

## Tidal energy coming of age

By RONALD SCOTT

IN-STREAM tidal power is an emerging new industry that is now gaining attention worldwide. The race is on between companies, regions and countries to seize the opportunity to share in its benefits. Regions that can provide a more attractive environment for developing tidal power will win the economic advantages that will come with developing this new industry.

Nova Scotia has made a start towards the development of tidal power. The Bay of Fundy strategic environmental assessment, the plan for a common demonstration facility enabling developers to demonstrate their tidal technology, and the streamlining of the permitting and licensing process are positive first steps.

Sound new policies and actions will be needed to ensure that the tidal development projects are attractive to investors and get off the ground quickly and successfully.

Nova Scotia has a tidal energy resource that is second to none in North America. New, modular, low-cost, environmentally friendly tidal turbine technology, that has been designed, developed and manufactured, is capable of harnessing tidal currents and generating electricity at a cost which will soon be competitive with other forms of renewable energy. This new technology is nearing commercial readiness.

The powerful tidal currents of the Bay of Fundy, combined with the new tidal turbine technology, unlock the potential of the tides and present Nova Scotia with a special and significant energy opportunity. The opportunity could be compared to the discovery of oil in the Bay of Fundy. Only the tidal opportunity is, of course, more attractive because this resource never runs dry and produces no greenhouse gas. Imagine the excitement and the development rush if we were to discover oil under the Bay of Fundy. The same scenario can unfold once our tidal energy potential is fully understood by the stakeholders and the community at large.

Tidal power provides an opportunity for Nova Scotia to:

- Generate sizable amounts of renewable electricity – 300 MW according to a 2006 EPRI study;
- Positively contribute to the global warming problem, as no greenhouse gases are produced by tidal turbines;
- Improve our economic competitiveness by moving towards a sustainable source of energy that will not escalate in price due to fossil fuel shortages;
- Improve our health by reducing noxious gases produced by the burning of fossil fuels;
- Build a North American tidal/ocean energy industry; and

- Export our resulting tidal/ocean energy products, services and expertise worldwide.

In addition to having a world-class resource with leading edge tidal technology, the creation of an environment which enables investors to access the resource (permits and licences) and have reasonable assurances of a return on their tidal investment are key.

For guidance, we could look at the best practices and policies of jurisdictions which have successfully built renewable energy industries. Denmark, for example, has been very successful in building a wind energy industry. The U.K. is well on the way to building a successful ocean energy industry (wave and tide).

Using this knowledge, we could undertake a serious study to determine how best to encourage the development of a tidal/ocean energy industry for North America in Nova Scotia.

Taking a page from an earlier piece of legislation to encourage renewable energy development, which mandated 20 per cent renewables by 2013, we could adopt tidal energy targets, saying for example that two per cent of our energy must be in-stream tidal energy by 2015. Competitors would then bid to supply the two per cent at rates that would give them a reasonable return, without significantly impacting the overall cost of energy to the consumer. (Developers would not be encouraged to participate at all if they had to match going renewable energy rates at the outset.)

By providing various financial incentives and significant test facilities for tidal turbine developers and investors, we could create a hot bed of tidal energy activity in Nova Scotia. As other jurisdictions are contemplating this opportunity, we will need to act boldly and quickly if we are to succeed. We can do it!

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