MEMO

TKI WIND OP ZEE

Subject	R&D innovation theme 4.2. from the Innovation Contract (modified).
Date	19 March 2013

In the meeting of 9 October 2012, the management of TKI Wind op Zee decided to shift the focus in the programming of wind turbines and wind power stations to optimization of the wind power station, as described in the 2012 autumn report.
This was approved by the Minister of Economic Affairs in accordance with advice given by Topteam Energie in its letter dated 8 March 2013.

The text on page 26 of the Innovation Contract, version 7-March-2012, has effectively been replaced by the following:

4.2 Optimization of the Wind Power Station

4.2.1 The importance

An offshore wind farm is still not a wind power station, but a coordinated assembly of components with a different background. Integrated designs based on the lowest cost of energy of the whole assembly instead of the 'own' component are still new, but are becoming more and more necessary given the increasing size of the power stations and turbines. The most important related (technical) aspects are: innovations aimed at increasing the reliability and the lifespan of (the components of) the wind farm, integrated designs of turbines plus support structures plus network, optimization of the wind power station. The latter relies on, among other things, a higher degree of controllability of each turbine, both separately and in relation to the other turbines. These design aspects will be supported by an integrated application of meteorological, aerodynamic, material and control knowledge.

4.2.2 The R&D activities

1. Far-reaching integration of the knowledge of offshore wind, aerodynamics, dynamics, materials and control technology
2. Innovations of components of the wind power station aimed at reducing the cost of energy
3. Increasing the reliability and lifespan of the wind power station, by means of 'design for reliability', and optimization of the O&M methodologies
4. Developing a new wind farm philosophy for maximum yield and reliability and improving the offshore wind climate knowledge

4.2.3 The parties involved

Companies	Knowledge institutes
2-B Energy, ATO, BLIX, BMO Offshore, CTC Engineering, DC Offshore, DHV, Ecofys, ESI Group, Essent, GBT, Geo Plus, GL Garrad Hassan Hassan, Lagerwey, MECAL, NLR, NNOW, Pontis Engineering, Promorfo, Siemens, Snelwind, Suzlon Blade Technology, TRES4, We@Sea, XEMC Darwind	ECN, MCN, NHL University, TU Delft, University of Twente, WMC