TRANSPORT

Offshore Wind Station

10 Wind Turbines are to Produce Equivalent Amount of Energy as Consumed in Samsoe's Transport Sector

Background

The offshore wind farm is an important part of the overall project Renewable Energy Island. The production from the wind turbines should be regarded as a compensation for the energy consump-tion in the transport sector of Samsoe. The wind sta-tion counts ten 2,3 MW turbines. The plant is to be ready for production by the end of 2002.

1998 and 1999 were dedicated to examinations of numerous matters concerning economy, technical matters, placing and sea bed conditions. This work was financed by the Danish Energy Agency. A public hearing was held including exhibitions on the two libraries of Samsoe presenting visualisations of the wind farm.

With offspring in this hearing the Danish Energy Agency found that the project could continue, work-ing with a site at Paludans Flak about 4 km south of Samsoe.

Data

The offshore wind farm is forecasted a yearly production at 77,500 MWh corresponding to 280 TJ. The turnkey supplier is Dredging Incorporated (Belgium), the monopiles are produced by BLADT Industries Incorporated (Denmark), The wind turbi-nes are produced by BONUS Energy (Denmark), the sea-cables are produced by ABB (Germany) and the electrical constructions on land is made by NRGi (the local utility company).

Ongoing Work

The Danish Energy Agency also financed the ongoing work concerning technical examinations. An environmental assessment has been worked out just as aspects concerning economy and organisation were examined. Environmental assessment report was published in June 2001. Building permission was obtained in December 2001.

The technical examinations reveals depth of 20 meters, a large depth compared to previous experi-ences concerning offshore wind stations.

A Project with Local Engagement

The ownership of the wind farm means a considerable local influence on the project. All residents on Samsoe have been offered ownership. The Municipality of Samsoe is owning 5 turbines. Approximately 15 pct. of the wind station is owned by investors from outside the island.

The Perspective

The electricity production can be used directly in electric vehicles or in hydrogen production again use-ful in the transport sector.

The environment friendly hydrogen car is expected to be introduced on the commercial markets within this decade.