



Ocean Energy

## DISCUSSION PAPER

*December 15, 2006*

*Contract CC 71607001:  
Discussion Paper for the Tenuring of Crown Land for  
Ocean Energy Projects*

Prepared for:  
Neil Banera, MEMPR  
Michelle Porter, MOAL

by

Terje Vold and George Sranko  
Terje Vold & Associates Consulting Ltd.

**OCEAN ENERGY ON CROWN LAND  
In British Columbia**

**DISCUSSION PAPER**

**December 15, 2006**

**Prepared by**

**Electricity and Alternative Energy Division  
Ministry of Energy, Mines and Petroleum Resources**

**and**

**Crown Land Administration Division  
Ministry of Agriculture and Lands**

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

## Ocean Energy Projects on Crown Land

There is growing interest in developing British Columbia's ocean energy potential, and the Ministry of Energy, Mines and Petroleum Resources and the Ministry of Agriculture and Lands are in the process of developing a Crown land tenure operational policy for ocean energy projects. The policy will provide provincial officials and proponents with direction for administration of ocean energy applications to access, investigate and develop ocean energy sites on Crown land, upland and submerged

This discussion paper describes the policy issues and options associated with locating ocean energy projects on Crown land, as well as the pros and cons for the various options. These issues include tenure types, pricing, "first right", due diligence, etc. We invite your comments on the proposed issues and options for Crown land tenure policy for ocean energy projects. Considering the comments received, feedback from provincial agencies and consultation with industry and others, the province will prepare an ocean energy policy document.

Feel free to visit the MEMPR Ocean Energy website at:  
[www.em.gov.bc.ca/AlternativeEnergy/ocean\\_energy/default.htm](http://www.em.gov.bc.ca/AlternativeEnergy/ocean_energy/default.htm)

Please send comments to either:

E-mail: <a href="mailto:Michelle.Porter@gov.bc.ca">Michelle.Porter@gov.bc.ca</a> Fax: 250 356 5450 Attn: Michelle Porter Mail: Land Program Services Branch Ministry of Agriculture and Lands PO Box 9308, Stn Prov Govt Victoria, BC V8W 9N1 Attn: Michelle Porter	E-mail: <a href="mailto:Neil.Banera@gov.bc.ca">Neil.Banera@gov.bc.ca</a> Fax: 250 952 0258 Attn: Neil Banera Mail: Independent Power Producers Policy and Operations Ministry of Energy, Mines and Petroleum Resources PO Box 9314, Stn Prov Govt Victoria, BC V8W 9N1 Attn: Neil Banera
---	--

Thank you for participating in this policy development process.

Neil Banera  
Director, Independent Power Producers Policy and Operations  
Electricity and Alternative Energy Division  
Ministry of Energy, Mines and Petroleum Resources

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

**TABLE OF CONTENTS**

PREFACE .....	3
1.0 PREAMBLE.....	4
1.1 British Columbia Background.....	4
1.2 British Columbia Framework.....	4
2.0 RESEARCH OVERVIEW.....	5
2.1 Purpose .....	5
2.2 Scope.....	6
2.3 Methodology .....	6
2.4 Participants .....	6
2.5 Estimated Timing .....	7
3.0 POLICY CONSIDERATIONS.....	7
3.1 Ocean Energy Projects.....	7
3.2 Crown Land Principles.....	8
3.3 Industry Considerations .....	8
4.0 POLICY ISSUES, OPTIONS AND RECOMMENDATIONS .....	9
4.1 Tenure Type and Term .....	10
4.2 Tenure Administration.....	19
4.3 Application Fees and Rental Rates.....	22
4.4 Priority of Application Acceptance.....	25
4.5 Speculation .....	31
4.6 Related Issues .....	37
5.0 CONCLUSION .....	38
6.0 REFERENCES.....	39
7.0 APPENDICES .....	40
Appendix A: Ocean Energy Project Application Directive.....	40
Appendix B: Jurisdictional Scan of Tenure Type and Rental Pricing .....	43
Appendix C: Other Issues.....	45

## **PREFACE**

British Columbia energy consumption continues to increase. The need to reduce the growth in demand, and manage the link between energy use, greenhouse gas emissions and air quality, will drive efforts toward conservation, greater energy efficiency and the development of additional clean sources of energy, including ocean waves and tidal currents (collectively known as ocean energy).

British Columbia has an abundance of renewable, alternative energy sources such as water (run-of-river), biomass, wind and ocean waves and tidal currents. To date, most of the projects by Independent Power Producers (IPPs) have used run-of-river and biomass resources. Technology plays an important role in reducing energy use per capita or per unit of Gross Domestic Product, without sacrificing economic growth. Considerable opportunities exist to develop and commercialize new energy technologies and renewable energy sources such as wind, ocean energy, geothermal, and biofuels.

British Columbia has significant ocean energy potential – over 6000 megawatts (MW) of potential wave energy and over 2000 MW of potential tidal energy development opportunities alone have been identified to date. Worldwide ocean energy potential (wave, tidal, marine currents, thermal and salinity gradients, etc.) is estimated at 10 – 20 terawatts (TW), which is two to four times the existing electricity consumption of the world.

Ocean energy power projects using modern technologies have only recently begun to appear as demonstration and pilot initiatives around the world. Some projects are within a few years of commercial development, particularly in Europe. In general, the leading countries in terms of ocean energy research and development have established policies to regulate and promote non-hydro renewable energy in a consistent and coordinated fashion.

There is growing interest in developing British Columbia's ocean energy potential, and the Ministry of Energy, Mines and Petroleum Resources and the Ministry of Agriculture and Lands are in the process of developing a Crown land tenure operational policy for ocean energy projects. The policy will provide provincial officials and proponents with direction for administration of ocean energy applications and replacements to access, investigate and develop ocean energy sites on Crown land.

This discussion paper represents an important step towards developing ocean energy policy for British Columbia that is responsive to industry needs and also meets the needs of the province with regard to responsible use of public resources.

## **1.0 PREAMBLE**

### **1.1 British Columbia Background**

The Ocean Energy sector is at the very early stages of development relative to wind and water power. Unlike wind and water, ocean energy technology is still at a pre-convergence phase, and it remains to be seen which technologies will become proven for commercial production of tidal and wave energy. Given global concerns about climate change, the focus on renewable energy production is likely to increase substantially. BC is now a net importer of power, which also puts a provincial spotlight on alternative energy from domestic renewable wind, water and ocean sources.

Given the relative infancy of the ocean energy industry worldwide, there is an opportunity for Canada and BC to play a leadership role in technology development that could be marketed to other jurisdictions (as Denmark has demonstrated with wind power).

To realize the benefits of ocean renewable energy, BC needs to provide an overall policy framework that encourages investment in technology and provides clear guidance to industry. A key part of that overall framework is Crown land operational tenuring policy that supports the sector. Government policy will play a key role in ensuring that ocean energy projects are placed at suitable sites with an assurance of diligent development, where the positive benefits of the project exceed any negative impacts.

There is recognition that increased certainty can be provided by having ocean energy Crown land policy so that industry knows what is expected. There is an important balance to be struck between having a stable and consistent policy regime and one that is responsive to the evolving needs of the sector and the public. Generally, Crown land policy is reviewed at five year intervals, but amendments can be made as warranted in the interim.

### **1.2 British Columbia Framework**

In November, 2002 the Province released the policy document titled "Energy For Our Future: A Plan For BC". This policy, which is referred to as the BC Energy Plan, outlines the actions that will be undertaken to satisfy the province's growing energy needs. The four cornerstones are: low electricity rates and public ownership of BC Hydro; secure, reliable supply; more private sector opportunities; and, environmental responsibility and no nuclear power sources.

In support of these cornerstones, Independent Power Producers will develop new generation, with BC Hydro's role limited to undertaking efficiency improvements at existing facilities. As well, electricity distributors will pursue a voluntary goal to

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

purchase at least 50 percent of their new power supply from BC Clean resources that are renewable or result in a net environmental improvement over existing generation.

At the time of writing, government is renewing its Energy Plan with the aim of developing a contemporary blueprint to guide the future management and use of BC's energy resources over the long term. The Province plans to build on the 2002 Plan with a new vision for electricity, oil and gas, and alternative energy, with greater emphasis on conservation, efficiency and innovation. New policy and regulatory frameworks will be developed to ensure this new energy vision can be achieved.

The Independent Power Producers Policy and Operations Branch is part of the Electricity and Alternative Energy Division (EAED) of the Ministry of Energy, Mines and Petroleum Resources. This Division facilitates thriving, competitive, reliable, efficient and environmentally responsible electricity and alternative energy sectors for the benefit of British Columbians. The Division is responsible for leading the development and maintenance of Crown land operational tenuring policies for independent power producers (IPP) projects.

The Crown Land Administration Division (CLAD) of Ministry of Agriculture and Lands is responsible for the development of a strategic and operational Crown land-use and allocation policy framework for the Province. One of CLAD's key strategies is to lead the development of a responsive provincial strategic Crown land tenuring framework. Crown land accounts for 94% of the provincial land base and as such the province manages over 30,000 land tenures for land uses ranging from agriculture to commercial recreation to log handling to marinas to waterpower. A critical aspect of developing the framework is to ensure it is fair and considers the needs of communities, First Nations and all economic sectors whose businesses depend on secure access to Crown land and resources.

The Integrated Land Management Bureau (ILMB), created in the summer of 2005, is committed to providing high-quality, client-focused Crown land and resource management and information services. Through Front Counter BC, ILMB is providing single-point-of-contact services to businesses and individuals seeking information and authorizations for the use of Crown land and resources on behalf of a growing list of ministries and agencies. As per the *Land Act*, ILMB has a "toolbox" of tenure types and pricing methods to draw upon.

## 2.0 RESEARCH OVERVIEW

### 2.1 Purpose

The purpose of the paper is to provide an information framework to facilitate discussion and ultimately policy building regarding the allocation, application management, tenuring, pricing and administration of ocean energy projects on

*- DISCUSSION PAPER -*  
*OCEAN ENERGY ON CROWN LAND*

submerged Crown land and related upland in British Columbia. The resulting feedback will contribute to the development of the operational policy and procedures for this newly emerging industry on Crown land.

The paper outlines both the broad and specific issues associated with ocean energy projects on Crown land (submerged and upland), and contains options and proposed recommendations to achieve policy that addresses the goals of both ocean energy proponents and the province.

## **2.2 Scope**

The scope of this policy discussion paper is confined to the specific Crown land policy issues and does not include discussion or options regarding:

- First Nations
- Energy Purchase Agreements
- Interconnection/Transmission
- Tax Incentives

The process for considering and addressing First Nations interests is addressed separately by ILMB in accordance with existing government policy direction. The other issues are the legislated responsibility of other agencies that can provide background and options for resolving issues as they pertain to ocean energy.

## **2.3 Methodology**

In an effort to determine appropriate measures to address Crown land policy issues, this paper builds on a review of policy and procedures adopted by other jurisdictions for ocean energy projects on public land onshore and offshore. The recommendations for policy in British Columbia are, in part, a result of research of key jurisdictions such as the UK, Ireland, Norway, Denmark, United States, Australia, New Brunswick and Nova Scotia (for example, see Appendix B), as well as informal consultation with industry representatives and provincial agencies.

The development of policy issues, options and proposed recommendations is one step in the context of a larger project plan within which the other steps include:

- review by the Inter-Agency Land Policy Committee (IALPC) and the Land Operation Policy Committee (LOPC);
- formal consultation with provincial agencies; and
- formal consultation with the ocean energy industry in British Columbia.

## **2.4 Participants**

As noted in the methodology section, contributions to the Discussion Paper to date have been made by:

- the BC Ministry of Energy, Mines and Petroleum Resources;
- the BC Ministry of Agriculture and Lands;

*- DISCUSSION PAPER -*  
*OCEAN ENERGY ON CROWN LAND*

- the Integrated Land Management Bureau;
- the New Brunswick Department of Energy; and
- informal contact with industry representatives/proponents.

Review of the Discussion Paper and drafting of policy will involve formal consultation with:

- Inter-Agency Land Policy Committee (IALPC) and the Land Operation Policy Committee (LOPC);
- provincial agencies;
- ocean energy industry proponents/representatives;
- individuals with experience in the industry.

## **2.5 Estimated Timing**

The target date for a draft ocean energy policy is April 2007. The overall steps ahead include:

- ILMB Policy Committee review of Discussion Paper;
- Provincial agency review of Discussion Paper;
- Industry review of Discussion Paper;
- Policy to be drafted as per consultation (with target date of April 2007);
- Distribute draft policy to agencies and industry;
- Receive comments and make final changes;
- Final approval of new policy.

## **3.0 POLICY CONSIDERATIONS**

### **3.1 Ocean Energy Projects**

Ocean energy projects that involve tidal and wave power have a high capital cost and a low running cost. As a result, a tidal or wave power project may produce limited returns for years, thus presenting challenges to investors.

Pricing objectives need to reflect the need to grow the industry in the short term (10 to 15 years), in consideration of the long-term need for the public owners of Crown land to share in some of the benefits of these projects. This is particularly salient given present-day uncertainties about the resource values available at various sites and the largely unascertained suitability of specific technologies for particular sites. These fundamental uncertainties, which represent an investment risk, are best offset by tenure security and a pricing approach that encourages investment, particularly in the short term.

Wind power policy has been developed with similar perspectives in mind and can serve as a benchmark to assess Crown lands policy for ocean energy. There may, however, be valid reasons why some policy differences should occur given the distinct nature of the two sectors.

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

Ocean energy proponents require at least one year of data on a site to assess the viability of the resource and technology. The single overriding factor associated with high-quality ocean energy sites is the presence of suitably strong tidal currents and/or wave action; with an important secondary factor being proximity to the electricity grid.

### 3.2 Crown Land Principles

A key goal of the provincial government is to increase access to Crown land for environmentally responsible economic growth that benefits British Columbians. The ocean energy industry is a new business sector in British Columbia that requires the use of Crown land resources to develop, operate and prosper. ILMB allocates Crown land for many commercial uses based on guiding principles, which include:

- a) **optimizing access to Crown resources** – faster approvals and fewer delays in the approval process, thus an efficient regulatory process.
- b) **the most suitable use of Crown land** – allocation according to the highest and best use of the land as determined by referrals and analysis will generate the greatest benefits for all British Columbians.
- c) **efficient use** – the utilization of only that land that is necessary for the project.
- d) **diligent use** – utilization of the land for its designated purpose within an appropriate timeframe i.e. tenure cannot serve to reserve Crown land for future use.
- e) **fair return to the Crown** – optimize the financial return to the province from the use of Crown land resource.
- f) **secondary use of the land** – allocating the land in a way that will ensure potential tenures for other compatible uses where possible.

The Crown Land Administration Division is developing a new set of strategic principles, and if completed and approved, may guide the development the ocean energy policy.

### 3.3 Industry Considerations

Ocean energy proponents have business considerations affecting their decisions in relation to any given project. While the province has not conducted formal industry consultation to date, several issues have been raised during informal discussions with proponents. Additionally, MEMPR has learned of issues through contact with the New Brunswick Department of Energy, as well as from research of other jurisdictions.

Key issues identified to date include:

- a) **security for the site** – proponents must invest capital to explore for a viable ocean energy production site and thus desire confirmation of security for the site during the collection of data and for the future (prior to confirmation that the site is indeed viable).

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

- b) **diligent use** – proponents are generally concerned that resource sites should not be “locked-up” by inappropriate speculation, and therefore there is strong support for diligent use of tenured lands.
- c) **emphasize sustainable development** – maximize long term benefits while minimizing costs and impacts on the environment and other users.
- d) **regulatory compatibility and integration** – promote integration with relevant regulatory and operating frameworks, e.g., provincial and federal environmental assessment requirements.
- e) **pricing objectives** -- consider pricing objectives that focus on industry support in the short term recognizing that a successful and vibrant sector should provide more renewable ‘green’ energy and enable higher revenue sharing benefits to the Crown over the long term.
- f) **policy consistency** – aim for consistency with land tenure policies for other alternative energy sectors, while recognizing the differences in the ocean energy sector where there are valid reasons.
- g) **allocation process** – the industry desires a fair, consistent, streamlined and timely process.

The above list does not represent an exhaustive list of industry issues, but simply notes the key issues raised informally to date that are tied to the Crown land aspect of project development.

## 4.0 POLICY ISSUES, OPTIONS AND RECOMMENDATIONS

Ocean renewable energy developers have approached the province with their interests to examine the potential for ocean renewable energy development on submerged Crown land. Many of the ocean energy development issues currently being encountered in BC have also been experienced in other jurisdictions around the world.

The options and proposed recommendations outlined below are based on research of policies and practices employed by other jurisdictions, while considering the specific dynamics of British Columbia’s legislative and policy framework, the provincial government economic goals and the needs of ocean energy proponents.

Until ocean energy policy for Crown land is established, the province has used a combination of standard Crown land policies and tenure tools to make decisions that have enabled ocean energy companies to proceed with site-specific data collection. These policies and tools are outlined in the interim, *Ocean Energy Project Application Directive* issued by MEMPR and MAL, to provide guidance (see Appendix A).

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

For the purposes of discussion, related issues have been presented below in six groupings: Tenure Types and Term; Tenure Administration; Application Fees and Rental Rates; Priority of Application Acceptance; Speculation; and Related Issues. In presenting the issues, an effort has been made to reflect the three phases of development for an ocean energy project:

- **investigative phase** – researching resource attributes, gathering data, site planning, facility design, performing due diligence
- **demonstration (pre-commercial) phase** – installation of demonstration generating devices, performing due diligence
- **commercial phase** – installation of commercial devices producing (and selling) power

Some issues will also have a selection of possible policy options and in some cases a preferred option is identified or recommended. In other cases, the issue has already been reviewed by MEMPR and CLAD and a policy approach has been taken (usually in response to the need to process pending applications). These current approaches have been included in this paper for completeness and because many issues are mutually dependent.

#### **4.1 Tenure Type and Term**

The province employs standard tenure types for the use of Crown land and these provide the foundation of government's many land program policies. Each tenure type suits a certain type of land use and has associated with it specific terms and rights. Some forms of tenure provide for exclusive, intensive use of the land and require legal survey allowing for registration at the provincial Land Title Office, thus providing a high degree of certainty and documents that are "financeable". Other tenure forms are non-exclusive and offer lesser rights at a lesser cost.

*Note: Associated project components such as transmission lines, roads, etc. will be tenured as per pre-existing CLAD policies for these land uses. See land tenure programs at: [http://www.agf.gov.bc.ca/clad/tenure\\_programs/programs.html](http://www.agf.gov.bc.ca/clad/tenure_programs/programs.html)*

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

Tenure Type	Land Use	Term	Rights	Survey/Registerable Interest
<b>Permit</b>	Access for inspections, analysis, etc	Maximum – 2 years	N/A	N/A
<b>Licence of Occupation</b>	Where minimum improvements are required OR As interim tenure during construction or demonstration before moving to lease or SRW	Standard - 10 years  OR Commonly for about 3 years as interim tenure during construction	Non-exclusive use and government may authorize layering of tenures	N/A
<b>Statutory Right of Way (SRW)</b>	Normally used to authorize linear uses	Standard – 30 years	Non-exclusive use and government may authorize layering of tenures	A legal survey will be required at the applicant's expense. The tenure can then be registered at the Land Title Office
<b>Lease</b>	Where substantial improvements are required	Standard – 30 years	Exclusive use and the holder may have the right to exclude or charge the public for the use of the land.	A legal survey will be required at the applicant's expense. The tenure can then be registered at the Land Title Office

Each tenure type is applicable to a distinct phase of an ocean energy project. During the initial investigative phase of a project, the tenure provided is the investigative permit (see 4.1.1). Once a proponent proposes to proceed to the demonstration phase, with the installation of a prototype or demonstration device, the tenure required is a licence of occupation.

For commercial projects proceeding to construction, a two-step tenure process normally takes place. In step one, current practice for waterpower and many land tenuring projects is to issue one general licence of occupation for the entire project area, including ancillary uses, for a 3 year term. This term could be extended, for example by 2 years to 5 years, if there are bona fide delays (e.g. need to wait for turbines to be manufactured and shipped to site for installation).

In step two, once the site is constructed and the generating device enters into the commercial operational phase, a 'package' of tenure types is normally provided to the proponent contingent on the completion of land surveys and other requirements where applicable. For example, a lease is provided for the site of a generating device, a statutory right of way (SRW) for the transmission line that connects to the grid, and a licence of occupation between generation sites (in the case of an "energy farm") as well as for project sites with minimal improvements

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

such as on-shore infrastructure. The *Land Act* prohibits sale of foreshore so private ownership is not an option.

It should be noted that a lease generally grants the tenure holder the ability to exclude other users or the public from the use of the land should that use impact the viability of the project or cause a safety concern. The lease document may state or specify that other users can use the land provided they do not interfere with the operations of the leased improvements. Therefore, the lease may not grant total 'exclusive use' in the sense that no other activities can occur at all, but 'exclusive use' in the sense that no other activities can occur that would have an adverse effect on a project or jeopardize safety.

This two-step tenuring process is needed because the actual siting of generating devices, transmission lines, and other sites with substantial improvements can vary from the construction plan. Therefore it is more appropriate to undertake the legal land survey for improvements after construction is completed. This better protects project infrastructure from damage or causing a safety concern for the proponent, the Crown, and other potential Crown land activities, as the precise location of key built facilities is recorded in the Crown land registry for SRWs and leases.

The other advantage of a two-step process to the proponent is that they do not pay the higher rental rates related to a SRW or lease until after the construction phase when they are in commercial operation, and similarly this delays payment of legal land survey fees until the project is operational and beginning to generate project revenue. The process therefore lessens the 'front end' costs of a project and enhances its viability.

Since proponents often seek financing from a lender to construct a project, and a long-term lease provides the security lenders require, the language in the interim licence of occupation tenure document indicates government's intent to provide a lease where there are substantial improvements following the construction phase provided the proponent completes a legal land survey and any other requirements. This document is registerable and can be used by the proponent to help secure financing.

Since some projects that receive construction approval do not, in fact, proceed and become abandoned, an advantage to government with the two-step process is that they are not prematurely processing several related tenure documents (licences, SRWs and leases) until the project has been constructed and becomes operational.

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

**Tenure Term**

The term of a lease and SRW for wind projects is currently 30 years. Government is exploring the possibility of increasing the term to 40 years in order to align these tenures with electricity purchase agreements with BC Hydro and water licences for waterpower projects. The upside of that change would be improved alignment of tenures and agreements, and improved security of tenure. The downside for industry would be that the *Property Transfer Tax Act*, as per the Ministry of Small Business and Revenue, applies to tenures that exceed 30 years and accordingly would then be applied to the value of the land and improvements.

Recently, a proposal has been made to the Independent Power Producers of BC to allow proponents to survey the proposed area of the footprint of the improvements and then obtain their SRW or lease, thus the Property Transfer Tax would apply only to the land and not the improvements. That said this scenario does involve some risk for the proponent if the improvements do not ultimately end up being constructed as per the survey and obtaining a new SRW or lease prior to construction, a re-survey and the associated costs are then required.

Because of the above concerns, the wind sector is not sure at this time what tenure length it prefers.

<p><b>Option 1</b> <i>Maintain the term of a lease and SRW at 30 years</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• currently consistent with other tenure programs</li> <li>• <i>Property Transfer Tax</i> does not take immediate effect</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• less security for proponent</li> <li>• not aligned with the term of electricity purchase agreements</li> </ul>	<p><b>Option 2</b> <i>Increase the term of a lease and SRW to 40 years</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• aligns these tenures with electricity purchase agreements with BC Hydro</li> <li>• improved security of tenure</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• <i>Property Transfer Tax Act</i> would take immediate effect, downside to proponent is payment of property tax on land and improvements</li> </ul>	<p><b>Option 3</b> <i>Allow the proponent to propose their preference for tenure length in the project application (within the limits provided)</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• provides proponent with maximum flexibility in managing the business</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• <i>Property Transfer Tax Act</i> may become a factor, with potentially higher property tax</li> </ul>
---	---	---

**Proposed Recommendation**

No recommendation; need further consultation with ocean energy sector and government agencies, and coordination with current discussions with the wind and waterpower sectors.

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

4.1.1 Investigation Phase

An investigative permit (IP) is issued by ILMB on a first come, first served basis to a bona fide applicant for a period of 2 years to enable proponents to collect data and determine the siting of investigative technical equipment. The *Land Act* limits the tenure term of permits to no more than 2 years. A second investigative permit may be provided (for 1 or 2 years) if the proponent has demonstrated diligent use during the first permit, or where the project is proceeding through an environmental assessment review to coincide with the review schedule. The investigative permit document itself does not convey exclusive use of the resource or a geographic area, however in practice ILMB does not issue overlapping permits for specific tidal or wave ocean energy investigations.

As the investigative permit rights do not include placing improvements on the land, proponents would also require a licence(s) of occupation for the temporary installation of any test equipment or devices located within the investigative permit area. The term of the licence is consistent with the term of the permit.

Based on informal contacts, it appears the ocean energy sector is generally supportive of the current approach to investigative permits. The reasons for supporting this approach include recognition that it is the best tool under the *Land Act* available; that it is consistent with other renewable energy policies; and that the 2 year term provides an appropriate balance between securing areas for investigation while not tying up areas for speculative purposes. It was noted that 2 years may be a deterrent for some investors who legitimately need more time, but it also can be a catalyst to do work and not tie-up areas as reportedly has happened in some other jurisdictions.

There are some concerns with the approach, including: the 2-year limit may not be long enough to undertake needed investigative work; and the need to explicitly state the role of due diligence in keeping a permit for the full 2 years.

On one hand, concern was expressed that the permit does not explicitly provide 'first rights' to develop the site and therefore does not provide sufficient security for investors. On the other hand, concern was also raised that if 'first rights' are provided in the permit, given a finite number of high-value ocean energy sites, the approach might lead to the ruin of some key sites through the application of inappropriate technology. See 4.4.1.2 and 4.4.2 for further discussion about 'first rights'.

There is also the question of why both an investigative permit and a licence of occupation for installing investigative technical equipment are needed since most bona fide investigations will involve some sort of physical structure – i.e. why not streamline and just issue the licence? In response, the investigative permit generally covers a larger area at a minimal cost, while the licence of occupation

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

is issued for the specific installation site itself and therefore can also be offered at a minimal cost.

MAL and MEMPR have provided interim policy instructing that investigative permits and licences of occupation should be provided to proponents during the investigative phase and that the proponents should provide the applications concurrently, where possible, so as to allow parallel tenure terms for the permit and the licence(s). See Appendix A – *Ocean Energy Project Application Directive*.

**Proposed Recommendation**

That ILMB provide an investigative permit for the ocean energy investigative area and a licence of occupation for the site-specific location of investigative technical equipment.

Options to enhance the approach might include:

- using only a licence of occupation, without a larger area permit, under the assumption that tenure is only required when monitoring equipment is being installed, however this may not provide the security needed over a larger investigative area; and
- stating in the permit or licence document that tenure holders have “first right” to apply for development as this added security would provide greater incentive to investors (also see 4.5.4 on this issue).

4.1.2 Demonstration (Pre-commercial) Phase

The licence of occupation is considered to be the most appropriate form of tenure that could be offered during the demonstration phase of project development. The licence of occupation term can vary though depending on the final tenure type. During informal consultation, most people contacted favoured use of the licence of occupation for demonstration projects with a 10-year term.

**Proposed Recommendation**

The recommendation is that the pre-commercial tenure for a demonstration project should normally be a licence of occupation with a 10-year term. A longer term should only be considered at the special request of the proponent and with the approval of the ILMB Regional Executive Director. The 10 year term would be subject to due diligence (i.e. tenure could be cancelled prior to 10 years if the conditions of tenure are not being met), and the provisions for mid-term replacement enabling a project to be extended beyond the 10 years provided the proponent demonstrates due diligence.

*4.1.2.1 Distinguishing between Demonstration and Commercial Projects*

One issue that requires further clarification is the distinction between demonstration ocean energy projects and commercially operational projects. Some possible criteria for a demonstration project include:

- DISCUSSION PAPER-  
OCEAN ENERGY ON CROWN LAND

- no commercial sale of electricity;
- no electricity purchase agreement in effect;
- revenue on a not-for-profit basis;
- limited investment;
- technology has yet to receive third-party validation; and,
- use of public funding for the project for the purposes of demonstration.

<p><b>Option 1</b> <i>Develop a set of criteria for ILMB consideration through continued consultation</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• allows for more thorough investigation of relevant criteria</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• may create uncertainty for referral agencies</li> </ul>	<p><b>Option 2</b> <i>Choose one or two criteria and develop ‘hard and fast’ rules to guide government and industry</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• provides maximum regulatory control</li> <li>• quicker process could provide referral agencies with greater certainty</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• may overlook key criteria because of inadequate consultation</li> </ul>
--	--

**Proposed Recommendation**

No recommendation. Further input is requested on this issue.

*4.1.2.1 Grouped Demonstration Projects*

A demonstration project site may involve the testing of several generating devices by different companies in order to assess ocean energy technology and to document project impacts. It is possible that more than one technology may prove to be commercially viable for the site, and that therefore more than one proponent may wish to commercially develop the site.

Given this possibility, it is important to consider: i) which company would hold the tenure; ii) what sub-tenuring arrangements might be required; and iii) how should government deal with one or more requests to develop the site for commercial purposes?

**Proposed Recommendation**

No recommendation. Further input is requested on this issue.

4.1.3 Commercial Phase

To date, no applications have been submitted to commercially develop an ocean energy project.

*4.1.3.1 Exclusive and Non-Exclusive Tenure Types for Commercial Phase*

One approach is to include just the footprint for each generating device in the lease, and to cover the remaining area, including the area between devices in the case of an energy ‘farm’, under a licence of occupation. A second approach is to lease the area of influence for the entire project or energy ‘farm’ including

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

submerged cables. The latter approach provides more security to the proponent and better enables the proponent to exclude conflicting uses, however the larger area under the lease means the proponent will be paying more rent for the greater area with greater rights.

Based on informal consultation, there is general support for the mixed-use approach, were only generation sites would receive exclusive use tenures, recognizing that the proponent would not have exclusive use over any area between generating sites or over any required connection lines between sites or the power grid. Also see 4.5.1 on project size as it relates to need for a reasonable sized and justifiable buffer that protects project viability and enhances safety in the project area.

<p><b>Option 1</b> <i>Mixed, exclusive and non-exclusive, tenure types for improved and non-improved lands</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• consistent with other ILMB land use policies</li> <li>• allows for non-ocean energy use over the non-exclusive use area</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• higher land survey costs, given need to survey each generating site</li> </ul>	<p><b>Option 2</b> <i>Single exclusive use tenure type for entire ocean energy project (the energy 'farm')</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• administratively simple</li> <li>• as far as proponent is concerned, provides more security and better ability to exclude conflicting uses</li> <li>• lower survey costs</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• proponent would likely pay more rent</li> <li>• may not allow for non-ocean energy uses</li> </ul>
--	---

**Proposed Recommendation**

Option 1 – Mixed tenure types: exclusive for the site of generating device and non-exclusive for the area between generating devices.

4.1.4 Ancillary Uses

Ancillary uses include transmission lines, on-shore connection to the grid, roads, and docks. Existing Crown land tenure types can be effectively employed to authorize these uses; that is, ancillary uses like transmission lines and roads are tenured under *Land Act* policies specific to a particular land use, i.e. Utilities Policy and Roadways Policy.

**Proposed Recommendation**

Ancillary uses for each project should be assessed and tenured at the same time as the energy generation device(s) using existing policies for these types of uses (e.g. for utilities and roadways).

4.1.5 Remote Community or Small Scale Projects

There is general recognition that the energy needs of remote communities have distinct attributes as well as distinct requirements. The Water Act Regulation denotes three types of categories for power use: (1) power projects that supply a

*- DISCUSSION PAPER -*  
*OCEAN ENERGY ON CROWN LAND*

business need, (2) projects that directly support small residences, and (3) 'general' commercial projects where energy is sold. This approach might also be adopted for ocean energy and the first two could apply to small community ocean energy projects.

Informal consultation has shown general support for using alternative energy sources, including ocean energy, to provide affordable power to remote communities, reducing their reliance on environmentally harmful diesel generators, as well as recognition that small-scale projects generally have less impact.

A Crown lands Community/ Institutional policy exists that could be used for non-commercial projects led by the community or a community organization. This policy provides for nominal rents relative to corresponding commercial use activities.

During informal consultation, it was noted that government has an active program to reduce diesel dependency of rural communities and that an appropriate land tenure policy could support that effort. It was also noted that BC Hydro scales back requirements and costs for small energy projects and this approach could be emulated in ocean energy Crown land policy.

Other feedback included the view that if an ocean energy policy is prepared that supports the sector as a whole that it should also work for these types of projects. Another view was that land tenuring policy was not the best way to address this issue; alternative approaches such as tax incentives and grants may be a better way to support these projects.

Informal feedback favoured a separate pricing policy for these projects. Views ranged from favouring nominal fees for these projects to pricing based on land value only with no participation rental.

The importance of remote community and small-scale projects to foster the sustainable development of the ocean energy sector in general was also noted as these projects directly involve and engage communities and First Nations. Their participation and support can provide the positive sector image needed to grow the industry and move forward with larger projects. From this perspective, it would be very important to encourage and support these projects.

In summary, there appears to be general support for separate policy and pricing approaches to ocean energy in the case of remote communities and small-scale projects. Two options that can deliver this, which are not necessarily mutually exclusive, are noted below.

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

<p><b>Option 1</b> <i>Use the Community/ Institutional policy for non-commercial projects led by the community or a community organization</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• policy is already in place</li> <li>• provides for nominal rents relative to corresponding commercial use activities.</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• may not meet the full range of requirements for remote communities and/or ocean energy sector</li> <li>• would require support of a sponsoring ministry as per policy</li> </ul>	<p><b>Option 2</b> <i>Provide separate policy and requirements for remote communities and small-scale projects</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• policy can be customized to meet the needs of both remote communities and ocean energy sector</li> <li>• consistent with water policy</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• requires further consultation with communities and industry to develop most suitable pricing policy</li> </ul>
--	--

**Proposed Recommendation**

No recommendation at this time; further input requested.

**4.2 Tenure Administration**

Closely associated with tenure type are tenure administration issues. These issues arise from the need to determine methods to manage the tenure and the associated physical aspects of the projects. The decisions on these issues become clauses in the legal agreement between the proponent and the Crown for the lifespan of the project.

4.2.1 Insurance

The province requires proponents to provide proof of, and maintain, insurance for projects on Crown land. \$2 million in third party liability insurance is a frequent requirement for many activities. MAL is reviewing older existing policies with \$1 million requirements, and when those policies are updated, they will likely also include \$2 million. Based on informal consultations, industry feedback suggested that the \$2 million requirement would not be a significant barrier to the sector.

**Proposed Recommendation**

Recommend requirement of \$2 million third party liability insurance.

4.2.2 Security

The province requires security from proponents for situations where the Crown must undergo a clean up due to site abandonment by the proponent, or to act as financial coverage in the case of rental account arrears. As such, the required security amount varies based on the use of the land and rental rates. All wind power project tenure holders are required to provide a bond to MAL. Regarding the ocean energy sector, there appears to be general recognition that a clear

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

formula or approach is needed in policy so that government is consistent and fair to the sector.

Based on informal consultations, most feedback agreed in principle with the requirement for security bonding, however there was concern that a substantial bond requirement could adversely affect, or even kill, projects. Some feedback questioned if ocean energy projects should be subject to requirements similar to wind power as this could be a significant barrier for a very young sector with far greater unknowns than wind or water. There may be valid reasons for treating bonding for ocean energy projects differently than with wind and water given that the sector is just getting started and high front-end costs could significantly stifle investment.

Considerations regarding the amount of bonding to levy include:

- Actual salvage costs to decommission a site (based on an estimate by a professional salvage operator); a practice common for many land tenures and used in wind policy;
- The feasibility to decommission the site if left vacant (i.e., it may be impractical to remove structures installed at some high energy sites);
- Consistency with a decommissioning plan that could be mandatory;
- Potential benefits of some types of infrastructure (i.e., mooring blocks) as artificial reefs;
- The likelihood that government could sell the assets; and,
- The cost of infrastructure installation.

One suggestion was to consider having a non-profit third party organization carry the bond for industry where government (federal and/or provincial) pays some or all of the bonding required, to encourage the development of this emerging renewable alternative energy sector.

For some Crown land tenures, industry associations hold security bonds for their members thereby making it more cost-effective for individual proponents. Examples of this approach include BC Salmon Farmers Association and BC Shellfish Growers Association.

Another approach to potentially lessen the front-end costs of security to an individual proponent is in the issuance to government of an Irrevocable Letter of Credit by a bank or financial institution. The proponent needs to secure this credit. This approach has been taken with some wind energy projects.

A determination of the appropriate method and amount of security for an ocean energy project is required.

<b>Option 1</b> <i>Require all ocean energy project tenure holders to provide a security deposit on a case-by-case basis determined by the use of the land and project scope.</i>	<b>Option 2</b> <i>Design a security requirement that is less costly to the proponent which may transfers some of the risk to government should a project fail</i>
--	---

*- DISCUSSION PAPER -*  
*OCEAN ENERGY ON CROWN LAND*

<p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• consistency with wind power policy</li> <li>• security bonding becomes just one of many financial considerations that commercial entities need to take into account</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• substantial bond requirement could adversely affect, or even kill, ocean energy projects</li> </ul>	<p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• provides recognition that the sector is just getting started and high front end costs could significantly stifle investment</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• lack of consistency with other renewable energy policies</li> <li>• transfer of risk from private commercial enterprise to public is potentially controversial</li> <li>• requires extensive consultation with government and industry to develop most suitable security requirements</li> </ul>
--	---

**Proposed Recommendation**

No recommendation - Seek advice from the Risk Management Branch as this is a new industry. Further input is requested.

4.2.3 Phased-in Project Stages

In some cases ocean energy project capacity, and thus the improvements to Crown land, could be phased in over a number of years. In these cases, should all land required for all stages of the project be outlined in the initial project application and, if so, what should the rental rate be in the interim for the pre-built components?

**Proposed Recommendation**

No recommendation – further discussion required to determine need for special considerations and options.

4.2.4 Tenure Replacement

Replacement tenure means a subsequent tenure document is issued to the tenure holder for the same purpose and area. The current practice for most land tenures is to allow the applicant to apply for mid-term replacement of licences of occupation, leases and SRWs subject to meeting due diligence and other tenure requirements.

Under the wind power policy, tenure holders may apply for a tenure replacement at any time following the mid-term of the tenure. Replacement of tenures is at the authorizing agency’s discretion. The province may decline to replace the tenure or may alter the terms and conditions of the replacement tenure.

Investigative permits are not generally replaced. A further two-year term may be provided, at the authorizing agency’s discretion, when there are legitimate requirements for a longer investigative period (see 4.1.1).

Based on informal feedback, there is general support for the mid-term tenure replacement provisions that are normally applied to Crown land tenures. The

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

ability to obtain a new investigative permit for bona fide reasons was also cited as important by several respondents.

The key issue regarding tenure replacement is the need to apply a due diligence test (also see 4.5.5) prior to replacing the tenure. Normally, a Development Plan is prepared by the proponent and, once approved by ILMB, becomes a condition of the tenure. Due diligence is monitored by ILMB using the Development Plan as the benchmark. If due diligence is not being performed, government has the ability to cancel the tenure prior the end of term. For example, a tenure holder with a 30-year lease may 'mothball' a project after 10 years, and government should retain the ability to immediately cancel the tenure. It is important to note that there may be need for permissible interruptions in operations, for example due to natural disasters.

**Proposed Recommendation**

Maintain current practices as described above; allow the applicant to apply for mid-term replacement of licences of occupation, leases and SRWs subject to meeting due diligence and other tenure requirements.

4.2.5 Monitoring and Enforcement

Under the wind power policy, tenure terms and conditions, including requirements contained in approved Management/Development Plans, act as the basis for monitoring and enforcing specific performance requirements over the life of the tenure.

**Proposed Recommendation**

Maintain consistency with wind power policy as described above.

**4.3 Application Fees and Rental Rates**

The province requires application fees and rental rates for the application and use of the Crown land.

4.3.1 Application Fees

In the case of wind power and ocean energy projects (based on application directive in Appendix A), a fee of \$500 is charged for an application for an investigative permit (as per the *Land Act* Application Fee Schedule), and a cost of \$500 is charged for a licence of occupation application to temporarily install investigative equipment (as per the *Land Act* Application Fee Schedule: General Industrial). A fee of \$3300 is charged for an application at the development stage as per the *Land Act* Application Fee Schedule: Alternative Power Projects. It is estimated that, on average for all Crown land tenures, the application fee at the development stage covers less than 50% of the actual costs to government.

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

In the case of ocean energy, based on informal feedback there appears to be general support for the application fees for the investigative permit and at the development stage, noting that: (1) the fees seem reasonable and not prohibitive; and (2) that it is consistent with other alternative energy projects. One expressed view was that a lower development fee should be charged for smaller projects (<100KW). Another view was that the \$500 investigative permit fee should be considerably higher to prevent claim staking.

**Proposed Recommendation**

Maintain current practices as described above for wind power and in the Ocean Energy Project Application Directive; maintains consistency with other alternative energy projects.

4.3.2 Rental Rates

The province generally applies four methods for implementing rental rates associated with Crown land tenures:

- percent of land value - land value is either set by appraisal, reference to actual land value as set by the BC Assessment for property taxation purposes, or approximated by zone land values established by the Crown Land Utilities Policy.
- percent of revenue (i.e. revenue sharing or participation rental).
- royalty system - generally used where there is removal of a commodity from the land.
- fixed amounts – annual rentals being calculated in accordance with a pre-formulated rental amount that varies with land area or size, or type/number of facilities on the land.

*4.3.2.1 Investigative Phase*

Investigative permit rentals are a flat rate standard for all Crown land uses at \$250/annum. Licences of occupation have a rate of \$500/annum for minimal areas such as the limited area required for the temporary installation of test equipment or devices within the investigative permit area (see 4.1.1).

**Decision**

Rental rates for investigative permits are \$250/annum and minimum rates for licence(s) of occupation are \$500/annum; maintains consistency with other alternative energy projects.

*4.3.2.2 Demonstration and Construction Phase*

Based on industry's request to keep up-front costs low and the application of the Public and Private Utilities policy, the most appropriate rental rate method for the demonstration and construction phase is the Public and Private Utilities policy zone rates for the entire project area (see section 4.3.2.4 Rental Value Method).

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

**Proposed Recommendation**

Use Public and Private Utilities policy zone rates for the entire demonstration and construction area.

*4.3.2.3 Commercial Operational Phase*

The four methods used by the province for implementing rental rates (set out above in 4.3.2) tend toward certain types of land uses. For wind power projects in BC, the annual rent is based on a percentage of land value using zone land value from the Crown Land Utilities Policy. In addition to the land rents, an annual participation rent based on gross revenue derived from the energy produced is also charged (after a 10-year grace period) ranging from 1 to 3 percent of gross annual revenues based on the project's annual production factors. The annual production factor is defined as the actual energy produced on the site and delivered to a purchaser during the previous 12 months, divided by the total nameplate capacity of the site multiplied by the number of hours in a year, expressed as a percentage. The wind power policy provides a further description of this approach (see [www.em.gov.bc.ca/AlternativeEnergy/windpower/](http://www.em.gov.bc.ca/AlternativeEnergy/windpower/)).

Based on informal feedback, it appears that the ocean energy sector generally supports taking the same approach for ocean energy as taken for wind power. Key reasons include: (1) the nature of the two industries is sufficiently similar that it should work, and (2) it would ensure consistency of treatment between the two sectors.

When compared to rental methods for other similar Crown land uses and in other jurisdictions, the pricing methods that appear most appropriate for ocean energy leases therefore include the percent of land value, and percent of revenue (participation rent). This approach provides consistency with wind power policy.

**Proposed Recommendation**

Charge rental rates for ocean energy projects based on the **percent of land value** and **percent of revenue** methods. This maintains consistency with other alternative energy policies, notably wind power.

*4.3.2.4 Rental Value Method*

For wind power projects the annual rental value is based on a percent of zone land value. The province is permitted by policy to conduct site-specific re-appraisals where there is market evidence to support higher rates for utility uses of the land.

In the case of a wind power license of occupation, the percentage used is 7.5 percent of the zone land value from the Utilities Policy (or revised land value if appraised). The utilities zone rate is partial taking at 50% of land value because generally land over which utility lines run can support other land uses. But as the intensive use areas with the ocean infrastructure is not likely to be able to support another land use, the annual rental is 7.5 percent of two times (2x) the

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

zone land value, or full zone land value, from the Utilities policy or revised land value. The minimum annual rental is \$500 per year.

In the case of a wind power lease, the annual rental for intensive use areas is 8 percent of two times (2x) the zone land value (or revised land value if appraised). Once again, the factor of two is used as per above. The minimum annual rent is \$500 per year.

**Proposed Recommendation**

No recommendation. This requires discussion with industry.

*4.3.2.5 Timing of Rental Rate Implementation*

In the case of long-term leases, some phasing-in of rental rates is consistent with other jurisdictions surveyed and recognizes requests from industry to maintain low up-front costs to allow projects to proceed and be successful. As previously noted for wind power leases, a 10-year grace period is in effect before a participation rental is charged, in support of the long-term viability of projects. The land rent component is charged from the beginning of the lease.

Based on informal feedback, there appears to be strong support in the ocean energy sector for a similar approach in order to reduce rental fees during the initial phases of project implementation; including a 10-year grace period for participation rental as appropriate. This would provide consistency with the wind sector.

**Proposed Recommendation**

Phase-in rental rates for ocean energy leases, with immediate implementation of the land rental component and a 10-year grace period before the additional participation rental is implemented.

**4.4 Priority of Application Acceptance**

The ocean energy industry has a tendency towards “staking” given the site-specific nature of high-value resources. For this reason, a process for confirming the order of application acceptance should be included in policy. While MAL and MEMPR are in favour of the “first right” concept, further consideration is required for situations where “first right” is not clear or has been forfeited. In addition, the Discussion Paper anticipates separate policy requirements for remote or small scale applications received from individuals or communities who do not have access to the provincial electricity grid and would like to reduce their dependence on fossil-based electricity generation.

4.4.1 General Allocation

*4.4.1.1 Short-term Tenure Allocation*

The allocation of Crown land for potential ocean energy project development is addressed in one of three ways in other jurisdictions: pre-planning, first come first

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

served, or competitive bid. In the case of wind power in British Columbia, the Province reserves the right to allocate land for wind power sites through a range of processes, namely: First Come First Served; Planned Disposition, where wind energy will be marketed through a competitive process; and Bonus Bid, for sites with known demand. In normal practice, the first come first served method is used for acceptance of wind power applications and allocation of short-term tenure.

Based in informal consultations, there appears to be general support for allocating short-term tenure for ocean energy projects on a first come first served basis. This is consistent with the approach taken for several other Crown land use applications, including wind power.

**Proposed Recommendation**

Maintain current practice by allocating short-term tenures on a first come first served basis, subject to basic eligibility requirements.

*4.4.1.2 Long-term Tenure Allocation*

The same basic approaches discussed in 4.4.1.1 above can be used for allocating long-term tenures for ocean energy projects. For example, in Ireland ocean energy proponents have “first right” to apply for long-term tenures once a project is deemed commercially viable and due diligence has been successfully demonstrated under the investigative permit. In other jurisdictions, such as the UK, a competitive allocation process is undertaken during the commercial phase in order to maximize the return to the public. This is especially true for “high-value” resource sites where a ‘planned disposition’ approach is taken through a competitive process.

An overarching government objective is to move towards an integrated alternative energy policy approach where wind, water and ocean energy are treated consistently, where appropriate. The ‘first right’ approach is being applied to wind, however the technology is better known. There is some concern that applying the same approach to ocean energy could result in the inappropriate application of technology. However, given the relative infancy of the ocean energy sector, uncertainty with respect to what is the ‘right’ technology, there is a need to initiate and learn from projects.

In the case of wind power, the province generally grants first right of development to those proponents who have successfully met the due diligence requirements of the investigative and demonstration phases and meet the eligibility criteria (see 4.5.3). This approach was chosen based in recognition of the similarities between wind power and the mining sector in terms of developers potentially claiming or “staking” potential sites to exclude competitors. Both the wind power and mining processes place the bulk of the “resourcing” responsibility on the developer in exchange for “exclusive use” of a site. The proponent needs security of access to develop the sites in order to obtain investment financing at

*- DISCUSSION PAPER -*  
*OCEAN ENERGY ON CROWN LAND*

the investigation stage. Further support for this approach was based on the lack of comprehensive wind resource data and lack of a suitable financial climate, including “incentives” for industry.

In the case of ocean energy, although high value ocean energy sites in BC are broadly identified, more detailed investigations are needed to more specifically locate sites and their suitability for commercial development. A tidal current resource inventory of British Columbia waters (excluding the Queen Charlotte Islands) was completed for BC Hydro in 2002 (Triton Consultants). The federal government has also documented wave energy resources at a reconnaissance level, and work is currently underway to develop an Ocean Energy Atlas for Canada.

Although sites have been broadly identified, the technology necessary to commercially harness ocean energy is not proven. This is not the case with wind power where the technology is better known. Ocean energy investors therefore need to match potential sites with potential technology which can further increase risk to investors. Despite the high degree of risk involved in ocean energy projects, there are no explicit incentives to industry at this time to foster the development of this renewable resource.

Given this background, informal feedback from industry and government suggests support by some for a ‘first right’ approach, support by others for a competitive approach, and support for both approaches depending on the circumstances.

During informal consultations, views were also expressed to err on the side of cautious development of ocean energy sites. Some felt that is too early to entertain any commercial applications until technology convergence happens, and that the province should focus on encouraging demonstration projects and technology development and not enter into long-term commercial tenures that might result in inferior technologies being applied to, and locking-up, high value resource sites.

Reasons for preferring a competitive process include:

- it might provide the greatest value to the public;
- given uncertain technologies it might prevent inferior technology being applied to high value sites;
- it would promote projects with longer life-spans (e.g. 25 years+ as opposed to 5 years); and
- this approach appears to work well in UK who is viewed as a leader in ocean energy.

Reasons for favouring a “first right” approach at this time include:

- it provides the proponent with the security they need to make investments given the uncertainties of site development (i.e. the lack of detailed studies

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

by government in terms of the location and suitability of high value sites and their suitability means that industry needs to make these investigative investments);

- the importance to get projects ‘going’ so that we learn from them;
- the unlikelihood that that many high value sites would be inappropriately locked up given (i) the low level of investment at this time, and (ii) the need to assess applications and proponents based on eligibility considerations and due diligence prior to tenure issuance;
- consistency with wind power policy and fewer complications administratively.

There were some suggestions for independent third party validation of technology prior to project approval. However it may be difficult to assess what in fact is appropriate technology given that this has not yet been determined, and also ‘who’ would be the authority to make this kind of assessment. There is little precedent of this approach in Crown land use policy in BC. Presumably a proponent willing to invest in a commercial project believes their technology ‘will work’ as they are trying to make a return on their investment.

Some involved in the sector felt that both “first rights” and a competitive process could work. In their view, a competitive approach would be preferable if government did the “value added” work by identifying potential sites in detail. Since government is not doing this value added work at this time, that in the interim, a ‘first right’ approach makes sense. Others felt that government should reserve the right to submit a site to competition to help ensure the most appropriate technology is applied to high value sites.

Although most informal feedback either favoured a first right approach or implied it should be considered first (i.e. by noting need for government value added work, first right of refusal by proponent or government before a competitive process could be considered), a significant number also expressed support for a competitive process at this time.

The primary issue is one of determining the most suitable allocation process for making the transition from the investigative / demonstration phase of an ocean energy project to the commercial operational phase involving long-term tenure.

<p><b>Option 1</b> <i>First Right approach, with eligibility and due diligence requirements</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• consistent with other Crown land use policies, including wind power</li> <li>• provides proponent with security to invest during</li> </ul>	<p><b>Option 2</b> <i>Competitive approach</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• may provides greatest value to public given uncertainty of technologies</li> <li>• benefits proponents with appropriate technology and greatest resources</li> </ul>	<p><b>Option 3</b> <i>First Right approach, reserving the right to undertake Competitive approach in future</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• maximum flexibility for government</li> <li>• potential for greater value to public given uncertainty</li> </ul>
---	---	--

- DISCUSSION PAPER-  
OCEAN ENERGY ON CROWN LAND

<p>investigative and demonstration phases</p> <ul style="list-style-type: none"> <li>• less complicated administratively</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• may allow inferior technology to lock-up high value sites, although eligibility requirements reduce this risk</li> </ul>	<p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• proponent has less security during pre-commercial investigative and demonstration phase</li> <li>• provides less security for original investors</li> <li>• more complicated administratively</li> </ul>	<p>of technologies</p> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• more complicated administratively</li> <li>• may lead to uncertainty for proponent and less security for investors</li> <li>• government would likely need to provide detailed resource analysis of potential sites for competition</li> </ul>
--	--	---

**Proposed Recommendation**

Option 1: First Right approach from investigative permit or demonstration phase to commercial development, subject to eligibility requirements and due diligence including preparation of a Development Plan (see 4.4.2 below). This maintains consistency with wind power policy. Reasons for considering a competitive process are discussed in 4.4.3 below.

4.4.2 First Right

As noted above, the first right approach is recommended at this time. However, as previously discussed, offering “exclusivity” or “first right” to the first in time proponent may not ensure the most qualified proponent receives the right to long-term tenure.

In view of this concern, other jurisdictions have generally applied strict eligibility criteria as part of the allocation process. This is due to the potential cost to the Crown of a failed development as well as the potential for poor return to the public on a high-value resource. It is also a reaction to concerns regarding the potential for land speculators to obtain land authorizations and control high-value ocean energy sites. Given the experience of other jurisdictions, and the infancy of this industry in BC, it is in the interests of those involved for ocean energy proponents to be screened, particularly at the application stage for long-term tenures.

In the UK, for example, proponents are required to demonstrate:

- well-developed business plans and financing arrangements
- suitable technology and engineering of the development
- environmental considerations and commitment to removal of infrastructure and restoration.

In addition to eligibility requirements (see 4.5.3 below), before Crown land tenures are issued in BC for commercial development, a Development Plan (sometimes called a Management Plan) is typically required. For wind power proposals, a completed Development Plan is required as part of the application process. The Development Plan is approved by ILMB and is part of the tenure

*- DISCUSSION PAPER -*  
*OCEAN ENERGY ON CROWN LAND*

agreement and as such becomes part of the legal contract between the tenure holder and the province. Failure to comply with an approved Development Plan is an event of default which if not addressed, may lead to termination of the tenure agreement. A Development Plan is one of the principle ways in which ILMB assesses diligent use.

The Development Plan for wind projects sets out the location of improvements, particulars of construction, schedule of construction, production phase-in, installed turbine capacity; targeted long term production levels, environmental management strategies, site security, public access and safety, reclamation and decommissioning strategies and any other matters as reasonably requested by ILMB. Once a Development Plan is approved by ILMB, the tenure holder must comply with the Plan. The tenure holder must advise ILMB of any extraordinary events that may affect their ability to comply with the Plan. Amendments to the Development Plan can be requested by the tenure holder for ILMB consideration. ILMB, in turn, may request amendments where in the reasonable opinion of ILMB, such amendments are required for environmental, safety, land-use or other similar reasons in the public interest.

The approval of a Development Plan as a condition of the tenure helps ensure the proposed project is appropriate for the site.

**Proposed Recommendation**

Require that allocation of tenure for construction of a generating facility on a first right basis be subject to the preparation and approval of a Development Plan. This maintains consistency with wind power policy, and helps ensure the site is appropriately developed.

4.4.3 Competitive Process

Occurrences where ILMB may initiate a competitive process for ocean energy sites would likely be minimized by the first right approach. Based on informal feedback, there appears to be ocean energy sector support for a competitive process in some specific circumstances such as:

- a) a previously issued tenure has expired without replacement, been cancelled or abandoned; or
- b) a previous proponent did not meet due diligence standards and had the permit/tenure cancelled.

When an investigate permit expires, one approach is to circulate an expression of interest to potential proponents regarding abandoned permits. This has been done in the case of abandoned wind power permits. Another approach would be to let the permit expire and then to leave it up to proponents, by their actions, to decide on a 'first come, first served' basis whether they are interested in obtaining a permit for the area.

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

### **Proposed Recommendation**

Implement a competitive process where there has been formal expressed interest in an ocean energy site by two or more proponents. Otherwise, implement a first come first served approach.

#### 4.4.4 Remote Community or Small Scale Projects

These projects are non-commercial in nature and easily compatible with the first come first served approach to tenure allocation. In the event that more than one community interest submits an application for tenure for the same ocean energy site, the local political level would offer the best forum for determining the priority of application acceptance. In the case of remote communities as discussed in 4.1.5, the Community/ Institutional policy could also provide guidance for determining priorities.

### **4.5 Speculation**

As already noted, there is a speculative element to ocean energy development. Other jurisdictions have implemented policies aimed at mitigating this issue. Methods to reduce speculation can be implemented both during the application process as well as during the terms of the various tenures (i.e., investigative stage). While the implementation of the first right concept can clarify application priority, further policy tools embedded in later stages of the process can help ensure the diligent use of Crown land in a timely manner.

#### 4.5.1 Project Size (Area)

During the investigative and demonstration phases of a project, a maximum sized area offers a method to reduce speculation. The *Ocean Energy Project Application Directive* (see Appendix A) states that investigative permits (and accordingly the application area) will be issued for areas not exceeding 50 ha for straits or narrows less than 5 km in width and up to a maximum of 500 ha for offshore areas. Requests for larger areas are at the discretion of the ILMB Regional Executive Director. Also, if a proponent needs a larger permit area, they can apply for more than one permit provided they demonstrate due diligence. The intent of providing a maximum sized permit is to help prevent speculation that ties up large areas and prevents other legitimate investors from investigating sites.

The Directive does not address the size of projects at subsequent phases of ocean energy development because the focus is on the investigative phase. The ocean energy sector generally agrees that the land area under lease should only include the areas directly affected by the energy project. This approach helps ensure opportunities are not foreclosed to other proponents.

This philosophy is in line with the general Crown land principle of efficient use of the land and thus a proponent does not receive more land for a tenure than is required by the project. Thus, there is no need to provide a maximum project size

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

in policy. Based on informal consultations with industry, most contacted felt that this it is not desirable at this time to specify a maximum project size area in policy since the appropriate area needs to be determined on a case-by-case basis. There are so many types of ocean energy projects and so many potential technologies that to speculate on a maximum size now seems premature. That said, some felt a maximum size could be specified in the future based on experience with operating projects.

The issue of buffers around the actual infrastructure area was raised during informal consultations. Several contacts indicated overall support for a restricted exclusive-use project area provided that a reasonable sized and justifiable buffer area is recognized.

A buffer area around the project infrastructure would offer two primary benefits:

- enhances safety, for example where the project can affect navigation, there is a need for buoys to warn ships; and,
- protects viability of the project by ensuring another structure is not built that could interfere with the generating device, for example, by building a structure up-current that impacts the natural ocean energy dynamics that the project relies on.

The buffer surrounding the project could be tenured using a licence of occupation but would need to convey the authority to ensure safety and project viability. For wind power projects, the policy indicates that government will maintain a buffer area between the area of any new wind application and the area of any pre-existing wind power project application or tenure.

### **Proposed Recommendation**

1. Maintain current practices limiting the size of the application area and setting a maximum size for investigative permits as set out in the *Ocean Energy Project Application Directive*.
2. Restrict long-term leases to the specific project area (as recommended in 4.1.3.1).
3. Do not to specify a maximum size for commercial projects at this time.
4. Apply a buffer to the extent necessary to enhance safety and protect project viability by (a) issuing a licence of occupation for the buffer and/or (b) policy direction to ILMB regarding the adjudication of a new tenure application as per wind power.

### 4.5.2 Number of Applications

In the ocean energy sector and others, including wind and water, the question has arisen as to whether the number of applications under adjudication per proponent should be limited. This issue is closely tied to due diligence; i.e., if due diligence requirements are in place and recognized up front then proponents are likely to apply only for the number of sites they have the financial capability to develop.

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

It is important to note that there is a distinction between the number of applications and the number of sites. Under the *Ocean Energy Policy Directive*, a single application may include a number of equipment sites. The standard number of sites requested for a single application fee generally would be less than five, but greater than five sites could be included in a single application at the discretion of the Regional Executive Director.

**Proposed Recommendation**

Maintain current practice; due diligence requirements provide an appropriate method for controlling the number of applications from any one proponent.

4.5.3 Eligibility Criteria

Due to the potential claim staking and speculative nature of the industry, there is strong support for some form of criteria to be applied to proponents receiving the “first right” opportunity to ensure that speculators do not lock-up and control high-value energy resource sites. There is also concern that inappropriate technology not be applied at high resource value sites.

Eligibility criteria, when combined with other methods, such as due diligence requirements (see 4.5.5) and restrictions on assignment (see 4.5.6), can go a long ways towards controlling speculation and helping to ensure that tenured projects are indeed appropriate. That said, ocean energy development is a new industry in BC, so the eligibility requirements should not be so onerous as to curtail project development opportunities. And they also need to be realistic with respect to the capacity of government to apply the requirements.

A coarse screen approach would simply involve standard ILMB eligibility requirements (company name and incorporation number, corporate structure and consultants) and project details (extent of investigation, quality of the data on which a project is based, and proposed market for the electricity).

A fine screen approach might include a pre-qualification exercise requiring evidence of financial resources (details of shareholdings, details of consortium, copies of accounts for last 3 years) and technical expertise (details of development expertise, details of ocean energy device expertise, and third-party validation of production claims).

<p><b>Option 1</b> <i>Coarse screen for applications</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• administratively straightforward</li> <li>• consistent with other land policies like wind power</li> <li>• can be “backstopped” using diligent use</li> </ul>	<p><b>Option 2</b> <i>Fine screen for applications</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• only “qualified” proponents able to tenure a site</li> <li>• provides substantial protection to the Crown</li> </ul>
--	---

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

<p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• will not provide full protection to the Crown</li> <li>• greater potential for under-resourced proponents and/or inappropriate technology to lock up high value resource sites</li> </ul>	<p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• complicated, time-consuming and likely difficult to implement</li> <li>• still may not be able to prove that an applicant has necessary financial resources</li> <li>• inconsistent with other land policies</li> </ul>
---	---

**Proposed Recommendation**

Option 1 – Coarse Screen. This is consistent with approach taken for wind power projects.

4.5.4 Option to Lease

In the case of wind power policy, the ‘first right’ approach means an option is granted to the holder of the investigation phase of tenures to be the first applicant for the long-term wind project tenures over the same Crown land area.

A “first right” Option to Lease document provides the holder with the ability to exercise the option to develop the site upon confirmation of viable energy resources and provides the proponent with security to the site in the interim. A lease is a registerable interest in land that can be mortgaged.

In the case of ocean energy, a determination needs to be made as to whether a similar document should be developed or policy confirmed that ILMB will not issue overlapping investigative permits. This document or a reasonable facsimile would be issued during the term of the investigative permit/licence and upon receipt of all required fees.

**Proposed Recommendation**

No recommendation – requires consultation with industry and legal counsel.

4.5.5 Due Diligence

Diligent use of the Crown land is required for all land uses. Currently, ILMB requires that proponents with investigative permits demonstrate that they are collecting data or expending similar effort and finances as part of the due diligence assessment for short-term tenure.

Specific requirements for due diligence in the case ocean energy tenures could be based on: 1) requiring data-collection stations be installed within 12 months of obtaining the investigative permit; 2) construction of the approved project commencing within two years and/or become operational within three years of receiving tenure for construction and operation. The proposed Development Plan when approved, as discussed in 4.4.2, is one of the principle ways in which ILMB assesses diligent use.

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

Tenures could include a clause noting that non-completion of works within the specified timeframe may result in termination of the tenure. In this way, speculators can be clear that the Crown land cannot be “reserved” for future consideration depending on the energy market, financing, etc. For example, to curtail inappropriate staking that ties-up areas, a diligent use clause could enable the cancellation of a permit (or licence) after one year if insufficient work has been performed (i.e., lack of data collection).

Note: Any due diligence compliance requirement could be subject to process timing associated with the Environmental Assessment Office and Canadian Environmental Assessments.

<p><b>Option 1</b> <i>Base due diligence requirements for tenures on specified milestones, e.g.:</i></p> <ol style="list-style-type: none"> <li>1. data collection stations constructed and operational within 12 months of permit commencement date;</li> <li>2. generating device constructed within 12 months of permit commencement date; and,</li> <li>3. project construction must begin within 2 years and/or become operational within 3 years of licence commencement date.</li> </ol> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• consistent with Aquaculture policy</li> <li>• limits speculators</li> <li>• refines general ILMB principle of due diligence</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• requires compliance monitoring and enforcement by ILMB</li> </ul>	<p><b>Option 2</b> <i>Do not specify timelines for due diligence</i></p> <p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• administratively simple</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• puts Crown at greater risk of projects failing</li> <li>• lost opportunity to reduce speculators</li> </ul>
--	---

**Proposed Recommendation**

No recommendation – Due diligence should be implemented, but further discussion with industry will aid in determining specific requirements. Further input requested. This issue is also linked to the need for a Development Plan as discussed in 4.4.2.

4.5.6 Assignment

Before tenure on Crown land is assigned to a new company, the Province must provide prior consent. There are a variety of reasons for this including ensuring that the new company:

- is provincially or extra-provincially registered under the *Business Corporations Act*;
- has the required liability insurance;
- provides a new security bond;

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

- signs off the Development Plan that is legally appended to the tenure (otherwise that document may not be contractually binding);
- has the resources to honour the tenure agreement; and,
- is aware of special issues like contaminated sites and has the resources to meet requirements.

The province may approve assignment subject to conditions. For example, if the new company does not have the necessary resources to deal with contaminated sites, the province may approve the assignment subject to the original company being liable for site clean up. This helps prevent a company with sufficient resources from transferring tenure to a company with insufficient resources, and then filing bankruptcy, potentially leaving the Crown with a problem. In the case of wind power policy, a Development Plan (existing or new) is required before assignment.

For the investigative permit, the *Land Act* prohibits assignment of tenure. If a transfer of ownership occurs, and it is deemed appropriate that the new company hold an investigative permit, then ILMB cancels the permit for the original company holder at the same time as they issue a new permit to the new company. This provides for a seamless exchange. The new permit would have the same conditions, including due diligence, and expiry date as the original permit.

One issue is to determine what constitutes a new company. It is suggested that if the majority shareholders are the same, but the minority partners change, this should not constitute a company change provided the name of the company has not changed. A change in company name could trigger the need for government consent.

Based on informal consultations, there appears to be strong support within the ocean energy sector for consent of the Province before assignment of tenure to a new entity, partially in response to the claim staking and speculation.

Restrictions on assignment when combined with other methods, such as eligibility criteria and due diligence requirements, can be instrumental in controlling speculation.

### **Proposed Recommendation**

Maintain current practices as described above; assignment not permitted without prior written consent by government or subject to certain conditions. Ensure that the conditions for assignment are consistent with those set out in the Wind Power Policy (for example, by making an approved development plan (existing or new) a condition of assignment).

*- DISCUSSION PAPER -*  
*OCEAN ENERGY ON CROWN LAND*

#### 4.5.7 Sub-tenuring

Land policy for many other sectors, including wind power policy, will generally allow sub-tenuring with prior written consent of the province. The reasons for this include many of those provided above for assignment. The speculative aspects of sub-tenuring may arise if the original tenure holder has no intent to develop a site, but would rather sub-tenure to another company.

In the case of wind power policy, MAL may set terms and conditions on sub-tenure approvals. These include, but are not limited to, the term of the sub-tenure agreement, and a commitment by the sub-tenant to the existing Development Plan of the primary tenure-holder or a new approved Development Plan.

Once again, restrictions on sub-tenuring when combined with other methods, such as eligibility criteria and due diligence requirements, can be instrumental in controlling speculation.

#### **Proposed Recommendation**

Maintain current practices as described above; sub-tenuring not permitted without prior written consent by government. Recommend that the Province reserve the right to set terms and conditions on sub-tenure approvals as specified in the Wind Power policy (for example, by making an approved Development Plan (existing or new) a condition of sub-tenure). This maintains consistency with other land policies, particularly wind power.

#### **4.6 Related Issues**

Supplemental issues are noted in Appendix C for consideration and discussion purposes. For the most part these other related issues can be addressed and mitigated on a project-by-project basis during the adjudication process. They however can serve as a check-list of additional considerations for both the proponent when preparing a Development Plan and for ILMB when considering applications for demonstration or commercial development.

#### Monitoring Data

Currently, ILMB requires that proponents with investigative permits demonstrate that they are collecting data as part of the due diligence assessment for this short-term tenure. ILMB, however, does not ask for the actual data collected.

Some proponents suggest that the Province should require that the data be submitted to government. Under this approach, government would agree to hold this data in confidence as long as the proponent holds tenure over the area. If the proponent is no longer interested in the area, government then can release the data so it contributes to the provincial knowledge base regarding ocean energy resources. The information could be used to focus new investigative work at the most promising sites (e.g., by by-passing the site if the data shows it to be poor, or by investigating the site further if the data suggests promise).

*- DISCUSSION PAPER -*  
*OCEAN ENERGY ON CROWN LAND*

There is some concern that the data collected via a permit will be lost entirely unless its submission to government becomes a tenure requirement.

**Proposed Recommendation**

Require that monitoring data be submitted to ILMB as part of a tenure agreement.

## **5.0 CONCLUSION**

This paper serves as an overview of the issues associated with the development of policy and procedures to address ocean energy project development on Crown land in British Columbia. The myriad of policy issues are closely interconnected and should be considered in relation to each other and in the context of provincial social, environmental and economic goals. British Columbia can learn from the experiences of others and implement some of the same measures with respect to ocean energy development. Consideration must be given to which measures are appropriate in the British Columbia context.

We welcome your feedback on this Discussion Paper.

## 6.0 REFERENCES

Alternative Energy and Power Technology Task Force Chair. 2006. A Vision and Implementation Plan for Growing a Sustainable Energy Cluster in British Columbia. Submitted to Province of BC. [www.em.gov.bc.ca/AlternativeEnergy/Alt\\_Energy\\_Home.htm](http://www.em.gov.bc.ca/AlternativeEnergy/Alt_Energy_Home.htm)

Land and Water BC Inc. 2003. Wind Power on Crown Land in British Columbia – Discussion Paper.

Ministry of Agriculture and Lands. 2005. Land Use Operational Policy – Form of Crown Land Allocation. [www.al.gov.bc.ca/clad/leg\\_policies/policies.html](http://www.al.gov.bc.ca/clad/leg_policies/policies.html)

Ministry of Agriculture and Lands. Community and Institutional Use of Crown Land. [www.al.gov.bc.ca/clad/leg\\_policies/policies.html](http://www.al.gov.bc.ca/clad/leg_policies/policies.html)

Ministry of Agriculture and Lands. Land Use Operational Policy for various ancillary uses such as utilities and roadways. [www.al.gov.bc.ca/clad/leg\\_policies/policies.html](http://www.al.gov.bc.ca/clad/leg_policies/policies.html)

Ministry of Agriculture and Lands. 2005. Land Use Operational Policy – Waterpower. [www.al.gov.bc.ca/clad/leg\\_policies/policies.html](http://www.al.gov.bc.ca/clad/leg_policies/policies.html)

Ministry of Energy, Mines and Petroleum Resources and Ministry of Agriculture and Lands. 2005. Land Use Operational Policy – Wind Power Projects. [www.em.gov.bc.ca/AlternativeEnergy/windpower/](http://www.em.gov.bc.ca/AlternativeEnergy/windpower/)

Ministry of Energy, Mines and Petroleum Resources and Ministry of Agriculture and Lands. 2006. Ocean Energy Project Application Directive. (also see Appendix A) [www.em.gov.bc.ca/AlternativeEnergy/ocean\\_energy/](http://www.em.gov.bc.ca/AlternativeEnergy/ocean_energy/)

Ministry of Energy, Mines and Petroleum Resources. 2005. BC Clean Electricity Guidelines. Prepared by Electricity & Alternative Energy Division. [www.em.gov.bc.ca/AlternativeEnergy/bc\\_clean\\_electricity\\_guidelines.htm](http://www.em.gov.bc.ca/AlternativeEnergy/bc_clean_electricity_guidelines.htm)

Ministry of Energy, Mines and Petroleum Resources. 2006. Survey of Ocean Renewable Energy Tenures and Regulations in Key Jurisdictions. Prepared by G. Sranko for Electricity & Alternative Energy Division.

Province of BC. 2002. Energy for Our Future: A Plan for BC (also referred to as the BC Energy Plan) [www.gov.bc.ca/empr/popt/energyplan.htm](http://www.gov.bc.ca/empr/popt/energyplan.htm)

## 7.0 APPENDICES

### Appendix A: Ocean Energy Project Application Directive

Regional Executive Directors  
All Front Counter BC Managers

File: 12705-01 IOCEAN  
Ref:

*DIRECTIVE 2006-07-04*

#### Ocean Energy Project Application Directive LAND USE POLICY- Ocean Energy

##### 1.0 PURPOSE

To provide direction to the Integrated Land Management Bureau (ILMB) for ocean energy proposals, including application fees and requirements.

##### 2.0 BACKGROUND

Ocean Energy is a new Crown land use which has arisen in the past few years in British Columbia in response to several Ocean Energy projects being considered. These range from tidal energy and wave energy to ocean current energy. To date most of the proposals in British Columbia appear to be focusing on tidal energy. Although the projects are at the investigative stage, the use of the Crown land requires some form of permitting to allow proponents to collect data to confirm appropriate sites. As such, ILMB has been providing investigative permits (IPs) and short term licences of occupation, based on the *Land Act*, to these proponents.

While these permits have been sufficient to date, the number of requests for IPs and licences for this type of land use have increased and questions have arisen around the appropriate size of these sites and application requirements.

The intent of this Directive is to provide both ILMB and proponents with direction in the application process for tidal power permits or licenses on Crown land.

##### 3.0 PROCEDURES

Ocean Energy Project applications received at the investigative stage will be accepted using the following procedures.

##### 3.1 APPLICATION FEES

###### 3.1.1 Investigative Permit

A *Land Act* Section 1 4a investigative permit issued for 2 years is the form of tenure provided to authorize initial investigation for determining the siting of investigative technical equipment.

A second investigative permit (for 1 or 2 years) may be provided at the discretion of the Regional Executive Director, providing the proponent has demonstrated diligent use of the permit during the term of the first permit. Projects proceeding through an Environmental Assessment Act review may also be provided additional extensions to coincide with the Environmental Assessment Act project review schedule.

- DISCUSSION PAPER-  
OCEAN ENERGY ON CROWN LAND

As per the *Land Act* Application Fee Schedule, the cost of an application for an Investigative Permit is \$500.

### 3.1.2 Licence of Occupation

Licences of occupation are provided for actual installment of investigative technical equipment.

All equipment must be located within a licence of occupation located within a single investigative permit area.

*Note: A single application may include a number of equipment sites. The standard number of sites requested for a single application fee generally would be less than five, but greater than five sites could be included in a single application at the discretion of the Regional Executive Director.*

#### **Application Fee**

As per the *Land Act* Application Fee Schedule: General Industrial, the cost of an application to temporarily install investigative equipment for data collection for tidal power is \$500.

The term for the licence(s) of occupation should be consistent with the term for the Investigative Permit.

*Note: Neither the Investigative Permit nor the licence of occupation guarantee the proponent will receive project approval at the project development stage.*

### 3.1.3 Ocean Energy Project

All required components for the tidal power project such as maintenance buildings, other plant facilities, road(s), transmission line(s) and surrounding Crown land will be accepted under a single alternative power project application.

#### **Application Fee**

As per the *Land Act* Application Fee Schedule: Alternative Power Projects, the cost of an application at the development stage is \$3,300.

## 3.2 APPLICATION REQUIREMENTS

**Investigative Permit-** The application for a *Land Act* Section 14a Investigative Permit should include:

- a) the application form;
- b) confirmation of private land parcels where deemed appropriate by the regional office within the application area, (the tidal power investigative permits will contain language that protects the interests of the Crown); and
- c) the required Crown land application area, indicated on the appropriate mapping as per the Ministry of Agriculture and Lands Requirements Checklist. Investigative Permits will be issued for areas not exceeding 50 ha for straits or narrows less than 5 km in width and up to a maximum of 500 ha for offshore areas. Request for larger areas are at the discretion of the Regional Executive Director. Upon expiry of current Investigative Permits and Licences of Occupation, tenure holders that wish to re-apply will be required to comply with the above noted area limits.

*- DISCUSSION PAPER -*  
*OCEAN ENERGY ON CROWN LAND*

**Licence of Occupation** - The application for a Licence of Occupation to place investigative technical equipment should include the application form and mapping information detailing ocean energy measurement structure locations, as well as company information and a project overview to date.

1. Applications for the investigative permit and the licence of occupation should be submitted concurrently or the licence of occupation application should be submitted within six months of the commencement date of the investigative permit; and
2. Applications for licences of occupation will not be accepted without a corresponding Investigative Permit area.

### **3.3 LAND STATUS**

**Investigative Permits** — The application for the investigative permit will not normally require a status of the Crown land.

**Licence of Occupation** — The application for the licence of occupation will require a status of the Crown land as per the standard application process.

### **3.4 PROJECT REVIEW**

Applications for investigative permits are not normally referred. Applications for licences of occupation should be referred to key agencies including: Fisheries and Oceans Canada, Transport Canada (NWP), First Nations, local government and other agencies or groups deemed appropriate. Upland owners consent may also be required as part of an application.

### **3.5 ADVERTISING**

Applications for the permit are advertised. Applications for licence of occupation for monitoring purposes should be advertised.

### **3.6 INSURANCE**

A minimum of \$2,000,000 liability insurance is required.

### **3.7 SECURITY**

Security will be required in an amount deemed appropriate by ILMB.

### **3.8 FIELD INSPECTIONS**

Inspections will be undertaken where deemed necessary by ILMB.

### **4.0 VARIANCE PROCEDURES**

Any decision that would vary from this policy directive must be made by the Director, Land Program Services Branch, Ministry of Agriculture and Lands and Director, Independent Power Producers, Ministry of Energy, Mines and Petroleum Resources.

Original signed by Michelle Porter  
on behalf of Ward Trotter  
Ward Trotter, Director  
Land Program Services Branch  
Ministry of Agriculture and Lands

Original signed by Neil Banera  
Neil Banera, Director  
IPP Policy and Operations Branch  
Ministry of Energy, Mines and Petroleum  
Resources

August 18, 2006

August 18, 2006

## Appendix B: Jurisdictional Scan of Tenure Type and Rental Pricing

### Investigation Phase

- **Denmark (first come, first served)**
  - Pilot project: No fee to be paid.
  - Pilot projects are being assessed on an individual case-by-case basis.
  - In the case of wind power projects, the rights to undertake preliminary studies and pilot projects are based on competitive bid.
- **Ireland (first-come, first-served)**
  - Foreshore Licences issued for investigation of the site will be granted at a rent of €10,000 Euro
  - Foreshore Licence – first applicant has priority rights to development, even in case of multiple applications.
- **Norway (first come, first served)**
  - Pilot projects only to date
  - Licences awarded pursuant to the Energy Act on the basis of objective, transparent, and non-discriminatory criteria.
- **United Kingdom (case-by-case assessment)**
  - Prototypes - about £100 annual rent for single device testing.
  - Crown Estate offers short term consents for testing prior to long-term lease.
  - UK is currently in a country-wide pre-commercial Demonstration Phase with case-by-case assessment based on Project Suitability

### Construction and Development Phase

- **Denmark (Most Likely Competitive)**
  - Incentives in place: New RE plants are eligible for a subsidy that together with the market price will ensure a tariff of 60 øre/kWh for 10 years and 40 øre/kWh for the following 10 years
- **Ireland (First Right)**
  - Foreshore Lease -- Licensee who has first applied for a Licence over a specific area will, assuming that a Licence is issued and held in good standing, have a legitimate expectation to first claim over the area
  - A Consideration Fee of €100,000 Euro will be payable on signing of the Foreshore Lease.

- DISCUSSION PAPER -  
OCEAN ENERGY ON CROWN LAND

- Licensee may make application for the reservation of rights for a period not exceeding two years from expiry of the Licence subject to payment of a deposit of €200,000 Euro
- **Norway (Policy To Be Determined)**
  - There have been no competing applications up to now, and NVE has no clear policy for the treatment of competing applications.
- **United Kingdom (Most Likely Competitive)**
  - Projects furthest along in commercial development take precedence
  - For wind power, licence for entire turbine area £100 per annum until generation begins.

### **Commercial Operation Phase**

- **Denmark**
  - No commercial applications received to date.
  - In the case of wind power, a concession is awarded on a competitive basis, based on the following criteria: a. The kWh price bid for 10 TWh (equal to 200 MW in 50,000 full-load hours). b. The location and design of the project. c. Time table for implementation of the project.
- **Ireland**
  - Foreshore Lease – commercial rent based on nominal output of each turbine of €3,800 Euro/p.a. on a rating of 1 MW, or 2.5% of gross revenue, whichever is the greater.
- **Norway**
  - No commercial applications at this time.
  - Incentives in place: RENERGI has a budget for 2006 of NOK 150 million. The project funds for 2005 were allocated with 32% to hydrogen, 9% for energy usage, 12% for socio-economic research, 28% for energy system and 19% for renewables.
- **United Kingdom**
  - Commercial Phase will most likely involve Competitive bids
  - Commercial leases will likely be negotiated based on a percentage of gross income (for wind power lease for entire turbine area is 2% of Gross revenue per annum)

### Appendix C: Other Issues

During the informal consultations, issues and local considerations associated with site approvals in upland and marine environments (environmental, aesthetic, noise, etc) were discussed and feedback was provided. Below are a summary of the key issues and local considerations that were identified. These could be thought of as a check-list of considerations during the tenure approval process that likely need to be addressed by the proponent in a Development Plan where appropriate. These are additional to proponent-driven considerations and assessments such as tidal and wave action, water depth to allow bottom mounting, proximity to transmission lines, current ease of access, and local demand for energy.

<b>Issue or local consideration</b>	<b>Nature of the issue and factors to consider</b>
Safety related to shipping and boating	<ul style="list-style-type: none"> <li>• Some projects could impede navigation routes but some will not (i.e. submerged turbines)</li> <li>• Importance of turbines to be located well under water to avoid ships; the Coast Guard has standards for how far below the surface structures need to be</li> <li>• A very important issue if the water surface is pierced</li> </ul>
Environmental impacts	<ul style="list-style-type: none"> <li>• Although informal consultations often suggested that the impacts should not be significant given the nature of ocean energy projects, there is strong recognition of need to address environmental impacts and to demonstrate that in fact the impacts can be benign</li> <li>• Environmental impact assessment is a key component of due diligence requirements in most jurisdictions studied</li> <li>• Feedback suggested the main impacts would likely be displaced habitat on the ocean floor due to the anchoring of the generating devices; it was also noted that submerged cables can be buried and habitat restored</li> <li>• Feedback also suggested that slow moving turbines (15-30 rpms) should not harm fish (e.g. there is no sucking action) and should not cause excessive noise impact to marine life; some suggested the much faster moving propellers of large ocean vessels should have a much bigger direct impact on fish and noise than ocean energy projects</li> </ul>
First Nations	<ul style="list-style-type: none"> <li>• Ancillary activities on the foreshore need to be carefully assessed with respect to potential impacts on archaeological sites and traditional use</li> <li>• Submerged structures may not affect traditional use</li> <li>• Aside from land tenuring issues, informal feedback also</li> </ul>

- DISCUSSION PAPER-  
OCEAN ENERGY ON CROWN LAND

	<p>often noted importance to encourage First Nations involvement in projects via joint ventures and minority partnerships</p> <ul style="list-style-type: none"> <li>• Also important is the potential value of projects in remote First Nations' communities to lessen reliance on diesel energy and to promote renewable energy use</li> </ul>
Community or social impacts	<ul style="list-style-type: none"> <li>• Most projects will require regional or municipal re-zoning to accommodate the project</li> <li>• Informal feedback from the ocean energy sector suggested that the impacts should be largely positive given the benefits of renewable energy (and the lessening reliance on fossil fuels), the relatively small footprint of ocean energy projects, and the need for renewable energy in remote areas and islands</li> <li>• That said, there is concern that misrepresentation of the facts could cloud real versus perceived impacts and harm sector development</li> <li>• Local issues include real or perceived impacts on upland residential property land values, and fronting someone's land</li> </ul>
Existing users	<ul style="list-style-type: none"> <li>• An ocean energy project proposal needs to address potential impacts on nearby licensed or tenured users (like fishers and aquaculturists) and public users (e.g. recreational boaters)</li> </ul>
Proximity to Grid	<ul style="list-style-type: none"> <li>• One of the most important criteria in determining the commercial viability of a project is location of the site in relation to the grid</li> </ul>
Aesthetic impacts	<ul style="list-style-type: none"> <li>• Mini-drill rig looking structures around tenure site can be seen</li> <li>• Impacts depend on technology used, some have pilings, others can allow barges overhead</li> <li>• Based on informal feedback, not believed to be a significant impact, particularly where generating devices are submerged</li> </ul>
Upland linear developments	<ul style="list-style-type: none"> <li>• Impacts associated with roads and powerlines in general are also expected here</li> </ul>
Federal government	<ul style="list-style-type: none"> <li>• Navigable waters and marine environment are federally regulated and can trigger need for Canadian Environmental Assessment (CEA)</li> <li>• Federal ownership of some submerged Crown lands</li> <li>• The jurisdiction and ownership of some submerged Crown lands is in question (i.e., Queen Charlotte Sound, Hecate Strait and Dixon Entrance)</li> </ul>