# **Preliminary Information Memorandum**

# **Robin Rigg Offshore Transmission Assets**

**July 2009** 





**RBC Capital Markets®** 

## **SUMMARY**

In April 2009, Ofgem distributed a teaser document, "UK Offshore Transmission – Investment Opportunity", to investors outlining the opportunity to acquire offshore electricity transmission assets in Great Britain ("**GB**") under a new regulatory regime governing the ownership and operation of offshore electricity transmission. This regime has been developed jointly by the UK Government, through the Department of Energy and Climate Change ("**DECC**") and the GB energy regulator, the Office of Gas and Electricity Markets ("**Ofgem**").

This document is a summary of information provided by the developer and outlines specifically the opportunity for investors to acquire the transmission assets and to become the licensed Offshore Transmission Owner ("OFTO") of the east and west sections of the Robin Rigg offshore wind project (the "Robin Rigg Wind Farms (East and West)". The Robin Rigg Wind Farms (East and West) will each consist of 30 Vestas 3MW wind turbine generators.

The transmission assets for the Robin Rigg Wind Farms (East and West) (referred to in this document as the "Robin Rigg Transmission Assets") are owned and being constructed by E.ON Climate & Renewables (UK) Ltd. ("E.ON"), which has contracted construction of the Robin Rigg Transmission Assets to various third party contractors, as set out later in this document.

It is currently expected that construction of the Robin Rigg Transmission Assets will be completed by September 2009. Once completed, the Robin Rigg Transmission Assets will be transferred to the OFTO identified as the successful bidder through the tender process via a sale and purchase agreement.

The preliminary transfer value estimated by Ofgem on the basis of information provided to date (the "Estimated Transfer Value") of the Robin Rigg Transmission Assets is £58.7 million. This Estimated Transfer Value excludes the offshore substation platforms ("OSPs"). The Estimated Transfer Value is subject to adjustment, as described in the document entitled "Generic Preliminary Information Memorandum" and as further described below.





## THE INVESTMENT OPPORTUNITY

#### 1. Transmission Assets Overview

#### Location

The Robin Rigg Wind Farms (East and West) are located in the Solway Firth. The site is located near the ports of Workington and Maryport, with the offshore connection points approximately 12 km from the English shore line and 8 km from the Scottish, as illustrated in Figure 1 below. In Figure 1 the turbine layout of the Robin Rigg Wind Farms (East and West) is represented by the hatched area on the red territorial England/Scotland water boundary, with the route to shore marked by the black connecting line. The OSPs are located at the point at which the two 132KV cables intersect the English Scottish territorial sea limit.

The Robin Rigg Transmission Assets will connect to the onshore distribution network at the 132kV substation owned by Electricity North West Ltd ("**ENW**") in Seaton, Cumbria. The onshore distribution licensee is ENW.

The Robin Rigg Transmission Assets are located inside UK territorial waters.

Scotland

Irish Sea

England

England

Figure 1: Location of the Robin Rigg Wind Farms (East and West) and Transmission Assets

Source: E.ON

#### **Timeline**

Construction of the Robin Rigg Wind Farms (East and West) began in January 2008 with work on the Robin Rigg Transmission Assets starting earlier in July 2007. The Robin Rigg Transmission Assets are due to be fully completed in September this year, with the Robin Rigg Wind Farms (East and West) being completed by December 2009.





# **Transmission Network Design**

Table 1 summarises the key transmission network design features of the Robin Rigg Transmission Assets:

**Table 1: Robin Rigg Network Design Features** 

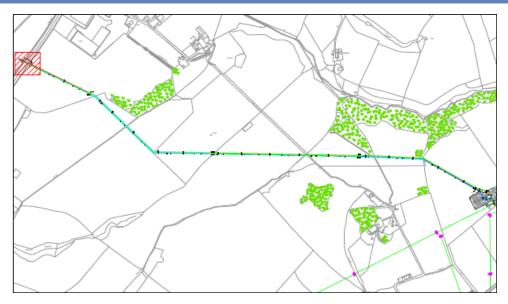
Key Features	Description
Expected minimum designated service life	20 years
Capacity rating	100MVA (each circuit)

E.ON has a contractual agreement with ENW to export a maximum of 99MW and import 1.5 MW for each wind farm from the onshore connection at Seaton. The export right at the proposed offshore connection points is 180MW i.e. 90MW per wind farm.

# **Description of Transmission Assets**

Figure 2 shows the proposed route for the onshore cable.

Figure 2: Route of Robin Rigg Onshore Transmission Cable



Source: E.ON

An overview of the assets that E.ON currently propose to transfer to the OFTO and which were used by Ofgem to derive the Estimated Transfer Value of the Robin Rigg Transmission Assets, is set out in Table 2 below. Table 4 provides a more detailed list of equipment currently proposed for transfer.





Table 2 - Asset summary

Table 2 Asset Saminary		
Asset	Description	
OSPs	It is not expected that the OSPs will transfer to the OFTO	
Subsea cables	A single subsea cable connects each OSP to the shore where they are joined to the onshore cable in a jointing chamber. Each connection will be a single 3 core 132kV cable, 12.5km in length.	
Onshore cables	The onshore cables link the subsea connections to the onshore substation. The connections will consist of two 132kV cables, 1.8km in length.	
Onshore substation	The onshore substation houses the necessary high voltage switchgear for connecting the onshore cable to the transmission or distribution network. The main equipment proposed to be transferred consists of two 132/33kV transformers, capacitors and reactors for reactive compensation and 33kV switchgear.	
Spares	Currently, no spares have been put forward to be transferred to the OFTO.	

Table 3 below sets out the current offshore and onshore boundary points proposed by the developer. These have been used for the purposes of calculating the Estimated Transfer Value.

Table 3 - Proposed boundary points offshore and onshore

Boundary Point	Location
Offshore	At a point 300 millimetres below where the 132kV singles cores pass through the 132kV disconnector module base plate.
Onshore	Boundary likely to be at the 132KV overhead bus-bar Palm connections to the High Accuracy Metering Unit.

# Redundancy

Each OSP is connected to the mainland by a single 132kV subsea cable.

# **Contractual arrangements**

E.ON has adopted a multi contract strategy for the delivery of Robin Rigg, all of which have now been awarded, including the site surveys which were carried out onshore by Metoc and Geo technics and offshore by Osiris. All contracts are being managed individually by E.ON.





Table 4 sets out the main contracts, current contract status and assets proposed for transfer.

Table 4 - Key Contracts and Assets

Services & Main Equipment List	Contract	Contractor
Subsea cables:	Supply	Prysmian
	Installation	Subocean
2 x 12.5km 132kV 3 core cables		
Onshore cables:	Supply and installation	Balfour Power Networks
2 x 1.8km 132kV single core cables		
Onshore substations:	Supply and installation	AREVA
2 x 132/33kV transformers		
2 x 132kV circuit breakers		
6 x 6MVA capacitors		
4 x 6MVA reactors		

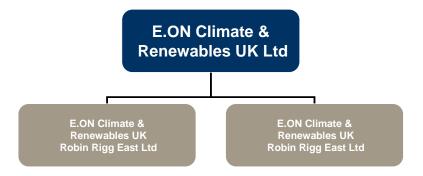
# **Consents and property rights**

All necessary offshore consents and licences are in place for the construction of the Robin Rigg Transmission Assets. These include an exercised option on the Crown Estate lease, Electricity Act (1989) Section 36 and Coastal Protection Act (1949) consents and a Food and Environment Protection Act (1985) licence. In addition to this, all necessary property rights for the onshore cable route have been agreed and secured.

## **Ownership structure**

An overview of the ownership structure of the Robin Rigg Wind Farms (East and West) and Robin Rigg Transmission Assets is set out in Figure 3 below:

Figure 3: Ownership Structure







# 2. Preliminary view of Estimated Transfer Value

Ofgem, with input from its external advisers, has undertaken an exercise to determine the Estimated Transfer Value for the Robin Rigg Transmission Assets summarised in Table 2 and 4 above, assuming the boundary points summarised in Table 3. The Estimated Transfer Value is intended to allow E.ON to recover its economic and efficient costs of developing the Robin Rigg Transmission Assets and, as such, may be subject to adjustment based on new or more detailed information becoming available to Ofgem, and upon final completion of the Robin Rigg Transmission Assets.

For the purpose of commencing the tender process, Ofgem has established an Estimated Transfer Value of £58.7million for the Robin Rigg Transmission Assets.

## **CONTACT DETAILS**

The information in this document is provided for information purposes only. It is designed to provide prospective OFTOs, lenders and advisers with certain high-level information related to the Robin Rigg Transmission Assets, to support the launch of the initial, pre-qualification phase of the first tender process.

All enquiries or communications, including requests for additional information, should be sent to tendercoordinator@ofgem.gov.uk





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