

## Side event:

European Energy Research Alliance- Development of design tools for offshore wind farm clusters  
(EERA – DTOC)

**Tuesday, 17 April 2012 from 16:00 – 17:30**

**Bella Center, Copenhagen, Denmark**

The (EERA) in collaboration with valuable industry partners propose an integrated and validated design tool combining the state-of-the-art wake, yield and electrical models available in the consortium, as a plug-in architecture with possibility for third party models. To decrease uncertainties around wind farm wake predictions, a small measurement campaign together with the new data available from the industry partners will enable better tuning, and eventually better modelling of the far-field of wind farm wakes. With the large amount of offshore wind farms to be built in the next years, clusters of wind farms will appear at favourable locations, like in the German Bight and Dogger Bank. Large arrays of floating wind farms planned near long-distance grid cables independent of water depth will also start to appear in the next years. The planning and design of these clusters pose new challenges with regards to the siting of the connected wind farms, the design of the interconnecting grid structure and the integration of the large amount of power into the electricity supply systems.

The concept of this project is to combine this expertise in a common integrated software tool for the optimized design of offshore wind farms and wind farm clusters acting as wind power plants. The interfaces between the sub-models are going to be open.

This event will provide participants with an introduction on this new and challenging project, and invite to a discussion of usage scenarios and collaboration possibilities. The last talk will introduce the sister project ClusterDesign, which is more oriented towards operation of the cluster.

### **Programme**

16:00 - 16:05	<i>Welcome</i> , Peter Hauge Madsen, DTU Wind Energy, Project Coordinator
16:05 - 16:15	<i>Project introduction</i> : Gregor Giebel, DTU Wind Energy
16:15 - 16:30	<i>Wake modelling: state of the art and challenges ahead</i> : Charlotte Bay Hasager, DTU Wind Energy (WP 1)
16:30 - 16:45	<i>Optimise interconnectors and power plant systems</i> : Luis Mariano Faiella, Fraunhofer IWES (WP 2)
16:45 - 17:00	<i>Energy yield estimation for offshore wind farms clusters</i> : Daniel Cabezón, CENER (WP 3)
17:00 - 17:15	<i>Evaluation and Measurements</i> : Gerard Schepers, ECN Wind Energy (WP 5)
17:15 - 17:30	<i>ClusterDesign – A Toolbox for Offshore Wind Farms</i> : Rory Donnelly, 3 E
	Questions and debate