

Bay of Fundy Tidal Energy Opinion

By: Brad Marcus
Mechanical Engineering Student
Dalhousie University

I believe that the use of the Bay of Fundy for energy generation is a must for both Nova Scotia and New Brunswick. Since the Bay of Fundy has the world's highest tides it is a logical decision to try and harness this energy. Also with both provinces having mandates to meet a certain percentage of total power generation by renewable means by a set time, why not use one of the best solutions available to meet these needs?

Although I am very much behind the use of tidal energy in the Bay of Fundy I still believe there is more research to be done before suitable locations can be chosen. The best locations will have the smallest impact on both marine life and human activities in the bay, such as transportation and fishing. There is no need to rush into a project like this which has the potential to cause more damage to the environment than the continued use of fossil fuels. The location of the Tidal In-Stream Energy Conversion (TISEC) turbines should be carefully chosen to minimize the impact on local marine life, especially species which are endangered. Research should be done to accurately map the migration patterns of migratory animals along with the home areas of local marine animals. Another aspect to be looked at would be fishing areas. The locations of traps along with the routes of fishing ships should all be taken into consideration as well.

Once enough data has been collected the project could move forward to a trial phase. This would be where the locations with the smallest amount of environment impact would be chosen to test the turbines. The test turbines would have to be observed closely and monitored for many different effects. For example the effects on how the turbines affect the currents around them and how the local marine life interacts with the turbines. This stage would allow the project team to make any adjustments they see fit before the project goes into full scale production. During this period it would also be beneficial to be in contact with the fishers in the area of the test site to see if there are any effects on their catches or if they notice any differences in anything in the area.

There will almost always be someone opposed to any projects suggested, their reasons may differ but there will always be someone that needs justification. The best way to respond to people or groups that oppose a project is to make sure you have as much research done as possible. If any data is missed or left out there better be strong reasoning to justify why the data was left out or missed. If all different aspects and impacts of the project can be clearly explained to the public in terms that they will understand and appreciate then it will be much easier to get their support. Also letting the public voice their opinion before any actions are taken regarding site choice and turbine installation always help to ease their minds if they know their suggestions are taken seriously and any concerns addressed.

A project like this one, which affects both the environment and human activity, should be regulated by the provincial government. The Department of Energy and the Department of Environment and Labour should be the two departments charged with overseeing these types of projects from conception until completion. With these two departments being responsible they would help balance each other out to a point. The Department of Energy would be more focused with getting the most energy they can get while the Department of Environment and Labour would be concerned with protecting the species in the area, along with the people who rely on the bay for their livelihood. This would mean that there would have to be compromises on both sides. These compromises would hopefully be in the best interest of the public.

Nova Scotia (NS) Power should be the company that funds and runs the project. NS Power will have to answer to the above mentioned departments, mostly about location choice. I also believe that the government should help fund projects of this nature. The main part of the project the government should help with would be the testing phase as there is not much benefit for NS Power to do much testing but the testing is needed to understand the possible effects. Once the project is up and running though with NS Power in charge then the power generated can be transferred to customers though the existing NS Power grid. Having NS Power running the project would be beneficial because they are a company trying to make money and if they are buying the power from another company and then selling it to the people of Nova Scotia which would keep costs higher than they should be.

One last thought I have is about the use of the top of a piles that are used for the turbines illustrated in Figure 3.3 of the Jacques Whitford Final Report. I do not know much about wind or tidal turbines but it appears that the top of the pile, used for the turbines in the figure mentioned above, could be used to mount a wind turbine. I do not know how much modification would be needed to do this but it would be an efficient use of what would otherwise be a waste of space. This however is just a thought on trying to obtain the most energy production for a given area.

In conclusion I believe tidal power is a great opportunity for both Nova Scotia and New Brunswick to invest in. With such a great resource like the Bay of Fundy being available it is a pretty logical conclusion to come to. As long as the environment will not be harmed too much and the people who rely on the water for their way of life are not forced to move, then this is one of the best options to help reduce our reliance on fossil fuels.

Thank you for reading my thoughts and opinions on tidal energy use in the Bay of Fundy and if there are any other opportunities that I can get involved in this project I would very much enjoy doing so.