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## A Big Setback for Tidal Power

A damaged rotor forces OpenHydro to pull up from the Bay of Fundy. Does anything ever work?

MARK BOSLET | JUNE 18, 2010



*A Big Setback for Tidal Power*

The prospect of extracting nearly unlimited renewable energy from the tides suffered a blow this month when OpenHydro announced it would pull its experimental underwater turbine from the Bay of Fundy.

The test in this extreme tidal environment was seen as a critical opportunity for the industry to prove that harnessing the tides had finally become feasible.

OpenHydro lowered its 400-ton, six-story turbine (<http://www.techpulse360.com/2009/09/23/giant-turbine-planned-for-bay-of-fundy-tidal-tect/>) onto the seabed last November, choosing the swift flowing Minas Passage near Parrsboro, Nova Scotia as the site for the project.

Last week, the Irish company said it would yank the turbine out by October after an underwater video discovered two broken blades. The blades are made of a combination of plastic and glass.

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The setback underscores how difficult it is to operate in the corrosive, storm-plagued marine environment. The \$100 million, 1 MW project had hoped to show that a first-of-its-kind tidal plant could be built to supply as much as 25 percent of Nova Scotia's

electricity.

The Bay of Fundy was selected because it arguably has the highest tides in the world, competing for the honor with the Ungava Bay in Quebec and the Severn estuary in the United Kingdom. Tides in the area can rise 55 feet or more, generating a potential of 1,013 MW of power, 152 MW of which can be harnessed with little environmental impact. The video shows a test device from OpenHydro installed in Scotland.

The test was being closely watched (<http://www.techpulse360.com/2009/11/02/tidal-energy-industry-facing-do-or-die-project/>) and will be viewed by the industry as a big setback. The theory is that the predictability of the tides will ultimately make the energy they generate less expensive than solar and wind -- though today, it is roughly three times more costly. According to an Electric Power Research Institute study, that price in the Bay of Fundy could be as low as 5.5 cents per kWh, roughly comparable with the wholesale price of electricity.

According to a press release (<http://www.openhydro.com/news/archive.html>), OpenHydro, which has raised \$74 million in funding since 2005, plans to repair the turbine and reinstall it next year. The difficulties "will further our understanding of how the turbine has operated in this unique and challenging environment, bringing us closer to commercially developed tidal arrays in the Bay of Fundy," said CFO Peter Corcoran.

The company had lowered a video camera to view the turbine in May after an acoustic modem intended to monitor underwater motion malfunctioned.

The setback isn't the first for tidal power. Verdant Power, for instance, struggled to keep its turbines running in the powerful currents of New York City's East River, and was forced to pull prototypes only weeks after they were installed when blades broke. Wave power specialist Pelamis Wave Power has also seen its share of delays and setbacks.

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The company is presently operating (<http://www.verdantpower.com/what-initiative/>) new, smaller devices with fewer moving parts. The new design anchors three turbines

on a triangular frame rather than placing them directly on the riverbed.

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