

PROJECT SHEET

BLYTH OFFSHORE DEMONSTRATOR WIND FARM EXPORT CABLE AND SHORE LANDING

BOSKALIS

Royal Boskalis Westminster is a leading global marine contractor and services provider. With safety as our core value, we offer a wide variety of specialist activities to the offshore oil & gas and renewables sectors. These activities include marine installation and decommissioning, seabed intervention, marine transport and services, subsea services and marine survey. In addition, Boskalis is a global dredging contractor, provides towage and terminal services across the globe and delivers marine salvage solutions. By understanding what drives our clients we are able to provide the solutions that enable them to meet their specific business goals. For this reason we are constantly looking for new ways to broaden and optimize our offering and are committed to expanding our proposition, supported by our financial strength. With our committed professionals in engineering, project management and operations, 800 specialized vessels and an unprecedented breadth of activities in 90 countries across six continents we help our clients in the offshore industry push boundaries and create new horizons.

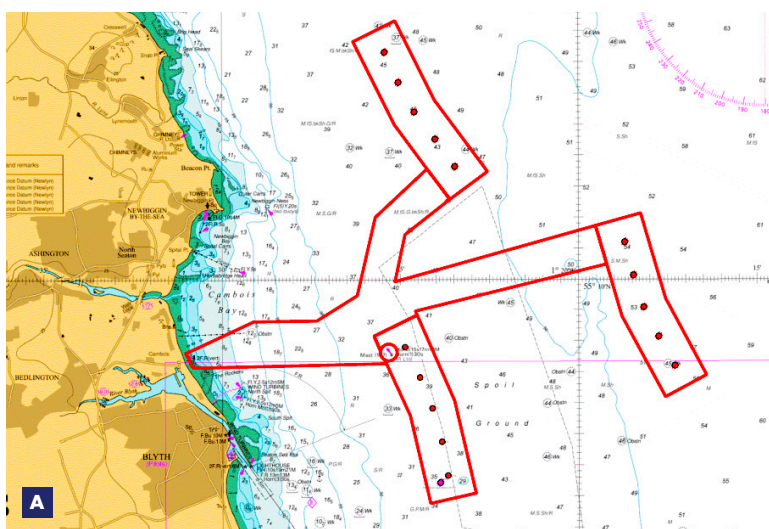
INTRODUCTION

The Blyth Offshore Demonstrator wind farm project, totaling up to 99.9 MW is located off the coast of Blyth, Northumberland in England. The wind farm consists of 15 wind turbine generators (WTG) split across three arrays (Array 2, 3a and 4), with a maximum of 5 WTGs. Arrays 2, 3a and 4 are located in water depths of approximately 38 m, 45 m and 55 m respectively with associated distances from shore of 6.5km, 10.9 km and 13.8 km. (see figure 1)

Each Array is connected electrically in a radial circuit with a separate submarine export cable to shore at Cambois Bay. Connected via Transition Joint Bays located near the shoreline, the onshore cable route extends 1.2 km to a substation located within the old Blyth Power Station land owned by RWE.

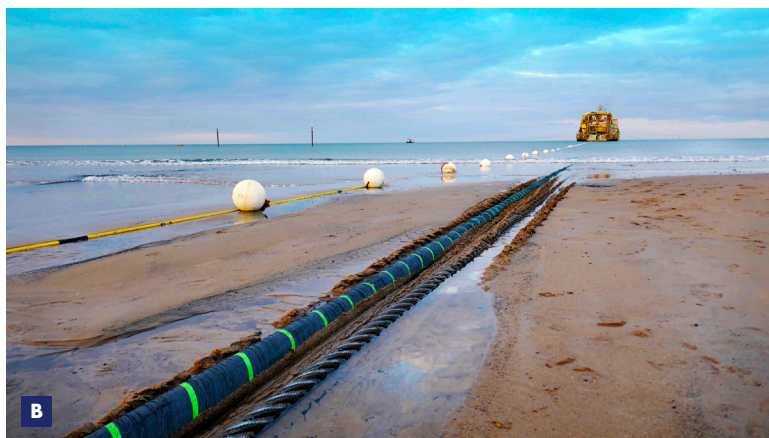
FEATURES

Client	EDF Energy Renewables
Location	Cambois (Blyth), United Kingdom
Period	2017 - 2018
Contractor	Boskalis Subsea Cables
Kind of project	Export and Inter Array Cable Lay and burial, Shore end landing
Cable supplier	Nexans



A Location map
B Onshore cable works

Array 2 comprises of five MHI Vestas V164 - 8.4 MW WTGs, together with associated offshore and onshore electrical infrastructure, designed to transmit a capacity of up to 41.5 MW via one onshore transformer substation. The first phase of the project was to develop Array 2 (to the South). The onshore infrastructure is developed in order to accept Array 3a and 4 at a later date.





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SCOPE

The work scope for the Blyth project included the design, supply, cable lay and burial as well as terminating and testing of 14 km 66 kV cables and accessories, a pre-survey and two Pre Lay Grapple Runs.

REMARKABLE FACTS

- The Blyth demonstrator was the first project to engage 66 kV cable for Inter Array Cables. The 66 kV cable was also used to export the generated power to the shore without the necessity of a substation.
- The WTG's were positioned on gravity based foundations with an internal J-tube and bell mouth that was sunken in the structure. This, as such, that the J-tube could be closed off during the float-out from the production dock in New Castle to the site.
- The cable burial in the inter tidal section was supported by a cable burial plough. The route was prepared including dive surveys that were necessary due to the large amount of natural magnetic objects in order to rule out steel obstructions in the seabed.

FACTS & FIGURES

- Export cable lay vessel Ndurance equipped with the HD3 Plough
- Inter Array cable lay vessel Ndurance and Boka Spirit
- Inter Array cable burial vessel Grand Canyon and Boka Spirit

Watch project movie at:

<https://vimeo.com/591058488>