

## **Offshore Wind Energy: Energy supply in the Sea**

*Offshore wind energy is to supply a larger part within the energy mix. Wind farm projects are planned for Germany's shores. Taking the unique national parks of the Wattenmeer, the Bodden and the tourism into account, they will be installed in so-called purely commercial zones (AWZ) of the North Sea and the Baltic Sea.*

At the "Deutscher Fischereitag" in July, Christian Dahlke from the "Bundesamt für Seeschifffahrt und Hydrographie" (BSH) took stock of the developments. The BSH will be deciding on the subject of the Offshore-installations in the AWZ outside of the 12-sea mile-zone. Dahlke said that the BSH is currently working on 81 clearances, with 68 projects in the North Sea and 13 in the Baltic Sea. 21 wind park projects with all in all 1,497 windmills have so far been approved (18 of them in the North Sea and three in the Baltic Sea). Ever since the first approval in 2001, only two projects have been rejected.

Dahlke said that the cable system of "NordEon 1" has also been approved by the BSH – installation will start in July. The necessary converter platform "BorWin alpha" was already set up in the sea in June, so that carrier E.On-Netz could transport the energy from the wind park "Bard Offshore 1" to the mainland.

Next to the wind park project with 80 windmills that was approved in 2007 and which lies 90 km northwest of the island of Borkum and will be built starting August 2009, there is the Offshore testing site "Alpha Ventus" with 12 installations. It is located 45 km north of Borkum. It is built by DOTI, which stands for „Deutsche Offshore-Technologie und Infrastruktur-GmbH & Co. KG“. In the night of the 14th of July, the wings of the first windmill were erected, with a rotor of 116 m in diameter.

Three other approval procedures for wind parks within a distance of 30 to 70 km to the East Frisian Islands are taking place in 2009. The requirements are, among others, that neither the safety of the shipping nor the marine environment or other greater public interests are to be impaired. Dahlke said this is always intensely verified.

To give planners and investors of offshore wind parks security on the regulations of the geologic and geophysical tests in the stages of the project (preliminary explorations, planning, execution, surveillance), the BSH, engineers and geoscientists have set up guidelines for site investigation. They make sure that the stability of the sites is up-to-date, Dahlke said. There is a similar catalogue of minimum requirements for tests in the ecologic field.

The BSH is also coordinating a four-year project on ecologic secondary research with Alpha Ventus, Dahlke said. The Bundesumweltministerium has given almost 5 million Euro to the BSH for research on the effects of the wind parks. With the FTZ Büsum and the Alfred-Wegener-Institut in Bremerhaven, there will be research on the behaviour of marine mammals and passage migrant birds. For example, evasive movements of passage migrant birds and the effects of building and maintenance noise on porpoises, seals and other marine organisms will be analyzed. The findings of this research will be integrated into the development of the BSH standards for the protection of the marine environment.