



The Ireland-based OpenHydro turbine. OpenHydro went bankrupt in 2018, just six days after its turbine was lowered into the Minas Passage. Photo courtesy of FORCE.

The rise and fall...and rise again...

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and continues to be, a lack of investment. In order to provide harvestable power, tides need to be pinched between landmasses, where their gradual rises and falls become currents heavy and strong enough to justify a turbine. There are approximately 50 sites globally with commercially viable tides, 10 of which might turn an investor's head. Fewer sites have meant fewer companies deploying fewer turbines, and so, slower progress.

"Tidal power is at least a decade behind wind and solar, and it's been a decade behind for 20 years now," says Richard Karsten, professor of mathematics at Acadia University, and co-founder of the Acadia Tidal Energy Institute, a collection of academics studying the potential for tidal power from the world's highest tides.

Squished between Nova Scotia, New Brunswick, and Maine, the tides of the Bay of Fundy fluctuate as much as 16 metres every 6 hours and 13 minutes. A few narrow passages concentrate these tides still further, into very fast, very productive currents, like that of Petit Passage on Digby Neck, and the Digby Gut, though which water accesses the Annapolis Basin.

But none hold a candle to Nova Scotia's Minas Passage. Through this gap, five kilometres wide and 150 metres deep, Fundy tides flow frantically in and out of the Minas Basin. During the high spring tides, more water flows through this passage than flows down all the rivers on the planet combined, and it does so at up to five metres per second.

The Minas Passage is a force of nature, says Karsten, and blocking too much of its flow — with an excess of turbines — could have disastrous consequences for shorelines through

out the Bay of Fundy. He's calculated that 800 megawatts of electricity could be safely generated, roughly the output of a large nuclear reactor, or half the peak demand of the province of Nova Scotia.

"I don't know if we'd ever get it all," he says, "but a couple hundred is a very realistic possibility."

People have been designing turbines for the Minas Passage since 1915, but things didn't get serious until 2009, when the Fundy Ocean Research Centre for Energy (FORCE), a not-for-profit research facility in the Bay of Fundy, established five "berths" in the Minas Passage, with the underwater electrical hookups necessary for tidal companies to test their turbines, and to deliver power to the provincial grid.

But the industry was too young, and the regulatory hurdles too odious, for FORCE to reach its full capacity. Only one company — the Ireland-based OpenHydro — ever deployed any turbines. The first (2009-2010) was destroyed by the current, and the second (2016-2017) was only a brief test. The third was lowered into the water in 2018, six days before OpenHydro went bankrupt. The turbine never generated any power and never came out of the water.

"I've gotten pretty pessimistic about tidal power over the last five years," says Karsten.

But a lot's changed in those five years. Not only has tidal made huge strides — at places like the European Marine Energy Centre — but the governments of Canada and Nova Scotia have streamlined their approval process for turbine deployment at FORCE. In 2024, this process attracted some serious players, approving its first turbines since 2018.

"We've been working with

renewed vigour since then," says Lindsay Bennett, executive director of FORCE.

The turbines in question are being manufactured by the UK-based Orbital Marine Power, which deployed its "O2" turbine off Orkney Island, Scotland, in 2021. This is the most powerful tidal turbine presently in the water anywhere, reliably powering 2,000 homes annually. Now they're building a successor, the O2-X, which the Canadian company Eauclore Tidal plans to deploy over three of FORCE's berths. The province of Nova Scotia has approved them up to 16.5 megawatts, timeline to come.

FORCE has been in communication with several tidal energy companies over the years, says Bennett, adding that there's been a marked shift since 2024. Eauclore Tidal and Orbital Marine Power are established companies deploying proven turbines, and she expects more to come.

"If Orbital can deploy their turbines here in the next three or four years, that would be a turning point," says Karsten. "They aren't coming here to prove their turbine works. They're coming to generate power."

Zack Metcalfe is a freelance journalist, photographer, columnist, and author. He has written for many publications across Canada, and focuses on the environment, endangered species, land conservation, and climate change. He has nine works of fiction to his name. Zack is also an outdoor adventurer, hiker, and rock climber.

Climate Stories Atlantic is an initiative of Climate Focus, a non-profit organization dedicated to covering stories about community-driven climate solutions.

November 17 RECC Actions Invalid

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According to the Act, Quorum Requirements: A board cannot validly pass resolutions or make official decisions if it does not have a quorum. While specific requirements depend on your society's bylaws, quorum is typically a majority of the directors (in this case, 7 out of 12). If bylaws define quorum as "a majority of those in office," 4 remaining directors may still be able to function.

Martell continued: The society by-laws do not define quorum as "a majority of those in office", it is defined as the "majority of members" and therefore it is my belief, my truth, that it is not legally allowed to operate.

On November 17th the RECC board held a meeting with six board members present. Myself, Doug McInnis, Ron Meech the two mayors and Truro councillor, Deb Pryor. Martell added, "It is my belief that those six people, according to the society's act related to how the bylaw is worded, were contravening the act by holding a meeting where motions were made."

Martell's knowledge and her speaking note so accurate, knowledgeable important, as writer, I determined it important for citizens and readers to understand some of the reasons the RECC appears to be a fiasco and how it appears it has been mis-handled.

Continuing with Martell's revelation of recent activities we learn: Once quorum is not met there is a legal obligation to fill those positions. That should have been the only business of the board.

Minutes were approved from a previous meeting on Oct. 20, however minutes from a RECC board meeting held on November 3rd were not approved and are still being held by staff at the County office despite my request as a board member who attended the November 3rd meeting to have them released for approval.

During the Nov. 17 society meeting, new board chair was elected, Doug McInness and the two CAO's of the town and county were given direction to dismantle contracts related to the Nova Scotia Provincial Exhibition Grounds.

It is my belief these actions are invalid and should be struck from the record as the board was not following its bylaws when these decisions were made. Further, the remaining board of just four



Councillor Sherry Martell

people does not have legal authority to change bylaws nor would a board of 6 as has been proposed by the governance model that council voted on December 17th. The change of officer status was also not filed with Registry of Joint Stocks.

This is a pivotal time in our history where our community has rallied to share with us their belief that it should be involved in the operations and the governance of the RECC. A building that they generously, financially contributed to and would not exist without them. We need to listen.

This council needs to understand that what I have shared, the violations of the society, I believe have placed us in a position where we could face a legal challenge and lose. Is this council willing to risk wasting more taxpayers dollars on further litigation? There was a belief

that we would win the CRA wage subsidy appeal. We did not. I believe, there will be huge implications for the Society, and our Council, if it were to be found in violation of the law. Are you willing to take that risk?

My fellow councillors, I know the path ahead is not easy and I know many of us are feeling apathy from what has happened at this table over the past year and more, but this is not a time to disregard truth, or to disregard our community feedback. We can get through this and build a stronger operation while building trust.

Again, I will state, the interim board was doing the work it was asked to do by council, in a 12-month timeline it was given, working with a process that was approved by the entire board.

I ask council to vote down the current motion and listen to my truth based on facts from the Society ACT, and to immediately put forward a new motion to restore the operating agreement to its former state as of Oct. 23 to allow time to formulate a better path forward.

Further, to call a joint meeting with the town and include the organized Adhoc community leaders group of former Society board members to reappoint board members in accordance with society bylaws, setting a path forward for our future.

The Shoreline is always interested in your submissions.

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