CASE STUDY

ONSHORE WIND FARM, SHETLAND ISLANDS

Supporting the construction of one of the UK's largest onshore wind farms.



TRUST WELL PLACED

PETERSON

PROJECT DETAILS

Start	Dec 2022
End	June 2023
Location	Shetland

CHALLENGE

Constructing one of the UK's largest onshore wind farms in the challenging natural environment of Shetland.

SOLUTION

Utilising Peterson's experience and expertise to provide a local solution for clients.

RESULTS

Providing clients with practical solutions to complex problems, helping the planning phase of the project to run smoothly.

Deploying core expertise across quayside operations, managed lifting services, logistics and construction cranage at a wind farm in the Shetland Islands.

OVERVIEW

The largest windfarm in the UK by output has been operational since 2024 in Shetland, comprising 103 turbines, with an installed capacity of over 400MW, generating enough electricity to power over half a million homes. The civil engineering works preceded the arrival of the turbine components in 2023 and included the construction of over 100km of roads through the Shetland hills, to each of the 103 turbine bases.

In addition, a new high voltage convertor station was constructed, which in isolation is considered one of the largest construction projects in the UK. Shetland is now connected to the national grid through a 600MW subsea interconnector, which came online in August 2024 to coincide with the wind farm becoming operational.

Peterson Energies had multiple clients across the scope of this work. Each client had a strong track record in the construction of wind farms, but many were not based in Shetland.

Peterson's Shetland based operations provided a critical local solution for clients, and we could quickly react to support any challenges within the scope of our core capability.

PETERSON APPROACH

Clients often seek support with complex logistical considerations which are unique to operating in Shetland, from the weather at 60 degrees North, to the geography that means all tools, equipment and components must be delivered by sea.

Peterson worked closely with a number of clients to develop the most efficient and workable solutions for their respective elements of this project and offered clients a simple one-stop-shop approach for any support requirements relating to logistics, quayside services, storage and cranage in Shetland.

Peterson was involved in a large number of scopes on this project, from the provision of long-term construction cranes and operators to vessel charter and delivery of heavy materials to site, and ultimately, we received all wind turbine components at Greenhead Base for onward delivery and assembly at the construction site.

Due to the enormous breadth of scope, the majority of Peterson's core services were utilised to meet the needs of clients on this project. This included quayside support, vessel chartering and agency, storage, equipment laydown, quayside and loading cranage, construction cranage, lift-planning, transportation, waste handling and managed lifting services.

DELIVERABLES

By understanding client requirements, being responsive and reacting quickly, Peterson has been able to provide clients with practical solutions to complex problems. The Peterson operations team sat at the heart of this project, successfully receiving the major components, by sea, for what will be one of the most efficient wind farms in the world.

Peterson's local knowledge, and experience of handling large and complex materials on Shetland quaysides for over 50 years, has been invaluable to the planning considerations of our clients.