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This paper reviews the current regulatory regime for alternative energy projects, including wind power, tidal power and biomass energy, in the Atlantic provinces. At present the regulatory approaches vary across the provincial jurisdictions, with a more consistent federal regime also governing some aspects of operations, and some involvement of municipal authorities. To varying degrees the four provinces have committed to enhancing the proportion of energy supply derived from these sources. If these goals are to be met, investors and developers are likely to expect a streamlining of the regulatory process across the region in coming years, reflecting a maturing industry.

L'article passe en revue le régime réglementaire en vigueur pour les projets d'énergie de remplacement, notamment l'énergie éolienne, l'énergie marémotrice et la bioénergie dans les provinces atlantiques. Actuellement, les formules de réglementation varient d'une province à l'autre, un régime fédéral plus cohérent régissant certains aspects des activités et les administrations municipales s'y intéressant occasionnellement. Les quatre provinces atlantiques se sont engagées, à des degrés divers, à accroître la proportion d'énergie dérivée de ces sources. Pour que ces objectifs soient atteints, investisseurs et promoteurs peuvent s'attendre à une simplification du processus de réglementation dans la région au cours des prochaines années, simplification qui est le reflet d'une industrie qui arrive à maturité.

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Introduction

Alternative energy sources present both opportunities and challenges for the future of energy development across the country. Developers face many challenges attempting to navigate the labyrinth of regulatory requirements. This paper will address regulatory issues associated with development of alternative energy projects in Atlantic Canada. As is hardly surprising, the regulatory regime for alternative energy sources is not homogeneous. While the federal regulation is clearly the same, each of the provinces

has approached alternative or renewable energy in different manners and to differing degrees. This has resulted in a regulatory framework that is complex and involves extensive oversight, primarily at the federal and provincial level, though municipalities are entering the fray.

Due to the fact that environmental regulation impacts a wide array of stakeholders, a patchwork regulatory framework has been developed to allow stakeholders a voice in the development of alternative energy projects. Renewable energy regulations, many of which are still in their formative stages, do not consolidate all the different processes a developer must follow in order to have the project approved. In order to facilitate a smooth and robust transition to the use of alternative energy, private industry stakeholders may wish to advocate for the creation of a streamlined regulatory process. Simplified procedures would provide certainty and expedite the process, providing an atmosphere far more inviting to investors and developers. First, we comment briefly on the extent of current renewable energy projects in the Atlantic Provinces, including tidal power, biomass energy generation, and wind power developments. While there are other sources of renewable energy, for brevity only these sources are considered in this paper. Second, an overview of the regulatory landscape will be provided. Finally, for each of the Atlantic provinces, this paper outlines the policies and regulatory regime for alternative energy projects.

I. *Renewable energy projects in Atlantic Canada*

Within the last decade the governments of New Brunswick, Nova Scotia and Prince Edward Island have committed themselves to reducing reliance on fossil fuels by increasing the production of renewable energy.[1] This commitment to alternative energy sources has been entrenched in legislation in each province.

Newfoundland and Labrador already relies extensively upon renewable energy sources—the vast majority (approximately eighty per cent) of the electricity consumed in Newfoundland and Labrador originates from renewable sources, most notably hydroelectric generation. In terms of major energy project developments, Newfoundland and Labrador has been predominantly focused on developing its offshore oil and gas resources, as well as its substantial hydroelectric resources. As a result, that province has placed less emphasis upon the development of alternative energy sources.

1. Note that hydroelectricity is included as a renewable energy source and will contribute to the targets. The generation of hydroelectricity is not within the scope of this paper.

Nova Scotia's *Renewable Electricity Regulations,*[2] created under the authority of the *Electricity Act*,[3] set renewable energy targets for 2011, 2013, 2015 and 2020.[4] Section 4 of the Regulations obligated public utilities to ensure that at least five per cent of annual energy sales derived from renewable energy sources for 2011 and 2012.[5] In 2013 the target level of renewable energy sales was increased to ten per cent and, for 2015, was further increased to twenty-five per cent.[6] A report published by the Nova Scotia Department of Energy in April 2010 titled, *Renewable Electricity Plan: A Path to Good Jobs, Stable Prices, and a Cleaner Environment* established a target for 2020, whereby forty per cent of energy consumed in the province would be generated by a renewable energy facility.[7] This target was established in amendments to the *Renewable Electricity Regulations* in 2013.[8]

In Prince Edward Island, the *Renewable Energy Act* stipulates that as of 1 January 2010 public utilities must obtain at least fifteen per cent of the total amount of electric energy that it sells from renewable energy sources.[9] The government further committed itself to producing 500

2. *Renewable Electricity Regulations*, NS Reg 155/2010 [*NS Renewable Electricity Regulations*].
3. *Electricity Act*, SNS 2004, c 25.
4. *NS Renewable Electricity Regulations*, *supra* note 2, ss 4, 5, 6, 6A. For each of these provisions, the approach is to set the percentage as the "renewable electricity standard," which can be met by provision of "renewable low-impact electricity produced by renewable low-impact electricity generation facilities." By s. 3(1), "renewable low-impact electricity" is defined as including: solar; wind; run-of the-river hydroelectric; ocean-powered energy; tidal; wave; biomass "harvested in a sustainable manner"; and landfill gas. In addition, the definition incudes "any resource that, in the opinion of the Minister and consistent with Canadian standards, is able to be replenished through natural processes or through sustainable management practices so that the resource is not depleted at current levels of consumption."

   (iv) ocean-powered energy,
   (v) tidal energy,
   (vi) wave energy,
   (vii) biomass that has been harvested in a sustainable manner,
   (viii) landfill gas,
   (ix) any resource that, in the opinion of the Minister and consistent with Canadian standards, is able to be replenished through natural processes or through sustainable management practices so that the resource is not depleted at current levels of consumption;

5. *Ibid*, s 4(1).
6. *Ibid*, ss 5, 6.
7. Government of Nova Scotia, *Renewable Electricity Plan: A Path to Good Jobs, Stable Prices, and a Cleaner Environment*, (April 2010) online: Nova Scotia Department of Energy <http://www.gov.ns.ca/energy/resources/EM/renewable/renewable-electricity-plan.pdf> [*NS Renewable Electricity Plan*].
8. *NS Renewable Electricity Regulations*, *supra* note 2, s 6A1.
9. *Renewable Energy Act*, RSPEI 1988, c R-12.1, s 3(1).

megawatts (MW) of wind power by 2013 and investing a billion dollars in the hope of realizing that goal.[10]

Similarly, under New Brunswick's *Electricity from Renewable Resources Regulation* under the *Electricity Act*, New Brunswick Power must purchase ten per cent of its energy sales from renewable sources by 2016.[11] These targets present large opportunities for independent power producers as significant development in the renewable energy sector is required. Although more development is necessary, there are several renewable energy projects now contributing power to the electrical grid in the Atlantic provinces. The following section of this paper will briefly describe current and proposed large-scale alternative energy projects in Atlantic Canada.

1. *Wind power*

Despite the fact that wind power currently plays a marginal role in the overall production of power in the Atlantic provinces, it is undoubtedly the most popular source of alternative energy. Wind power has a presence in all of the Atlantic provinces and is a key component in increasing the use of clean, alternative energy sources. New Brunswick is the largest producer of wind power in the Atlantic provinces, with the capacity to produce 294 MW of energy per year. Nova Scotia is the second largest wind energy producer with the capacity to produce 284 MW. Prince Edward Island has the capacity to produce 166.56 MW. Newfoundland and Labrador is a distant fourth, with a production of 54.69 MW.[12] Newfoundland and Labrador has significant additional wind capacity, but connectivity to the mainland has been a practical restraint.

a. *Nova Scotia*

There are five major developments in Nova Scotia that produce the vast majority of Nova Scotia's wind energy.[13] The largest and most recent wind energy development is the Glen Dhu Wind Project, which received Environmental Assessment (EA) approval in February 2009 and was fully

10. This commitment was made in a policy statement and is not legislated. The policy statement can be found at Prince Edward Island Energy Corporation, *Island Wind Energy: Securing our Future: The 10 Point Plan*, vol 1, online: Prince Edward Island <http://www.gov.pe.ca/photos/original/wind_energy.pdf> [*Island Wind Energy*].

11. *NB Reg*, 2006-58, s 3(1).

12. Provincial wind energy totals were calculated on the basis of information found here: Canadian Wind Energy Association, "Map of Canadian Wind Farms," online: Canadian Wind Energy Association <http://www.canwea.ca/farms/wind-farms_e.php>.

13. All of the information on the Nova Scotia wind power developments was taken from NSPI's website and can be found here: <http://www.nspower.ca/en/home/environment/renewableenergy/wind/default.aspx>.

commissioned by March 2011. Owned and operated by Shear Wind Inc., Glen Dhu has the capacity to produce 62.1 MW of wind energy, enough to power approximately 18,000 homes.

The Nuttby Mountain Wind Farm, owned and operated by Nova Scotia Power Inc. (Nova Scotia Power) has twenty-two turbines in operation and has the capacity to produce 50.6 MW of energy, enough to power about 15,000 homes. The project received EA approval in April 2009 and began providing energy to the electrical grid in October 2010.

The Digby Neck Wind Farm, owned and operated by Nova Scotia Power, received EA approval in August 2009 and final site plan approval in July 2010. The first 10 power producing turbines began supplying power in late November 2010. Currently, the Digby Neck project includes twenty turbines with the capacity to produce 30 MW, enough electricity to power approximately 10,000 homes.

Pubnico Point Wind Farm contains seventeen wind turbines that produce 30.6 MW of power and is owned by FPL Energy. Finally, the wind energy project at Point Tupper, jointly owned by Renewable Energy Services Ltd. (fifty-one per cent) and NSPI (forty-nine per cent), contains 11 wind turbines producing 22.6 MW.

b. *New Brunswick*

New Brunswick has three major operational wind projects (in addition to a number of smaller producers): Kent Hills, Caribou Wind Park, and the Lameque Wind Project. Kent Hills began commercial operation in December 2008. In January of 2010, the Government of New Brunswick awarded a twenty-five-year power purchase agreement to TransAlta Energy Corporation to expand the existing Kent Hills Wind Farm from thirty-two to fifty wind turbines, which increased its energy production capacity from 96 MW to 150 MW. The Caribou Wind Park, located seventy miles west of Bathurst, began commercial operation in December 2009. It is owned and operated by GDF SUEZ Energy North America and consists of thirty-three wind turbines with the capacity to produce 99 MW of energy.

In 2008 Acciona Energy Inc. and the Government of New Brunswick signed a twenty-five year power purchase agreement for 49.5 MW of wind energy to be produced in Lameque. The construction of thirty 1.5 MW turbines was completed in March 2011 and is estimated to generate enough energy to power 8,000 homes.[14]

14. NB Power, "Timeline of Events—Wind Energy—Renewable Projects—Conservation," online: NB Power <http://www.nbpower.com/html/en/conservation/renewable_projects/wind_energy/timeline.html>.

c. *Newfoundland and Labrador*

Although Newfoundland and Labrador currently generates the least amount of wind power, the province has taken steps to integrate wind power generation into the provincial electricity system to a limited extent. The major wind projects in Newfoundland are the St. Lawrence Wind Farm and the Fermeuse Wind Project.

The St. Lawrence Wind Farm is located one kilometre northwest of the community of St. Lawrence on the Burin Peninsula and currently has nine turbines with the capacity to produce 27 MW of energy. The nine turbines at St. Lawrence began producing power in October 2008 after Newfoundland and Labrador Hydro (Hydro) signed a twenty year power purchase agreement with NeWind Group Inc. In 2008 Hydro further committed itself to the use of wind energy when it "signed a 20 year power purchase agreement with SkyPower Corporation[.]"[15] This development, known as the Fermeuse Project, also consists of nine turbines with a total capacity to produce 27 MW of energy. The project is located in the community of Fermeuse on the southern shore of the Avalon Peninsula and began supplying energy to the electrical grid in April 2009. While not a major source of electricity overall for the province, Ramea's Wind-Hydrogen-Diesel project is notable for its integration of energy sources. The isolated island community, accessible only by water, poses a common problem for the sparsely populated and remote areas in Newfoundland & Labrador. Ramea has been partially serviced by wind power for years, with six 65 kilowatt (KW) wind turbines providing ten to thirteen per cent of the community's electricity. Recent years have seen the installation and operation of three additional 100 KW turbines, as well as an electrolyzer, hydrogen storage tanks, and hydrogen generators. This new system operates as follows. When the wind turbines are producing electricity that can be utilized by community, the power gets used directly; when the wind power is in excess of the community usage, it gets converted to hydrogen by the electrolyzer and kept in storage tanks until it is converted to energy to service the community; when both the direct wind power and hydrogen power is depleted, the community relies on the diesel generators, which may be eventually entirely eliminated. The integration and monitoring technology developed in this system provides an innovative solution to introducing alternative energy resources to replace fossil fuel consumption.

15. Newfoundland and Labrador Hydro, "Infosheet: Windpower," online: Newfoundland and Labrador Hydro <http://www.nlh.nl.ca/hydroweb/nlhydroweb.nsf/0/FCE9CF2E6CFC7772A3257648006A5106/$File/FactSheetWindPower.pdf> at 2.

d. *Prince Edward Island*

Prince Edward Island currently has two notable wind power developments: Eastern Kings Wind Farm and the North Cape Wind Farm (Phase I and II). Eastern Kings Wind Farm, owned and operated by PEI Energy Corporation, was installed in 2007. It has the capacity to produce 30 MW of wind energy. The North Cape Wind Farm, which was developed in two phases, has the capacity to produce 100 MW of wind energy. In 2008, the Government of Prince Edward Island committed to expand wind energy production to 500 MW by 2013.[16] In light of the current state of affairs it was unlikely that the province would be able to grow its wind power capacity by over 300 MWs in less than two years, especially in light of the fact that the province was producing 150 MW of wind energy at the end of 2008,[17] and this target has not been met.

2. *Tidal power*

The potential for tidal power production is enormous, particularly in Nova Scotia and New Brunswick,[18] and has been referred to as the "sleeping giant" among renewable energy sources in Atlantic Canada. Tidal power remains in its infant stages and has not begun to reach its full potential. The technology used to generate tidal power is in its developmental stages—many devices exist only as a concept and require further testing in order to become commercially viable. The Nova Scotia Department of Energy's *Renewable Energy Plan* anticipates that tidal power will be essential to achieving the province's ambitious renewable energy targets. Currently, in Nova Scotia, construction of large-scale tidal developments cannot commence without being subjected to a Pre-Commercial Demonstration Phase. In New Brunswick, the development of large-scale tidal projects is not yet permitted until further study on environmental impact is conducted.

Nova Scotia Power has been a pioneer in the generation of tidal power. Nova Scotia Power was the first North American utility to connect a tidal energy plant to its power grid when it assumed operation of the Annapolis Tidal Generating Station at the mouth of the Annapolis River in 1984. This generating station contributes 30 gigawatt (GW) hours annually to the provincial grid, enough energy to power over 4,000 homes.[19]

16. Island Wind Energy, *supra* note 10 at 5, 10.

17. *Ibid* at 10.

18. There are currently no tidal energy projects proposed or in operation in Newfoundland and Labrador or Prince Edward Island.

19. Electrical Line Magazine, "Nova Scotia Power...A Tidal Power Pioneer Adds Wind to its Renewable Resources," *Electrical Line* (March/April 2002), online: <http://www.electricalline.com/images/mag_archive/18.pdf> at 30.

A tidal power generation facility in the Bay of Fundy is also in the midst of development and has the potential to generate a substantial amount of energy. When fully developed the in-stream tidal technology on the Bay of Fundy has the potential to generate 300 MW of green energy which will power close to 100,000 homes. Three companies vying for "first occupancy" in the Bay of Fundy are, at time of writing, in negotiations with the Nova Scotia government: Clean Current, Minas Basin Pulp and Paper Power Co. Ltd., and Nova Scotia Power. Interestingly, each of these providers proposes using a different technology: Clean Current (clean current technology), Minas Basin Pulp and Paper Power Co. (Marine Current Turbine Technology), and Nova Scotia Power (Openhydro turbine technology). The Minas Passage Area of Black Rock, approximately ten kilometres west of Parrsboro has been selected as the demonstration site for the turbine prototypes.

3. *Biomass energy*

Biomass energy is produced by burning renewable organic materials. The primary sources of biofuels include "agricultural crops and crop residues, manure, residues from food processing industries, trees, logging and forestry products, ...organic portion of municipal waste [and] sewage sludge...."[20] This method of renewable energy production has been embraced to differing degrees in the Atlantic provinces.

a. *Nova Scotia*

The production of biomass energy is already a reality in the province, producing enough energy to power approximately 7,500 homes. Biomass projects in Nova Scotia include a 22 MW biomass electrical co-generation facility in Brooklyn, two pellet manufacturing plants, as well as sawmills and pulp and paper plants which burn biofuel in order to generate electricity for their plant. Excess power can be then sold to Nova Scotia Power.[21] Nova Scotia Power is constructing its own 60 MW biomass fuel co-generation facility at Point Tupper, Nova Scotia.

The *Renewable Electricity Plan* notes the importance of developing biomass in order to meet renewable energy targets, but also states that it will proceed with caution. Co-firing biomass will play a role in meeting the 2015 commitment but will undergo review for post-2015 use. Section 8(1) of the *Renewable Electricity Regulations* will cap new electricity

20. Government of Prince Edward Island, "Prince Edward Island Energy Strategy, Securing our Future: Energy Efficiency and Conservation," online: Prince Edward Island Energy Corporation <http://www.gov.pe.ca/photos/original/env_snergystr.pdf> at 26.

21. *NS Renewable Electricity Plan*, *supra* note 7 at 13.

generation from forest biomass at 350,000 dry tonnes (600-700 GWh) above average consumption for 1995–2005. Further, section 6(4)(b) of the Regulations caps co-firing in thermal plants at 150,000 dry tonnes (150 GWh). The Renewable *Electricity Plan* conceded that biomass is a plentiful resource in the province but cautions that burning "wood for the purpose of generating electricity...is inefficient."[22] The fundamental problem with biomass energy is that, although the source of the fuel is renewable burning organic materials produces emissions that affect the environment.

b. *New Brunswick*

The New Brunswick government takes the position that no net greenhouse gas emissions are created by co-firing organic materials. "[C]arbon dioxide gases produced [by biomass facilities] are recycled by plants, which absorb the carbon dioxide for photosynthesis and cellular respiration."[23] Instead of the cautionary approach advocated in Nova Scotia, New Brunswick views bioenergy as an attractive, environmentally friendly, and sustainable alternative to traditional energy sources.

There are currently four facilities in New Brunswick co-firing biomass to produce electricity: Twin Rivers Paper (87.0 MW), Irving Pulp & Paper (30.0 MW), AV Cell Inc. (17.6 MW), and KV Nackwawic (25 MW).[24] Also, a Bio-Oil Development Centre pilot project is being undertaken by Greenway Oils Inc in Waterville, Carleton County.

c. *Prince Edward Island*

Prince Edward Island has adopted a position similar to that of New Brunswick and embraces the use of biomass energy in the transition to a sustainable energy industry. Currently, ten per cent of energy in PEI is derived from biomass. In 2007 the province established the Environmental and Renewable Industries Committee (ERIC) to investigate the potential of biofuel development within the province. ERIC was established as an information gathering and recommendatory entity which fulfilled its mandate with the submission of a final report to the Minister of Development and Technology in January 2008. In that report, ERIC recommended that the government pursue the development of biofuel projects. Following the ERIC final report, the provincial government established the Inter-

22. *Ibid* at 12.

23. Government of New Brunswick, "Renewable Resources," online: Department of Energy and Mines <http://www2.gnb.ca/content/gbnb/en/department/energy/renewable.html>.

24. *Ibid*; see also Government of New Brunswick Press Release, "Province supports renewable-fuel-development project" 6 August 2006 NB 1017, online: <http://www.gnb.ca/cnb/news/afa/2006e1017af.htm>.

Departmental Biofuels Committee (IDBC) in March 2008. This committee which has a mandate to evaluate bioenergy proposals that are submitted to the government.

d. *Newfoundland and Labrador*

The Government of Newfoundland and Labrador is determined to develop a wood pellet industry in the province. Phil McCarthy, an assistant deputy minister, was appointed by the government to promote the provincial biofuel agenda. There are currently four pellet plants in Newfoundland and Labrador: Cottles Island, Exploits Pelletizing, Peat Resources Ltd., and Holston Forest Products. There is also a large oil-fired power plant that could be converted to pellets [consumption], but it will likely close due to the Lower Churchill hydroelectricity project.[25] There is currently only one energy generation facility in Newfoundland and Labrador producing biomass energy. Constructed in 2002, the Corner Brook Biomass Cogeneration Plant, owned by Kruger Energy, supplies approximately 15 MW of power under a twenty year power purchase agreement with NL Hydro.

II. *Regulatory regime*

The analysis that follows will consider the provincial and federal regulatory schemes to be followed in the planning, development, and construction of alternative energy projects. The key steps necessary in obtaining approvals required to build and operate a renewable energy generation facility will be presented. As previously noted, the regulatory landscape is complex and cumbersome. Obtaining approval for a renewable energy project necessitates consulting a plethora of federal and provincial regulators. Additional complexity is added to the regulatory regime due to the fact that not only are different approvals triggered depending on which renewable energy industry the developer is engaged in, but different approvals within the same industry may differ depending on the size and scope of development. In addition to the federal and provincial requirements, where a project falls within the jurisdiction of a municipality, municipal by-laws and regulations may also require consideration. Because the majority of regulatory impact occurs at the federal and provincial level, and because the municipal impacts vary, this paper will not address in detail municipal efforts to regulate renewable energy.

25. Gordon Murray, "Newfoundland Sees Pellet Potential" *Canadian Biomass* (25 October 2010), online: Canadian Biomass Magazine <http://www.canadianbiomassmagazine.ca/index.php?option=com_content&task=view&id=2057&utm_source=SM2-biomass&utm_medium=email&utm_campaign=NL%20pursues%20pellets%20%7C%20Biomass%20energy%20potential>.

The federal sphere of responsibility is grounded in the constitutional authority over international and inter-provincial trade and commerce. The construction and operation of international transmission lines and of electricity exports to the United States fall within that sphere and are governed by the National Energy Board. Most of the electricity industry regulations are governed by the provinces. Each province has established regulators and licensing authorities to administer the production and sale of electricity.

The federal and provincial governments share responsibility over environmental matters. In the process of having an alternative energy project approved, developers maybe subject to either a federal or provincial environmental assessment, or both. Some provinces have formally or informally agreed with the federal government to share in the environmental assessment responsibilities to ensure that overlap is minimal.

As previously indicated, developers may also be subject to municipal authorities if they undertake a project within municipal boundaries. Building codes, zoning requirements, land-use planning, and building permits are all examples of applicable municipal regulation. In context of renewable energy, some municipal authorities have been wary of the development of wind power projects due to protest by municipal residents, and have enacted wind energy specific by-laws to deal with such matters as sound levels and set-back requirements.

Finally, in areas where a treaty has been signed between the federal government and aboriginal peoples or where a land claim has been settled, an electricity developer may be required to obtain permits or approvals from a First Nations government or entity. Further, developers may need to enter into resource-sharing arrangements with such entities. Developers are encouraged to consult with the provincial entities governing aboriginal affairs (see Appendix A) in order to determine what permits or approvals are applicable.

The paper will proceed by analyzing the regulatory regimes in the Atlantic provinces as they currently exist.

1. *Federal*

There are several federal regulations that may impact the development of renewable energy projects in the Atlantic provinces. First, developers may be subject to a federal EA under the auspices of the *Canadian Environmental Assessment Act 2012*[26] (*CEAA 2012*). The CEAA 2012

26. *Canadian Environmental Assessment Act, 2012*, SC 1992, c 19 [*CEAA*].

limits the requirement for environmental assessment based on a project listing approach. Under the CEEA 2012, "designated projects" *may* be subject to environmental assessment. A "designated project" consists of "one or more physical activities" taking place in Canada or "on federal lands" (which includes the internal waters, territorial sea and continental shelf of Canada), and for which the physical activities are either included in regulations or specified by ministerial order.[27] Two categories of such designated projects *require* an assessment: (i) projects for which the "the responsible authority" is the Canadian Nuclear Energy Safety Commission (for nuclear projects), the National Energy Board or another federal regulatory authority if designated under regulations; (ii) projects including physical activities designated by the Minister by order.[28] For other designated projects under the regulations, which are "linked" to the Canadian Environmental Assessment Agency (the Agency), an initial screening determines whether an assessment will be required. The Agency is to post a description of the project on a website and invite comments, and must consider possible adverse environmental effects as well as comments received. It is required (absent an extension) to decide within 45 days whether an assessment is required.[29]

When an assessment is required, under any of the provisions outlined here, the assessment process will include preparation of an Environmental Impact Statement (EIS) and may proceed either through an Environmental Assessment (EA) process,[30] leading to a decision, or in limited cases via a Review Panel followed by a report to and decision by the responsible authority.[31] Maximum timelines of 365 days for an EA and 24 months for Review Panel process are established (subject to extensions). The CEEA also provides for "substitution" of provincial environmental assessment processes where appropriate.

The federal government has promulgated *Regulations Designating Physical Activities*,[32] which are likely to limit the application of the CEEA 2012 with respect to the alternative energy projects considered in this paper. Section 2(b) of the Schedule to the Regulations designates as included activities the "construction, operation, decommissioning and abandonment" of "a new in-stream tidal power generating facility with a production capacity of 50 MW or more or a new tidal power generating

27. *Ibid*, s 2(1).
28. *Ibid*, ss 13, 14(2), 15(a)–(c).
29. *Ibid*, ss 9–10.
30. See *ibid*, ss 21–36 on the EA process generally.
31. See *ibid*, ss 38–51 on the Revew Panel process.
32. SOR/2012-147.

facility, other than an in-stream tidal power generating facility, with a production capacity of 5 MW or more." This is included under the activities linked to the Agency, so that an assessment is not mandatory (beyond initial screening), but may be determined to be necessary by the Agency upon initial review. Section 3(b) of the Schedule designates expansions of such facilities, but only in cases of expansions of more than 50 per cent of capacity and a total capacity of 50 MW(in-stream) or 5 MW (others).

The *Fisheries Act*[33] will likely apply to the development of tidal power projects, in that s. 35(1) provides that no person, unless with authorization and within prescribed conditions, "shall carry on any work, undertaking or activity that results in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery." Although this prohibition (introduced in its current form in 2012) is limited to "serious" harm and to fish that fall within one of the use categories, it nonetheless probably encompasses any significant tidal project. Other types of projects may also be governed by s. 35(1), depending on the nature, location and scale of the work, or potentially by the s 6(1) prohibitions related to deposit of deleterious substances in waters "where fishing is carried out."

The *Navigation Protection Act* will apply to tidal power projects if they are built in a "navigable water" as defined in the *Act.*[34] Pursuant to section 2 of the *Act,* a "'navigable water' includes a canal and any other body of water created or altered as a result of the construction of any work," and s. 3 prohibits most works "on, over, under, through or across any navigable water," which has been designated in the Schedule to the *Act*. The Schedule includes, for the Atlantic Ocean, all waters from the outer limit of the 12 nautical mile territorial sea up to the high water mark as defined in the Schedule—on this definition the *Act* will apply to proposed tidal developments in the Bay of Fundy and could apply to other projects within the defined waters. Under section 6, a permit is required for a work "[built]...in, on, over, under, through or across a navigable water" if, in the Minister's determination, the project will substantially interfere with navigation. Typically, tidal projects are developed off-shore and may be submerged so that they do not actually interfere with the navigation of vessels. Section 6(2) of the *Act* stipulates that Minister is able to impose any conditions in the approval that they deem to be appropriate. However, s. 5(4)(d) includes in the factors to be considered by the Minister in assessing the interference the impact of the construction

33. *Fisheries Act*, RSC 1985, c F-14.
34. *Navigation Protection Act*, RSC 1985, c N-22.

work—although tidal developments may not impede vessels once they are built, their construction could therefore still attract *Navigation Protection Act* oversight.

Developers interested in tidal energy generation are also well advised to consult the *Oceans Act* because it establishes "marine protected areas" that could potentially preclude the construction of tidal energy generation facilities.[35] Further, the *Act* designates regional "integrated planning" areas which may provide for additional regulatory oversight.[36] For example, the Eastern Scotian Shelf Integrated Management initiative oversees the eastern coastal shelf, which has some potential for the development of tidal energy in the future.

The *National Energy Board Act* will apply to renewable energy developments which have interprovincial and international projection. If the development projects cross provincial boundaries, or include an international power line, a certificate or permit must be obtained from the National Energy Board (NEB) under Part III.1 of the *Act*.[37] If the development includes an interprovincial power line, a certificate must be obtained from the NEB only if the federal cabinet orders it.[38] In the event that tidal power is exported to the United States, section 58.35 of the *Act* requires a "certificate of public convenience" from the NEB.[39]

The *Canadian Environmental Protection Act, 1999* is another potentially applicable regulatory authority.[40] Section 167 of the *Act* allows the Minister to make regulations regarding substances released into the air and section 171 prohibits developers from "carry[ing] on a work, undertaking or activity that results in the release of any substance in contravention of a regulation made under section 167." In relation to tidal power, section 175 of the *Act* broadly defines "water pollution" to include anything that interferes with the "normal enjoyment of property; use of property, endangers the health of animal life or causes damage to plant life...."[41] The *Act* empowers the federal government to make regulations that provide for the "sampling, analyses, tests, measurements or monitoring" of water pollution.[42]

35. *Oceans Act*, SC 1996, c 31, s 35.
36. *Ibid*, ss 31 & 32.
37. *National Energy Board Act*, RSC 1985, c N-7, ss 58.1, 58.11, 58.16.
38. *Ibid*, s 58.16.
39. *Ibid*, s 58.16.
40. *Canadian Environmental Protection Act, 1999*, SC 1999, c 33.
41. *Ibid*, s 175 (b), (c), (d).
42. *Ibid*, s 177(d).

2. *Nova Scotia*

The Nova Scotia government has made a strong commitment to the use of renewable or alternative energy to supplement, and ultimately overtake the role of fossil fuels. Section 4(1)(a) of the *Environmental Goals and Sustainable Prosperity Act,* which came into force in 2007, states that one of Nova Scotia's long term environmental objectives is to "achieve international recognition for having one of the cleanest and most sustainable environments in the world by the year 2020."[43]

An Act to Amend Chapter 25 of the Acts of 2004, the *Electricity Act* (the Amendment) was passed in May 2010 to establish a legal foundation for implementing the renewable energy targets mentioned above.[44] The vast majority of energy produced in Nova Scotia is generated by Nova Scotia Power, largely from the burning of fossil fuels. However, independent energy producers have been given an opportunity to contribute to the electrical grid. Since the goals for renewable energy contribution were established, Nova Scotia Power has been active in attempting to have independent power producers develop alternative energy projects.

Section 4B(1) of the *Electricity Act* provides for the appointment, by the Governor in Council, of a Renewable Electricity Administrator (REA), on the recommendation of the Minister of Energy.[45] The mandate of the REA is to conduct competitions for renewable energy products: Nova Scotia Power will no longer have a direct role in competitions. When a mid or large scale energy project is required, Nova Scotia Power will request issuance of a Request for Proposals.[46] The REA's role is to assess bids in a fair and impartial manner, oversee the competition, select the winner and ensure that the bidders are accountable for helping to achieve the provincial targets.[47]

The Nova Scotia *Environment Act* is the starting point for proposed renewable energy projects. Renewable energy projects are described as an "undertaking" pursuant to section 3(a) of the *Act*.[48] Schedule A of the *Environmental Assessment Regulations*,[49] list specific projects that are deemed to be undertakings. Projects generating electricity from wind power or tides, with a capacity of over 2 MW, are classified as Class I

43. *Environmental Goals and Sustainable Prosperity Act*, 2nd Sess, 61st Leg, Nova Scotia, 2010.
44. Bill 64, *An Act to Amend Chapter 25 of the Acts of 2004, the Electricity Act*, SNS 2011, c 15.
45. *Electricity Act*, *supra* note 3.
46. *Ibid*, s 4B(1),(8).
47. *NS Renewable Electricity Regulations*, *supra* note 2, ss 35A, 35C.
48. *Environment Act*, SNS 1994-95, c 1, s 3(a) [*NS Environment Act*].
49. NS Reg 26/95.

undertakings under the regulations.[50] Before these projects can proceed to the construction phase, they must be registered with the Minister and a provincial EA must be conducted. Considering that a federal EA will also apply to tidal projects, it is important to keep in mind that section 47 of the *Environment Act* allows for a joint assessment if the project is also subject to federal assessment regulations.[51]

Aside from federal and provincial considerations, the developers will also have to consider the regulatory requirements of municipal governments in Nova Scotia. Part VIII of the *Municipal Government Act,* which gives power to the municipalities in relation to planning and development, is the most relevant portion of the *Act.*[52] Developers must consult with applicable general and wind project specific municipal land-use by-laws to determine whether or not the specifications of their renewable energy project conforms to such by-laws.[53]

a. *Tidal*

The regulatory regime for tidal energy in Nova Scotia is currently in a state of flux. Nova Scotia has for some time been considering legislation that would resolve jurisdictional issues and set up a scheme that would see a consolidation of regulatory requirements of the federal and provincial governments in a single legislative instrument, as suggested in a 2010 policy background document.[54] The goal was to provide developers with a consistent and predictable process by coordinating and integrating all necessary permits and approvals of the wide range of government departments and agencies involved. Prior to reviewing the progress towards a new legislative regime, however, it is necessary to consider the current process.

At present, pending the introduction of the planned legislation, tidal power developers must first obtain a conditional permit to enter the Research and Development Phase, where demonstration and development technologies are tested for their durability and environmental impacts. Nova Scotia has funded an in-stream tidal testing facility known as the Fundy Ocean Resource Centre for Energy (FORCE). New technologies are

50. *Ibid*, Schedule A, s D(2); see also Meinhard Doelle et al, "The Regulation of Tidal Energy Development Off Nova Scotia: Navigating Foggy Waters" (2006) 55 UNBLJ 27 at 46.

51. *NS Environment Act*, *supra* note 48, s 47.

52. *Municipal Government Act*, SNS 1998, c 18, s 190.

53. *Ibid*, s 246.

54. Government of Nova Scotia, "Marine Renewable Energy Legislation for Nova Scotia Policy Background Paper" (2010), online: Nova Scotia Department of Energy <http://gov.ns.ca/energy/resources/spps/public-consultation/NS-MRE-Policy-Background-Final.pdf> at 6 [NS Policy Background Paper].

tested by FORCE for technical and commercial viability, environmental information and durability. After preliminary testing, the technology may then enter the commercial development phase, which begins when fully developed tidal technologies are brought forward for regulatory approvals. The Nova Scotia government has published "Guidelines for Permitting a Pre-Commercial Demonstration Phase for Offshore Renewable Energy Devices," which outlines these stages in detail,[55] and which remain applicable as the legislative process moves forward. For purposes of the Guidelines, a pre-commercial or demonstration project is defined as "a project, the primary purpose of which is to test, prove and validate new or innovative uses of technology or combinations of technologies."[56]

Developers may select a potential site for a demonstration project, but the final site approval will depend on the requirements of the device concerned and the results of the EA. Developers interested in constructing a tidal energy project are required to consult with the One-Window Standing Committee,[57] which was created in an attempt to streamline the regulatory process. After meeting with the Standing Committee to discuss the project, the proponent must then submit an application to each of the regulators on the Standing Committee, as well as obtaining any necessary permits from departments that are not on the Standing Committee.[58]

Following on from the 2010 policy paper referred to above, in 2011 the province commissioned an independent report by Dalhousie Oceanographer Dr. Robert Fournier,[59] who, building from earlier studies and his own analysis of the state of the industry, made a number of recommendations for how to proceed with tidal power regulation. These included, inter alia: development of a licensing system with "clear quantitative criteria," to include "criteria that would govern the transition from Demonstration to full Commercial" sites; development of "a comprehensive regulatory plan" that "integrates regulatory issues" into the planning, research and economic contexts; consultations among provincial and federal

55. Government of Nova Scotia, "Guidelines for Permitting of a Pre-Commercial Demonstration Phase for Offshore Renewable Energy Devices (Marine Renewables) in Nova Scotia," online: Nova Scotia Department of Energy <http://www.gov.ns.ca/energy/resources/EM/tidal/Final-Guidelines-for-Permitting-Demonstration-Phase.pdf>.

56. *Ibid* at 1.

57. The One-Window Standing Committee is comprised of applicable federal and provincial regulators: Natural Resources Canada, Environment Canada, Fisheries and Oceans Canada, Canadian Environmental Assessment Agency, Transport Canada, NS Environment, NS Labour, NS Energy, NS Fisheries and Aquaculture, and NS Department of Natural Resources; *ibid* at 3.

58. *Ibid.*

59. Robert Fournier, Marine Renewable Energy Legislation: A Consultative Process (Nova Scotia Department of Energy, 2011), online: <http://energy.novascotia.ca/sites/default/files/NS-MRE%20Legislation.pdf>.

regulators to "explore opportunities to harmonize legislation, policies and regulations," possibly to include reciprocal legislation to bring federal requirements into the provincial legislation.[60]

The Nova Scotia government subsequently responded with its 2012 *Nova Scotia Marine Renewable Energy Strategy*,[61] which adopted significant elements of the Fournier recommendations. The MRE Strategy approaches the sector from a high-level perspective, with details to emerge in implementation, and sets out three plan components: a Research Plan; a Development Plan; and a Regulatory Plan. With respect to the regulatory plan, while the details are yet to emerge, some key elements and an overall approach are set out in the MRE Strategy. First, and consistent with the Strategy's approach to research and development, development of the regulatory process will be incremental in nature, as might be expected with a relatively new industry facing technological and other uncertainties. The Strategy notes that the interim, somewhat informal approach adopted in the Guidelines and the One Window Standing Committee has worked well, but that "as technologies evolve and industry grows, a more customized and improved integrated regulatory system may be required."[62]

Second, and in line with the recommendations of the earlier reports, the MRE Strategy commits to an *integrated* regulatory system, including the integration of federal and provincial regulatory responsibilities to the extent possible.[63] The "ideal option" is identified as the "establishment of an authority to create or delegate to an independent regulator designed to oversee the industry," although it is acknowledged that until "the industry has reached commercial scale development, this independent regulator may not be required."[64] This proposal recognizes a significant jurisdictional component in the development of marine renewable energy. Jurisdiction over offshore renewable energy is split between the federal government and provincial governments. The province of Nova Scotia and the federal government have a history of cooperative federalism with regard to offshore resources. The most notable example of this cooperative federalism is the provincial *Canada–Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act*[65] and its federal

60. *Ibid.*
61. Government of Nova Scotia, "Marine Renewable Energy Strategy" (2012), online: Nova Scotia Department of Energy <http://energy.novascotia.ca/sites/default/files/Nova-Scotia-Marine-Renewable-Energy-Strategy-May-2012.pdf> [MRE Strategy]. Although the focus here is on tidal energy, the Strategy also encompasses wave energy and offshore wind projects.
62. *Ibid* at 28.
63. *Ibid* at 32.
64. *Ibid.*
65. SNS 1987, c 3.

counterpart, the *Canada—Nova Scotia Offshore Petroleum Resources Accord Implementation Act*. This legislation gives management of offshore oil and gas resources to joint federal and provincial management boards.[66] From the 2010 Policy Background Paper through to this statement in the MRE Strategy, it has been stressed that Nova Scotia will strive to cooperate with the federal government in order to preclude jurisdictional disputes.

A third proposal of note in the Strategy is the continuing commitment to the use of Strategic Environment Assessments (SEAs) at an early stage in the site and project approval process, "as part of overall strategic planning providing a broad understanding of the ecosystem and socioeconomic issues."[67] The SEAs will provide the opportunity for provincial and federal regulators and interested communities to be fully involved and will additionally allow for the government to identify areas of strong potential.[68]

Fourth, the evolving nature of the industry is reflected in the proposal to define rights, fees, and feed-in tariff provisions in a manner linked to different types of licenses.[69] In the MRE Strategy, two main classes of license are identified: Technology Development Licenses; and Power Development Licenses. Technology Development Licenses would have two stages—Testing and Demonstration—and would generally apply to "activities mainly focused on technology-specific improvements to drive reductions in electricity production costs."[70] Power Development Licenses would apply to projects "intended to result in a large-scale commercial, grid-connected power development," and would incorporate three stages: investigation; development; and full commercial deployment.[71] Finally, the Strategy recognizes that for "non-incremental or irreversible" technologies such as barrages or lagoons, while these may be eligible for Power Development Licenses, a more robust and intense environmental assessment is likely required than for in-stream technologies.[72]

The MRE Strategy, as with the earlier policy papers, clearly promotes a cautious incremental approach to the development of tidal energy and a corresponding step-by-step adaptive approach to its regulation. After research and development is concluded and it is demonstrated that the

66. Doelle et al, *supra* note 50 at 27; *Canada–Nova Scotia Offshore Petroleum Resources Accord Implementation*, SC 1988, c 28; *Canada–Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act*, SNS 1987, c 3.
67. MRE Strategy, *supra* note 61 at 28.
68. *Ibid* at 33.
69. *Ibid* at 29.
70. *Ibid* at 30.
71. *Ibid.*
72. *Ibid* at 31.

technology is viable and economically worthwhile, tidal energy projects can enter into the commercial phase where developers may produce and sell the energy they generate. Although this process may be slow moving, the cautious incremental approach is justifiable, as indicated in the Strategy, until the technologies have been proven and the industry has matured.

The integrated, "one-stop-shop" model being considered for the proposed legislation for the tidal energy sector in Nova Scotia, although not yet fully developed or focused on any one model, is promising to developers. This "integrated approach" could eventually see the creation of a single agency that would be responsible for most if not all approvals necessary in the development, construction and operation of renewable energy projects. If the integrated approach is selected, the legislation could be used as a template for legislation governing the approval process in the other renewable energy sectors or for renewable energy sector as a whole.

b. *Wind*

The Department of Natural Resources *2013 Crown Land Leasing Policy*[73] (Crown Land Policy) has subsumed in the general policy the former "Policy for Wind Energy Generation on Crown Land." The Crown Land Policy provides generally that the leasing of Crown land will be evaluated "to determine the potential benefits to the province from issuing a Crown land lease."[74] For all lease applications, the Department will "will seek advice and input from IRM [Integrated Resource Management] teams, DNR programs and other government departments."[75] An IRM Review is a planning and decision making process that coordinates access to the limited Crown land base and its resources, so that the long term sustainable benefits are optimized and conflicts among users are minimized.[76]

Provincially, all wind energy projects that produce over 2 MW of energy must submit to an SEA administered by the Nova Scotia Department of Environment. Wind farm projects present a risk to birds and bats, and as such, the developer may be required to develop a monitoring system in conjunction with the Department of Natural Resources and Canadian Wildlife Services, report to both the federal and provincial governments on the result of this monitoring, and to make other modifications to the

73. Government of Nova Scotia, "Crown Land Leasing Policy" (2013), online: Department of Natural Resources <http://novascotia.ca/natr/land/pdf/2013-05-03_Crown_Land_Lease_Policy.pdf>.

74. *Ibid*, section 1.0. Note also the requirement for aboriginal consultation with the Mi'kmaq of Nova Scotia, at section 5.4.

75. *Ibid* at section 5.5.

76. Government of Nova Scotia, "Integrated Resource Management Natural Resources / Government of Nova Scotia," online: Department of Natural Resources <http://www.gov.ns.ca/natr/wildlife/conserva/nr-irm-crown-land-lanning.asp>.

wind farm operations that are deemed necessary by federal and provincial entities taking part in the process.

Municipally, wind energy projects must conform to zoning by-laws established in the municipality in which the project is to be constructed. Under the *Municipal Governments Act* municipalities have the authority to require minimum distances between wind projects and municipal residents.[77]

Experience demonstrates that municipal residents have several concerns with the installation of wind power facilities near their homes. One such complaint is that the blades of the wind turbines produce a distracting or potentially harmful noise. In Nova Scotia, there are no regulations regarding acceptable sound levels, but NSPI has pledged to stay under the World Health Organization's (WHO) recommendation of forty-five decibels at night and fifty during the day. Finally, a lease of more than twenty years in New Brunswick and ten years in Nova Scotia creates a subdivision and many wind turbine lots would not easily qualify under existing regulatory requirements for subdivisions. Legislative change is required to remedy this problem.

c. *Electrical grid connection*

Pursuant to the *Electricity Act* and *Wholesale Market Regulations*, Nova Scotia Power was required to file an Open Access Transmission Tariff (OATT), which sets out the terms and conditions, rates and schedules, service agreements, interconnection agreements, transmission expansion policies and Standards of Conduct that govern the connection to and distribution of energy through the transmission system. The Nova Scotia OATT provides independent power producers and marketers the ability to import and export power from Nova Scotia.

For renewable energy, the *Renewable Electricity Regulations* has created two separate tariffs for the development of renewable energy: The Community Feed-In-Tariff (COMFIT) and the Feed-In-Tariff (FIT).[78] Small-scale renewable energy generators will be subject to the COMFIT program established in sections 19 and 20 of the regulations. This program was designed to encourage small-scale and community ownership, to allow newcomers to participate and to encourage development in rural areas. Sections 20(1) and 20(2) state that in order to qualify the facility must be owned by one or a combination of:

77. *Municipal Governments Act*, SNS 1998, c 18.

78. *NS Renewable Electricity Regulations*, *supra* note 2, ss 19, 32.

(a) A municipality of a wholly owned subsidiary of a municipality;
(b) Mi'kmaw band counsel;
(c) A cooperative of which the majority of members reside in the province and at least twenty-five members reside in the municipality where the generation facility is located;
(d) A community economic-development corporation of which at least twenty-five shareholders or members reside in the municipality where the generation facility is located; or
(e) A municipality.

On 4 July 2011 the Nova Scotia Utility and Review Board handed down its decision approving and defining the COMFIT.[79]

The *Renewable Electricity Regulations* also provide for the issuance of "electricity standard approvals," defined in s. 2(1) as required to "approve a generation facility as a renewable low-impact electricity generation facility for the purposes of the renewable electricity standards." Sections 10-14 of the Regulations provide for the application process and approval by the Minister, as the final step in the regulatory framework for renewable electricity in Nova Scotia. Section 13(1) specifies that the Minister must approve an application if, inter alia, the project is located in the province of Nova Scotia and it produces renewable energy (as noted earlier, NSPI may meet its requirements for renewable energy supply in part through acquiring 20% of the output of the Muskrat Falls project, despite its location).

In order to connect to the grid, developers must also submit to inspections under the *Electrical Installation and Inspection Act*[80] and *Electrical Code Regulations*[81] to ensure that they are safe and will not compromise the reliability of the system.

3. *New Brunswick*

a. *Tidal*

Currently, large scale tidal electrical generation is not allowed in New Brunswick. The New Brunswick Department of Natural Resources developed an interim policy in 2007 entitled the "Allocation of Crown Lands for Research in Support of In-Stream Tidal Power Generation." This policy prohibits large scale tidal development and provides guidelines for research of in-stream tidal energy until such time that a new policy for tidal energy is developed. In the interim, certain areas have been qualified for

79. *Re Renewable Energy Community-based Feed-In-Tariffs*, 2011 NSUARB 100 (CanLII).
80. *Electrical Installation and Inspection Act*, RSNS 1989, c 141.
81. *Electrical Code Regulations*, NS Reg 95/99.

testing. The new policy, which is still being formulated by the Department of Energy, will set standards for potential development sites and will outline all permit and approval requirements. The Minister has committed to review the interim policy on 24 October 2011.[82]

b. *Wind*

New Brunswick Power (NB Power) has initiated requests for proposals for the development of wind power generation facilities. This was a result of the province's commitment to increasing its generation capacity from renewable resources to meet its regulatory requirements requiring that NB Power purchase ten per cent of electricity from renewable sources by 2016. Several of the potential sites identified during the RFP were located on Crown lands. The Department of Natural Resources of New Brunswick will make available suitable Crown lands for wind exploration and wind farm development, subject to location criteria and certain terms and conditions.

For wind exploration activities on Crown lands, developers may undertake field testing to determine the potential for wind farm development in a particular area. Wind farm development usually occurs after exploration, when a promising area has been identified. A wind farm includes several individual turbines and strips of land between the turbines for the housing of distribution lines and access roads to the site and between the towers.

It is mandatory for all wind power proponents on Crown lands to follow a two-stage process. First, a developer must acquire a licence of occupation for wind exploration and associated activities. Wind exploration applicants should also acquire an option to lease agreement over the exploration area, which will grant to the holder an exclusive right to acquire a wind farm lease. The second step is acquisition of a lease and an associated licence of occupation for construction and operation of a wind farm.

A licence to explore may be granted for a period of up to three consecutive years and may include up to five wind test tower sites (or more at the discretion of the Minister). It will authorize the licencee to erect temporary test towers, take meteorological measurements, and conduct environment monitoring activities.

A lease with a licence of occupation is used to authorize the development, construction and operation of a wind farm on Crown lands.

82. Government of New Brunswick, Department of Energy, "The New Brunswick Developer's Guide to Renewable Energy" (9 June 2010), online: Government of New Brunswick <http://www2.gnb.ca/content/dam/gnb/departments/en/pdf/Publications/DeveloperGuideRenewableEnergy.pdf> at 81 [Developer's Guide].

The lease typically grants exclusive use for all wind turbine and electrical substation sites. An associated licence of occupation (non-exclusive use) will be issued to authorize placement of distribution lines and access roads within the wind farm. Wind farm tenure does not confer the right to build electrical transmission lines across the land. Permission for transmission lines must be applied for separately, in the form of an easement.

Any renewable energy project involving Crown land has to satisfy the requirements contained in the New Brunswick Department of Natural Resources' policy entitled "Departmental Consultation with First Nation Communities."[83] The goal of the Policy is to ensure that the Department of Natural Resources consults with New Brunswick First Nation communities "whenever there is a reasonable likelihood that a contemplated...action may result in the infringement of...an aboriginal or treaty right, including title."[84] First Nation consultation will also often be required in the context of an EA. Any proponent seeking approval to build a wind farm on Crown lands in New Brunswick should keep in mind that the process will require First Nation consultation.

In New Brunswick, section 40 of the *Electricity Act* establishes the New Brunswick System Operator (NBSO).[85] The developers of renewable energy projects must obtain approval from the NBSO in order to connect to the electrical grid. The NBSO's mandate is to ensure that newly connected generation facilities will not compromise the reliability of, or have a detrimental impact on, the transmission of energy to existing customers.[86] As a first step in the planning of a renewable energy project, developers seeking to build in New Brunswick must apply to the NBSO to have a Connection Assessment conducted. The Connection Assessment is conducted in three phases, the first of which is a Feasibility Review. This informal process is intended to highlight design limitations associated with the project and to determine whether or not a System Impact study will be required. As of 2008, the fee to have the Feasibility Review conducted was $5,000.[87]

The next step in the process is to have a System Impact Study conducted. This study is designed to assess design and operational issues with the project. First, the study will look at the "impact of the renewable

83. Government of New Brunswick, Department of Natural Resources, "Departmental consultation with First Nation Communities" (20 June 2005), online: Burchells LLP <http://www.burchells.ca/practiceareas/departmental-consultation-with-first-nation-communities.pdf>.
84. *Ibid* at 2.
85. *Electricity Act*, SNB 2003, c E-4.6, s 40. Section 42 states the objectives of the NBSO.
86. Developer's Guide, *supra* note 82 at 6.
87. *Ibid* at 7, 50, 51.

energy project on the transmission system and its customers." After this is complete, the NBSO will identify "any measures required to mitigate that impact" and determine the need for upgrades to the transmission grid in light of the negative impact. At this stage, the NBSO could impose operating restrictions on the project. The final step in this process is the Facilities Study, which "identifies the cost of any necessary upgrades" that were flagged in the System Impact Study. At this time, the developer will be notified of any cost to them and will be provided with a timeline of the scheduled completion date. In total, developers can expect the three steps of the Connection Assessment process to take roughly a month and a half, "subject to the workload of the NBSO and external resources" at the time of application.[88]

In addition to the Connection Assessment, renewable energy developers are also required to enter into a Generation Connection Agreement with NB Power. The developer must also apply to the NBSO to become a Market Participant, which will give it the right to buy or sell in the market, supply ancillary services to the market, register a facility with the NBSO and use transmission service. Finally, the developer must obtain a licence from the New Brunswick Energy and Utilities Board.

Pursuant to the *Electricity from Renewable Resources Regulation*, developers must obtain approval from the Minister that the facility actually does produce low-impact renewable energy.[89] To maintain approval, the owner of the facility must submit a yearly report stating that they continue to produce renewable energy.[90]

After the above steps are taken, developers will be required to submit to an EA under the *Environmental Impact Assessment Regulation*.[91] Schedule A identifies which projects are required to register for an EA and the vast majority of renewable energy projects will be captured by the *Regulation*.[92] Most renewable energy projects in New Brunswick will have to submit to an EA, as all electric power generating facilities with a production rating of 3 MW are required to do so.

As with the other provinces, the *Municipalities Act*[93] and local municipal councils will have to be consulted if the development is planned within municipal boundaries for zoning and land-use requirements. The application of municipal authority to renewable energy projects in New

88. *Ibid* at 7, 50, 51.
89. *Electricity from Renewable Resources Regulation*, NB Reg 2006-58, s 4.
90. *Ibid*, s 5.
91. *Environmental Impact Assessment Regulation*, NB Reg 87-83.
92. *Ibid*, s 3, sched A.
93. *Municipalities Act*, RSNB 1973, c M-22.

Brunswick is somewhat more pervasive. In early 2009, an amendment to the *Municipalities Act* that allows municipalities and rural communities to become generators of electricity was proclaimed into law.[94] The amended act allows municipalities to construct, own and operate renewable energy generation facilities. Municipalities are allowed to use the electricity and to sell any excess energy to NB Power.

4. *Prince Edward Island*

The *Development Permit Regulations* establish that before any large capacity renewable energy generation facility (producing 1 MW or more) can be constructed developers must first be issued a development permit by the Minister of Environment, Energy and Forestry.[95] Section 3 of the regulations stipulate that the application submitted to the Minister must contain a "copy of a survey, certified by a land surveyor, of the lot or parcel on which the [proposed development will be] constructed" and the location of the development on that lot.[96] Additionally, the developer is required to submit any plans, specifications, documents or other information the Minister deems necessary.[97] The permit will be issued where the Minister is satisfied that the construction of the facility is in the public interest.[98] The Minister also has ability to impose any conditions the Minister deems appropriate.[99]

Developers seeking to construct a large scale wind farm in Prince Edward Island must also consult the *Renewable Energy Designated Areas Regulations*, which restrict the areas in which wind energy developments may be constructed.[100] The purpose behind these regulations is to ensure that the wind farm is located in economically viable areas.

Finally, the *Subdivision and Development Regulations* stipulate that a wind turbine must be constructed at a distance four times its height from any habitable building.[101] Furthermore, the regulations state that no signs can be placed on the turbine unless they are within 10 feet of the ground or if it simply shows the name of the company that owns the lot on which the turbine was erected.[102]

94. *Ibid*, ss 111.2, 111.7.
95. PEI Reg EC773/08, ss 1(d)(ii), 2 [*Development Permit Regulations*].
96. *Ibid*, s 3(1)(a).
97. *Ibid*, s 3(1)(b).
98. *Ibid*, s 3(2).
99. *Ibid*, s 3(3).
100. PEI Reg EC766/05, s 3(1) [*Designated Areas Regulations*].
101. PEI Reg EC693/00, 54.1(2) [*Subdivision and Development Regulations*].
102. *Ibid*, s 54.1(8)(a).

Biomass

In cases where there is no public investment in a biomass project, the only regulatory requirement is that developers must comply with the existing legislation, most notably the *Environmental Protection Act*[103] and the *Wildlife Conservation Act*.[104] In cases where the developer anticipates direct capital funding or operating assistance, developers must meet additional regulatory standards. The scope of the additional regulatory requirements will depend on whether the proposed biomass generation facility will maintain the area for forest production or if the "harvest area is to become agriculture or another non-forest use."[105]

III. *Newfoundland and Labrador*

Of the Atlantic provinces, Newfoundland has expressed the least amount of commitment to the development of renewable energy resources that are the focal point of this paper.[106] Newfoundland and Labrador Hydro (NL Hydro) receives a significant amount of power from its nine hydroelectric plants. In 2007, the government of Newfoundland and Labrador released its *Energy Plan* which sets out the long term policies for the development of Newfoundland and Labrador's energy resources, which focus heavily on offshore petroleum and hydro-electricity.[107]

In June 2007, the *Energy Corporation Act*[108] was passed, which mandates the establishment of a new, wholly owned energy corporation that will become the parent corporation of NL Hydro, Churchill Falls Labrador Corporation and all NL Hydro subsidiaries.[109] The *Energy Plan* indicates that this energy corporation, Nalcor, will be the primary vehicle for the future of energy development in Newfoundland and Labrador and the government will ensure that this is the case "by adopting a policy that no new leases for wind development on Crown land will be issued except to [Nalcor] or another company acting in partnership with [Nalcor]."[110]

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103. *Environmental Protection Act*, RSPEI 1988, c E-9.

104. *Wildlife Conservation Act*, RSPEI 1988, c W-4.1.

105. Government of Prince Edward Island, *Department of Environment, Energy and Forestry, Biomass Guidelines* (March 2009), online: Government of Prince Edward Island <http://www.gov.pe.ca/photos/original/09biomasguide.pdf>.

106. Government of Newfoundland and Labrador does, of course, have a well developed range of hydroelectric projects. Although hydro is a renewable source of energy, as noted above, hydroelectricity generation is not a focus of this paper.

107. Government of Newfoundland and Labrador, *Focusing Our Energy* (2007), online: Government of Newfoundland and Labrador <http:www.nr.gov.nl.ca/energyplan.EnergyReport.pdf> [*Focusing Our Energy*].

108. *Energy Corporation Act*, SNL 2007, c E-11.01.

109. *Focusing Our Energy*, *supra* note 107 at 14.

110. *Ibid* at 38.

As with every other provincial jurisdiction, before any renewable energy projects can be developed, it must undergo an Environmental Assessment pursuant to the *Environmental Protection Act.*[111]

III. *The future of alternative energy regulation*

The current regulatory environment for renewable energy is not efficient and will not be effective as the industry matures and the number of projects increases. Reforming the regulatory regime could provide predictability and consistency for developers. In August 2008 Ea Energy Analyses authored a report titled "*Large Scale Wind Power in New Brunswick*," which considered the wind energy generation experience in Denmark, a country that has been successful in the development of wind power projects.[112] The report noted that one of the pillars of success in the Danish experience is the "one-stop-shop" approval procedure adopted by the Danish Energy Authority, which allows developers to obtain all necessary environmental, building, and power production approvals from a single entity. The "one-stop-shop" model enables developers to avoid a lengthy and-complex approval process.

The Nova Scotia Department of Energy, in its the Background Policy paper on marine renewable energy regulations, pointed out that in the United States, overlapping jurisdictional claims provide proof that regulation of the renewable energy industry, if uncoordinated, presents an impediment to investment. The transaction costs for approving a renewable energy development will increase if agencies are unwilling to streamline the regulatory process.[113] As additional proof of this concept, the Commission of European Communities released a report in December 2005 that identified an administrative limitation to renewable energy development to be the overwhelming number of authorities involved in the authorization of projects and a lack of coordination among the approval agencies. The Commission recommended the "creat[ion] of [a] one-stop authorization agency" that would process all mandatory federal and provincial authorizations.[114]

The largest challenge for the renewable energy sector in the years to come will be how to consolidate federal and provincial regulatory bodies and their enabling legislation. It is noteworthy that federal and provincial

111. *Environmental Protection Act*, SNL 2002, c E-14.

112. Ea Energy Analyses, "Large Scale Wind Power in New Brunswick" (August 2008), online: Government of New Brunswick <http//:www2.gnb.ca/content/dam/gnb/Departments/en/pdf/Publications/WindPowerNB.pdf> at 25.

113. NS Policy Background Paper, *supra* note 54 at 60.

114. Doelle et al, *supra* note 50 at 60.

regulators are increasing their level of cooperation on the various stages of the approval processes. However, there is an increasing trend of municipal government involvement in the regulation of renewable energy projects, particularly wind power, through land-use by-laws. This has the potential to further complicate and fracture the regulatory process. Although provinces may obtain consent from the federal government to consolidate the process, the practicalities of creating a single framework will be very taxing administratively and may work to discourage governments from implementing a "one-stop-shop" policy. Nevertheless, some provinces are making progress in this direction.

The Atlantic provinces have represented to the public that they are committed to a transition to renewable energy resources. In order to encourage investors and developers to enter the fray, it is essential that the regulatory process be streamlined so that it can be more conducive to future development. As the renewable energy sector in the Atlantic provinces continues to grow and mature it becomes increasingly important for the various levels of government to streamline the regulatory process. Implementing a "one-stop-shop" for all renewable energy industries would expedite the approval process and attract increased investment to the industry.