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03/12/2010

Tidal turbine BELUGA 9, with a capacity of 1 MW and designed in Alstom Hydro's new Nantes offices, to be deployed in 2012

Alstom, a world leader in the supply of equipment and services for electricity generation, today inaugurated the new premises of Alstom Hydro's Ocean Energy activities in Nantes. Alstom marked the occasion by revealing the characteristics of BELUGA 9, the group's tidal electricity-generating turbine, which will undergo its first tests in 2012, in the Bay of Fundy, Canada*.

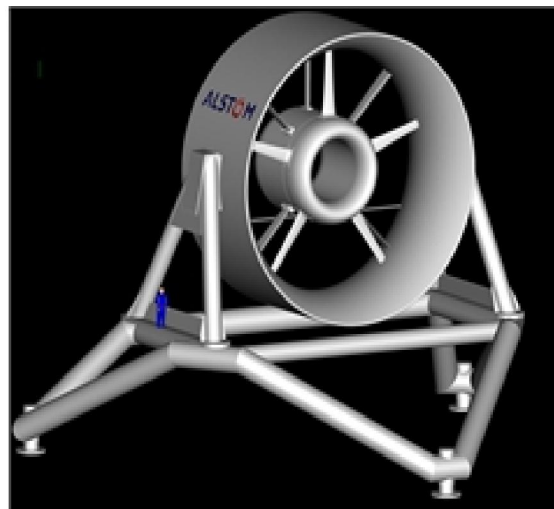
Created in 2009 when Alstom signed a technology-licensing contract with Canadian company Clean Current, Alstom's Ocean Energy Business will benefit from the skills of the Alstom group, a world leader in hydroelectric dam equipment, accounting for 25% of global installed hydropower capacity. The worldwide capacity of the group's wind turbines, either installed or currently under construction, exceeds 2,685 megawatts (MW).

Philippe Cochet, Senior Vice President, Alstom Hydro and Wind, points out: *"There is a considerable potential market for tidal energy, estimated between 50 and 100 gigawatts (GW) worldwide, of which France and the United Kingdom account for 10%. Tidal energy has some unique advantages. It is, for example, possible to predict the amount of energy that will be produced with complete accuracy, and tidal turbine generators are completely invisible once they are submerged. We are now entering an industrialisation and testing phase that will enable us to respond with a reliable solution as soon as the first calls for tenders appear."*

Alstom's Ocean Energy activities will be located on the island of Nantes (Ile de Nantes) – historical site of the French shipyard industry – under the direction of Philippe Gilson, Alstom Hydro's Ocean Energy Manager. The role of his team will be to design, manufacture and market a new generation of tidal turbine generators that can produce electricity from tidal currents.

BELUGA 9, intended for very powerful currents (up to 4.5 metres per second, or 9 knots, on the surface during spring tides) will be Alstom's first tidal turbine generator. Once mounted, it will have a diameter of 13 metres and a total height of 20 metres, the equivalent of a six-storey building. It will be suited to sites at depths of 30 metres or more, such as in the English Channel.

In addition, the Nantes division has just begun preliminary studies for the development of a second model, intended for sites at greater depths where the tide is less powerful; testing should begin in Brittany in 2013.



BELUGA 9 d'ALSTOM Alstom



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Mr Gilson says: *“Our global launching-ground for ocean energy had to be in an area where there was a concentration of skills in marine activities, and that could serve France and the United Kingdom as a priority. By establishing ourselves on Ile de Nantes, we will benefit from nearby testing facilities, such as the Ecole Centrale de Nantes’s towing tank and wave tank, as well as from an industrial environment that is particularly advanced in areas of mechanical and electrical engineering, and naval construction.”*

If all suitable underwater locations were equipped with tidal generators, it would be possible to generate 100 TWh of electricity annually: enough to supply power to 20 million households in Western Europe.

Alstom develops its strategy around three pillars (CO2-free offering, efficiency and CCS). Over recent years Alstom has increasingly invested in carbon-free energy technologies and portfolio-wide solutions for meeting its customers’ energy needs in an environmentally responsible manner. Since no single solution exists, several approaches have to be considered, and Alstom continues to enlarge its energy portfolio with an extensive offer in the fast-growing renewable energy market accounting activities in Hydropower, Tidal, Wind, Geothermal, Biomass and Concentrated Solar Power.

Alstom Hydro’s Ocean Energy premises are at 11, rue Arthur III - 44200 Nantes, France.

** This project is receiving financial support from the governmental agency Sustainable Development Technology Canada.*

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