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Task Force on Sustainable Tidal Energy Development in the Bay of Fundy

Final Report



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Task Force on Sustainable Tidal Energy Development in the Bay of
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Introduction

On June 20, 2023, the Honourable Joyce Murray, then Minister of Fisheries, Oceans, and the Canadian Coast Guard and the Honourable Jonathan Wilkinson, Canada's Minister of Natural Resources, announced the establishment of a Task Force to explore issues and opportunities associated with the deployment of tidal energy projects in the Bay of Fundy, specifically to:

- build on work to date to clarify requirements for fish protection;
- improve transparency and methodology of risk assessment and decision making for tidal stream energy device deployments; and,
- reduce turnaround time for regulatory decisions for tidal energy projects in the Bay of Fundy.

The Task Force is co-chaired by Fisheries and Oceans Canada (DFO) and Natural Resources Canada (NRCan). It includes members from the Government of Nova Scotia, industry, and research organizations (see Annex 1).

The Task Force released an Interim Report in September 2023 and committed to releasing a final report that would identify progress achieved and areas considered for future action.

The Task Force held eight meetings in person, a number of working level meetings with various members to support its work, and direct engagement sessions with members of the tidal energy sector, Indigenous groups, and stakeholders. The Task Force visited the Fundy Ocean Research Centre for Energy (FORCE) site in Parrsboro, Nova Scotia, where it met with the FORCE Community Liaison Committee, and visited Wolfville, Nova Scotia, where it met with representatives of the commercial fishing industry that operates in the Bay of Fundy, and Indigenous groups. The Task Force also met with tidal energy proponents in Halifax. All other Task Force meetings were held at the Bedford Institute of Oceanography in Dartmouth, Nova Scotia. A full list of participants can be found in Annex 2.

This report summarizes progress made and identifies next steps.

Advancing Sustainable Tidal Energy in the Bay of Fundy

Through a series of meetings and expert presentations, the Task Force identified 4 key regulatory issues that challenge timely and commercially viable tidal project development and deployment in the Bay of Fundy:

- The administration of the *Fisheries Act* authorization process
- Environmental risk assessment and monitoring standards
- Consideration of international data and research on environmental impacts

- Consideration of climate change and economic benefits in decision making

The Interim Report concluded with a commitment to advance efforts to address these issues. In response, the Task Force:

- explored flexibilities within the *Fisheries Act* authorization process, specifically the “staged approach” that DFO has applied to tidal energy projects. This included a case study exercise of a hypothetical tidal stream energy project to better understand how DFO’s risk assessment process is applied and to explore how federal regulatory requirements align with the Province of Nova Scotia’s marine renewable energy licences
- established the Risk and Monitoring Working Group to better understand the risk of collision between tidal energy devices and fish (“collision risk”) and to advance development of monitoring tools and approaches for high flow sites
- examined means by which science could be better utilized to support regulatory decision-making with respect to tidal energy devices, including ways to leverage DFO’s Canadian Scientific Assessment Secretariat (CSAS) process; and
- considered ways to continue and expand engagement with associated partners and stakeholders.

Task Force Findings and Ways Forward

The *Fisheries Act* authorization process

DFO is responsible for the conservation and protection of fish and fish habitat, including aquatic species at risk, and must consider whether to issue a *Fisheries Act* authorization, and *Species at Risk Act* (SARA) permit where warranted, when projects are likely to present a risk to fish and fish habitat. Due to uncertainty regarding the impacts of tidal stream energy devices (“tidal devices”) on fish, DFO’s approach to date has been to issue a *Fisheries Act* Authorization for a single tidal device to operate for a period of 1 year, provided all regulatory conditions are met, including an approved environmental effects monitoring and offsetting plan. Under this approach, DFO may authorize additional deployments provided the proponent can effectively monitor the first device for adverse impacts to fish and fish habitat. This incremental and adaptive “staged approach” is one way to ensure that development is informed by the results of environmental effects monitoring programs (EEMPs).

DFO has issued several Authorizations for tidal energy devices and initial phases of projects with its existing approach in the Bay of Fundy, yet the tidal energy sector in Nova Scotia is still at the stage of single device deployments. This stands in contrast to the pace of the sector’s expansion in other jurisdictions. Tidal energy

projects consisting of small arrays of devices have been deployed in other parts of the world. In addition to the 94.5 megawatts (MW) of tidal stream arrays contracted in the UK and 17 MW in France noted in the interim report, a 4MW sixteen turbine array in the UK [was announced](#) November 29, 2023 at COP28.

The Province of Nova Scotia has licensed tidal stream energy projects in the Bay of Fundy under its Marine Renewable Energy Act, including 22 MW of small array projects at FORCE. Licenses at the FORCE site are for up to 5 MW per berth and are 15 years in duration.

Industry indicated that DFO's staged approach effectively treats each tidal device of a multi-device project as a separate project and that this increases the administrative burden and timelines for project reviews, which hampers investment and supply chain management.

The Task Force convened a series of case study discussions that reviewed a hypothetical tidal stream energy project with the intention of clarifying and improving methods for risk assessment and exploring approaches to regulating potential impacts associated with small multi device projects. The discussions yielded the following insights:

- Long term *Fisheries Act* authorizations are issued for whole projects in other sectors, such as hydroelectric facilities, where risks to fish and fish habitat are better understood.
- While the tidal energy sector in Nova Scotia remains in its early stages, there have been numerous tidal deployments globally and extensive scientific research and monitoring studies related to tidal device operations in other jurisdictions and environments.
- The existing research about collision risk has found that the potential impacts of single tidal devices are likely to be low. However, there have been few studies of interactions between fish and operational devices, which “continues to confound our ability to differentiate between actual and perceived risks” ([Copping and Hemery, 2020](#))¹. Environmental context and device design are important factors and there have been few studies on the impact of operating tidal devices on fish in high flow migratory corridors like the Minas Passage in the Bay of Fundy.
- Consistent with the precautionary principle, monitoring requirements should be proportionate to the scale of development. Further, given collision risk uncertainties and the potential for impacts to at-risk species, particularly in the Bay of Fundy, monitoring requirements may need to be adapted over time as projects advance and the understanding of effects

1 Copping, A.E. and Hemery, L.G., editors. 2020. OES-Environmental 2020 State of the Science Report: Environmental Effects of Marine Renewable Energy Development Around the World. Report for Ocean Energy Systems (OES). DOI: 10.2172/1632878.

improves.

- Discussion of the principle of adaptive management led to consideration of how a multi-staged project could be approved while maintaining the regulatory oversight necessary to adapt environmental monitoring requirements to the scale of development, particularly while effects on fish and fish habitat are not well understood. This “deploy and monitor” approach has been applied in other jurisdictions.

Accordingly, risk assessment and monitoring are central to the *Fisheries Act* authorization decision making process.

Risk Assessment

The Task Force discussed approaches to analyzing and assessing the risk of tidal devices to fish and fish habitat. While there are various risks associated with tidal devices, collision risk is the area of greatest uncertainty and interest.

Task Force discussions indicated that more publicly available information on the approaches DFO takes to assessing risk to fish and fish habitat would benefit the tidal energy sector, and tidal energy proponents require clear guidance on DFO’s approach to risk assessment.

DFO’s risk assessment process for tidal energy devices aligns with its national policy approach for the conservation and protection of fish and fish habitat, which is guided by precautionary, ecosystem-based, and adaptive principles. This is intended to ensure the conservation and protection of fish and fish habitat, while managing for uncertainties with complex ecosystem processes through evidence-based decision making.

DFO considers a number of factors related to collision risk including, but not limited to:

- The design of the project including the:
 - swept area of the device(s)
 - location of the devices in the water column
 - shape of the device blades
 - rotational speed and direction of rotation of the blades; and
 - size of the tidal device array, particularly the swept area, relative to surrounding area through which fish may pass.
- The potential effects of the project on fish and fish habitat including:
 - are fish impacted by a strike or by device effects on water pressure?
 - how often are fish proximate to the device?

- o how many fish are proximate to the device?
- o geographic extent of impact: which populations of fish are impacted?
- o duration of the impact?
- The behaviour of fish when they are proximate to a device, specifically the conditions under which fish can avoid a device if they are aware of it.
- If fish are impacted, which species and are they aquatic species at risk?

The Task Force discussed monitoring challenges experienced in assessing fish collision risk with turbine installations in Minas Passage. FORCE's ongoing environmental monitoring program includes environmental assessments related to lobster, fish, marine mammals, and seabirds, as well as tidal device-produced sound. [FORCE has completed](#) over 5,000 marine mammal monitoring days using deployments of multiple sensors, over 500 hours of hydroacoustic fish surveys, lobster baseline surveys, observational seabird surveys, bi-weekly shoreline observations, and marine sound data collection using drifting and bottom-mounted sensors. Currently, in the absence of operating tidal energy devices, there are limitations to what can be achieved with regards to assessments of fish-turbine interactions. Regardless, there have been advancements towards that goal.

In recent years, with NRCan financial support, FORCE undertook two major projects to advance efforts in risk assessment and environmental effects monitoring: 1) a project under the [Pathway Program](#) which tested and assessed a range of acoustic technologies for their effective use in Minas Passage, and 2) the [Risk Assessment Program](#), a multi-partner collaborative effort involving the Ocean Tracking Network, Mi'kmaq Conservation Group, Acadia University and Marine Renewables Canada to create an assessment tool to gauge the probability that fish will encounter a tidal device, based on both the occurrence of fish (acoustically tagged and detected) in the FORCE test area and on the physical conditions in the Minas Passage. Recent drifter studies by Acadia University and FORCE have contributed to more definitive methodologies for assessments of encounter probability for fish, with a focus on acoustically tagged inner Bay of Fundy Atlantic salmon.

DFO is routinely required to manage uncertainty when making regulatory decisions and employs the precautionary principle and an adaptive management approach when doing so. The risks are assessed, the uncertainty is described, and then the effects are monitored to validate the predictions and adapt management and monitoring requirements, as needed.

DFO's staged approach was designed to align with the approaches above and in recognition of both the uncertainties of effects of tidal energy devices on fish and of the ability to effectively monitor in a high flow environment like the Minas Passage.

Revised Staged Approach

Following the case study exercise and extensive internal discussions, DFO has developed a “revised staged approach” for *Fisheries Act* Authorizations for the staged deployment of small arrays of tidal energy devices with clear requirements for fish protection and monitoring.

It includes the following features:

- projects must meet all the requirements of the *Fisheries Act* and associated regulations and SARA, including those related to the Crown’s duty to consult
- aligns with current Provincial licensing of up to 15 years and with the 5MW license per berth at FORCE
- stringent adaptive management conditions that require the proponent to demonstrate, through monitoring, the nature of tidal device interactions with fish
- subject to these conditions, stages that progressively improve the understanding of the impacts of tidal devices on fish, based on the results from environmental effects monitoring
- confidence that, if monitoring is effective and no unacceptable impacts to fish are observed, proponents may deploy additional devices within the same *Fisheries Act* authorization contingent on continued environmental effects monitoring and
- clarity that, if monitoring indicates that the project fails to meet specified standards related to fish and fish habitat and contingency plans cannot be implemented, or impacts to fish are greater than predicted, that DFO may amend or suspend or cancel an Authorization.

The “revised staged approach” is intended to provide clarity to the proponent and flexibility to the regulator to ensure strong environmental protections. Although designed with the conditions in the Minas Passage in mind, the revised staged approach could be adapted to tidal stream energy projects elsewhere in the Bay of Fundy.

The revised staged approach begins by requiring proponents to monitor for fish passing through the swept area of the device as one of the conditions of deploying additional devices. The adaptive management process requires proponents to validate predictions related to the impact of their project on fish. Monitoring requirements are commensurate with the level of risk and scalable as informed by experience monitoring early stage deployments.

For the revised staged approach to be fully effective, improved monitoring approaches to inform risk assessment are required. Consequently, the Task Force

has struck the Risk and Monitoring Working Group to advance work in this field.

Advancing Monitoring

Chaired by Acadia University and FORCE, the Risk and Monitoring Working Group proposes a multi-year project – in concert with local and international partners – to:

- enhance the characterization of collision risk, especially species of conservation concern, with devices in the Minas Passage. Specifically, the project aims to make field measurements and use modelling approaches to determine the probabilities that fish will encounter a device, avoid a device, be deflected from the swept area, and evade a strike with a device;
- identify approaches to improve the transparency and methodology of risk assessment and decision-making by:
 - assessing the effectiveness of monitoring technologies, monitoring program designs (temporal and spatial scales) and approaches to data analysis, and the accuracy and precision of encounter and collision rate models;
 - identifying and addressing specific data, information requirements, and risk criteria for fish and fish habitat to inform the scientific process for evaluating tidal projects, and to support timely assessments, including potential environmental effects;
 - identifying and prioritizing immediate, necessary, and achievable scientific and funding priorities related to risk assessment and monitoring over the short- and long-term; and,
 - developing a science-informed Best Practices Guide for Environmental Effects Monitoring in the Minas Passage that is informed by the effectiveness of various monitoring program designs and technologies as they are assessed. EEMP tools and guides to assist projects will be developed as part of the preliminary work.

Evaluating collision risk will require testing of custom designed suites of integrated instruments and rigorous analysis of data followed by adaptive monitoring approaches with deployed operational turbine(s) for observations of interactions between tidal devices and fish. It will involve close collaboration between industry and academia, with input from scientists and engineers with relevant expertise, regulators, rights holders, and fishers. DFO will be engaged throughout the scoping, study design, and execution of the project.

The aim of the project is to reduce collision risk uncertainty, inform effective monitoring plans, and support regulatory permitting and decision-making. Recognizing the importance of this work to the overall goals of the Task Force, NRCan intends to invest \$300,000 to support the initial phase of this effort.

Considering International Research

All parties agreed that risk assessment should be informed by the best available scientific information. As part of the case study discussions, DFO articulated its approach to considering scientific information. Generally, DFO's initial review of a proposed project is informed by scientific information submitted by a proponent through the application process. DFO staff validate and supplement this information when needed through a literature review, examining both primary peer-reviewed articles and other sources available to them including technical briefings, reports, and any internal documents that may be relevant. This effort summarizes the best available scientific information and the current state of science. This summary is complemented by discussions with relevant scientific experts at DFO and field site visits where required. Depending on the nature of the project, scientific advice may be requested through DFO's peer-review CSAS process.

It was acknowledged that given the rapid advancement of the tidal energy sector globally, there could be expanded participation by DFO in international meetings among renewable energy scientists and regulators from across the world. It was suggested by some Task Force members that opportunities to enhance engagement could include more regular interactions with organizations such as the International Energy Agency's Ocean Energy Systems group. Its environmental effects group (OES-Environmental) works to document and improve the state of knowledge about the interactions of tidal stream devices with the marine environment.

The Interim Report committed to explore ways to leverage the CSAS process to advance the understanding of the environmental effects of turbines. This determination will be made once the Risk and Monitoring Working Group's project is fully scoped and funded, and is further along in defining specific scientific questions that could be addressed through the CSAS process.

Update on Engagement

The Task Force heard from a number of partners and stakeholders as part of its work. Members of the tidal energy sector, the international research community, local Indigenous organizations, local fish harvester representatives, and community groups had the opportunity to engage with the Task Force (for a full list see Annex 2). In addition, interested parties were apprised of the Task Force's deliberations as part of DFO and other Task Force members' regular interactions with partners and stakeholders. Key themes discussed to date include:

- Regulatory efficiency: Some stakeholders expressed a concern with the delay in deploying tidal stream devices at the FORCE site. Although they were encouraged by the Task Force's work, they expressed curiosity and

frustration at the reasons for the delay. They also reported a degree of weariness due to the pace of project development at the FORCE site. Some stakeholders did not agree that DFO's regulatory review process was an impediment to sustainable tidal energy development in the Bay of Fundy, while others noted that it remains to be seen whether modifications to DFO's approach would bring sufficient certainty for investors in tidal energy.

- Environmental effects: Discussions about the challenges associated with environmental effects monitoring indicated that people were skeptical that the risk to fish could be reduced to zero, but that this was not sufficient reason not to proceed with tidal energy. Some participants suggested that environmental effects monitoring is a common requirement and early stage research and development of the required tools and approaches ought to be consolidated and publicly funded. They argue that it is unreasonably onerous and inefficient to have proponents conduct the work individually. There was enthusiasm for the Risk and Monitoring Working Group's proposed common data management system. Participants agreed that it is of common benefit for proponents to participate in this initiative because in a burgeoning industry, all challenges are ultimately experienced collectively.
- Commercialization: Some stakeholders flagged that for the tidal industry to advance, a plan for scaling the tidal industry from demonstration to commercialization is necessary.
- Climate change: Stakeholders expressed concern that climate change considerations may affect regulatory decision making with respect to tidal devices. Some argued that climate change considerations should not take precedence over the statutory requirements of the *Fisheries Act* and SARA, environmental impacts, or Indigenous rights. Some urged for consideration of climate change in support of clean energy projects, while others noted that those kinds of tradeoffs are better suited to impact assessment processes.
- Risk and Monitoring: Stakeholders emphasized the importance of baseline science to inform regulatory decision making. Some argued that not enough has been done to understand the Bay of Fundy. In addition, others argued that the sector should coalesce around a common understanding on how to communicate and discuss risk. Although the Risk and Monitoring Group was welcomed, concern was expressed about the three year work plan given the perceived urgencies facing the tidal energy sector.
- Trust: Some stakeholders expressed concern that the Task Force did not include representatives from other economic sectors active in the Bay of Fundy and argued that the Task Force deliberations were not transparent.

Some First Nations expressed interest in membership on the Task Force and communicated that duty to consult processes must be respected.

- Indigenous partners expressed concern that there are gaps in baseline studies of the Minas Passage necessary to support good decision making about the impacts of turbines. They noted that fishing in the Bay of Fundy is a Treaty right and extends to all of Mi'kma'ki.

Other Findings

In the course of the Task Force's deliberations a number of other issues surfaced.

Bay of Fundy Strategic Environmental Assessment

In 2008, a strategic environmental assessment (SEA) was conducted for the Bay of Fundy. This was a high-level scoping process that provided advice to the provincial government on whether, when, and under what conditions tidal energy projects should be developed in the Bay of Fundy. A second phase of the SEA (an update) was completed in 2014 to reflect the evolution of the tidal energy industry as well as changes in technologies, legislation, environmental effects monitoring, public opinion, and potential social, economic, and environmental effects.

The SEA made 29 recommendations pertaining to mitigation approaches including establishment of the demonstration facility that became FORCE, integration of tidal energy into Nova Scotia's energy mix, ongoing engagement with stakeholders and with Indigenous communities, and approaches to ensuring tidal energy projects co-exist with other marine resource users.

In 2009, the Province of Nova Scotia commissioned a [Mi'kmaq Ecological Study of the FORCE site](#), which recommended meeting with the Assembly of Nova Scotia Mi'kmaq Chiefs to determine possible future steps to be taken regarding Mi'kmaq use of the area. In response, FORCE staff have continued to hold regular briefings with staff at the Kwilmu'kw Maw-klusuaqn Negotiation Office to keep the Assembly apprised of the sector.

Role of FORCE

In Task Force discussions it was noted that, as the tidal energy sector is not yet a mature industry in Canada, project developers would benefit from having access to greater localized knowledge, scientific capacity, and guidance on developing environmental effects monitoring plans that meet regulatory requirements and that would be operationally feasible in the Bay of Fundy. Given FORCE's mandate and its expertise in this area, some members suggested that there may be a greater role for FORCE to offer a more robust suite of services to tidal energy developers.

FORCE was established in 2009 to provide a common facility for testing tidal devices and has the capacity to host small arrays of devices at each of its berth sites. Its

4 subsea power cables can each serve several tidal devices at once and its 30MW capacity substation is grid connected.

Initially FORCE had 2 goals: 1) lower barriers to innovation – if the tides are to produce predictable renewable energy, new and innovative technologies are required; and 2) provide credible stewardship of its Crown Lease area through the collection and sharing of environmental data with regulators and the public.

An important part of FORCE's stewardship mandate relates to environmental monitoring, applied research, and stakeholder engagement. In the course of this work FORCE has acquired significant operational and scientific expertise, with technical assets to serve the demands of the FORCE test site and provide support for project developers. FORCE works closely with and leverages the knowledge of academia, industry, government, Indigenous and community groups to better understand the effects of tidal devices on the marine environment. From an international perspective, FORCE is a leading Canadian contributor to OES-Environmental.

The Task Force discussed the possibility that FORCE could build on its role as a hub – a place that can integrate technical, environmental, and regulatory considerations while fostering innovation, practical applied science, and leadership from an informed, collaborative, independent, and trusted perspective. Some suggested that this could include leveraging FORCE's considerable scientific expertise and maturing understanding of DFO's regulatory process. It was further suggested that in this capacity FORCE could adopt a role as the facilitator or go-between for proponents and regulators to ensure consistency in applications, and become a centre of excellence for developing, demonstrating, and commercializing high flow site monitoring approaches and technologies.

Considering climate change in decision making and growing the clean economy

Task Force discussions continued on the issue of considering climate change in regulatory decision making against the backdrop of the Government of Canada's [commitment](#) to Budget 2023 to grow the clean economy. Since the interim report was published, the Prime Minister convened a Ministerial [Working Group on Regulatory Efficiency for Clean Growth Projects](#). In addition to supporting the Ministerial Working Group, DFO is undertaking an analysis of existing regulatory frameworks and practices that apply to the marine renewable energy sector, with support from the Treasury Board of Canada Secretariat and other government departments, as part of the [Blue Economy Regulatory Review](#). A Regulatory Roadmap will be published in 2024 that will lay out plans to advance regulatory modernization in support of clean economic growth and innovation. Accordingly, policy work related to climate change in the context of regulatory decision making is taking place in an evolving context.

DFO's regulatory decision making with respect to the conservation and protection of fish and fish habitat is made within the legal framework set out by the requirements of the *Fisheries Act* and *Species at Risk Act* and is the basis of DFO's mandate to protect and conserve Canada's aquatic ecosystems for future generations. This framework is a means through which the Department of Fisheries and Oceans is supporting the Government of Canada's commitment to meet the biodiversity targets of the [Global Biodiversity Framework](#), which calls on governments to halt and reverse biodiversity loss.

Consideration of these policy issues rests in processes outside of the Task Force. Growing the clean economy and meeting net-zero commitments will require the expeditious development of clean growth projects, including tidal energy projects, in a manner that complies with Canada's robust environmental protection standards.

Next Steps

The Task Force has delivered or set in motion progress towards its key deliverables to:

- build on work to date to clarify requirements for fish protection
- improve transparency and methodology of risk assessment and decision making on tidal stream energy device deployments; and
- reduce turnaround time for regulatory decisions for tidal energy projects in the Bay of Fundy.

The 15-year conditional *Fisheries Act* Authorization offered by the "revised staged approach" provides greater clarity for tidal project proponents. It offers regulatory and administrative efficiencies by broadening the scope of an Authorization to include the lifecycle of the project while retaining the flexibility needed by regulators to ensure strong environmental protections. The approach eliminates the successive Authorization processes that proponents have to navigate under the existing staged approach. Although designed with the conditions in the Minas Passage in mind, the revised staged approach could be adapted to tidal stream energy projects elsewhere in the Bay of Fundy.

The revised staged approach and the Risk and Monitoring Working Group's projects will improve transparency and methodology of risk assessment and decision making in tidal device deployments.

To improve the understanding of risk assessment and monitoring, DFO will:

- share information on its national approach to risk assessment within the next 6 months
- share information on its considerations surrounding collision risk within 3

months

- develop information materials on its monitoring requirements for tidal energy proponents operating in the Bay of Fundy within 3 months
- support the Working Group's efforts to strengthen approaches to collision risk assessment and monitoring

A number of conditions for development of a sustainable tidal energy sector in the Bay of Fundy have also been raised through Task Force discussions:

- Like other new technology sectors, tidal energy in Nova Scotia has reached some key milestones and experienced setbacks, with many lessons learned in the process. Those active in the tidal energy sector in the Bay of Fundy could continue to strengthen partnerships among and between the tidal sector and its stakeholders and partners, and improve public knowledge about their activities.
- The Task Force heard from some stakeholders that consideration could be given to the role that FORCE could play in setting the conditions for success by offering additional services to tidal projects. FORCE is already at the centre of this work and, based on feedback received by the Task Force, consideration could be given to expanding its role in advancing the development of tidal energy in a positive, responsible, and collaborative way.
- Responsible parties could help ensure that tidal energy is perceived as a viable part of Canada's toolkit to meet its 2050 emissions targets. Through the Canada-Nova Scotia Regional Energy Resources Table, NRCan and the Nova Scotia government are currently working on joint priorities related to economic and energy transition opportunities as Canada moves towards a net-zero future. This is an opportunity to engage on further collaboration in efforts to develop the tidal sector, should this be identified as a priority area by the province. Successful tidal energy project demonstrations could help set the stage for a long-term path for commercialization of the industry in Nova Scotia.
- In addition, NRCan will consider how the tidal energy sector is reflected in energy/environment models as compared to future development plans of the Province to support more careful consideration of the climate change mitigation potential of tidal energy.
- With experience and better understanding of risk through research and monitoring improvements, larger projects may become commercially viable. Once the measures initiated through the Task Force deliberations are underway a process to understand the transition to larger projects could be initiated.

The Task Force has charted a path forward for tidal energy that aligns with Nova

Scotia's current licencing conditions for tidal energy. The Task Force acknowledges that as a relatively new renewable energy sector, there is a dynamic tension between tidal energy developers' need for clarity on DFO's regulatory requirements and DFO's need for flexibility to respond to lessons learned.

The Task Force will reconvene as an oversight committee to track and monitor progress of its deliverables and to provide oversight and accountability to the Risk and Monitoring Working Group. It will meet by the end of June 2024 and again in Fall 2024 to determine the nature and frequency of future meetings. In this capacity, it will continue to engage with partners and stakeholders.

Given the importance of tidal energy device deployment to advancing the Risk and Monitoring Working Group's deliverables, members of the Task Force will continue to engage interested Indigenous groups through existing tables to support partnerships on tidal energy development in the Bay of Fundy. These activities will not replace or substitute the Government of Canada's duty to consult with Indigenous peoples on activities that may impact their rights and accommodate these impacts to rights as necessary.

Annex 1 – Task Force Membership

- **Co-chairs** Fisheries and Oceans Canada: Regional Director General, Maritimes Region and Senior Assistant Deputy Minister, Programs Sector, DFO
- **Co-chair** Natural Resources Canada: Assistant Deputy Minister, Energy Efficiency and Technology Sector, NRCan
- Director, Marine Renewable Energy and Clean Innovation, Department of Natural Resources and Renewables, Nova Scotia
- Acting Executive Director, Policy, Department of Environment and Climate Change, Nova Scotia
- Executive Director, Marine Renewables Canada
- Executive Director, Fundy Ocean Research Centre for Energy
- Chair of Fundy Ocean Research Centre for Energy

Annex 2 – Partner and Stakeholder Engagement

- FORCE Community Liaison Committee
- Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO)
- Confederacy of Mainland Mi'kmaq
- Sipekne'katik First Nation
- Bay of Fundy Inshore Fisherman's Association
- Fundy United Fisherman's Association
- Fundy North Fisherman's Association
- ORPC
- New Energy Corporation
- Schottel
- Eauclaire Tidal
- Reconcept
- Orbital Marine Power
- Nova Innovation
- DP Energy
- Hydroquest
- Big Moon Power
- Jupiter Hydro