore elements of the project and hold a further round of public consultation on the detailed designs.

SP Energy Networks will be applying to East Ayrshire and South Ayrshire Councils for planning permission in principle (PiP) under the Town and Country Planning (Scotland) Act.

For the marine cables, our marine environmental consultants conduct a separate environmental appraisal that assesses the potential impact of the project on the marine environment, shipping and navigation, commercial fisheries and other marine users. The appraisal will accompany an application to the Scottish Government Marine Directorate – Licensing Operations Team (MD-LOT) for a licence to install the marine cables in Scottish waters. Consents will also be required for those elements of the Project in other jurisdictions, too. MachairWind will submit their consent applications for the windfarm development area to MD-LOT in 2026.

At this stage, your comments are not representations to the planning authorities or MD-LOT. When we make applications for development consent in future, you will be able to make formal representations at that stage.

Onshore work in Ayrshire – what's required?



Converter station

Our preferred site for the new converter station is on land next to the existing Kilmarnock South Substation, minimising the amount of infrastructure needed to connect them so that AC electricity from the transmission network can be converted to HVDC for safe onward transmission via the underground and subsea cables.

The converter station will comprise large warehouse-type buildings and outside electrical equipment. The total converter station footprint will be approximately 250m × 350m in size with buildings up to 28.5m in height, to accommodate the equipment needed. We will also need temporary construction and parking areas, and underground cables to connect the converter station to the existing substation. Our plans will include landscaping and tree-planting to help screen the site, reduce its visual effects and increase biodiversity. Access would be via a new access route between the A76 and A719.

Existing converter station at Blyth, Northumberland

Monkton landfall point

We propose to bring the subsea cables ashore at Monkton, north-west of Prestwick, where they will be connected to underground cables in a buried pit. Once installation is complete, the ground will be reinstated and no permanent above-ground infrastructure will be visible.

We selected Monkton as the landfall site after careful appraisal of potential options along the Ayrshire coast, including at Barassie (north of Troon). Bringing the cables ashore at Monkton allows a more direct route to the Kilmarnock South converter station for the onshore cables and avoids centres of population and the golf courses, thereby minimising disturbance to local communities.

The subsea cables will be installed at the landfall site below ground, using horizontal directional drilling (HDD), to minimise any impact on the sensitive coastal environment, protected sites, the Ayrshire Coast railway line, local roads and Prestwick Golf Club.

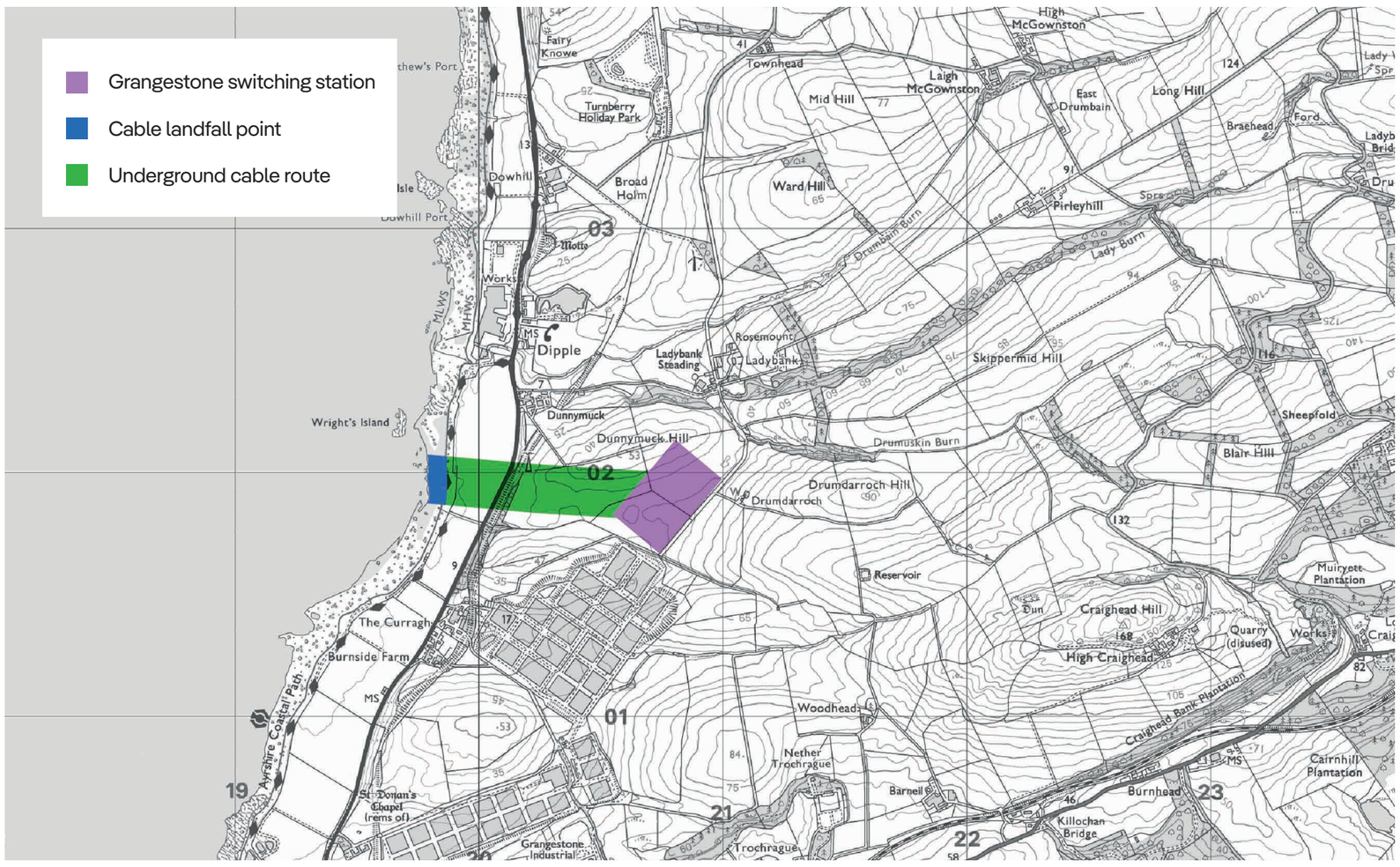
Onshore cable route

Our preferred route for the underground cables between the converter station at Kilmarnock South and the landfall point at Monkton is approximately 13km in length, broadly following the A77 mainly through rural areas.

It will cross watercourses, including Muggersland Burn and Pow Burn (twice), a number of local and major roads (including the A77 and A78), the Glasgow–Ayr/Stranraer rail line, the National Cycle Network route and three core paths (one of which is the Ayrshire Coastal Path). We will use trenchless technology (such as HDD) to pass safely beneath these and other features if we cannot route around them, to minimise disruption. We are aware of flooding issues in the area and will carry out flood risk studies as part of our environmental appraisals, to ensure that any works will not add to local flood risks.

We recognise that construction work can cause temporary inconvenience and disturbance, but we believe our preferred route will keep this to a minimum. Once the cables are installed, the land will be reinstated and there will be no visible above-ground infrastructure.

Underground cable installation during construction



Grangestone switching station

The proposed Grangestone switching station will connect the proposed MachairWind Offshore Windfarm, if consented, via subsea HVDC cables into Western Link 2, allowing around 2GW of clean, green energy to flow into the transmission network.

It is not possible to create a tee joint between HVDC cables, so we need a switching station where we can 'terminate' each of the three connections (Western Link 2 north, south and the proposed MachairWind, if consented) and then connect them to each other using air-insulated busbars, similar to the equipment used in substations. This also means that if one connection requires maintenance, it can be disconnected while the other two remain in service.

The equipment is large and needs space for safety clearances, and so requires three buildings approximately 85m × 30m in size and around 25m in height.

We appraised a number of potential sites for the switching station in the Girvan and Ballantrae areas. Our preferred site is between the A77 road and Grangestone industrial estate, which is partly screened from the A77 and coast by an area of woodland. From the north, the site would be seen in the context of the existing industrial estate, with opportunities for landscaping and screening from the northern, eastern and western boundaries. The site also allows for a shorter cable route to the coast – approximately 2.6km – than other options, and is further from local homes, minimising the potential disruption from construction. The cable route would cross the A77, Ayrshire Coastal Path and woodland using HDD, to minimise any impact on the environment.

Marine cable route

Our preferred route for the subsea cables has been developed through careful environmental and technical assessment of potential route options, and will be refined in consultation with Scottish shipping and fisheries organisations and environmental bodies. It takes into account protected and designated areas and infrastructure, such as pipelines, cables, wrecks and military considerations, including areas known to contain unexploded ordnance. You can find detailed information and maps on our website and at our consultation events.

HVDC cable terminals inside a converter station

SSE Networks' switching station for Caithness–Moray–Shetland HVDC link