

Request for Proposals

Assessment of Tidal Benefits to Nova Scotia

RFP Release Date: March 4, 2019
Proposal Due Date: March 25, 2019

Contract Manager

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Context

The Nova Scotia Department of Energy and Mines (NSDEM) has identified the need to evaluate what benefits to Nova Scotia can be realized by continuing its investment in tidal energy. The Province of Nova Scotia and the Government of Canada are about 10 years into this country's experiment with tidal energy. It was believed that being a 'first-mover' in this new sector would offer many advantages including access to a new renewable energy source, improved energy security, rural jobs and global opportunities for supply chain companies to name a few. After 10 years of sector development, NSDEM is seeking to revisit initial economic development assumptions in order to identify existing and emerging opportunities for Nova Scotians.

Without question, there have been huge strides in advancing this sector that are a direct result of the Governments' commitment to support the growth of tidal energy. These include the creation of the Fundy Ocean Research Center for Energy (FORCE), the development of site characterization and environmental monitoring approaches, and improvements to subsea technologies. At the same time, there have been many challenges along the way, as to be expected when creating a new sector. Development in the sector has appeared to slow on a global scale. Areas such as the UK, who have been leading this sector development along with ourselves, are taking a step back from tidal and embracing offshore wind to meet their renewable energy needs. Despite the positive situation we have created in Nova Scotia including the FORCE test center, grid connect ability, legislation and a healthy feed-in tariff regime to incent development, there are no operating tidal devices generating energy for Nova Scotia. Technical, environmental and financial challenges remain for developers keen on harnessing the power of the tides. This study will determine if and how these challenges can be overcome to create a viable tidal energy sector in Nova Scotia.

Objectives

The Department of Energy and Mines has identified a need to take a closer look at what, exactly, is the opportunity that tidal energy may bring to Nova Scotian companies and citizens. As it stands now, globally, tidal energy is developing at a slow pace. This should not come as a surprise as it is a new sector with many challenges; technological, environmental and financial. On top of this, other renewable energy sources, such as wind (onshore and offshore) and solar, are increasingly cost-competitive while tidal energy costs remain high.

Previous work has been done to capture the value in tidal energy but the slow pace of development both in Nova Scotia and abroad has made these studies dated and potentially misleading. This 2019 study is meant to identify the real benefits to Nova Scotia if the Province continues to invest in early stage tidal development. What are the implications for both ratepayers and taxpayers? What are the opportunities, locally and globally, for businesses that can work in this industry? When will tidal energy be commercially competitive with other renewables and how will this be achieved?

Scope of Work

This work will cover:

Under the following development stages;

- a. 25MWs over the next 5 years (2020 – 2025),
- b. Up to 50MWs (2025 – 2030) and
- c. 100MWs total in the 5 years after that (2030 – 2035)

Cost and Value

- Explain what the potential cost (infrastructure, subsidies, energy rate (tariff) would be required.
- Explain what value (jobs, technology, manufacturing, supply chain) is brought to Nova Scotia at each stage.

Opportunity

- Describe where the tidal energy opportunities are globally that Nova Scotia technology and supply chain companies could pursue, at today's level of market commitment and today's energy prices, and at projected future prices.
- Explain what spin-off opportunities there may be for Nova Scotia companies. Show examples.
- Explain what tidal energy associated work can be done in Nova Scotia.
- Explain what tidal energy work is portable (will disappear once over) and what is likely to remain in Nova Scotia.
- Explain if there remains a "first-mover advantage" for tidal energy in Nova Scotia or has the opportunity passed to other jurisdictions.
- Explain the scale of wider ocean industry opportunities, and for what sort of products/services.
- Explain what the opportunities are comparing investment into research and development vs commercialization.

Benefit

- Describe if there is evidence that tidal energy offers significant incremental energy system and economic benefits compared to competing renewable technologies at a similar scale.
- If so, explain what the energy rate (tariff) is at which these incremental benefits are equal to the incremental cost (i.e. the tipping point).

Recommendations

- Explain how Nova Scotia can realize the most benefits for our local supply chain.
- Explain how the findings from above fits with current Nova Scotia tidal policy as outlined in the Marine Renewable Energy Strategy and Marine Renewable-energy Act.

Deliverables

Kickoff Meeting/Conference Call:

The OERA will hold a kick off meeting/call to confirm methodology and timelines.

Draft and Final Reports:

Deliverable #1: Interim Meeting – Progress Update

Deliverable #2: Presentation to Committee and DRAFT Final

Deliverable #3: Final Report

Project Timelines

The following timelines outline the Association's general expectations with respect to timing. It is anticipated this project can be completed within 6 months.

1. RFP release date: March 4, 2019
2. **Proposal due date: March 25, 2019**
3. Consultant selection: April 15, 2019
4. Project kickoff: Within 1 week after selection.
5. Bi-weekly progress updates via email or phone.
6. In-person presentation/draft final report: August 28, 2019
7. Project completion: September 30, 2019

Proposal Requirements

1. The proposal should be concisely worded with clearly described objectives, methods, timelines and outcomes. Maximum 10 pages excluding appendices.
2. The proposal should include a description of the Respondent's company and its relevant experience with similar projects. The Respondent must also describe the relevant work experience of the staff assigned to this project and their roles on the project. Please refrain from including excessive corporate or biographical information, including CVs.
3. Familiarity with the Nova Scotia marine renewables industry, along with a working knowledge of the global tidal energy sector is required.
4. This funding is open to non-Canadian entities as well as project teams consisting of Canadian and non-Canadian partners. Funding cannot be used for travel costs.

5. The proponent shall agree, at its sole cost and expense, to take out and keep in full force and effect throughout the term of the Agreement, the following insurance:
 - a. Commercial General Liability Insurance (CGL) – Minimum coverage \$5,000,000, with OERA listed as additional named insured;
 - b. Errors and Omissions Insurance (E&O), if applicable – Minimum coverage \$1,000,000
 - c. Workers Compensation Board (WCB) coverage

Application

The contracting organization for this RFP is the Offshore Energy Research Association of Nova Scotia (OERA). OERA leads energy-related research projects that enable the sustainable development of Nova Scotia's offshore energy resources through strategic partnerships with academia, government and industry.

A single electronic document is sufficient. Please include:

- One (1) Cover Letter** –signed by an officer or equivalent with signing authority to bind the Respondent to the statements made in the proposal.
- One (1) Proposal Copy** – As described in Proposal Requirements section above.

The electronic copy should be uploaded in WORD and/or PDF format to the OERA-FTP site available at: <https://oera.sharefile.com/r-re833202fa004c1ca> The file name should include an abbreviated form of the proponent's name.

Questions and Clarifications

The OERA will accept questions from interested applicants. A Q&A page will be available on the OERA website: <http://www.oera.ca/news/requests-for-proposals-funding/current-opportunities/>. The names and organizations of those submitting questions will remain anonymous; only the question and requisite OERA response will be posted. Interested parties are encouraged to check the Q&A page for updated information and/or clarifications that may help in completing their proposal.

Please submit your questions by email to Gregory Decker, Research Manager (gdecker@oera.ca).

Evaluation

As shown below, proposals will be quantitatively evaluated against a set of criteria by the project management committee (PMC). The PMC consists of representatives from the Department of Energy and Mines, and OERA.

Factor	Weight
<p><u>Experience and Knowledge:</u></p> <p>Qualifications and capabilities of the company and project delivery team; demonstration of local and international knowledge relevant to this study.</p>	40%
<p><u>Project Plan, Approach and Methodology:</u></p> <p>Proponent demonstrates an understanding of the project service requirements and has outlined a clear and effective work plan. Proposal describes the objectives, methodology, milestones and deliverables that will be used, and a sound approach in undertaking this project. Communication format and frequency between the Respondent and PMC are clearly described.</p>	40%
<p><u>Timeline:</u></p> <p>Proponent describes an achievable timeline with well-defined milestones and demonstrates the ability to complete the work on or before the desired completion date.</p>	5%
<p><u>Cost:</u></p> <p>The project will offer very good value for the proposed budget. The budget is clear, complete and well described.</p>	10%
<p><u>Proposal Presentation</u></p> <p>Includes all RFP requirements, demonstrates attention to clarity, grammar, presentation, comprehensibility, etc.</p>	5%
<p><u>Total</u></p>	100%

RFP Postponement/Cancellation

OERA may, at its sole and absolute discretion, reject any and all, or parts of any and all, proposals; postpone or cancel at any time this RFP process; waive any minor irregularities in the RFP or the responses received as a result of this RFP.