![Neos Networks logo]

CASE STUDY

Seagreen

Connecting Scotland's largest offshore wind farms

Introduction

When Seagreen Wind Energy needed to implement a flow of data between its planned substations and onshore operations centre, it looked to Neos Networks for communications infrastructure support.

The Seagreen (Seagreen Wind Energy Ltd) is an offshore wind farm project in the Firth of Forth off the east coast of Scotland, with ambitions to be the nation's largest generator of wind power in Scotland. Situated over 27km from the Angus coastline, the project will enable them to power up to one million homes each year with low carbon, renewable energy. But this substantial aspiration requires underlying high performing, reliable technology to help the UK continue to transform how it creates, stores and uses energy.

The scale and complexity of the project meant it was essential Seagreen created a partnership with a telecoms provider that could bring experience in critical infrastructure projects, and a proactive, problem solving mentality. Bringing vast experience and expertise working on renewables projects, Neos Networks was selected to play a vital role in keeping the business connected and their operations functioning.

The challenge

It is the responsibility of energy companies to adequately provide power or decrease generation as and when required. Neos Networks' role will be to facilitate the flow of data between Seagreen's planned substation and onshore operations centre, to allow for crucial data analysis. By enabling the transfer of data between on and offshore sites, access to important insights will now become available.

This will allow engineers to respond to changes in energy demand without having to leave the base to investigate in person. Analytics garnered via continuous monitoring can be fed back from the substation in real time, and adjustments can be made immediately. Faults at the substation can also be communicated back to the operations centre, so the engineer can be fully prepared before making any journey to carry out further examination or repairs.

"The UK needs to be generating 40GW of offshore wind power by 2030 to contribute toward net zero targets, so projects with the scale and ambition of Seagreen will be vital components of that low carbon vision."

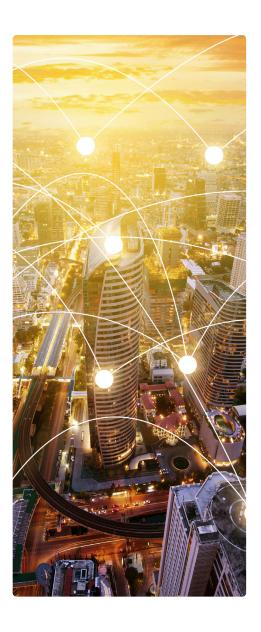Mick McCaffery, Seagreen Systems Project Manager

The outcome

Neos Networks and Seagreen have been working collaboratively to install a comprehensive Wide Area Network (WAN) between the Seagreen substation at Tealing, Dundee and the operations centre in Montrose.

The current work will provide offshore wind farm engineers based at Montrose with the visibility of supervisory control and data acquisition (SCADA), and technical equipment at Tealing needed to manage the distribution of power to the substation. This will maximise the operational efficiency of Seagreen and help it remain compliant from regulatory and health and safety perspectives.

The success of the ongoing work at Seagreen is due in no small part to Neos Networks' prior experience of working in renewables, as well as its collaborative approach to the project. It will play a huge role in helping the UK meet its net zero targets, as well as provide an estimated £1bn boost to the nation's economy. Once complete in 2022/23, the development will be capable of generating 1075MW from its 114 North Sea turbines – enough to power 40% of all Scottish homes.

"Neos Networks has a strong pedigree in delivering wind farm network infrastructure and a comprehensive understanding of the consequences, should a wind farm become un-operational. As such, we are confident they will bring the necessary experience and expertise to deliver a solution that will help prevent such a scenario. We're pleased to have a partner of this calibre on board, which will undoubtedly be to the benefit of the region and the country at large."

Mick McCaffery, Seagreen Systems Project Manager

About Neos Networks

Neos Networks provides class-leading connectivity and data centre services that deliver very high performance, cost efficiency and a competitive edge.

The company operates a private telecoms network and an estate of 90 commercial data centres that span the UK. With its extensive telecoms and data centre operational expertise it offers commercial security with unrivalled in-house engineering resource.

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