

# Tasks in Offshore Energy

Energy experts have been predicting an end to carbon-based energy for years now. Although it is probably possible to drain our energy out of oil and gas fields for decades to come, the world has to think about new ways to keep our cars running, our refrigerators cooling and our plants producing. The predictions by experts, together with warming of the earth, at least partly to be blamed on carbon dioxide emissions, have also led to more and more environmental awareness. Plans for offshore wind farms are being made everywhere; quite a few have already been built. Europe is leading the way with thirteen wind farms up and running in the North Sea and fifteen in the Baltic Sea. Dozens are under construction. In other parts of the world a few parks have been developed, for example in China, which already has two parks and in Korea, which is currently planning to build a 2,500MW park. The United States is planning parks in the Atlantic, and all around South America plans are in a state of preparation. Onshore wind farms have been around for decades already, with much better and efficient turbines in operation now than years ago. The offshore wind energy production is of a much younger date. Offshore wind is relatively expensive, but with bigger and more efficient turbines, the return on investment is likely to grow soon.

Hydrographic and geophysical surveys are a routine part of building on a new offshore wind farm site. Understanding the physical state of the seabed together with seabed dynamics are crucial in deciding whether to build on a proposed site, or whether it would be better to move a few kilometres to another part of the sea. Hydrographic data are thus fundamental to the plans being developed in different parts of the world, which have a major impact on the sea, the coasts and inhabitants. Not only does this offer new business opportunities for companies in hydrographic surveying, but as a whole it gives new and important responsibilities that require the highest quality possible of data and surveyors working in these projects.

In this issue of Hydro International we give you an update on newest insights and techniques concerning offshore renewable energy and its impact on the field of hydrography. The articles Self Installing Wind Turbines by Thijs Visser et al on page 24 and High-Resolution 3D Geotechnical Survey Tool Hydrography by Ian McDermott on page 32 are recommended to gain some insight. It is good to see that hydrography plays a role in an increasing number of applications, with the aiding of the production of sustainable forms of energy certainly being one of the most important ones.

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