



## Facts & Figures

### *The 1st large offshore project in the world with 6,15MW turbines*

#### I. The shareholders

The combination of industrial, financial and public shareholders is the key strength of the Project. The shareholders provide deep industrial know-how in the international energy sector in general and in the offshore wind sector in particular, a strong creditworthiness and well-established knowledge of the Belgium and European market.

1. **DEME** ([www.deme.com](http://www.deme.com)), a worldwide operating maritime engineering specialist. Dredging International and GeoSea, subsidiaries of DEME, are the only Belgian companies with experience in building foundations for offshore wind turbines and installing offshore wind turbines. Globally they are involved in the construction of various multi-megawatt offshore wind farms.

2. **Z-Kracht** is an investment vehicle comprising of 99 Belgian local authorities with **Nuhma NV** ([www.nuhma.be](http://www.nuhma.be)) as the reference shareholder. Nuhma has been involved since the start of C-Power and comprises of 44 local authorities in the province of Limburg with the goal to invest in electricity and public utility companies.

3. **Socofe** ([www.socofe.be](http://www.socofe.be)), an investment company representing the public administrations of the Walloon Region in Belgium, specialised in financing and developing public utility projects.

4. **SRIW Environnement** ([www.sriw.be](http://www.sriw.be)), the environmental holding of the Walloon Investment Company S.R.I.W, is a company specialised in financing and developing environmental and public utility projects.

5. **RWE Innogy GmbH** ([www.rwe.com](http://www.rwe.com)), a subsidiary of RWE AG, combines the expertise in the field of renewable energy and power plants from the RWE Group. The company plans, builds and operates plants generating electricity from renewable energy sources. The aim of RWE Innogy is to actively take part in and stimulate strong growth in the renewable energy industry in Europe.

6. **EDF Energies Nouvelles** ([www.edf-energies-nouvelles.com](http://www.edf-energies-nouvelles.com)), a branch of Electricité de France (EdF), is a pioneer in the production of green energy. The company develops, builds and operates renewable energy installations all over the world. Their participation in the C-Power project allows them to assume a major position in the European offshore energy sector.

7. **The 2020 European Fund for Energy, Climate Change and Infrastructure** ("Marguerite Fund") ([www.marqueritefund.eu](http://www.marqueritefund.eu)), was established with the support of six leading European financial organisations (Caisse des Dépôts et consignations, Cassa Depositi e Prestiti, European Investment Bank, Instituto de Crédito Oficial, KfW, PKO Bank Polski) to realise capital intensive investments in infrastructure.

## II. The main project partners for construction

- The turbines were provided by **REpower** ([www.repower.de](http://www.repower.de)) who is also responsible for the maintenance of the wind turbines during the first 10 years of exploitation.
- **THV Seawind** is a joint venture of **Fabricom-GTI** ([www.cofelyfabricom-gdfsuez.com](http://www.cofelyfabricom-gdfsuez.com)) and **Dredging International** ([www.dredging.com](http://www.dredging.com)) subsidiary of the DEME Group ([www.deme.be](http://www.deme.be)). Dredging International was responsible for the installation of the turbines and carried out all the maritime works including dredging, construction and installation of the foundations and installation of the cables. Fabricom took care of the electrical works on shore.
- The high-voltage cables, as well as the offshore transformer station were designed and supplied by **ABB** ([www.abb.com](http://www.abb.com)).

## III. Project phasing

- **2003** C-Power obtains a concession to build and operate an offshore wind farm on the Thornton Bank in the Belgian part of the North sea
- **2007** The Thornton bank project was the first offshore wind project to be developed in the Belgian North Sea. In order to prove the viability of this innovative concept, the authorities required C-Power to start the project with a pilot phase. This pilot phase is the 1st of the 3 phases of the C-Power project.
- **Phase 1** consisted of 6 x 5 MW Repower turbines in a single line. The wind turbines are built on gravity-based foundations and are connected together by 33 kV cables. They are then linked to the onshore high voltage station through a 150 kV export cable, which was during the first phase (2009 till mid 2012) used at 33 kV with an onshore transformer to inject into the 36 kV grid.
- **Phase 2** consisted of 30 x 6,15 MW Repower wind turbines. During phase 2 the off shore transformer station and the second sea cable were also installed. As from that moment the energy was transported and injected at 150kV. The construction lasted from March 2011 till September 2012
- **Phase 3** consisted of 18 x 6,15 MW Repower turbines. The construction started in March 2013 and was completed beginning of July 2013.

#### IV. Key figures

<b>Water depth</b>	12 to 27,5 m
<b>Distance to the coast</b>	27 to 30 km
<b>Area</b>	19,84 km <sup>2</sup>
<b>Total installed capacity</b>	325,20 MW
<b>Annual energy generation</b>	1.050.000.000 kWh or 1050 GWh = enough energy for the annual consumption of 300.000 households = represents 7% of the Belgian 2020 objective on electricity from renewables (20%)
<b>Energy produced by the wind farm up till end August 2013</b>	1 TWh or 1.000.000 MWh
<b>Avoided CO2 emissions</b>	415,000 tonnes/year (compared with the newest generation gas power stations) = the annual CO2 absorption of a forested area of 65.000 ha (1/3 of the forest within the Flemish Region)
<b>Wind turbines</b>	Phase 1: 6 x 5 MW each Phase 2 & 3: 48 x 6,15 MW each
<b>Employment</b>	Created work for +/- 3000 FTE's during the project Will employ +/-100 FTE's during the operational and maintenance phase (20 years)

#### IV. Lay out wind farm

