

Southwest Nova Scotia Tidal Energy Resource Assessment

Volume 5: Community Engagement

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Introduction

The Southwest Nova Scotia Tidal Energy Resource Assessment (the Project) included community meetings held in Digby, Yarmouth, and Shelburne counties. The objective of the meetings was to engage users of the marine environment, in particular the local municipal governments, fishing, tourism, and First Nations communities. The following sections outline the meetings held and a summary of comments from participants followed by details of First Nations engagement activities achieved through the completion of a parallel but separate Mi'kmaq Ecological Knowledge Study (MEKS) in the Project area.

Local Government & Stakeholder Meetings

Meetings were organized with each of the 5 municipal governments in the Project area. The government representatives were encouraged to invite additional local stakeholders. A meeting was also organized in Westport for communities on Brier Island and Long Islands, which are located adjacent to primary focus areas of the Project (Grand Passage and Petit Passage). The Westport meeting included representatives from; the Villages of Westport, Tiverton & Freeport, port authorities, and two whale watching companies. Informal discussions with local water users (including fishermen, Coast Guard, whale tour operators, and recreational users) also occurred during the course of the reconnaissance activities. A meeting with port authorities from Digby and Saulnierville was also held.

The presentations, supporting documents and information were provided in print and digital format for future reference and to ensure the information reached those that could not be in attendance. A point of contact with each municipality was established to enable ongoing dialogue and distribution of the final report. Participants were also made aware of the forthcoming Acadia Community and Business Tidal Toolkit as a key resource for public, government and industry stakeholders to provide more in-depth detail on any of the topics raised in the course of these community engagement meetings. Continued community engagement should include follow-up meetings to discuss the findings of the Project report.

Representatives from the following organizations and businesses participated in the various meetings:

- Bay Ferries Limited
- Innovative Fishery Products
- Local Fisherman
- Mariner Cruises
- Municipality of Argyle
- Municipality of Clare
- Municipality of Digby
- Municipality of Shelburne
- Municipality of Yarmouth
- Pirate's Cove Whale & Seabird Cruises
- Port of Digby
- Port of Saulnierville
- Shelburne County Sustainable Development Coordinator
- Shelburne Sustainability Committee
- Tiverton Board of Trade
- Tiverton Harbour Authority
- Town of Digby
- Town of Lockeport
- Town of Shelburne
- Village of Freeport
- Village of Tiverton
- Village of Westport
- Westport Harbour Authority

The primary focus of each session was to provide background information and solicit feedback and input from stakeholders. Representatives from the NS Department of Energy, OERA and Fundy Tidal Inc. (Fundy Tidal) gave presentations and answered questions.

The Department of Energy outlined current government policy and activities related to Tidal Power development in the Bay of Fundy including the Renewable Energy Act, the Nova Scotia Marine Renewable Energy Strategy and details of the small-scale tidal Community Feed-In Tariff (COMFIT) and developmental tidal Feed-In Tariff.

OERA provided an overview of their mandate and relevant R&D activities which included the Bay of Fundy Strategic Environmental Assessment (SEA), tidal research in the Bay of Fundy, the small-scale tidal Gap Analysis and the Mi'kmaq Ecological Knowledge Study (MEKS) Phase I completed for the Upper Bay of Fundy and the MEKS Phase II for the Outer Bay of Fundy that was underway during the period the Project.

Fundy Tidal provided an overview of the Project objectives, timelines, methodology and the roles of the participants involved including Dalhousie & Acadia Universities and the Nova Scotia Community College. Fundy Tidal led the question and answer sessions regarding details of tidal turbine technologies, the tidal power project development cycle and interconnection to the electrical grid in the region.

Requirements for siting of small-scale tidal devices were explained including consideration of water depths, current speeds, proximity to electrical infrastructure, and existing use. Meeting participants were requested to provide recommendations for locations to conduct tidal energy potential reconnaissance based on these considerations.

Tidal power resource has been the focus of attention for several years in Digby and Clare regions, thus participant interest was focused on infrastructure, economic potential, local benefits and potential impacts to existing industries rather than providing information on potential sites for investigation. Recent work associated with in-stream tidal energy development has not focused on the Argyle, Shelburne and Yarmouth areas. Meeting participants and informal discussions with local water users from these areas resulted in several recommendations for sites to focus reconnaissance level data collection.

Common themes and discussions at all meetings included:

- the COMFIT program;
- grid limitations;
- the role and opportunities for the municipality and local business;
- the turbine technologies involved;
- sustainable and environmental development;
- potential impact on the fishery and other existing users; and
- R&D activities completed, in process, and planned.

Municipal Counsels were knowledgeable about the COMFIT program, either as proponents or through interaction with other proponents seeking project approval. Other COMFIT projects in the Project area include wind and combined heat and power initiatives. All municipalities have participated in the development of Integrated Community Sustainability Plans with Digby Municipality being most supportive of tidal power activities. Several participants expressed an interest in how tidal power resources could be included in their Coastal Zone Management activities as well as a component of their overall strategies for integration of renewable energy. An overarching interest from participants was to ensure that all aspects of tidal development proceed in an environmentally and socially responsible manner.

A common challenge expressed by all was the lack of available capacity on the local distribution system to accommodate any form of renewable energy generation. Although not directly within the Project scope, these limitations and possible solutions were discussed including the use of storage, smart grid technologies and through increasing load on the local distribution system by attracting new businesses to their regions.

The merits of offsetting fossil fuel combustion by converting fishing fleets and/or passenger ferries to diesel-electric arose at several meetings, including the recent interest from the NS Department of Transportation & Infrastructure to replace an aging ferry that currently services Grand Passage. The conversion of municipal infrastructure to electric heat and the expected increase in the use of electric vehicles by government, business and residential users was also seen as a long term opportunity to increase local production of renewable energy.

Several municipalities inquired regarding benefits that may arise to the municipality and local businesses, including involvement as a project developer under the COMFIT program and taxation matters that may benefit the municipality. Questions regarding use of local ports and supply chain in the exploration, development and ongoing operations of tidal power installations were raised. Highlights of the Marine Infrastructure Study commissioned by the Province for southwest Nova Scotia that assessed local ports, infrastructure and supply chain requirements to support both tidal and offshore wind developments were provided with directions on how to obtain the full report. Interest in the potential development of offshore wind in the region was raised and participants were directed to Marine Infrastructure Study report for further insight into long-term opportunities that may impact these communities.

Participants were particularly supportive of the importance of developing tidal energy as a local industry, providing a source of economic development and stimulus. Many see tremendous potential to grow the tidal industry in Nova Scotia with the Project area being a key source of infrastructure and expertise for both small and large-scale tidal power initiatives. The importance of this 'pioneering' work to advance tidal technologies and build capacity and expertise in the industry is seen as an important opportunity to develop and in so doing contribute to both the local and Nova Scotian economy.

The Westport and Digby meetings also included discussion of opportunities that may arise from the testing and demonstration of tidal devices and supporting technology, the establishment of a marine renewable energy incubator and ongoing R&D activities with local universities including marine mammal research. The importance of ongoing R&D especially regarding environmental issues to insure stakeholder support was expressed repeatedly. Meeting participants expressed a desire to include where possible the Université Sainte-Anne and local branches of NSCC in research and development.

Participants also recommended that local tourism businesses and local fisheries be included throughout the tidal energy development process to ensure that these primary industries are not adversely affected. Although areas potentially targeted for tidal energy deployment were generally perceived to be areas where little to no fishing occurred, it was acknowledged these water ways were high traffic areas for all marine vessels and consideration must be given including permitting by Transport Canada for navigable waters.

The matter of exclusion zones around turbine installations was also raised with the interests of lobster fishers, dulse and clam harvesters and draggers in mind. The drifting of lobster trap lines, the presence of rope in the water and entanglements from seaweed were flagged as matters that should be taken into consideration.

Technology related questions focused on distinguishing small-scale in-stream tidal power systems from barrage or lagoon technologies, traditional hydropower facilities, the Annapolis Tidal Power Station and larger-utility scale technologies as planned for the FORCE berths in the Minas Passage. Device size and footprint were discussed and examples of existing technologies were presented. Several participants made inquiries as to the status of project development in the area, financing, timing of installations, and if a decision had been made on which technology would be used. Participants were informed that the results of the Project would assist in making these decisions and that no specific technology commitments had been made and would most likely not occur until 2014.

Technology questions regarding the equipment and methodology used to conduct the study were also addressed. Interest in other applications for in-stream power conversion technologies were raised on several occasions including deployments in estuaries such as the connection of the Bear and Sissiboo Rivers to the sea, effluent from waste water treatment systems and man-made outflows, and the potential for off-grid applications such as powering aquaculture operations.

First Nations Engagement

During the course of the Project a Mi'kmaq Ecological Knowledge Study (MEKS) was conducted in the Digby County area.

The Province of Nova Scotia identified the need for a Phase II MEKS for potential marine renewable energy development in the Brier and Long Islands area of the Bay of Fundy, including Grand Passage and Petit Passage. The Phase II study builds upon the 2009 MEKS in the Upper Bay of Fundy to ensure that Mi'kmaq use of the land and resources are identified and considered. The following is paraphrased from the full study which is available on the OERA website at

www.offshoreenergyresearch.ca/Portals/0/MEKS_BayofFundy_PhaseII_FINAL7Sept2012.pdf

This MEKS was conducted by Membertou Geomatics Solutions for the Nova Scotia Department of Energy and Fundy Tidal. Fundy Tidal was involved due to COMFIT project developments underway in Digby Gut, Grand Passage, and Petit Passage.

- The MEKS study area was a five kilometre (5km) radius of the Fundy Tidal project sites, which include: an area in the Digby Gut around Bay View, and Victoria Beach;

- the southern tip of Digby Neck, including East Ferry, Petit Passage, and a northern portion of Long Island including Tiverton to just northeast of Central Grove;
- the southern tip of Long Island, including Freeport, a north-eastern part of Brier Island, including Westport and Peter Island, as well as Grand Passage; and
- a southwest portion of Brier Island, extending into the Bay of Fundy and Gulf of Maine.

The objectives of the MEKS were twofold:

- To undertake a broad MEKS for the Bay of Fundy Phase II Area as it may relate to future renewable energy projects (i.e. wind, tidal and wave), specifically in the Phase II Area of the Bay of Fundy), and
- To undertake a more focused MEKS review specific to the Fundy Tidal project areas.

This MEKS mandate is to consider the land and water area that the project will utilize and identify: a) Mi'kmaq traditional use activities that have or are currently taking place within, and b) what Mi'kmaq ecological knowledge presently exists in regards to the land and water that may be affected by project development. In order to ensure accountability and ethic responsibility of this MEKS, the MEKS development has adhered to the "Mi'kmaq Ecological Knowledge Protocol". The protocol is a document that has been established by the Assembly of Nova Scotia Mi'kmaq Chiefs, which speaks to the process, procedures and results that are expected of a MEKS.

The MEKS consisted of two major components:

- Mi'kmaq Traditional Land and Resource Use Activities, both past and present, and
- a Mi'kmaq Significance Species Analysis, considering the resources that are important to Mi'kmaq use.

Numerous interviews were undertaken by the MEKS team with Mi'kmaq hunters, fishers, and plant gatherers, who shared details of their knowledge of traditional use activities. The interviews took place in February and March, 2012. These informants were shown topographical maps covering the study area and asked to identify where they undertake their activities as well as to identify where and what activities were undertaken by other Mi'kmaq. All interviews were voice recorded with permission of the interviewee for the sole purpose of data verification. If permitted by the interviewee, their information was incorporated into the Geographic Information System (GIS) data. These interviews allowed the team to develop a collection of data that reflected the most recent Mi'kmaq traditional use in this area.

The data gathered was also considered in regards to Mi'kmaq Significance Species Analysis. Each species identified was analyzed by considering their use as food/sustenance resources, medicinal/ceremonial plant resources and art/tools resources. These resources were

considered for their availability or abundance in the study area and their availability in areas adjacent to or in other areas outside of the study area, including their use, and their importance, with regards to the Mi'kmaq.

This MEKS has also gathered, documented and analyzed the traditional use activities that have been occurring within the study area, by undertaking interviews with individuals who practice traditional use or know of traditional use activities within these areas and reside in the nearby Mi'kmaq communities.

The Phase II MEKS identified Mi'kmaq Traditional Use Activities occurring in the study area, including potential for tidal energy developments to affect Mi'kmaq traditional use, specifically commercial fisheries. The MEKS report recommends that proponents for tidal energy development in the study area meet with the Assembly of Nova Scotia Mi'kmaq Chiefs to determine possible future steps to be taken in regards to Mi'kmaq use.

SWNS-TRA Community Engagement Summary

Meetings and discussions were held with key stakeholders from municipal governments, First Nations, marine industries (including fishing) and tourism operators. Overall, participants were interested and supportive of the Project objectives, and recommend that tidal energy developments proceed in an incremental and environmentally and sustainable conscious manner. Continued engagement of the local fisheries and additional existing water users was recommended as being essential to the success of tidal energy development.

Stakeholders were enthusiastic about the socioeconomic opportunities that may arise from the projects and the establishment of an industry in the region to service local, provincial and international opportunities in the marine renewable energy industry. Support for local supply chain companies to be involved, and the role of the various Port Authorities was seen as a positive outcome of developments. Developing relationships with First Nations including involvement in the process and consideration of their significant and traditional uses of proposed sites are key elements for successful development of tidal energy projects.

Distribution of the final Project report and follow-up meetings with stakeholders provide further opportunity to maintain relationships, continue the dialogue and provide ongoing input and feedback.