



OpenHydro Tidal Turbine – clean, green, renewable energy

Irish-based OpenHydro specialises in the design, manufacture, installation and maintenance of marine turbines for generating renewable energy from tidal streams. The company's vision is to deploy arrays of tidal turbines under the world's oceans, silently and invisibly generating electricity at no cost to the environment.

The company has already achieved a number of industry firsts including being the first to deploy a tidal turbine at the European Marine Energy Centre (EMEC); the first to connect to and generate electricity from tidal streams onto the UK National Grid; and the first to successfully demonstrate a method of safely and economically deploying turbines directly on the seabed.

Simplicity of design

Simplicity of design is at the core of OpenHydro's turbine technology. It features a horizontal axis rotor with power off-take through a direct drive, permanent magnet generator. The design has no need for a gearbox or other complicated components requiring regular intervention, and is based on a philosophy of zero maintenance between overhauls. The turbine is manufactured from a combination of glass reinforced composite materials (including Diab structural cores) and steel.

Minimised environmental impact

From an environmental standpoint, the OpenHydro design minimises the risk to all forms of marine life in several ways. Firstly, the rotor blades are retained within the outer housing and

secondly a large centre provides an exit route for marine life. In addition there is no requirement for potentially toxic oils or lubricants.

Last year, OpenHydro successfully deployed the first commercial scale in-stream tidal turbine in the Bay of Fundy, Canada, on behalf of its customer, Nova Scotia Power.

The deployment system (that was also designed by OpenHydro) allowed the 10 meter (33 ft.) diameter, 1 megawatt turbine to be installed in a single day, thereby dramatically reducing installation costs.

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