

# Paul Markham: Lead electrical engineer

With more than 20 years' experience working in electricity distribution, power at Robin Rigg Offshore Wind Farm should be in safe hands with Paul Markham.

Paul began his career at East Midlands Electricity Board in 1981 as an apprentice, going on to gain qualifications in electrical engineering and management. Since then he has remained with the same company, through various name changes, and is now lead electrical engineer at E.ON's Robin Rigg wind farm.

The wind farm is a 60 turbine site with 132kV substations both onshore and offshore. From the very early stages of the development Paul has had sole responsibility for the design of the electrical network and is now in the process of powering up the substations and turbines.

Paul said: "In total I am currently managing the commissioning of 45km of 33kV subsea cable network and preparing for the second of two 14km 132kV subsea export cables to be installed from the shore."

His role includes everything to do with the electrical equipment on site, including the testing, commissioning and management of the network and turbines until they move into the hands of the operational team. Before then, every turbine must undergo rigorous testing before it can be turned on and Paul must also contend with the quickly changing weather conditions and challenges of working offshore.

Paul describes his role at Robin Rigg as putting together one giant jigsaw puzzle:

"You have to consider all of the factors involved such as the sheer number of interconnecting parts and mass of cables which connect these parts, combined with working offshore and the weather." We have a long way to go, but have now made the first steps to being fully operational with first power achieved last week. It really is an exciting time."

With 28 years' experience, many would presume that Paul has learned all there is to learn about electricity distribution, but he sees it very differently. Paul refers to every job as a process of re-honing his skills and constant learning is an important part of that.

Paul said: "Projects may look the same on paper but, in practice, every site and every job is different. Whilst much of what I do is about experience, I would say at least 30% of every job is about taking on new challenges - that's what makes my work so interesting!"

**Robin Rigg Offshore Wind Farm is due to be fully operational before the end of 2009.**



If you would like to contact us or find out more, you can telephone, email or write to us. Our contact details are below:

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[eon-uk.com/generation/robinrigg.aspx](http://eon-uk.com/generation/robinrigg.aspx)

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## The Round Robin

Keeping our community informed

The team at E.ON's Robin Rigg Offshore Wind Farm are celebrating as the site began generating power for the first time on 8 September 2009.

## On with the wind: E.ON powers up Robin Rigg



Robin Rigg Offshore Wind Farm

Full article details on page 2



E.ON powers up Robin Rigg, full article from page one

The first turbine at one of the UK's largest offshore wind farms was energised and began turning on 8 September exporting power to its substation onshore at Seaton. From here it will be transferred into the electricity network and begin powering people's homes.

Ian Johnson, Robin Rigg project manager commented: "It was a fantastic day for the Robin Rigg team. We've been working toward this moment for a long time and it's great for everyone involved to see their hard work finally pay off with the first export of power.

"As one of the UK's largest offshore wind farms, Robin Rigg will be making a valuable contribution towards the government's renewable energy targets," said Ian. "This milestone also means that we're one step closer to achieving our own group

objectives to have almost a quarter of our energy generating capacity from renewable sources by 2030."

Since the first power on 8 September, a further four turbines are now operational. Once complete, the wind farm will be capable of producing 180MW of energy, which is enough power to cater for the electricity needs of around 117,000 homes.<sup>1</sup>

<sup>1</sup>Based on an average annual domestic household consumption of 4,725 kWh (Source BERR)



Representatives from community groups on both sides of the Solway Firth are presented with cheques totalling £100,000 at the launch of the E.ON Robin Rigg Community Fund. Left to right: Catriona Fitzsimon, Solway Heritage; Angus Campbell, Buittle Community Council, Palnackie; John Blackett, Kirkbean Community Council; Sally Shenton, Robin Rigg operations manager for E.ON; Deb Muscat, Cumbria Community Foundation; Michelle Cattanach, Maryport Settlement; and Allerdale Councillor Margaret Jackson, portfolio holder for regeneration.

# Construction update

Construction of the Robin Rigg Offshore Wind Farm is nearing completion following the installation of the first foundation on Christmas Day 2007,

The team has been working hard on the project and have now installed all 62 foundations, all 60 turbines, the offshore substation, 54 of the 64 inter array cables and one of the two export cables that connect the wind farm and the offshore substation to the shore.

Onshore we have completed the electricity substation connecting us to the local grid, installed and tested the cables from the onshore substation to the connection point with the marine cables at the beach and finished the purpose built operations and maintenance building at the Port of Workington.

As testing and powering up of the turbines continues, work on installing the remaining export cable and inter array cables progresses.

Key facts	
Water depths:	4.5m to 13m relative to mean sea level
WTG foundations:	35.45m to 42.45m long
Turbine hub height:	Approximately 80m relative to mean sea level
Turbine blade:	44m long
Local jobs created:	35 permanent
Location:	11km south-east of Balcary Point, 13km north-west of Workington
Power output:	Equivalent to power use in 117,000 homes per year*
Carbon savings:	235,000 tonnes per year*

\* Based on an average annual domestic household consumption of 4,725 kWh (Source BERR)  
 + This figure is based on the Government's long term marginal plant figure of 430g CO<sub>2</sub>/kWh. Although it is very difficult to predict the exact benefit of a wind farm development, we can be certain that over the course of its lifetime, green electricity from a wind turbine will offset large amounts of CO<sub>2</sub> that would have otherwise been produced if that electricity had been generated using fossil fuels such as coal and gas.

# E.ON launches £1m Robin Rigg community fund in the Solway

E.ON has formally launched a community fund for people living in Dumfries and Galloway and West Cumbria, close to the Robin Rigg Offshore Wind Farm.

The £1 million fund will be shared across the two regions over the next 10 years and will be held by local community councils which will have responsibility for the allocation of funds. It has been under development for a number of years in association with local councils and those groups who may benefit from it.

Sally Shenton, site manager, at Robin Rigg said: "We aim to make a real difference in the communities where we operate and to be good neighbours, supporting local people where we can.

"The funds will be governed by local people at the heart of these two communities and we hope that everyone will begin to see the many benefits that it can bring to the region over the course of the next 10 years."

For those interested in putting in an application for funding, requests should be submitted to each community fund group. In West Cumbria, the parishes closest to the Robin Rigg site will be eligible for the fund which will be held by the Cumbria Community Foundation.

In Dumfries and Galloway, the fund will be administered by the Solway Heritage.

Robin Rigg Offshore Wind Farm, once complete, will be one of the UK's largest offshore wind farms with the potential to provide enough renewable electricity to power the equivalent of 117,000 homes. The 60 turbine wind farm is due to become operational later this year.

For further information on the funds available within your area and on how to apply, please visit:

[solwayheritage.co.uk](http://solwayheritage.co.uk)

[cumbriafoundation.org](http://cumbriafoundation.org)