

Tide Change Coming Soon for Fundy Power

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Concerned Nova Scotians are looking at their heating and car fuel costs for the winter season and wondering where the good news is. With world demand for fossil fuel nearly matching the supply, prices are not expected to drop anytime soon.

So where's the good news?

Right here in the Bay of Fundy, where its twice-daily tide changes will soon be tapped for our renewable energy needs.

Experts agree that our need to take action on reducing green-house emissions is becoming critical. In the future, as conventional sources become scarce, more of our energy will come from renewable sources, like the wind, ocean currents, waves and tides.

The idea of harvesting power from the Fundy tides is not new. In Port Royal, tidal power was first used to run mills in the early 1600's. The 23 year-old power plant in nearby Annapolis Royal can supply up to 20 Megawatts each day.

Newer tidal generators will not use a barrage like the one used at Annapolis but will be in-stream. This means that they have a much lower impact on the basin and its eco-system. The goal is zero-impact.

Tides in other places like Argentina, NW Australia, Brazil, France, India, Korea, the UK and the USSR are not as high as ours, but produce tidal currents great enough to generate useful electrical power.

Power companies in NS and NB are interested in tidal power because it is so predictable. Wind turbines are dependent on weather conditions, making it difficult for power company dispatchers to make best use of it.

Tidal power may be predictable, but it is not steady enough to power a community all by itself. This is because electricity is only generated when the tide is entering or leaving the bay. The generators do not turn during slack tides.

Four times a day there is no power. Connecting tidal generators to a large grid solves this problem by getting power from other sources (such as coal or oil) when the tide is resting.

A cleaner solution is to store excess electricity during peaks and using the stored energy when it's needed. The technology needed to store large amounts of energy for power distribution is still being developed.

As more renewable power is added to our utilities, the need for temporary power storage will become great.

What is Nova Scotia doing about all this new interest in Fundy power?

The NS Department of Energy have recently asked for proposals to set up a test site in the Minas basin area, to be used to study in-stream tidal power generation and its effects on the eco-system.

It is not easy to install power generators in the bay because existing regulations can't cope with the new technology. The province has been cooperating with New Brunswick to adapt the permitting process to deal with tidal power.

The province has a short-list of areas selected for Fundy power, with potential of 330 megawatts (MW). The real power potential in the bay is much greater than that, but this subset has been chosen as a safe start.

A number of Canadian companies develop generators that can be used in the Bay of Fundy. The Europeans are the leaders right now in tidal stream technology, and stand to benefit more from Fundy development.

Nova Scotia Power Inc (NSPI) have joined forces with an Irish company called Open Hydro. A firm in Nova Scotia, Maritime Tidal Energy Corp have partnered with a British company called Marine Current Technology. Up to six other companies have announced their intention to develop power generators in the Bay.

For communities along the bay, Fundy power is a great opportunity. It is not clear yet whether the plant developers realize the importance of involving communities early on.

Benefits for nearby communities include jobs during the construction phase, plus some operations & maintenance jobs. These communities can also expect improvements to roads and infrastructure such as docks. Of course, there is also the tourism potential of such a unique site.

Right now, the majority of the planning and development is happening in Halifax, since the government offices and companies are based there. The risk though is that the impact on the communities directly involved may be overlooked.

Communities in affected areas along the bay must get involved during the planning stages to ensure maximum benefit from living near these projects.

Truro is ideally situated at the head of Cobequid Bay to be regional hub for Fundy power activities. We need to persuade the province and federal

government that the Truro area would make an ideal Renewable Energy Centre. Efforts should also be made to remind Nova Scotia Power that Fundy power is a resource that should benefit its communities.

Fundy power likely won't help homeowners this winter with their heating bills, but developing ways today to harvest the amazing energy in our Bay will get us started on lowering our bills in the future.