



**PRESS RELEASE**

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## **AREVA AND SWAY ANNOUNCE PARTNERSHIP on deep water floating wind turbine solutions**

### **The partnership with AREVA Multibrid**

AREVA and Sway are pleased to announce their cooperation in offering new solutions to provide technology that makes it possible to exploit offshore winds in deep water for energy production. AREVA, via its German subsidiary AREVA Multibrid, is currently delivering turbines to the first German offshore test field Alpha-Ventus.

AREVA-Multibrid was recently awarded a Memorandum of Understanding for delivery of 80 wind turbines to Global Tech 1 wind farm, which is planned outside the coast of Northern Germany with seabed anchored installations. The Multibrid M5000 turbine has a capacity of 5 MW and is designed solely for offshore installation.

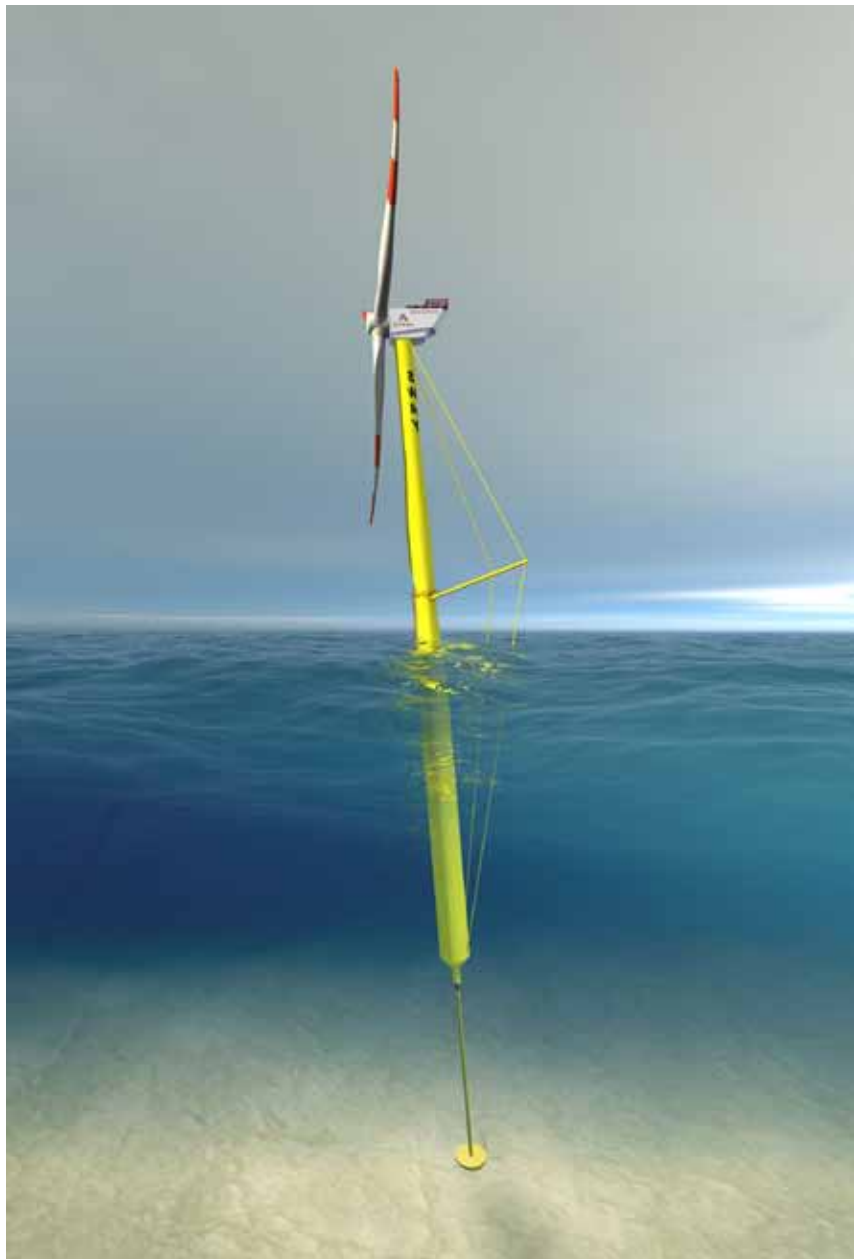
Félix Debierre, CEO AREVA Multibrid: *„We believe the floating M5000 wind turbine under development with SWAY provides an attractive solution for tomorrow’s deep water offshore projects“.*

The turbine will be adapted to enable downwind turbine operation on SWAY’s tower solution. This is the first time their turbine is applied on a floating foundation, which has been made possible through SWAY’s technology.

*“Our aim is to demonstrate that deep water wind power is commercially attractive within the next 4 years”, says the company’s founder and CEO Eystein Borgen, and adds: “The use of AREVA-Multibrid’s technology is essential for our project. The combination makes it possible to produce energy at a commercially attractive price”.*

## Full scale test licence in Norway

SWAY AS has been granted a license from the Norwegian Water Resources and Energy Directorate for building a floating wind turbine plant for offshore wind power approximately 7 km outside Karmøy on the west coast of Norway. The prototype construction is conditional on financial support from the recently established Norwegian financial support programme for marine renewable energy (Enova). A customer for this project is essential and Sway is ready to start negotiations with possible international or national buyers as soon as possible. When the right customer is found the wind turbine can be up and running in 18-24 months.



The purpose of the project is to test a full-scale SWAY wind power plant and collect sufficient operational experience for both SWAY and the customer for building future floating wind power facilities offshore. *“Our ambition is to demonstrate that such plants in a commercial phase shall be able to supply power at a price competitive to shallow water wind parks. SWAY’s floating wind turbines have several advantages which will make this possible”*. The demonstration plant will consist of a Sway floating tower and an AREVA Multi-brid wind turbine with a capacity of 5MW. The tower is 188 metre high, whereof 84 metre is above water and 104 metre is under water. Heavy ballast is placed at the bottom of the tower and it is anchored to the seabed with a tension leg and a suction anchor. The tension leg is attached to the tower through a subsea yaw mechanism which enables the wind turbine including tower to revolve with the wind. This will allow using a tension rod system to strengthen the tower, similar to the wire stays on a sailboat, so that a significantly larger turbine can be utilized. This will increase the production capacity, and thus reduce the power production costs. The technology is suitable and safe for ocean depths between 80 and 400 metres. The wind turbine that is mounted on the top of the tower is placed downwind. This is to allow the floating tower to tilt (6-8 degrees) due to the pressure from the wind, without resulting in a large misalignment between the rotor and the wind. Transformers, switchgear and other electric equipment will be placed in the tower. The plant will be connected to the existing electrical grid onshore through a sea cable.



## **Offshore wind power has enormous potential**

All reports indicate an enormous energy potential in offshore wind world wide. A report published in April 2009 by the Department of Interior in the U.S. estimates the recoverable energy potential in offshore wind power in the U.S. to be enough to cover the power consumption of 53 million households (1000-1500TWh).

*"It is maybe neglected by many people that in several areas only deep water locations are available and fixed base installations is no alternative for utilizing this potential", Borgen comments, "and in addition we can produce more power from a floating wind turbine located out of sight from shore because normally the wind blows stronger farther offshore". Offshore wind power also entails less conflicts related to use of land, animal and plant life, as well as various opinions related to aesthetics. "This does not mean that we want to play down the importance of fishery and ship traffic and we will gain experience on these issues through our demonstration plant", says Borgen and adds: "Our ambition is to produce more energy at a lower price, hence making the floating wind turbine an attractive asset for energy producers worldwide."*

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**About SWAY:** SWAY is a Norwegian renewable energy company, with world leading technology and competence on floating wind turbines located in deep water. The patented SWAY® system: Floating wind turbine system that produce power in deepwater locations where the average wind speed is higher and where the location of turbines will be less controversial. See more information on [www.sway.no](http://www.sway.no)

**About AREVA:** All over the world, AREVA provides its customers with solutions for carbon-free power generation and electricity transmission. With its knowledge and expertise in these fields, the group has a leading role to play in meeting the world's energy needs.

Ranked first in the global nuclear power industry, AREVA's unique integrated offering covers every stage of the fuel cycle, reactor design and construction, and related services. In addition, the group is developing a portfolio of operations in renewable energies. AREVA is also a world leader in electricity transmission and distribution and offers its customers a complete range of solutions for greater grid stability and energy efficiency.

Sustainable development is a core component of the group's industrial strategy. Its 75,000 employees work every day to make AREVA a responsible industrial player that is helping to supply ever cleaner, safer and more economical energy to the greatest number of people.

[www.aveva.com](http://www.aveva.com)

**About AREVA Multibrid:** AREVA MULTIBRID is a manufacturer of wind energy converters, which is specialized in the production of powerful offshore wind turbines. The company located in Bremerhaven Germany developed and produce the 5 MW turbine Multibrid M5000.

[www.multibrid.com](http://www.multibrid.com)