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Integrated Approach to Offshore Wind-Wave Resource Assessment

A. Sood (1,2) , D. Heinemann (1,2)

(1) Forwind, Center for Wind Energy Research and (2) Energy Meteorology Group, Energy and Semiconductor Research, CvO University Oldenburg, Germany (Contact Email: abha.sood@forwind.de)

For a more effective large scale utilization of offshore renewable energies in the German Bight, combined exploitation of wind and wave power is explored in this preliminary study. Large scale harnessing of wind power is planned in the coming decade in the German Bight and the North Sea. For the additional generation of wave power at the wind farm sites, the characteristics of the wind and wave power resources are investigated separately and for the combined production for the 2005-2006 period using wind and wave measurement data from the FINO-1 mast. The benefit of available grid infrastructure at the offshore sites can be shared by both resources which can lead to higher investment returns and a steadier power generation signal more suitable for low frequency grid integration.