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Department of Energy

Comments on the Marine Renewable Energy Regulations

Please accept the following comments on the proposed Marine Renewable Energy Legislation and on the background document provided to stakeholders. Perhaps the most noteworthy statement in all documents is the recognition that this is a public resource and it is of utmost importance that the public are involved up-front and early on in the process and that we all work together to ensure that if in-stream tidal, wave or wind energy are to be sustainably developed that the interests of the public are represented and the people of Nova Scotia benefit from the development of the resource.

Much emphasis has been placed on in-stream tidal, recognizing this need given the current demonstration trials in the Bay of Fundy; any proposed legislation may have to change for offshore wind and wave energy outside of the Bay of Fundy. The engagement of affected stakeholders outside of the Bay of Fundy will have to be undertaken as other technologies are proposed for areas more conducive to offshore wind or wave development. This staged approach will have to happen for both these other technologies.

It has been our extensive experience that federal and provincial environmental assessments do not address socio-economic factors to the degree and level that they should. We are proposing that a separate socio-economic impact analysis be conducted as part of the approval process for all stages of development. The province works out separate development agreement (OSEA's) with each oil and gas developers that spell out what the economic impact and expectations for development of the resource should be. These should be undertaken and should be consistent.

The results of the monitoring of the effects of a proposed activity in the oil and gas industry have not been historically available to the public. Monitoring effects data should be available to the public and all other companies in the renewable energy sector.

Public and stakeholder consultation must be inclusive and meaningful. The consultative process must demonstrate a real commitment to incorporate stakeholder feedback and concerns.

We are recommending that the potential in-stream tidal renewable resource be identified upfront much like the Nova Scotian Wind Atlas but at greater detail. The process for the development of this could include the following processes or steps which could reduce the uncertainty for both developers and current stakeholders:

- Map the tidal in-stream renewable energy potential of the entire Bay of Fundy using current research institutes and government departments. Create a “prospectivity/energy potential” map of the region and make this available to the public. E.g. Gordon Fader’s work from the Bedford Institute of Oceanography. (Gordon Fader gave an excellent presentation at the Geology Matters conference in October of this year. It was an excellent and logical presentation of the geological, geophysical and oceanographic tools and processes that were used to select the initial test sites for in-stream tidal demonstration).
- Working with all local stakeholders in the Bay of Fundy produce an integrated marine resource user map much like the Department of Fisheries created for the Eastern Scotian Shelf Integrated Management process.
- Hold stakeholder consultations and come up with areas that have both high prospectivity and low economic and environmental impact.
- Ensure that demonstration projects operating in areas that lack information gaps and baseline biological, chemical, physical and geological information collect information to fill these gaps as part of their licensing or leasing agreements and are obligated to report this data to a central repository that would collect and disseminate the data much like the CNSOPB lab. This information should also be used to update the integrated resource map.
- Working with affected stakeholders, identify a potential energy corridor route for energy cables to come ashore and/or head off to New England. Guysborough County fishermen worked with Mobil personnel and consultants to come up with an acceptable route for the offshore pipeline into Goldboro. The fishermen also worked with Fisheries personnel to identify an area acceptable for Marine Protection.

The Opportunity

What in your view are the most important opportunities for Nova Scotia?

- It is important that if tidal and wave energy are to be developed that the people of Nova Scotia gain financially from this development and that royalties obtained from independent power producers go into a fund.
- Renewable energy development should not negatively impact existing livelihoods on the water.
- Should this industry develop, financial incentives should be provided for marine businesses existing or with innovative underwater technologies to enhance the possibilities that the local economy can not only benefit from these resource development at all stages but also that similar type expertise may be exported to other jurisdictions. A separate analysis of the skills necessary to participate in this

industry and what potential business opportunities there could be for this industry should be undertaken by government.

- Ensure that the renewable energy needs of the people of Nova Scotia are met **first**.
- All proposed projects at all stages should go through an environmental assessment, the scope of which may narrow as baseline and monitoring information is obtained and made available to the public and as the industry develops.
- A separate economic benefit assessment should accompany any application for marine renewable energy production at all stages in the proposed development scenario. Clear targets should be set for Nova Scotian content, local community content, skills training etc.
- A resource extraction limitation should be modeled at the outset, the value of which would change as more information is obtained. Constant evaluation and modeling of the impacts of energy extraction(kinetic energy) on the physical morphology of the Bay, long shore drift, erosion, sediment redistribution etc.
- Federal and provincial jurisdictional issues and resource ownership should be established before the demonstration projects move to pre-commercial or tidal array stages. There is no sense proceeding too far down the development path, if these issues are not resolved. If payments predominately go to the federal government or claw backs are required, what benefit truly is the development of this industry to the province and local economy. Provincial monies should not subsidize developments if the bulk of the benefits go to the federal coffers.
- A mechanism should be established to halt in-stream tidal generation should the impact of in-stream tidal power create significant kinetic energy changes and environmental impact on The Bay of Fundy.

What are the values that government should focus on when developing legislation that will impact the viability of these opportunities?

- It is important that the benefit of these resources accrue to the local community with the greatest impact and secondly the people of Nova Scotia.
- It is important that the infrastructure to take the renewable energy to markets outside the province is not subsidized or paid for by either the rate payer or the tax payers of Nova Scotia unless there is a royalty paid to the province for energy production that leaves the province.
- Acknowledge and respect that these developments have the greatest impact on the “local” community (rural Bay of Fundy communities).
- Developments related to Marine renewable resources are unlikely to be felt in Halifax, one of only two locations for public consultations for this strategy. Why?

What should the Government of Nova Scotia do to ensure that all users of the marine environment are treated fairly?

- Do not patronize the people of Nova Scotia; provide meaningful and inclusive consultation on the development of this industry. Do not go through the motions

of consultation. Final legislation and site selection should reflect the comments provided by the people or demonstrate that comments were considered in a meaningful way.

- The fishing/recreational/tourism community provides the greatest impact to the local economy, revenues potentially received by the governments that go into general revenues will not impact to the same degree as those from the local area. Do not develop in-stream tidal or wave at the expense of the local community. Realistically most people are trying to stay alive in rural communities. Local impacted communities should not be expected to accept these developments if they do not benefit **significantly**, and **directly**.
- Provide financial compensation for lost revenue to fishermen, recreational businesses etc. if exclusion zones are set up. Fishermen have agreements amongst themselves as to which bottom they may fish, they simply do not pick up and go to another area and encroach upon their neighbours fishing ground if an exclusion zone is set in one of their territories. Loss or damage to gear should automatically be provided. These agreements should be worked out and signed prior to granting of license/leases/permits.
- Ensure that all baseline and monitoring data is public and available for ensuing companies to use.
- The background document notes that OERR, DFO and universities are working on research efforts regarding marine renewable energy and fisheries. What stops the province from talking directly to the fishermen and working collaboratively together to come up with solutions that reduce spatial conflicts?
- The use of “safety zones” is realistic and compensation for loss of activity in an area will have to be addressed. The earlier those areas of the Bay with greater renewable energy prospectivity are identified the earlier a consensus resolution among stakeholders may be worked out.
- Safety zones will be both compulsory **and** rolling, not either/or. During installation, decommissioning etc. the safety zone will widen and later be reduced.

The Global Experience

What lessons can we learn form renewable offshore energy policies around the world?

- Renewable Energy Zones and Renewable Energy corridors for cables are but two examples of best practices that should be adopted.
- Norway’s use of specific zones for renewable energy development is a great idea and the opening of the zones has to be based on impact analysis. As suggested above we suggest this Best Practice could go a step further by working collaboratively with other resource users in the area to further refine those areas with the least impact to existing marine environment users.

Framework for Development of Nova Scotia’s Marine Renewable Energy Strategy

How do we integrate this approach into our current regulatory approach and legislation?

- Strategic Environmental Assessments (SEA’s) are a useful first pass analytical tool for assessing the environmental and social impacts of potential marine renewable energy. They historically have not been used to influence decisions

related to planning, policies, regulation and management early on in the process. Although often SEA's will identify data gaps, these data gaps are not addressed, are overlooked, and development proceeds without filling the data gaps. Measures should be in place to eliminate the environmental data gaps often identified in these SEA's. We view that SEA's are undertaken to satisfy a "regulatory" requirement with very little attention paid to the content. SEA's have been weak on the socio-economic side and should be expanded to include local traditional and ecological knowledge.

Getting Involved: Participation in Marine Renewable Energy Development

How should community interests be considered in project planning and development decisions made by government and regulators?

- Public involvement should be extensive and inclusive early on in the development of renewable energy no matter what stage of development.
- Some form of detailed, scheduled and targeted local Community Benefit Agreement should be in place for each development as part of the permitting process. Failure to incorporate this approach will build community / local opposition to development.

Planning Issues

If other marine users/uses are displaced, how should this be addressed?

- Limit the amount of sea floor that renewables take up. Place power cables in corridors, insist that - despite costs - that GPS type vessels lay the cables thereby allowing the placement of several cables in the same corridor
- In Partnership with the Pilotage Authority, and waterway users determine shipping/traffic lanes after the resource distribution is known.

Economic Opportunities

What features should be included in the licensing system to ensure development takes place in a manner that balances private and public interests.

- It is important that the an extraction limit on the total amount of in-stream tidal energy be set early on and that what ever model is established to measure this upper limit that it is constantly revised as new projects and information is obtained from existing projects be these demonstrations or pre-commercial or commercial arrays come on stream.
- The background document speaks of economic interests in terms of greenhouse gas reductions, a clean energy supply and economic opportunities that would have positive impacts on local communities, knowledge and job creation, trade/export potential and environmental credits, taxes and royalties and eco-tourism. Are small community based in-stream tidal arrays economically viable for local communities when the background documents talks of exporting power for companies in order to achieve economies of scale? Knowledge and job creation in the construction side of development will be limited to skilled trades so that if the province wants to support training in this area it may work. Maintenance will be limited and operation will be remote from a central facility. Develop of the marine service sector for remote monitoring of this sector may be more useful to

- develop. As it stands now, any green credits go to NSPI, not the IPP. Export of excess renewable energy by the IPP could realize credits but it goes to the developer not the people of Nova Scotia. Royalties are the best method to capture benefits and these should be based on production. The background paper suggests that benefits would accrue from the commercial phase, which if as proposed in the background document would be 10-15 years out.
- Much like land based allocation of mineral rights - the leases etc. should be subject both to a minimum work commitment based on size of project and licensing fee per unit of area leased/licensed. If, after time the resource is determined to be feasible a royalty for energy based on production should be received by the province and a local Community Benefit Agreement established.
 - We do not concur that marine renewable energy development has the potential to produce significant financial, environmental and social benefits to local communities and more significantly once reaching commercial viability. Local communities will see very little benefits. The background document does point out that in jurisdictions that have made provisions for communities to accrue benefits, higher rates of deployment are realized than in other locations that do not have benefit systems in place. This is so true - land based wind deployment in Nova Scotia is limited by this factor. Community Benefit agreements could be struck prior to development and we suggest that following: system of royalties or financial incentives, corporate donations to arts and recreational programs, local community facility improvements, training of local people for the specific skills for the industry, financial support for companies starting up or expanding in the marine renewable energy service sector, monitoring of environmental impacts by local community groups and use of local vessels or lump sum or regular payments into a fund for the benefit of local residents. The background document goes on to say these benefit agreements can not be realized until development reaches commercial viability which could be as long as 10 years into the development process.
 - For projects that are moving to development the HADD process provides a very real opportunity. Where habitat is altered, disturbed or destroyed it should be recreated in close proximity to the most impacted community. These compensation proposals should be developed in concert with the regulatory process and in direct communication with the local community.
 - OSEA's are currently used by the provincial government in oil and gas development. Employment commitments, industrial benefits royalties and research and development funding are some aspects of these agreements worked out on a development by development basis. These proposed targets are often not met and there are no penalties for non compliance. The term local benefits has come to mean provincially and not community based. Would feed in-tariffs for small-scale tidal arrays for community-based projects be enough of an incentive given the questionable economics of these smaller scale in-stream tidal developments?

How should Nova Scotia and Canadian authorities/legislation/regulation work together to ensure environmental protection?

- The suggestions that developers would conduct audits of their operations and submit results to government for review does not provide the level of comfort that is necessary in this environment. To a certain degree safety monitoring of operations should be self imposed. However, independent monitoring is necessary. There has been too much of a historical reliance on self monitoring that has not worked to the degree that it should. There is considerable mistrust of self policing and an independent monitoring body may serve to provide greater comfort to the public.

Rights Allocation

Considering the proposed staged development approach what should Nova Scotia use to award development rights?

- First and foremost the jurisdictional boundaries should be resolved. If the Nova Scotian boundary differs depending upon location, how can developers operate under such an unclear system?
- The length of time between staged approaches in other jurisdictions from investigative to commercial is far too long a time period especially pre-commercial to commercial. We assume that the province will not be reaping the rewards of royalties or green energy until the commercial stage. This may lead to delays in commercialization. Preset timelines for each stage needs to be set to avoid delays in commercialization. We believe that any use of public funds at the demonstration phase should be recouped later on.
- Micro-scale projects for demonstration purposes only is fine. The UK limits these to 1MW, this will not test the validity of aggregate arrays as small scale aggregates will not be economic. Several kw sized arrays adding up to the 1MW will not mimic the real world later on, as greater sized arrays will be necessary to obtain the economies of scale. It is expensive to place these mechanisms in the water.

Regulatory Issues

Which regulatory model would be most effective for Nova Scotia: cooperation, collaboration, integration, or other approach?

- Can one realistically develop a new model or approach for offshore renewable energy development without changing the existing system for oil and gas exploration and development? A collaborative regulatory model would be the most realistic. Federal regulatory authorities are not going to give up their regulatory duties just for marine renewable energy. Why not ensure the proper development of the industry by obtaining approval from multiple regulatory authorities that have expertise in the marine area? By the time integration is in place, many mistakes may have been made.