**Potential of Europe**

Wind turbines are now a relatively common sight across Europe, with countries such as Denmark, the Netherlands, Germany, UK, Spain and latterly France, all investing in wind farms. Offshore wind development, although far less advanced, is the greatest prize in this field. However, relative costs of offshore compared to onshore are higher. This project is aimed to demonstrate the economic as well as technical viability of offshore wind energy. The former was achieved through the innovative use of a floating jack-up barge which reduced the time and costs of installation. The latter was achieved mainly through the incorporation of new electronic control systems which improved the compatibility with the grid network, and reduced the need for expensive grid strengthening measures. Five turbines were installed, about 4 km off the coast of Gotland. Each turbine is rated at 500 kW. The average annual output is some 8 GWh/y, from mean wind speeds of 8 m/s. Rock-socketed steel mono-pile foundations, to water depths of 5 to 6.5 m were used to secure the turbines. Total construction time was only 35 days. Monitoring of impacts on local flora and fauna, such as the seal population, is also being carried out.

**Vocabulary**

estimates – калькуляция,

сметные предположения

to disperse – рассеивать,

рассредоточивать to range – классифицировать

range – диапазон, область, сфера

mean – средний

suitable – подходящий

to expose – подвергать действию

to prohibit – запрещать

to restrict – ограничивать

to assume – предполагать

to cause – вызывать

competitiveness – конкуренция

viable – жизнеспособный

wind power – энергия ветра

electricity consumption – потребление электричества

wind resources – ресурсы ветра

power density – плотность рассеиваемой мощности

wind turbine – ветряк, ветротурбина

turbine weight – вес турбины

turbine hub – корпус турбины

turbine wake – последствия аварии турбины

blade soiling – порча лопасти

wind farm – ветровая электростанция

to install – устанавливать

grid – энергетическая система