

# Powering and protecting Scottish Heritage



Coll ©WSP

Along the west coast of Scotland lies a chain of more than 136 islands that are home to some of the UK's most remote communities. For thousands of years, farming and fishing have forged a deep connection between the islanders, the land and the sea.

Scottish and Southern Electricity Networks (SSEN) serves 59 of these western islands, ensuring these communities are connected to vital power supplies.

Some 280 miles (450km) of SSEN cables link the islands to the mainland electricity system. The network of cables stretches from Lewis and Harris in the northern Outer Hebrides, to Jura and Islay in the Inner Hebrides further south, powering homes, businesses, schools – every aspect of daily life.

With such an integral role to play in these island communities, SSEN aims to do more than provide energy safely and reliably. Working in partnership with Cifa Registered Organisation WSP, SSEN wants to help celebrate, and protect, the heritage of these

beautiful islands, ensuring their unique character is preserved for generations to come.

Here are just a few examples of projects where WSP is supporting SSEN to fulfil this ambition.

## THE ISLE OF COLL

Like many of the west coast isles, there are no gas mains on the Isle of Coll. Just 13 miles long and 4 miles wide, Coll is served by a single 11KV subsea electricity cable. Everyone on the island is dependent on electricity for power, including heating and lighting their homes.

Coll's first cable was installed in 1987 running from the neighbouring island of Mull under the sea to the Bay of Sorisdale on Coll. After just 14 years (in 2001) SSEN's inspection regime revealed damage to the cable – a result of strong currents moving the cable over the rocky seabed as well as from trawler fishing boats dragging nets.

A new cable was installed and monitored using remotely operated subsea inspection tools. But by November 2018,

this connection was also in need of repair. A project is now under way to lay a new, double-armoured cable in a nearby new location, away from intense fishing activity.

SSEN is consulting with local communities, local businesses, elected members and other key stakeholders to help minimise disruption. But the company wants to achieve more than a consensus on how to approach the project; SSEN is taking the opportunity to talk to people on Coll about what life is like on the island and form an audio library of local experience. The project has been delayed by the impact of the Covid-19 pandemic, and the community's experience of the pandemic will now also form part of the stories the project seeks to tell.

Katy Urquhart, Subsea Projects Environmental Manager at SSEN says, 'A lot of utilities, civil engineering and construction companies parachute into a community, build the project and leave again. We wanted to create a programme that will not only benefit the community for generations to come in terms of a reliable power source, but will also build our relationship with the community, bringing people together to celebrate their historic and proud island traditions.'

### Revealing Coll's rich heritage

This oral history project sits alongside SSEN's efforts, working in partnership with WSP, to uncover, and share with the public, new archaeological insights about Coll, as well as other island communities.

Kevin Mooney, Principal Heritage Consultant at WSP, explains: 'Many of the archaeological remains that the team discovered as part of the cable replacement project speak to the sustainable and unique way of life in this part

of the world, which centred on crofting.

'The northern portion of Coll is an emotive landscape with very few inhabitants in it and dispersed, isolated communities. Crofting as a way of life is dying out, but there is still a small crofting community on Coll which is situated around the Bay – where the cable emerges from the sea. It's important that any project recognises this and minimises its impact on this traditional way of life.

'Evidence of a rich crofting tradition on Coll was very clear,' says Kevin. 'We know that in prehistory – six or seven thousand years ago – the inhabitants of Coll were harvesting and processing grains and vegetables. Our investigations also show there has been very little development in the area, which means the land has not been disturbed much over the centuries.'

### Archaeological discoveries

Interesting discoveries to date include 'byers' (small kelp kilns), and two small 'nausts' (boathouses). WSP also uncovered a small number of previously unrecorded cairns located on hills across the assessment area. These are wayfaring piles of stones (now grassed over), which potentially allowed the crofting community to navigate their way around the area. They may have also helped the crew of fishing boats along the bay to work out and triangulate where exactly they were.

The archaeological team also uncovered a 'fish trap' – a small wall of stones on the coast used to trap seawater (and fish) when the tide came in. While it has not been possible to date the structure, it is possibly prehistoric and was in use all the way up to the medieval period and beyond.

Mull ©WSP








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### THE ISLE OF LEWIS AND HARRIS

Another island community that has experienced major change, most recently during the Covid-19 pandemic, and over the centuries, is the Isle of Lewis in the Outer Hebrides. It is the most northern of all of the Western Isles with a population of around 18,500.

A mainland electricity link was first established in 1991 and it is vital that this infrastructure is maintained and updated. Stornoway's substation operated for 30 years but needed to be replaced in 2018 as part of the project to improve the power connection between Stornoway and the other islands.

Simon Hall, consents and environment manager at SSEN, explains: 'Replacement isn't as simple as removing the old substation and installing the new one. This would leave the island without power, so SSEN had to be creative with its plans for replacement. In simple terms it had to build a new one next door to the existing substation and, only when it was completely finished, switch all of the cable connections over to the new unit.'

### Protecting and preserving peatland

Creating the new substation involved another challenge for the team. A challenge that had been gathering for hundreds, if not thousands of years – the presence of peat deposits.

Peatlands are the largest natural terrestrial carbon store and the restoration and protection of peatland is a priority for the Scottish government as it seeks to reduce its carbon footprint. It follows that SSEN with support from WSP needed to minimise disturbance to Harris and Lewis's rich and ancient peatlands, and also consider peat restoration projects.

Although the site of the existing substation was already fixed, the team was able to position the new substation in a way that minimised the amount of peat that was disturbed from about 10,000 cubic metres to 4,000 cubic metres. Furthermore, the team made sure that the deepest layers were not affected. This was achieved primarily by looking at the size and orientation of the compound.

Given the island's long history and rich cultural heritage assets, WSP was also asked to carry out an archaeological assessment of the site, which encountered evidence of prehistoric funerary activity in the area. WSP's Kevin Mooney explains:

'This took the form of a stone circle, which was identified and scheduled in 1992. It was completely obscured by around two metres of peat so the potential existed for further archaeological remains where peat deposits were present. So we introduced a phased approach of archaeological monitoring during the construction of the substation.'

It also became apparent that very little radiocarbon dating had been done of peat deposits across Lewis so SSEN agreed to carry out a paleo-environmental survey, which involved drilling out a core sample of the peat to ascertain its age at various depths.

'We found peat dating to the Mesolithic, Bronze Age and medieval times,' says Kevin. 'So from these early dates, right to the current period, we had a fully preserved stratigraphic sequence, or what we call an environmental baseline on Lewis. Ultimately, the results of this work will be put on record allowing for further research at the University of the Highlands and Islands.'

**Kevin Mooney MCIfA, WSP**