

# Belgium's Thornton Bank offshore wind farm

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While the UK has finally put into place a credible market-based system for the development of renewable energy with a long overdue upscaled ROC allowance, projects in continental Europe have continued to steal a march

In November 2006, Dexia and Rabobank acted as MLAs on the €383 million Q7 wind farm off the coast of the Netherlands.

Now the same team has reassembled to close a €153 million financing package backing C-Power's Thornton Bank Far Shore project - Belgium's maiden venture into offshore wind.

The deal has plenty of lessons for developers on both sides of the Channel.

## The project - Drivers and Challenges

At Kyoto in 1997, the Belgian government committed to a 7.5 per cent reduction in carbon emissions by 2008 to 2012 and - despite the country's geographical limitations - to generate 10 per cent of energy from renewable sources by 2010.

In 1998, consortium-led by EDF's renewables subsidiary SIIF (now EDF Energies Nouvelles) and [Power@Sea](#) - a subsidiary of Belgium's D.E.M.E responded by proposing a project that would meet one third of Belgium's renewable target in one 300MW project.

The first attempt to secure regulatory approval fell foul of a challenge to a familiar bane of European wind power projects - local planning approval.

The project 6km offshore was approved by the national government at the start of the decade but failed to secure approval from the local council, forcing C-Power to return to the drawing board.

In 2002 a new project on Thornton Bank, a sand bank 27km north of Zeebrugge on Belgium's northwest coastline was proposed and in May 2004 received the permits to go ahead.

However, moving the proposed 2MW turbines to the new site would add an extra 30 per cent to project costs. Instead C-Power calculated an economy of scale - saving half the additional costs could be made by opting for REpower's 5 MW turbine.

The final consortium consists of:

- 50 per cent equity partner EDF Energie Nouvelles
- Belgian dredging company D.E.M.E.

- Walloon state investment company Socofe
- Ecotech Finance
- NUHMA, an investment fund formed by municipal and district governments in the Walloon region

The construction of the project has been contracted under three separate arrangements:

- REpower will supply and install the six 5 MW wind turbines under a 10-year operations and maintenance contract
- ABB will lay a 38.7km 150 kV sub-sea cable which will link the pilot project as well as future extensions to the grid
- Seawind - a JV of Dredging and Fabricom - will carry out the marine works contract

The project is scheduled for expansion in three further 90MW phases - each adding 18 REpower 5MW turbines to the coastal site - the first due for completion in 2009, the second in 2010 and the third by 2011.

#### Risks and Rewards

While the project bares outward similarities to the Netherlands' Q7 offshore wind project, the risk profile reveals key differences.

Unlike Q7, C-Power has closed without an offtake contract in place (a deal with a utility will be signed on completion).

While Q7 relied on Vestas' established V-80 model, the C-Power deal marks the first time REpower's 5 MW turbines have been tested on a commercial scale.

Jérôme Guillet, director of energy financing at Dexia, says that agreements have been signed to transfer much of this risk to the counter-parties:

'The financing structure includes features to mitigate the risks associated with the construction and long term operation of wind turbines at sea, including the availability of a contingent facility (jointly with contingent equity provided by the mezzanine facility) to cover potential cost overruns or delays, says Guillet.

'There are also specially tailored availability guarantees under the contract with REpower that allow debt service to continue even during periods of lower availability than expected', he adds.

The project also benefits from a comprehensive insurance programme with Ethias and other specialised insurance underwriters in the London market.

Firstly the presence of credit-worthy counterparties EDF Energies Nouvelles and D.E.M.E. provides implicit to the lenders while the presence of funding bodies of the regional and local governments adds political security.

The Belgian regulatory regime also offers 20-year green certificates - as opposed to 10-year certificates in the Netherlands - allowing the project to sell to grid operator Elia at €107 per MWh for the first 216 MWh and €92 thereafter.

#### The financing

C-Power mandated Dexia and Rabobank in September 2006 to structure the financing for the project.

The package includes a €111 million 15-year senior facility provided by Dexia which will repay the construction facility on the debt of €76 million.

The pricing grid is believed to be structured on the same pattern as for Q7 with margins rising through the construction period and into the construction period. Pricing of the senior debt will fall between EURIBOR plus 100-200bp.

Also on the model of Q7, letters of credit to the three main contractors will be provided from the senior debt.

In addition, Rabobank will provide a €20 million tranche of mezzanine to the project, while the balance of €22 million will be provided in consortium equity.

Conclusion

While REpower's 5 MW turbine and C-Power's complex deal structure have introduced an element of innovation to the Belgian deal, many aspects in the project's development will be all too familiar to offshore wind developers.

The four-year delay incurred due to the rejection of the initial planning application has meant the project has had to be financed in a world of escalating copper prices and scarcer turbines.

Moreover according to Joost Everaert of Allen & Overy, which advised the sponsors, C-Power had to submit 50 kilograms of applications to get regulatory approval.

One plaudit that must go to the Belgian authorities is that the 20-year green certificate has given the project a firm basis of financial stability historically lacking from offshore markets, notably the UK.

While the latter seems to have finally put in place the financial structure necessary to allow wind projects to progress - it must use the new Planning Strategy to quash the sort of planning delays that have already begun to threaten Greater Gabbard, Thanet and the Thames Array.

Otherwise developers may make the decision to abandon UK projects to a market which combines policy stability with a transparent planning system - and the Netherlands and Germany will both be frontrunners.

The project at a glance

Project Name	C-Power Thornton Bank Far Shore Wind Project
Location	28km off the Belgian coast at Zeebrugge
Description	Construction of the 30MW first phase of an offshore wind farm. Three later phases will expand the project to 300MW.
Sponsors	<ul style="list-style-type: none"><li>• EDF Energie Nouvelles</li><li>• Belgian dredging company D.E.M.E.</li><li>• Walloon state investment company Socofe</li><li>• Ecotech Finance</li><li>• NUHMA, an investment fund formed by municipal and district governments in the Walloon region</li></ul>
Operator	C-Power
EPC and O&M Contractor (Turbines)	REpower will supply and install the six 5 MW wind turbines under a 10-year operations and maintenance contract
Contractor (Electricity Cable)	ABB will lay a 38.7km 150 kV sub-sea cable which will link the pilot project as well as future extensions to the grid
Contractor (Marine works)	Seawind - a JV of Dredging and Fabricom - will carry out the marine works contract
Construction Stage	Completed by 1 October 2008
PPA	To be arranged on completion
Total Project Value	€153 million (US\$206m)
Total equity	€22 million (US\$29.6m)
Total senior debt	€111 million (US\$149.5m) 15-year facility
Senior debt breakdown	Includes €74 million (US\$99.6m) short-term facilities for construction letters of credit which will be repaid from the senior
Senior debt pricing	EURIBOR plus 100-200bp
Subordinated debt	€20 million (US\$27m)
Debt:equity ratio	86:14
Mandated lead arrangers	Dexia (senior debt), Rabobank (Mezzanine)
Legal Adviser to sponsor	Allen & Overy
Technical Adviser to sponsor	Technum
Insurance adviser to sponsors	Jardine Lloyd Thompson
Legal adviser to banks	Watson, Farley & Williams and Loyens Advocaten
Date of financial close	23 May 2007

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