A Comparative Analysis of Select Legislated Electricity Regimes in Eastern Canada and the New England Region

September 19, 2020[1]

Table of Contents

Executive Summary	1
Part I: Canada	5
A. Introduction	5
B. New Brunswick	7
C. Nova Scotia	18
D. Newfoundland and Labrador	30
E. Québec	40
Part II: United States of America	48
A. Introduction	48
B. Massachusetts	51
C. Vermont	61
Appendix: Comparative Summary Tables	70

[1] Amended on December 18, 2020.

EXECUTIVE SUMMARY

This report offers comparative overviews of six legislated electricity regimes in eastern Canada and the New England region. In doing so, it follows and builds on an earlier report entitled "A Comparative Analysis of the Legislated Electricity Regimes in New Brunswick and Nova Scotia", which provided in-depth analyses of the legislated electricity regimes in New Brunswick and Nova Scotia and the corresponding mandates of New Brunswick's Energy and Utilities Board (the "EUB") and Nova Scotia's Utility and Review Board (the "UARB").

The primary purpose of this report is to build on the earlier work of identifying legal structures that create opportunities for and barriers to progressive electricity initiatives seeking greater equity and sustainability in New Brunswick and Nova Scotia by surveying and comparing other regimes in the region and identifying best practices where possible.

The overviews presented within the report do not attempt to provide entirely comprehensive overviews of the regimes they survey: instead, they conduct targeted analyses that draw out and explore three key themes that inform and structure the report. Those themes are affordability, reliability, and sustainability.

The jurisdictions assessed in this report are New Brunswick, Nova Scotia, Newfoundland and Labrador, Québec, Massachusetts, and Vermont. Each jurisdiction's legislated electricity regime is assessed independently, and key similarities and differences are highlighted in comparative summary tables compiled in the Appendix.

In assessing best practices amongst the six jurisdictions, several key findings emerge:

Affordability

(1) With respect to **rate-setting**, relevant laws in New Brunswick and Nova Scotia do not require rate accommodations for low-income customers or require that the interests of low-income customers be considered specifically when rates are being fixed or approved. Among the Canadian jurisdictions assessed in this report, Québec is the only one that has legislated a requirement along these lines: under Québec law, applications to fix or modify rates must describe the impact a rate increase would have on low-income earners. The consequences of that requirement are not obvious, however, as the law does not go on to explain how that impact should affect the rate-setting process. The law in Vermont is stronger, as it empowers the regulator to approve rate schedules, tariffs, agreements, contracts, or settlements that provide reduced rates for low-income customers. Ultimately, however, on this issue Massachusetts is strongest amongst the jurisdictions assessed in this report, as it actually requires the regulator to ensure that electric distribution companies provide discounted rates for eligible low-income customers.

(2) With respect to **energy efficiency and conservation spending**, New Brunswick is the only one among the six jurisdictions assessed in this report that has legislation expressly barring its electric utility (or, in other jurisdictions, the entity or entities with responsibility for implementing energy efficiency and conservation measures) from using

ratepayer funds to pay for energy efficiency and conservation programs and initiatives designed to support low-income customers.

(3) With respect to **jurisdictional conceptions of the "public interest"**, Québec provides a useful example against which the New Brunswick and Nova Scotian regimes may be compared. Québec law requires the provincial electricity regulator to "reconcile the public interest, consumer protection and the fair treatment of the electric power carrier and of distributors" when exercising its functions. Although New Brunswick's EUB and Nova Scotia's UARB appear to equate the concept of the "public interest" with "consumer protection", Québec law uses those terms separately, which suggests that the terms do not mean the same thing within Québec's regime. Québec also requires its electricity regulator to regulate in accordance with principles of "individual and collective equity". Taken together, these legislated requirements give Québec's electricity regulator more power and responsibility than the EUB and UARB currently have to consider social justice concerns when carrying out their work.

(4) With respect to **public-interest advocacy before the electricity regulators** in each jurisdiction, New Brunswick is the only one of the four Canadian jurisdictions that has established a Public Intervenor by statute and gives that advocate default standing in relevant regulatory proceedings. Vermont has done something similar: its Department of Public Service ("DPS") includes a Public Advocacy division that engages in public-interest advocacy in relevant regulatory proceedings. Compared to the mandate of New Brunswick's Public Intervenor, the DPS's advocacy mandate is more progressive when it comes to affordability issues. When carrying out its public advocacy duties, the DPS is required to "give heightened consideration to the interests of ratepayer classes who are not independently represented parties" in proceedings before the regulator, "including residential, low-income, and small-business consumers, as well as other consumers whose interests might otherwise not be adequately represented but for the Department's advocacy". The law empowering New Brunswick's Public Intervenor does not require heightened consideration of the interests of low-income customers; in fact, the law actually *disallows* the Public Intervenor from advocating on behalf of a "class of customers", which suggests that the Public Intervenor is limited in their ability to advance low-income considerations and concerns.

Reliability

(5) With respect to **core reliability standards**, the regimes in New Brunswick and Nova Scotia are comparable to those in Québec, Massachusetts, and Vermont. Insofar as they participate in the North American bulk power system, all five jurisdictions employ enforceable reliability standards developed by the North American Reliability Electric Corporation (the "NERC").

(6) With respect to **additional performance, service, or reliability standards**, Nova Scotia and Massachusetts alone have established laws that require such additional standards. Nova Scotia requires service and performance standards addressing reliability, adverse weather response, and customer service; Massachusetts requires performance standards

for emergency preparation and service restoration. Of the two, Nova Scotia appears to offer the most robust standard-setting regime.

Sustainability

(7) With respect to the **core legislated mandates of the electricity regulators** in each jurisdiction, Québec is the only jurisdiction that expressly mandates its electricity regulator to regulate in accordance with sustainability principles. Vermont is also noteworthy, as its legislated energy policy incorporates sustainability and environmental considerations expressly, and it is to be expected that the regulator will regulate in accordance with that policy.

(8) With respect to **renewable electricity targets**, the New Brunswick and Nova Scotian regimes are comparable, as they have both established targets of 40% that are currently set to apply indefinitely beyond 2020. Newfoundland and Labrador and Québec have not established renewable electricity targets, but both provinces currently rely primarily on renewable electricity, and so the absence of renewable electricity targets in those jurisdictions does not necessarily indicate that the New Brunswick and Nova Scotian regimes are stronger in this regard.[2] In Massachusetts and Vermont, renewable portfolio standards and renewable energy standards establish minimum percentage amounts for renewable electricity sold by retail electricity providers within each state, and, of the two regimes, Vermont's is more ambitious.[3]

These findings indicate that:

- both New Brunswick and Nova Scotia could look to Massachusetts as a model for rate accommodations for low-income ratepayers;
- New Brunswick could look to Nova Scotia as a model for using ratepayer funds to pay for cost-effective energy efficiency and conservation programs and initiatives designed to benefit low-income ratepayers;
- New Brunswick could look to Nova Scotia and Massachusetts as models for improved standards regimes;
- both New Brunswick and Nova Scotia could look to Québec for an example of a regulator mandate that expressly includes sustainability and equity concerns;
- both New Brunswick and Nova Scotia could look to Vermont for a model of more progressively empowered public-interest advocacy in regulatory proceedings; and,

[2] In 2018, 99% of the electricity generated in Québec was from renewable sources, as was roughly 95% of the electricity generated in Newfoundland and Labrador. See Canada Energy Regulator, "Provincial and Territorial Energy Profiles – Quebec" (24 June 2020) and Canada Energy Regulator, "Provincial and Territorial Energy Profiles – Newfoundland and Labrador" (24 June 2020).
[3] See the analyses on pages 53-55, 65-67, and 72 of this report.

- both New Brunswick and Nova Scotia could look to Massachusetts and Vermont for models of regimes that require increasingly ambitious renewable electricity requirements beyond 2020.

This list is not necessarily exhaustive, and readers may find other significant similarities or differences discussed throughout this report that could offer useful models for local improvements.

PART I: CANADA

A. Introduction

In Canada, the generation, transmission, and distribution of electricity are regulated primarily by individual provinces and territories; however, the Canada Energy Regulator ("CER")—a federal body established and empowered under the *Canadian Energy Regulator Act*—regulates the international export of electricity produced in Canada and is also responsible for overseeing the construction, operation, and abandonment of interprovincial and international power lines.

Beyond the limited jurisdiction of the CER, the Government of Canada and other federal bodies play peripheral, but nevertheless significant, roles that affect the generation, transmission, and distribution of electricity within the provinces and territories. The *Canadian Environmental Protection Act* (the "*CEPA*") empowers the federal government to regulate toxic substances, including carbon dioxide ("CO_2"). Using powers bestowed by that Act, the federal government has established a coal phase-out regime that is designed to put a stop to the use of coal to generate electricity. That regime has significant implications for Nova Scotia, where coal remains a significant source of electricity generated within the province. Under the Canada-Nova Scotia Equivalency Agreement for the Control of Greenhouse Gas Emissions from Electricity Producers in Nova Scotia, provincial greenhouse gas ("GHG") emissions reduction laws are operating in place of federal regulations that set strict standards for CO_2 emissions produced by coal-fired electricity generation.[4] Although that agreement may be renewed after it expires on December 31, 2024, its terms state that any renewed agreement must be set to terminate by December 31, 2029 at the latest; however, the agreement also includes a provision which states:

> The parties are committed to negotiating a new or amended equivalency agreement for the period 2015-2040 that reflects the transition from coal to non-emitting electricity in Nova Scotia, provided that Nova Scotia has put in place an equivalent regulatory regime which gives rise to equivalent environmental outcomes.

This provision indicates that the federal government is willing to consider and accommodate the continued generation of coal-fired electricity in Nova Scotia beyond December 31, 2029.

The construction, operation, and decommissioning of nuclear facilities in Canada are also regulated primarily at the federal level, under the regulatory supervision of the Canadian Nuclear Safety Commission, which is empowered by Canada's *Nuclear Safety and Control Act*. This has implications for New Brunswick's electricity regime, as the province currently generates significant electricity at the Point Lepreau nuclear generating station and is investing in research to support the development of small modular reactors ("SMRs") that could play a role in supplying "cleaner" electricity to the province in the future.

Finally, federal carbon pricing requirements also affect the distribution of electricity in all of the provinces and territories, as the imposition of the federal carbon pricing regime and provincial

[4] Those standards are found in Canada's *Reduction of Carbon Dioxide Emissions from Coal-fired Generation of Electricity Regulations*.

regimes that have been approved to operate in its place can be expected to influence the costs of generating and supplying electricity and, correspondingly, to enhance the attractiveness of cost-effective energy efficiency and conservation measures and behind-the-meter renewable energy options such as residential, commercial, and community solar installations.

Although the provinces and territories have the lion's share of the power to shape their individual electricity regimes, the direct and incidental effects of federal government powers should not be overlooked.
Another significant aspect of electricity regulation in Canada is the influence of regulatory bodies empowered by the federal government of the United States of America (the "US").

Under US federal law, a regulatory body called the Federal Energy Regulatory Commission (the "FERC") regulates the interstate transmission of electricity and interstate sales of electricity at wholesale. American law required the FERC to certify an Electric Reliability Organization ("ERO") that would exist under the FERC's jurisdiction and establish and enforce reliability standards for the North American bulk power system,[5] and, in July 2006, the FERC certified the North American Electric Reliability Corporation (the "NERC") as that ERO.[6] Under American law, the NERC is responsible for filing reliability standards—or modifications to such standards—with the FERC, and the FERC is responsible for approving those standards or modifications if it determines that they are "just, reasonable, not unduly discriminatory or preferential, and in the public interest".[7]

In general, Canadian jurisdictions participating in the North American bulk power system submit to NERC's regulatory authority. Among the Canadian jurisdictions assessed in this report, New Brunswick, Nova Scotia, and Québec have all established processes through which NERC reliability standards are adopted and applied within their respective regimes.

Since 2007, NERC's authority to monitor and enforce compliance by member jurisdictions in eastern Canada and the New England region has been delegated to the Northeast Power Coordinating Council (the "NPCC"), with FERC approval.[8] The NPCC plays active roles in the monitoring and compliance regimes that have been established in Nova Scotia and Québec, and it contributes to New Brunswick's monitoring and compliance processes as well.

The interrelationships between the NERC, the NPCC, and the provincial electricity regulators is discussed in more detail in the provincial overview sections below.

[5] 16 *USC* §§824o(b)-(c).
[6] See FERC Docket No. RR06-1-000, "Order Certifying North American Electric Reliability Corporation as the Electric Reliability Organization and Ordering Compliance Filing" (20 July 2006).
[7] 16 *USC* §824o(d).
[8] North American Electric Reliability Corporation, "Key Players".

B. New Brunswick

(1) Overview of the Regime

Electricity in New Brunswick falls under the purview of the Department Natural Resources and Energy Development and is regulated directly by the Energy and Utilities Board (the "EUB"). New Brunswick's primary power player is the New Brunswick Power Corporation ("NB Power" or the "Corporation"), which is a Crown corporation. Although New Brunswick law also recognizes three municipal distribution utilities, NB Power has an effective monopoly over the transmission, generation, and distribution of electricity in the province.

The Canada Energy Regulator's provincial energy profile for New Brunswick indicates that in 2018, electricity generation by fuel type in New Brunswick was comprised of:

- 39% uranium;
- 21% hydro;
- 18% coal and coke;
- 12% natural gas;
- 7% wind; and,
- 3% biomass / geothermal.

Among the Canadian jurisdictions assessed in this report, New Brunswick is the only one that currently uses nuclear power to generate electricity. This adds additional nuance to the interrelationships between federal government and provincial government powers concerning electricity within the province, as the licensing, construction, and operation of nuclear facilities in Canada is regulated at the federal level.

Core provincial laws pertaining to electricity are set out in several statutes and regulations, the most significant of which are summarized below in Table 1.

Table 1: Core Electricity Statutes and Regulations in New Brunswick

Statute	Purpose of Statute	Noteworthy Regulations Established under the Statute
Electricity Act	This Act is the primary source of NB Power's duties and powers, and it also sets out corresponding duties and powers of the EUB.	*Electricity from Renewable Resources Regulation*, which contains New Brunswick's renewable electricity target and provides the regulatory foundation for the Locally Owned Renewable Energy Projects that Are Small-Scale Program and the Large Industrial Renewable Energy Purchase Program. *Reliability Standards Regulation*, which sets out the processes by which NERC reliability standards

Statute	Purpose of Statute	Noteworthy Regulations Established under the Statute
		are adopted and implemented in New Brunswick.
Energy and Utilities Board Act	This Act establishes, empowers, and mandates the EUB, although most of the work of defining the EUB's electricity mandate is left to the *Electricity Act* and its corresponding regulations.	*General Regulation*, which establishes rules for proceedings before the EUB.
An Act Respecting a Public Intervener for the Energy Sector	This Act establishes and empowers the Public Intervener for New Brunswick's energy sector.	
Energy Efficiency and Conservation Agency of New Brunswick Act and *An Act to Dissolve the Energy Efficiency and Conservation Agency of New Brunswick*	Before 2013, the agency Efficiency New Brunswick held responsibility for energy efficiency and conservation in New Brunswick, and its powers and duties were set out in the *Energy Efficiency and Conservation Agency of New Brunswick Act*. In 2015, Efficiency New Brunswick was dissolved through *An Act to Dissolve the Energy Efficiency and Conservation Agency of New Brunswick Act*, and the responsibility for carrying out energy efficiency and conservation programs and initiatives was transferred to NB Power.	
Climate Change Act	This Act identifies New Brunswick's GHG emissions reduction targets and provides a legal foundation for the provincial carbon-pricing system.	
Gasoline and Motive Fuel Tax Act	This Act sets out New Brunswick's provincial fuel charge, which is the first part of New Brunswick's provincial carbon pricing regime.	*General Regulation*, which sets out additional requirements and regime details.

(i) Legislated Electricity Policy

The Government of New Brunswick's core electricity policy is set out in section 68 of the *Electricity Act*, which states:

> It is declared to be the policy of the Government of New Brunswick
>
> (a) that the rates charged by the Corporation for sales of electricity within the Province
>
> (i) should be established on the basis of annually forecasted costs for the supply, transmission and distribution of the electricity, and

(ii) should provide sufficient revenue to the Corporation to permit it to earn a just and reasonable return, in the context of the Corporation's objective to earn sufficient income to achieve a capital structure of at least 20% equity,

(b) that all the Corporation's sources and facilities for the supply, transmission and distribution of electricity within the Province should be managed and operated in a manner that is consistent with reliable, safe and economically sustainable service and that will

(i) result in the most efficient supply, transmission and distribution of electricity,

(ii) result in consumers in the Province having equitable access to a secure supply of electricity, and

(iii) result in the lowest cost of service to consumers in the Province, and

(c) that, consistent with the policy objectives set out in paragraphs (a) and (b) and to the extent practicable, rates charged by the Corporation for sales of electricity within the Province shall be maintained as low as possible and changes in rates shall be stable and predictable from year to year.

Noteworthy aspects of this policy include the expectations that NB Power will earn a just and reasonable return within the context of a set debt-to-equity ratio, that services will be safe, reliable, efficient, and economically sustainable, and that services will be provided at the lowest possible cost.

(ii) Core Electricity Mandate of the Energy and Utilities Board

The EUB's electricity mandate is defined primarily by the *Electricity Act*; however, the *Energy and Utilities Board Act* also plays an important role by defining the structure of the Board, the terms and employment conditions of its members and employees, procedural matters relating to Board hearings, and various other practical matters relating to the Board's operations as an administrative body. Notably, although the *Energy and Utilities Board Act* leaves much of the work of defining the EUB's responsibilities to other statutes and regulations, section 54 identifies the Board's regulatory role as the supervisor of all public utilities within the province and sets out some of its specific powers in that regard. Additionally, section 66 states that "[a]ny order of the Board made under this Part is subject to such terms and conditions as the Board considers necessary in the public interest". These provisions are substantially replicated in sections 129, 130, and 131 of the *Electricity Act*, and, in particular, the public-interest mandate inscribed in section 66 of the *Energy and Utilities Board Act* is echoed and expanded in section 131 of the *Electricity Act*, which states:

Any order or decision of the Board made under this Act or the regulations is subject to

any terms or conditions that the Board considers necessary in the public interest.

Significantly, the EUB has interpreted section 131 of the *Electricity Act* as creating an overarching mandate to ensure that all of its orders and decisions under the *Electricity Act* and corresponding regulations are made with the public interest in mind.[9]

Many of the EUB's powers and duties as the provincial electricity regulator are addressed in Part 8 of the *Electricity Act*, which deals specifically with the roles and responsibilities of the Board. However, the Board's fundamental role as a regulatory supervisor means that its responsibilities are also informed by the obligations that the law imposes on the utilities under its supervision (except in cases where relevant statutes and regulations have assigned regulatory responsibilities to the Minister of Natural Resources and Energy Development instead). Notably, however, whereas Nova Scotia's *Public Utilities Act* states explicitly that Nova Scotia's UARB has a legal duty to enforce the provisions of the *Public Utilities Act*, "as well as all other laws relating to public utilities",[10] neither New Brunswick's *Electricity Act* nor its *Energy and Utilities Board Act* contain an equivalent provision that imposes an explicit duty to enforce all relevant laws. The New Brunswick statutes *empower*, but do not explicitly *require*, the EUB to do so.

Four significant provisions within the *Energy and Utilities Board Act* and *Electricity Act* assign powers and duties to NB Power and articulate government policies that play particularly important roles in conditioning the EUB's electricity mandate:

- section 70 of the *Energy and Utilities Board Act* requires every public utility within the province to "furnish reasonably adequate and safe services and facilities";

- subsection 68(a)(ii) of the *Electricity Act* states that under the electricity policy chosen by the Government of New Brunswick, the rates that NB Power charges for electricity sales within the province "should provide sufficient revenue to the Corporation to permit it to earn a just and reasonable return, in the context of the Corporation's objective to earn sufficient income to achieve a capital structure of at least 20% equity";

- section 85 of the *Electricity Act* states that each transmitter "shall provide users of the integrated electricity system with open and non-discriminatory access to its transmission system in accordance with the electricity business rules and the approved transmission tariff"; and,

- subsection 107(9) of the *Electricity Act* states that when NB Power applies for Board approval of a capital project in accordance with its obligations under section 107 of the Act, the Board must approve that capital project if the Board is satisfied as to its prudence.

[9] Energy and Utilities Board, NB Power 2018-2019 General Rate Application (Matter 0375) Decision at paragraph 75 ["EUB Matter 0375 Decision"].
[10] *Public Utilities Act*, RSNS 1989, chapter 380 at section 47 ["NS *Public Utilities Act*"].

Respectively, these four provisions say that the Board must always remain alert to utilities' duties to furnish reasonably adequate and safe services and facilities. When approving or fixing the rates that NB Power will charge for its services, the Board must determine what will be just and reasonable. When approving or fixing transmission tariffs, the Board must ensure that users of the integrated electricity system—meaning the transmission systems within New Brunswick and the structures, equipment, and other things connecting them with generation facilities and distribution systems within the province as well as transmission systems outside the province—can access transmission systems without discrimination.[11] (Notably, subsections 111(2), 113(12), 113(3), 113(14), and 116(4) of the Act also require that an approved or fixed transmission tariff be just and reasonable). And, finally, before approving a capital project that NB Power has proposed, the Board must be satisfied that the project is prudent. Importantly, because the *Electricity Act* also gives the EUB an overarching mandate to protect the public interest, the Board's mandates to ensure the reasonable adequacy and safety of services and facilities, just and reasonable rates and tariffs, non-discriminatory access to transmission services, and prudent capital spending are also conditioned by that overarching role.

(iii) Public-interest Advocacy before the Energy and Utilities Board

New Brunswick has created a Public Intervener for the energy sector. *An Act Respecting a Public Intervener for the Energy Sector* sets out the regime through which a person is appointed to serve as that Public Intervenor and advocate in the public interest before the EUB. Under the law, the EUB must notify the Public Intervenor of all relevant hearings before the Board, and the Public Intervenor will automatically be added as a party to hearings before the Board that deal with matters within the Public Intervenor's jurisdiction.

Subsections 6(2), 6(3), and 6(5) of *An Act Respecting a Public Intervenor for the Energy Sector* require the Public Intervener to make representations that it "considers to be in the public interest", and subsection 6(5) states:

> During a proceeding of the Board, the Public Intervener shall advocate in the public interest and does not represent the interests of nor advocate on behalf of a party to the proceeding, a customer, a class of customers, a government department or agency or other interested group.

Under these provisions, the Public Intervener cannot represent the special interests of individual persons, organizations, customer classes, or groups: instead, the Public Intervener is required to advocate generally "in the public interest".

The EUB's *Rules of Procedure* also permit three forms of participation in hearings before the EUB—formal intervention, participation by comment, and participation in public fora—and individuals or organizations can use these procedures to engage in advocacy before the Board.

[11] See *Electricity Act*, SNB 2013, chapter 7 at section 1 ["NB *Electricity Act*"], where "integrated electricity system" is defined.

(2) Affordability

(i) Rate-setting

The EUB's core rate-setting mandate is set out in subsections 103(6)-(7) of the *Electricity Act*, which require the Board to fix or approve rates that are "just and reasonable" and which require the Board to take the following considerations into account when assessing rates proposed by NB Power:

- the government's legislated electricity policy, as set out in section 68 of the Act;
- NB Power's most recent integrated resource plan that has been approved (or deemed to be approved) by the government;
- the most recent strategic, financial, and capital investment plan that NB Power has filed with the EUB;
- any relevant requirements that the law has imposed on NB Power, including requirements concerning DSM, energy efficiency, and renewable electricity;
- relevant directives by the provincial government as contemplated by section 69 of the Act; and,
- relevant policies established by regulation

Additionally, subsection 103(8) empowers, but does not require, the EUB to also consider:

- NB Power's accounting and financial policies;
- matters related to cost allocation and rate design;
- charges related to customer service;
- NB Power's demand-side management ("DSM") and energy efficiency plans; and
- "any other factors that the Board considers relevant".

Although the law is clearly designed to ensure that rates charged for electricity services allow electricity providers to earn a just and reasonable return on their investments, it is also clear that the EUB must consider DSM, energy efficiency, and renewable energy requirements insofar as the government has established such requirements in law.

(ii) Low-income Considerations

The *Electricity Act* does not include provisions that address low-income considerations with respect to rate schemes.

Subsection 117.1(d) of the *Electricity Act* assigns NB Power responsibility for "developing and delivering programs and initiatives in relation to energy efficiency, energy conservation and demand-side management for low-income homeowners on behalf of the Province, provided that these programs and initiatives are paid for by the Province", and the EUB has interpreted this to mean that NB Power cannot use ratepayer funds for low-income energy efficiency and conservation programming of any kind.[12]

(3) Reliability

(i) NERC Reliability Standards

NERC reliability standards apply with respect to the functioning of the North American bulk power system.[13]

Section 71 of the *Electricity Act* requires NB Power to "maintain the adequacy and reliability of the integrated electricity system", and it enables NB Power to "participate with any standards body in the development of standards and criteria relating to the reliability of transmission systems".[14] Under New Brunswick law, the EUB has the ultimate responsibility for approving the reliability standards that apply to NB Power, and sections 119(1) and 119(2) of the Act set out some of the Board's powers and duties in that regard. More specific requirements are set out in the *Reliability Standards Regulation* under the Act.

The EUB's regulatory relationship with the NERC and NPCC was established through a Memorandum of Understanding ("MOU") between the three bodies[15], and it is also set out in New Brunswick's *Reliability Standards Regulation*.

Under the MOU and the *Reliability Standards Regulation*, NB Power and the EUB will employ NERC reliability standards, as approved by the FERC, but may modify those standards as necessary.[16] The EUB retains the primary responsibility to monitor and enforce compliance with the reliability standards within New Brunswick,[17] but the NPCC assists the EUB with those responsibilities.

---

[12] EUB Matter 0375 Decision, *supra* note 8 at paragraph 130.
[13] This provincial summary document prepared by the NERC presents a helpful overview of the New Brunswick regime.
[14] NB *Electricity Act*, *supra* note 10 at subsections 71(b) and 71(e).
[15] Memorandum of Understanding between the New Brunswick Energy and Utilities Board and the North American Electric Reliability Corporation and Northeast Power Coordinating Council Inc. (10 August 2016) ["NB-NPCC-NERC MOU"].
[16] See in particular *Reliability Standards Regulation*, NB Reg 2013-66 ["NB *Reliability Standards Regulation*"] at subsections 7(2)-7(3).
[17] See NB *Reliability Standards Regulation*, *supra* note 15 at section 14 and NB-NPCC-NERC MOU, *supra* note 14 at paragraph 3.

(ii) Province-specific Service, Performance, or Reliability Standards

New Brunswick legislation does not require the EUB to establish reliability, service, or performance standards for NB Power in addition to the NERC reliability standards it adopts, and the EUB does not appear to have done so.

(4) Sustainability

(i) Renewable Electricity Targets

Subsection 136(1) of the *Electricity Act* states that NB Power "shall, in accordance with the regulations, ensure that a portion of the electricity that it obtains is from renewable resources", and subsection 3(1) of the *Electricity from Renewable Resources Regulation* states:

> On December 31, 2020, and for each subsequent fiscal year, the Corporation shall ensure that 40% of the total in-province electricity sales in kilowatt-hours is electricity from renewable resources.

The *Electricity from Renewable Resources Regulation* also states, in subsection 3(2), that since August 12, 2014 NB Power has been required to "endeavour to obtain more electricity from renewable resources" with an eye to "gradually fulfilling" the 40% requirement set out in subsection 3(1). Additionally, subsection 3(3) of the regulation has required NB Power to ensure that since August 12, 2014 it has maintained the same renewable electricity percentage of the total in-province electricity sales in kilowatt-hours that it achieved in the fiscal year 2012-2013.

The *Electricity Act* and its corresponding *Electricity from Renewable Resources Regulation* do not impose a renewable electricity requirement on New Brunswick's three municipal distribution utilities, nor does the *Electricity Act* empower the provincial government to make regulations requiring municipal distribution utilities to obtain electricity from renewable resources.

(ii) Renewable Electricity Sources Recognized by the Province

Section 2 of New Brunswick's *Electricity from Renewable Resources Regulation* defines "electricity from renewable resources" as meaning: "electricity that is generated inside the Province in an innovative manner and provides a net environmental benefit to the Province", "electricity generated inside or outside the Province from a source", and "electricity that is obtained under the Large Industrial Renewable Energy Purchase Program". Although the phrases "innovative manner" and "net environmental benefit" are fairly vague and may give rise to competing interpretations, the term "source" is given further definition within section 2 and is defined as including: "solar energy", "wind energy", "hydroelectric energy", "ocean-powered energy", "biogas energy", "biomass energy", and "sanitary landfill gas". Notably, "nuclear generation" is not included within the definition of "source".

(iii) Responsibilities for Energy Efficiency and Conservation Programs

Amendments to New Brunswick's *Electricity Act* in 2015 assigned responsibilities for energy efficiency, energy conservation, and DSM programs and initiatives to NB Power. Before the amendments were made, responsibility for such initiatives was held by Efficiency New Brunswick. The relevant sections of the *Electricity Act* are sections 117.1 and 117.2. Section 117.1 gives NB Power responsibility for:

> (a) promoting the efficient use of energy and the conservation of energy in the Province;
>
> (b) developing and delivering programs and initiatives in relation to energy efficiency, energy conservation, and demand-side management;
>
> (c) developing and delivering programs and initiatives in relation to energy efficiency, energy conservation and demand-side management for low-income homeowners on behalf of the Province, provided that these programs and initiatives are paid for by the Province;
>
> (d) developing and delivering programs and initiatives in relation to energy efficiency, energy conservation and demand side management on behalf of a third party for its customers, provided that these programs and initiatives are paid for by the third party;
>
> (e) promoting the development of an energy efficiency services industry;
>
> (f) acting as the primary organization for the promotion of energy efficiency, energy conservation and demand-side management in the Province;
>
> (g) raising awareness among energy consumers of energy use; and
>
> (h) implementing demand-side management and energy efficiency plans.

Section 117.2 gives NB Power the legal authority required to carry out its responsibilities under section 117.1.

The EUB currently uses the Program Administrator Cost Test (the "PACT") to assess the cost-effectiveness of DSM programming.[18] By contrast, Nova Scotia's UARB currently uses the Total Resource Cost Test.[19]

(iv) Programs Designed to Facilitate Local Generation and Use of Renewable Electricity

(a) *The Locally Owned Renewable Energy Projects that Are Small-Scale Program*

Sections 5-22 of New Brunswick's *Electricity from Renewable Resources Regulation* create the

[18] See EUB Matter 0375 Decision, *supra* note 8 at paragraphs 107-117.
[19] See *Efficiencyone (Re)*, 2020 NSUARB 56 (CanLII) at paragraph 43 ["*Efficiencyone (Re) 2020*"].

Locally Owned Renewable Energy Projects that Are Small-Scale Program (the "LORESS Program"). Under the program, NB Power is required to "endeavour" to obtain certain amounts of electricity generated from renewable resources supplied by "Aboriginal businesses" and "local entities", both of which are terms defined by section 5 of the regulation. It is also empowered to procure electricity from renewable resources through distributed generation.

Under subsection 3(7)(a) of the *Electricity from Renewable Resources Regulation*, electricity obtained through the LORESS Program counts towards the 40% renewable electricity target that is set out in subsection 3(1).

(b) *The Large Industrial Renewable Energy Purchase Program*

Sections 23-28 of the *Electricity from Renewable Resources Regulation* create the Large Industrial Renewable Energy Purchase Program (the "LIREPP"). This program requires NB Power to "obtain enough eligible electricity from an eligible large industrial enterprise that the cumulative cost of firm electricity for all of the eligible facilities owned and operated by the eligible large industrial enterprise is reduced by the target reduction per cent".

Section 27 of the regulation describes how the target reduction percent will be calculated in each fiscal year, and it also gives the Minister of Natural Resources and Energy Development the responsibility to make that calculation.

Under section 23 of the regulation, "eligible electricity" is defined as meaning "electricity generated in the Province at any of the following facilities owned and operated by an eligible large industrial enterprise":

(a) an eligible facility at which electricity is generated through the combustion of woody biomass or its by-products from the chemical manufacture of pulp, including black and red liquors, for the purposes of cogeneration or producing combined heat and power;

(b) a facility at which electricity is generated through the combustion of woody biomass or its by-products from the chemical manufacture of pulp, including black and red liquors, for the purposes of cogeneration or producing combined heat and power; or

(c) a facility at which electricity is generated from a source.

Under the same section of the regulation, the term "eligible industrial enterprise" is defined as meaning "an organization, or a group of organizations, that is directly or indirectly owned or controlled by the same person and that":

(a) owns and operates an eligible facility, and

(b) owns and operates a facility that generates eligible electricity.

Also under the same section of the regulation, "eligible facility" is defined as meaning "a facility

that meets the following criteria":

(a) the facility has an electrical energy requirement of not less than 50 GWh per year;

(b) the facility obtains all or a portion of its electricity on a firm basis from the Corporation; and

(c) at least 50% of the primary products produced by the facility are exported to another province or territory of Canada or elsewhere.

Based on these definitions, it appears that the LIREPP was designed primarily to structure power purchase agreements between NB Power and pulp mills in the province.

Electricity obtained through the LIREPP program is included within the *Electricity from Renewable Resources Regulation*'s definition of "electricity from renewable sources". Additionally, subsection 3(7)(b) of the regulation states that electricity obtained through the LIREPP program shall count towards the 40% renewable electricity target set out in subsection 3(1).

C. Nova Scotia

(1) Overview of the Regime

In Nova Scotia, electricity falls under the purview of the Department of Energy and Mines and is regulated directly by the Utility and Review Board ("UARB"). Nova Scotia's primary power player is Nova Scotia Power Incorporated ("NSPI"), an investor-owned utility. Although Nova Scotian law also recognizes six electric municipal utilities, NSPI has an effective monopoly over the transmission, generation, and distribution of electricity within the province.

The Canada Energy Regulator's provincial energy profile for Nova Scotia indicates that in 2018, electricity generation by fuel type in Nova Scotia was comprised of:

- 63% coal and coke;
- 12% wind;
- 9% natural gas;
- 9% hydro / wave / tidal;
- 4% petroleum; and,
- 3% biomass / geothermal.

Core provincial laws pertaining to electricity are set out in several statutes and regulations, the most significant of which are summarized below in Table 2.

Table 2: Core Electricity Statutes and Regulations in Nova Scotia

Statute	Purpose of Statute	Noteworthy Regulations Established under the Statute
Public Utilities Act	This Act sets out the powers and duties of all public utilities in Nova Scotia and also sets out the core powers and duties of the UARB.	*Rules for the Regulation of Practice and Procedure*, which inform the UARB's processes.
Electricity Act	This Act sets out the legal obligations that are specific to electric utilities in Nova Scotia and, corresponding, informs the UARB's electricity mandate.	*Renewable Electricity Regulations*, which set Nova Scotia's renewable electricity targets and establish a corresponding enforcement mechanism.
Utility and Review Board Act	This Act established and empowers the UARB.	*Utility and Review Board Regulations* and *Costs Rules*, which establish rules and procedures that apply to proceedings before the UARB.
	This Act establishes and empowers Nova Scotia's efficiency corporation—currently the corporation EfficiencyOne—and informs	

Statute	Purpose of Statute	Noteworthy Regulations Established under the Statute
Electricity Efficiency and Conservation Restructuring (2014) Act	NSPI's obligation to contract with EfficiencyOne for the delivery of energy efficiency and conservation programs throughout the province.	
Maritime Link Act	This Act deals specifically with the proposed Maritime Link Project.	*Maritime Link Cost Recovery Process Regulations*, which gave the UARB specific directions as to how the proposed Maritime Link Project had to be assessed and approved.
Marine Renewable-energy Act	This Act deals exclusively with Nova Scotia's marine renewable energy ambitions and the provincial government's commitment to supporting further research and development in that field.	
Sustainable Development Goals Act	This Act is not yet in force, but it provides the foundation for regulations that could include new renewable electricity targets for the province.	
Environment Act	Among other things, this Act enables Nova Scotia's cap-and-trade program and GHG emissions reduction targets.	*Greenhouse Gas Emissions Regulations*, which set out the details of Nova Scotia's GHG emissions reduction commitments and are the basis of the Canada-Nova Scotia Equivalency Agreement. *Cap-and-Trade Program Regulations*, which sets out the details of Nova Scotia's cap-and-trade program. *Quantification, Reporting and Verification Regulations*, which determine how qualifying provincial facilities must quantify and report their GHG emissions.

(i) Legislated Electricity Policy

The Government of Nova Scotia has not expressed a core electricity policy in legislation as the Government of New Brunswick has done. The Government of Nova Scotia's electricity policy must therefore be gleaned from the statutes and regulations comprising its electricity regime on the whole.

(ii) Core Electricity Mandate of the Utility and Review Board

Sections 15-47 of the *Public Utilities Act* set out many of the primary powers and duties of the UARB; however, because the Board's responsibilities are also informed by the legal obligations belonging to the utilities under its supervision, legal obligations assigned to NSPI and others under the *Public Utilities Act*, *Electricity Act*, and other relevant statutes and regulations should be understood as triggering corresponding powers and obligations for the Board.

Section 18 of the *Public Utilities Act* is a significant mandate section which states that the Board "shall have the general supervision of all public utilities, and may make all necessary examinations and inquiries and keep itself informed as to the compliance by the said public utilities with the provisions of law and shall have the right to obtain from any public utility all information necessary to enable the Board to fulfil its duties". Notably, section 18 is complemented and expanded by section 47, which states that the Board

> [...] may inquire into any neglect or violation of the laws or regulations in force in the Province by any public utility doing business therein, or by the officers, agents or employees thereof, or by any person operating the plant of any public utility, and shall have the power, and it shall be its duty, to enforce the provisions of this Act as well as all other laws relating to public utilities.

Whereas section 18 *empowers* the UARB to oversee public utilities' activities and consider whether the public utilities are complying with relevant laws, section 47 actually *requires* the Board to enforce all of the laws that are relevant to the utilities under its supervision. In broad terms, this means that any duty imposed on a public utility by legislation carries a corresponding oversight and enforcement duty for the Board.

Section 52 of the *Public Utilities Act* states that "[e]very public utility is required to furnish service and facilities reasonably safe and adequate and in all respects just and reasonable". The UARB's corresponding responsibilities to ensure the safety and adequacy of electricity services throughout the province and to approve or fix just and reasonable rates and tariffs are reflected throughout the *Public Utilities Act*.

Additionally, the *Public Utilities Act* requires that electricity services be provided in a non-discriminatory manner, and subsection 67(1) of the Act states:

> All tolls, rates and charges shall always, under substantially similar circumstances and conditions in respect of service of the same description, be charged equally to all persons and at the same rate, and the Board may by regulation declare what shall constitute substantially similar circumstances and conditions.

As discussed in more detail below, the UARB has interpreted its duty to ensure like rates for like services to mean that it is legally barred from approving or fixing rate reductions for low-income ratepayers in Nova Scotia.

Finally, it is worth noting that section 21 of the *Public Utilities Act* gives the UARB powers that

could help to facilitate progressive law reform. It states:

> Whenever any public utility or person shall propose any change in any law relating directly or indirectly to the property or operations of any public utility, the proposed change may be submitted to the Board, which may take evidence and give public hearing thereon, and the Board may recommend such bills as will, in its judgement, protect the interests of the public and such public utility, and transmit the same to the Attorney General.

Our research discovered no UARB or court decisions indicating that the UARB has exercised the powers granted by this section.

(iii) Public-interest Advocacy before the Utility and Review Board

(a) *Appointed Advocates*

The *Public Utilities Act* authorizes both the Government of Nova Scotia and the UARB to appoint a consumer advocate and small business advocate to participate in hearings before the Board. Section 91 states, in part:

> 91(1) Where the Governor in Council directs or the Board on its own motion decides, the Board shall appoint a person to act as a consumer advocate in a hearing before the Board.
>
> (2) A consumer advocate appointed pursuant to subsection (1)
>
> (a) shall participate in all aspects of the hearing before the Board and represent the interests of residential consumers as a full intervenor with power to enter into settlement agreements with other parties; and
>
> (b) has all the powers and authorities necessary to carry out the duties of a consumer advocate pursuant to this Section. (emphasis added)

Section 92 states, in part:

> [...]
>
> (2) Where the Governor in Council directs or the Board on its own motion decides, the Board shall appoint a person to act as a small business advocate in a hearing before the Board.
>
> (3) A small business advocate appointed pursuant to subsection (2)
>
> (a) shall participate in all aspects of the hearing before the Board and represent the interests of small business as a full intervenor with power to enter into settlement agreements with other parties; and

(b) has all the powers and authorities necessary to carry out the duties of a small business advocate pursuant to this Section. (emphasis added)

As may be seen from the underlined portions of the provisions quoted above, the consumer advocate's role is to represent the interests of residential consumers, and the small business advocate's role is to represent the interests of small business.

Importantly, the language of sections 91 and 92 of Nova Scotia's *Public Utilities Act* is *permissive*, not *imperative*, meaning that the sections *empower* the provincial government and the UARB to appoint a consumer advocate and small business advocate to advocate in a hearing before the Board, but they do not *require* either the provincial government or the UARB to do so. This means that the presence of a consumer advocate or small business advocate at a UARB hearing is a discretionary matter, and in the absence of an express direction from the government, the UARB could choose not to appoint such representatives.

(b) *Participation by Intervention or Letter of Comment*

The *Utility and Review Board Regulations* and *Board Regulatory Rules* also establish processes that individuals or organizations can use to participate in proceedings before the UARB.

Section 6 of the *Utility and Review Board Regulations* states that the UARB "shall permit any person who is determined by the Board to have a real and substantial interest in the subject-matter of the proceeding to participate in the hearing", and the UARB's *Board Regulatory Rules* describe two opportunities for formal participation in proceedings before the Board:

- participation as a formal intervenor, and
- participation by letter of comment.

Importantly, these two opportunities for formal participation are mutually exclusive: under subsection 11(9) of the *Board Regulatory Rules*, a person who choose to participate by letter of comment cannot participate as an intervenor as well.

(2) Affordability

(i) Rate-setting

The core rate-setting criteria established by Nova Scotia's *Public Utilities Act* are that rates must be just and reasonable and that utilities are entitled to earn a just and reasonable return on the rate base, taking into consideration various factors expressly set out by the law.[20] The *Public Utilities Act* also requires that rates, tolls, charges, and schedules be non-discriminatory, and an underlying principle of "like rates for like services" informs the regime.[21]

[20] See in particular NS *Public Utilities Act*, *supra* note 9 at section 52 and subsections 45(1)-(2).
[21] *Ibid* at subsection 67(1) and sections 83 and 87.

(ii) Low-income Considerations

(a) *Low-income Considerations in Rate-setting*

Two decisions by the UARB, along with corresponding decisions by the Nova Scotia Court of Appeal (the "NSCA"), demonstrate that both the UARB and the NSCA accept that the concepts of "justness", "discrimination", and the "public interest" within the *Public Utilities Act* are intended primarily to address the reality that "[a]n unregulated monopolist may have market power to restrict supply below what would be the competitive level, charge prices above what would be the competitive level, and discriminate arbitrarily among consumers in price or supply".[22] In other words, these decisions accept that the UARB's core electricity mandate is to prevent NSPI from exercising its monopoly unjustly, not to ensure that electricity is actually affordable and accessible for all, and, further, they have held that the *Public Utilities Act* actually prevents the UARB from advancing or approving affordable electricity programs such as rate assistance programs.

As noted above, the *Public Utilities Act* states in subsection 67(1) that:

> All tolls, rates and charges shall always, under substantially similar circumstances and conditions in respect of service of the same description, be charged equally to all persons and at the same rate, and the Board may by regulation declare what shall constitute substantially similar circumstances and conditions.

The UARB and NSCA have interpreted this provision to mean that the UARB's duty to ensure like rates for like services bars it from approving or fixing rate reductions for low-income ratepayers in Nova Scotia, as that would mean imposing different rates for like services, which would be "discriminatory" under the Act.

(b) *Low-income Considerations in Energy Efficiency and Conservation Programming*

In contrast to the current situation in New Brunswick, Nova Scotia's efficiency franchise holder, EfficiencyOne, is not barred from conducting energy efficiency and conservation activities that target low-income ratepayers, nor is NSPI barred from using ratepayer funds to pay for such activities.

The UARB *is* required to assess the affordability, to NSPI's customers, of proposed energy efficiency and conservation activities, and the Board has determined that the word "affordable", in the context of such analyses, requires it to "take into account an increased focus on short term rate impacts" as opposed to long-term impacts alone.[23]

---

[22] See *Boulter v Nova Scotia Power Incorporation*, 2009 NSCA 17 (CanLII) at paragraph 5. See also the UARB's decision in Nova Scotia Power Inc, Re, 2005 NSUARB 27 (CanLII), the subsequent decision of the Nova Scotia Court of Appeal in *Dalhousie Legal Aid Service v Nova Scotia Power Inc*, 2006 NSCA 74 (CanLII), and the UARB's decision in *Affordable Energy Coalition, Re*, 2008 NSUARB 11 (CanLII).

[23] Subsection 79L(9) of NS *Public Utilities Act*, *supra* note 9, requires the UARB to take into account the affordability to NSPI's customers of proposed energy efficiency and conservation activities. In *EfficiencyOne (Re)*, 2015 NSUARB 204 (CanLII), the UARB interpreted this requirement to mean that it must "take into account an

(3) Reliability

(i) NERC Reliability Standards

NERC reliability standards apply with respect to the functioning of the North American bulk power system.

The regulatory relationship between the UARB and the NERC is set out in a Memorandum of Understanding ("MOU") established in December 2006 (the "UARB-NERC MOU"),[24] and the relationship between NSPI, the NPCC, and NERC was set out in an MOU established in May 2010 (the "NSPI-NPCC-NERC MOU").[25]

Under the UARB-NERC MOU, the parties agreed that the NERC or its designated regional entity (the NPCC had not yet been appointed) would carry out compliance monitoring and would provide the UARB with compliance information and recommendations that the UARB would then use in enforcement proceedings carried out under the Board's direction and control.[26] Likewise, under the NSPI-NPCC-NERC MOU, the parties agree that NSPI is subject to a compliance monitoring and enforcement program established by the NERC and implemented by the NPCC and that the UARB will be responsible for conducting enforcement proceedings.[27]

(ii) Province-specific Service, Performance, or Reliability Standards

Amendments to the *Public Utilities Act* in 2015 required the UARB to establish and enforce performance standards for NSPI concerning "reliability", "response to adverse weather conditions", and "customer service". The amendments were made after public consultations made it clear to the Government of Nova Scotia that ratepayers were not satisfied with NSPI's provision of services and that they desired more transparency and accountability concerning the utility's performance.[28]

The UARB established NSPI's performance standards for reliability, "adverse weather response", and customer service in 2016.[29] These standards are distinct from and operate over and above the reliability standards set by the NERC.

---

increased focus on short term rate impacts" as opposed to long-term impacts alone. As the Board went on to explain, this does not mean that it will focus solely on short-term rate impacts and ignore the potential for long-term savings, but it does mean that when the Board assesses proposed spending on energy efficiency and conservation activities, short-term impacts will be given greater weight than they would receive in other assessments by the Board.

[24] Memorandum of Understanding between Nova Scotia Utility and Review Board and North American Electric Reliability Corporation (22 December 2006) ["UARB-NERC MOU"].

[25] Memorandum of Understanding between Nova Scotia Power Incorporation and the Northeast Power Coordinating Council Inc and the North American Electric Reliability Corporation (11 May 2010) ["NSPI-NPCC-NERC MOU"].

[26] UARB-NERC MOU, *supra* note 23 at page 2.

[27] NSPI-NPCC-NERC MOU, *supra* note 24 at page 4.

[28] See Government of Nova Scotia, *Our Electricity Future: Nova Scotia's Electricity Plan, 2015-2040* at pages 13-14.

[29] See the UARB's decision in *Nova Scotia Power Incorporated (Re)*, 2016 NSUARB 193 (CanLII) ["*NSPI (Re) 2016*"].

The adverse weather response standards set by the UARB are described at paragraphs 96-107 of the UARB's decision in *Nova Scotia Power Incorporated (Re)*, 2016 NSUARB 193 (CanLII). The standards include a number of benchmarks dealing with NSPI's performance in answering customer calls and providing relevant information to customers, as well as a metric addressing the percentage of customers whose power is restored within 48 hours following a severe weather event. The benchmarks for that metric are based on NSPI's historical averages since 2004, minus one standard deviation, and are to be updated annually.[30]

(4) Sustainability

(i) Renewable Electricity Targets

For years, the *Renewable Electricity Regulations* have set targets for the amount of renewable low-impact electricity that load-serving entities have been required to supply to their customers. Until now, the targets have required increasingly ambitious minimum percentage amounts since 2011, with the target for 2011 and 2012 being 5%, the target for 2013 and 2014 being 10%, the target for 2015, 2016, 2017, 2018, and 2019 being 25%, and the target for 2020 being 40%.

The 40% target set for 2020 will apply indefinitely beyond 2020 unless the *Renewable Electricity Regulations* are amended to include new targets. Currently, no legislation in Nova Scotia requires the Minister of Energy and Mines to set new targets beyond 2020.

Unlike New Brunswick's renewable electricity targets, the targets set out in Nova Scotia's *Renewable Electricity Regulations* apply to municipal electric utilities within the province as well, as such utilities are included within the meaning of the term "load-serving entity" used within the regulations. Not only does the renewable electricity standard for 2020 apply clearly to all load-serving entities within the province, but subsection 6A(4) sets out specific requirements under which municipal electric utilities must meet that standard. Specifically, subsection 6A(4) states that in order to meet the renewable electricity standard set out in subsection 6A(1), "a municipal electric utility that purchases any of its electricity supply from a supplier other than NSPI must ensure that a minimum of 40% of that non-NSPI electricity supply is renewable electricity".

The *Renewable Electricity Regulations* also include tailored enforcement provisions that apply specifically to Nova Scotia's renewable electricity targets.[31]

(ii) Renewable Electricity Sources Recognized by the Province

Two categories of renewable electricity are particularly important to Nova Scotia's electricity regime: "renewable electricity" and "renewable low-impact electricity".[32]

---

[30] *NSPI (Re) 2016*, *supra* note 28 at paragraphs 101-103.
[31] *Ibid* at section 47.
[32] Nova Scotian law also includes the category "low-emission electricity", which is defined in its *Greenhouse Gas Regulations*, which were created under the *Environment Act*, and is used in that legislation exclusively. The regulations define "low-emissions electricity" as meaning "electric energy produced from any source of renewable

(a) *Renewable Electricity*

Subsection 3(1) of the *Renewable Electricity Regulations* defines "renewable electricity" as meaning "heritage renewable electricity", "renewable low-impact electricity generated after December 31, 2001", or "imported electricity that in the opinion of the Minister is generated from renewable resources".

Subsection 2(1) of the same regulations defines "heritage renewable electricity" as meaning "all electricity that was contracted for or supplied by a load-serving entity in the Province before January 1, 2002, and that, in the opinion of the Minister, is generated from renewable sources". Since the term "renewable sources" is not defined in the regulations, it is noteworthy that two of the defined forms of "renewable electricity" in Nova Scotia rely largely on the Minister's discretionary opinion as to what sources are renewable.

Subsection 2(2) of the *Electricity Act* states: "Commencing on such date as prescribed in the regulations, 'renewable electricity' includes hydroelectricity whether generated in or imported into the Province". Although the *Renewable Electricity Regulations* do not appear to speak directly to that subsection of the *Electricity Act*, it is clear that the Government of Nova Scotia intends imported hydroelectricity to be considered a renewable electricity, and subsection 3(1) of the *Renewable Electricity Regulations* clearly empowers the Minister to categorize imported electricity as renewable electricity when, in the Minister's opinion, such electricity is generated from renewable resources.

Notably, the *Renewable Electricity Regulations* require NSPI to meet its 40% renewable electricity standard for 2020 and beyond "by directly or indirectly acquiring, to deliver to customers in the Province, 20% of the electricity generated by the Muskrat Falls Generating Station if the Muskrat Falls Generating Station and associated transmission infrastructure is completed and in normal operation and the UARB has approved an assessment against NSPI under the *Maritime Link Act* and its regulations".

(b) *"Renewable Low-Impact Electricity"*

Subsection 3(1) of the *Renewable Electricity Regulations* defines "renewable low-impact electricity" as electricity produced from any of the following sources: "solar energy", "wind energy", "run-of-the-river hydroelectric energy", "ocean-powered energy", "tidal energy", "wave energy", "biomass that has been harvested in a sustainable manner", "landfill gas", or "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".

---

energy, including any of the following": "solar energy", "wind energy", "biomass that has been harvested in a sustainable manner", "run-of-the-river hydroelectric energy", "ocean-powered energy", tidal energy, "landfill gas", "liquid biofuel and other biogas energy", "nuclear power", and "large hydro". Given that the sole provision mentioning low-emissions electricity within these regulations concerns electrical power generated within Nova Scotia, it is not clear why the regulations' definition of low-emissions electricity includes nuclear power, given the fact that Nova Scotia's *Public Utilities Act* bars NSPI from constructing a generating plant that uses nuclear energy to generate electricity.

Like the regulatory definition of "renewable electricity", the definition of "renewable low-impact electricity" incorporates some room for Ministerial discretion; here, however, the Minister's discretion is limited by the requirement that their opinion be "consistent with Canadian standards".

(iii) Responsibilities for Energy Efficiency and Conservation Programs

The *Public Utilities Act* requires NSPI to pay for electricity efficiency and conservation activities that are provided by the "franchise holder" empowered under the *Electricity Efficiency and Conservation Restructuring (2014) Act*. The current franchise holder is the corporation EfficiencyOne.

Under subsection 79A(b) of the *Public Utilities Act*, the phrase "electricity efficiency and conservation activities" is defined as meaning "activities, programs or plans relating to":

> (i) the efficient use of electricity,
>
> (ii) the conservation of electricity,
>
> (iii) the alteration of the consumption pattern of an end-user of electricity that has the effect of reducing demand during Nova Scotia Power Incorporated's periods of highest demand,
>
> (iv) the utilization or management by Nova Scotia Power Incorporated of its electrical system in a more cost-effective manner,
>
> (v) the delivery of a reduction in the amount of electrical energy or capacity that Nova Scotia Power Incorporated would otherwise be required to supply to its customers, or
>
> (vi) any other prescribed activities, plans or programs.

Subsection 79C(1) of the *Public Utilities Act* empowers the Minister of Energy and Mines to grant an electricity efficiency and conservation franchise, and subsection 79C(2) states that a franchise granted by the Minister "gives the franchise holder the exclusive right to supply Nova Scotia Power Incorporated with reasonably available, cost-effective electricity and conservation activities" within the purpose of the *Public Utilities Act*.

Whereas New Brunswick's EUB uses the PACT to assess the cost-effectiveness of DSM programming, the UARB currently uses the Total Resource Cost Test (while recognizing its ability to use other tests, such as the PACT, if it chooses to do so).[33]

[33] See *Efficiencyone (Re) 2020*, *supra* note 18 at paragraph 43.

(iv) Programs Designed to Facilitate Local Generation and Use of Renewable Electricity

(a) *Established Programs*

Nova Scotia's *Electricity Act* is the legal foundation for regulations setting out a number of locally generated renewable electricity programs that have been implemented in Nova Scotia, and Nova Scotia's *Renewable Electricity Regulations* are the place where those programs have been defined in detail.

Sections 18-35 of the *Renewable Electricity Regulations* set the parameters for the Community Feed-in Tariff ("COMFIT") Program, which is now closed. Sections 35A-37 of the regulations set the parameters under which NSPI can procure renewable low-impact electricity in accordance with section 4B of the *Electricity Act*, and sections 37A-37F set the parameters for the Solar Electricity for Community Buildings Program that was established for the years 2017, 2018, and 2019 under subsection 4C(1) of the *Electricity Act*. These programs were designed to incent investment in community-owned or small-scale renewable electricity generation within the province: notably, the COMFIT program produced a number of significant wind turbine developments, and the Solar Electricity for Community Buildings Program facilitated the development of solar photovoltaic ("solar PV") arrays.

Under section 6A of the *Renewable Electricity Regulations*, NSPI is required to meet its 40% renewable electricity standard for 2020 and beyond by supplying "at least 5% of its total annual sales from independent power producers" and acquiring "at least 300 GWh from independent power producers in addition to the renewable low-impact electricity required to meet the requirements of Sections 4 and 5" of the regulations. Through those requirements, the programs enabling locally generated renewable electricity are linked to NSPI's renewable electricity target.

Notably, however, the *Renewable Electricity Regulations* also require NSPI to meet its 40% renewable electricity standard for 2020 and beyond "by directly or indirectly acquiring, to deliver to customers in the Province, 20% of the electricity generated by the Muskrat Falls Generating Station if the Muskrat Falls Generating Station and associated transmission infrastructure is completed and in normal operation and the UARB has approved an assessment against NSPI under the *Maritime Link Act* and its regulations". In other words, not only do the *Renewable Electricity Regulations* assume that NSPI will rely heavily on receiving electricity from the Muskrat Falls Generating Station as a way to maintain its renewable electricity standard, but the regulations actually *require* NSPI to do so. This requirement may diminish motivations to invest further in local development of small-scale renewables.

(b) *Upcoming Programs*

In March 2020, the Government of Nova Scotia amended the *Electricity Act* through *An Act to Amend Chapter 25 of the Acts of 2004, the Electricity Act*, which has received royal assent but has not yet been proclaimed in force. According to a news release issued by the provincial government, the amendments are designed to enable a program called the Green Choice Program, which will give "large electricity customers the ability to purchase clean electricity

from new, renewable energy projects through an independent and competitive process" and "will enable Nova Scotia to move forward with its agreement with the federal government to procure 100 per cent renewable electricity for all federally owned facilities in the province by 2022".[34]

When they come into force, the *Electricity Act* amendments will add new provisions to chapter 25 of the *Electricity Act* and will empower the Minister of Energy and Mines to create a renewable low-impact electricity procurement program. The actual program details will be set out in regulations.

Regulations for the Green Choice Program have not yet been created. Judging by the pattern with which the provincial government has established regulations for other procurement programs under the *Electricity Act*, it seems likely that these new regulations will be established through amendments to the existing *Renewable Electricity Regulations*.

[34] Government of Nova Scotia, "Government Amends Electricity Act" (26 February 2020).

D. Newfoundland and Labrador

(1) Overview of the Regime

Electricity in Newfoundland and Labrador falls under the purview of the Department of Natural Resources and is regulated directly by the Board of Commissioners of Public Utilities (the "Public Utilities Board" or the "PUB"). Two electric utilities serve the province: Newfoundland Power ("NP"), which is an investor-owned utility, and the Newfoundland and Labrador Hydro-electric Corporation, otherwise known as Newfoundland and Labrador Hydro ("NL Hydro"), which is a Crown corporation that operates under the wing of Nalcor, the province's overarching Crown energy corporation.

The Canada Energy Regulator's provincial energy profile for Newfoundland and Labrador indicates that in 2018, electricity generation by fuel type in the province was comprised of:

- 95% hydro;
- 3% natural gas;
- 2% petroleum; and,
- less than 1% wind.

NP is the primary power distributor on the island of Newfoundland, with the majority of its electricity supply coming from NL Hydro.[35] NL Hydro is the primary service provider in Labrador, and although most of the electricity it supplies is hydropower, the utility also operates the diesel generators that service more than twenty isolated systems in rural coastal areas.[36]

Newfoundland and Labrador also has a system operator, called the Newfoundland and Labrador System Operator (the "NLSO"), which is empowered by statute to ensure "the safe and reliable operation of the integrated electric system" while providing transmission service and "ensuring the availability of ancillary service on the integrated electric system.[37] The NLSO appears to have been created in anticipation of island interconnection with the North American grid as a result of the Muskrat Falls project and its associated Maritime Link.[38] Under the law, the NSLO is a public utility operating under the supervision of the PUB.

Core provincial laws pertaining to electricity are set out in several statutes and regulations, the most significant of which are summarized below in Table 3.

---

[35] Government of Newfoundland and Labrador, Department of Natural Resources, "Electricity".
[36] *Ibid.*
[37] See *Electrical Power Control Act, 1994*, SNL 1994, chapter E-5.1 at section 14.3 ["NL *EPCA*"]. See also the *Open Access Transmission Regulations* established under the *EPCA* and the *Public Utilities Act*, RSNL 1990, chapter P-47 ["NL *Public Utilities Act*"], which designated the NLSO as the system operator.
[38] Newfoundland and Labrador Hydro, "In the Know: Newfoundland & Labrador System Operator (NLSO)".

Table 3: Core Electricity Statutes and Regulations in Newfoundland and Labrador

Statute	Purpose of Statute	Noteworthy Regulations Established under the Statute
Public Utilities Act	This Act empowers the Public Utilities Board and defines its core roles and responsibilities.	*Board of Commissioners of Public Utilities Regulations, 1996*, which set out rules and procedures for processes before the PUB.
Electrical Power Control Act, 1994	This Act sets out the provincial government's policies with respect to electricity and, among other things, provides legal parameters for rate-setting.	*Net Metering Exemption Order*, which creates exemptions from provisions of the *Electrical Power Control Act, 1994* that would otherwise inhibit the development of provincial net-metering programs. *Biogas Project Exemption Order*, which creates exemptions from provisions of the *Electrical Power Control Act, 1994* and *Public Utilities Act* that would otherwise inhibit the development of the Biogas Electricity Generation Pilot Program. *Open Access Transmission Regulations*, which designated the NLSO as the provincial system operator.
Hydro Corporation Act, 2007	This Act continues, empowers, and mandates the Newfoundland and Labrador Hydro-electric Corporation (otherwise known as Newfoundland and Labrador Hydro).	
Energy Corporation Act	This Act establishes, empowers, and mandates an overarching energy corporation for Newfoundland and Labrador (the corporation now known as Nalcor).	
Energy Corporation of Newfoundland and Labrador Water Rights Act	This Act enabled the provincial government to give Nalcor water rights to the Lower Churchill River; to do that, it extinguished other property interests in and rights to the use and flow of the waters concerned.	

Statute	Purpose of Statute	Noteworthy Regulations Established under the Statute
The Churchill Falls (Labrador) Corporation Limited (Lease) Act, 1961	This Act authorized the provincial government to lease certain hydropower resources in Labrador to the corporation Churchill Falls (Labrador) Corporation Limited. Although it initially limited PUB oversight over activities encompassed by the Act, amendments made in 2012 gave the PUB purview over certain areas that had previously been excluded from its jurisdiction.	
Lower Churchill Development Act	This Act is one of the early statutes created to facilitate the development of the Lower Churchill River's hydropower potential.	
Muskrat Falls Project Land Use and Expropriation Act	This Act empowered Nalcor and the investor-owned Emera to acquire land interests that would be needed to enable the Muskrat Falls project.	
Public Utilities Acquisition of Lands Act	This Act gives public utilities defined rights to acquire lands that are necessary for the construction and operation of transmission lines, roads, and various other structures and conduits needed to provide electricity services.	
Management of Greenhouse Gas Act	This Act was established in 2015 to regulate industrial GHG emissions in the province.	*Management of Greenhouse Gas Regulations*, which set out the provincial GHG emissions reduction targets for industrial facilities, along with the regime through which GHG reduction credits, performance credits, and fund credits may be earned, purchased, transferred, and used.
Water Resources Act	This Act sets out a broad regime that governs rights to water resources within the province, with some portions dealing specifically with the use of water resources to generate hydropower.	
Labrador Inuit Land Claims Agreement Act	This Act formally enshrined the *Labrador Inuit Land Claims Agreement* made between Canada, Newfoundland and Labrador, and the Inuit of Labrador. The Agreement itself creates some areas in which Inuit community governments have jurisdiction with respect to public utilities' operations. For example, paragraphs 17.43.1 to 17.43.4 of the Agreement deal with Inuit community governments' authority to issue easements on community lands to public utilities. Per section 17.43.3, a disagreement between a public utility and an Inuit community government concerning the issuance, review, renewal, or extension of an easement on community lands must be resolved by the PUB.	

(i) Legislated Electricity Policy

Newfoundland and Labrador's core electricity policy is set out in section 3 of the *Electrical Power Control Act, 1994* ("*EPCA*"), which states in part that:

> (a) the rates to be charged, either generally or under specific contracts, for the supply of power within the province
>
> > (i) should be reasonable and not unjustly discriminatory,
> >
> > (ii) should be established, wherever practicable, based on forecast costs for that supply of power for 1 or more years,
> >
> > (iii) should provide sufficient revenue to the producer or retailer of the power to enable it to earn a just and reasonable return as construed under the *Public Utilities Act* so that it is able to achieve and maintain a sound credit rating in the financial markets of the world,
> >
> > (iv) should be such that after December 31, 1999 industrial customers shall not be required to subsidize the cost of power provided to rural customers in the province, and those subsidies being paid by industrial customers on the date this Act comes into force shall be gradually reduced during the period prior to December 31, 1999, and
> >
> > (v) should promote the development of industrial activity in Labrador[.]

These provisions reflect familiar concepts of just, reasonable, and non-discriminatory rates while also expressing the provincial government's desire to promote industrial activity in Labrador. The province's legislated electricity policy also provides that:

> (b) all sources and facilities for the production, transmission and distribution of power in the province should be managed and operated in a manner
>
> > (i) that would result in the most efficient production, transmission and distribution of power,
> >
> > (ii) that would result in consumers in the province having equitable access to an adequate supply of power,
> >
> > (iii) that would result in power being delivered to consumers in the province at the lowest possible cost consistent with reliable service,
> >
> > (iv) that would result in, subject to Part III, a person having priority to use, other than for resale, the power it produces, or the power produced by a producer which is its wholly-owned subsidiary,

> (iv.1) that would result in open, non-discriminatory and non-preferential access to, interconnection with and service on the integrated electric system, [and]
>
> (v) where the objectives set out in subparagraphs (i) to (iv) can be achieved through alternative sources of power, with the least possible interference with existing contracts[.]

This additional language reflects the provincial government's desire to ensure efficient, reliable, and least-cost service.

Finally, Newfoundland and Labrador's legislated electricity policy also states explicitly that planning for future power supply of the province shall not include nuclear power".[39]

(ii) Core Electricity Mandate of the Public Utilities Board

The PUB's core electricity mandate is shaped fundamentally by the language of the provincial energy policy set out in the *EPCA*. At base, the regulator is mandated to ensure that electricity rates are reasonable and not unjustly discriminatory, that electric utilities are able to earn a just and reasonable return on investment while maintaining sound credit ratings, and that the production, distribution, and transmission of power in Newfoundland and Labrador allows equitable access to an adequate supply of electricity at the lowest possible cost consistent with reliable service. The PUB's mandate is also informed by guiding provisions of the *Public Utilities Act*, which states, among other things, that public utilities must "provide service and facilities which are reasonably safe and adequate and just and reasonable".[40]

The *Public Utilities Act* states that the PUB "shall have the general supervision of all public utilities, and may make all necessary examinations and inquiries and keep itself informed as to the compliance by public utilities with the law and shall have the right to obtain from a public utility all information necessary to enable the board to fulfill its duties".[41] The same Act also empowers the PUB to "inquire into a violation of the laws or regulations in force in the province by a public utility doing business here, or by the officers, agents or employees, or by a person operating the plant of a public utility" and states that the PUB "has the power and it is its duty to enforce this Act as well as all other laws relating to public utilities".[42] This language is comparable to similar language in the analogous New Brunswick and Nova Scotian statutes, but it is most similar to the language found in Nova Scotia's *Public Utilities Act*, which also states explicitly that the UARB has a duty to enforce all of the laws that are relevant to its jurisdiction.

The *EPCA* gives the PUB "the authority and responsibility to ensure that adequate planning occurs for the future production, transmission and distribution of power in the province".[43]

---

[39] NL *EPCA*, *supra* note 36 at subsection 3(f).
[40] NL *Public Utilities Act*, *supra* note 36 at subsection 37(1).
[41] *Ibid* at section 16.
[42] *Ibid* at section 17.
[43] NL *EPCA*, *supra* note 36 at subsection 6(1).

The *EPCA* contemplates situations in which the Government of Newfoundland and Labrador may refer energy-related matters to the PUB for investigation,[44] and the provincial government exercised that option in 2018 when it directed the PUB to "review and report on options to reduce the impact of the Muskrat Falls Project costs on electricity rates up to the year 2030".[45]

Like Nova Scotia's UARB, the PUB is also empowered to facilitate attempted law reform. Section 83 of Newfoundland and Labrador's *Public Utilities Act* states:

> Where a public utility or person proposes a change in a law relating directly or indirectly to the property or operations of a public utility, the proposed change may be submitted to the board, and the board may take evidence and give public hearings, and the board may recommend the bills that will in its judgment protect the interests of the public and the public utility, and transmit the bills to the attorney general.

The PUB's authority under this provision is discretionary, meaning that it is empowered, but not required, to facilitate attempted law reform. In 2003, NL Hydro asked the PUB to exercise its discretion in order to recommend that a tax be imposed to address rural rate concerns and the rural deficit, but the Board refused.[46] Our research did not discover examples of cases in which the PUB has chosen to use the power granted by section 83.

(iii) Public-interest Advocacy before the Public Utilities Board

The *Public Utilities Act* empowers, but does not require, the provincial government to appoint a consumer advocate to participate in matters before the PUB.[47] Additionally, the *EPCA* empowers, but does not require, the PUB to appoint persons to represent "classes of users of power in the province" so that the common interests of such classes may be represented in matters before the Board.[48]

(2) Affordability

(i) Rate-setting

The combined powers of the *Public Utilities Act* and the *EPCA* require the PUB to ensure that electricity rates are just and reasonable for consumers and that rates also allow electric utilities to receive just and reasonable returns on their investments. Section 78 of the *Public Utilities Act* lists several factors that the PUB may consider when fixing rate bases, and section 80 identifies factors that must inform the Board's assessment of just and reasonable annual earnings.

---

[44] NL *EPCA*, *supra* note 36 at section 5.
[45] Board of Commissioners of Public Utilities, "Reference to the Board, Rate Mitigation Options and Impacts, Muskrat Falls Project: Final Report" (7 February 2020).
[46] See *Labrador City (Town) v Newfoundland and Labrador Hydro Inc*, 2004 NLCA 61 (CanLII) at paragraphs 25-29 ["*Labrador City (Town)*"].
[47] NL *Public Utilities Act*, *supra* note 36 at section 117.
[48] NL *EPCA*, *supra* note 36 at subsection 27(2).

(ii) Low-income Considerations

Provincial electricity legislation does not address low-income considerations directly; however, the Government of Newfoundland and Labrador reserves the right to direct the PUB's policies and procedures with respect to rate-setting,[49] and on several occasions it has exercised this right in order to fix reduced rates charged to the NL Hydro customers who are served by isolated diesel systems in rural Labrador.[50] Commentary by the PUB attests to a significant deficit resulting from NL Hydro's service to interconnected and isolated rural systems, as the revenue generated from those systems does not offset the costs of service.[51] The reduced rates fixed by the provincial government are funded by the government and other provincial (non-industrial) ratepayers.[52]

As noted above, the provincial government's legislated electricity policy states that electricity rates within the province should not be "unjustly discriminatory".[53] Our research indicates that positions have been advanced before the PUB arguing that ratepayer subsidization of the rural deficit is discrimination under the Act—an argument similar to that which Nova Scotia's UARB and NSCA have accepted with respect to rate accommodations for low-income ratepayers in Nova Scotia.[54] Because the ratepayer subsidization of the rural deficit has been imposed by government orders in accordance with the *EPCA*, the PUB has taken the position that the government's power to impose such orders overrides the Board's responsibility to determine whether the rates imposed are "unjustly discriminatory".[55]

(3) Reliability

(i) NERC Reliability Standards

Among the four Canadian jurisdictions assessed in this report, Newfoundland and Labrador is the only one that does not currently employ NERC reliability standards.

(ii) Province-specific Service, Performance, or Reliability Standards

Provincial law does not require the PUB to establish and enforce specific reliability standards for NP and NL Hydro. In recent years, NL Hydro has conducted an internal reliability assessment, which assessment was then reviewed by an independent consultant commissioned by the PUB.[56]

---

[49] See NL *EPCA*, *supra* note 36 at section 5.
[50] See PUB Order No. 49 (2016) at page 10 ["PUB 49 (2016)"].
[51] *Ibid* at page 86.
[52] Government of Newfoundland and Labrador, *Focusing Our Energy: Energy Plan Progress Report 2015* ["NL Energy Plan Progress Report"] at page 36. See also PUB 49 (2016), *supra* note 49 at pages 92-93, 98-99.
[53] NL *EPCA*, *supra* note 36 at subsection 3(a)(i).
[54] See *Labrador City (Town)*, *supra* note 45 at paragraphs 4, 12-13.
[55] *Ibid* at paragraphs 12-14.
[56] See Public Utilities Board, "Newfoundland and Labrador Hydro Reliability and Resource Adequacy Study Review".

(4) Sustainability

(i) Renewable Electricity Targets

The Government of Newfoundland and Labrador does not appear to have created legislated renewable electricity targets. This likely reflects the provincial government's expectations that 98% of electricity generated in the province will be from renewable sources once the Muskrat Falls Hydroelectric Project is operational.[57]

Although Newfoundland and Labrador's Climate Change Action Plan includes as an action item a commitment to working collaboratively "to identify opportunities to reduce diesel electricity generation in the province's isolated diesel-powered communities",[58] provincial recognition of the problem has not inspired the establishment of clear reductions targets, although the government has invested in studies and a pilot project exploring the integration of renewables in rural communities powered by diesel.[59]

(ii) Renewable Electricity Sources Recognized by the Province

Our research discovered no statutes or regulations that define "renewable electricity" or similar terms; however, certain renewable energy sources have been listed for policy purposes.

In July 2015, the provincial government introduced a *Net Metering Policy Framework* to guide the development of net metering programs to be administered by NP and NL Hydro. The province envisioned that such programs would "provide customers with the option to offset their own energy usage through small-scale renewable generation they develop themselves", and the policy framework limited eligible energy sources to small-scale renewables, including: wind energy; solar energy; solar PV energy; geothermal energy; tidal energy; wave energy; and, biomass energy.[60]

This list is not an exhaustive, as the policy framework anticipates that electric utilities will consider other renewable technologies on a case-by-case basis.[61]

To pave the way for the development of provincial net-metering programs, the government also established a *Net Metering Exemption Order* as a regulation under the *EPCA* to create exemptions from *EPCA* provisions that would otherwise inhibit the implementation of such programs. The order defines the term "renewable energy source" as meaning "any source of renewable energy from which electricity may be generated", including electricity from the sources listed above.

---

[57] See for example Government of Newfoundland and Labrador, *Climate Action Plan: The Way Forward on Climate Change in Newfoundland and Labrador* at page 22 ["NL *Climate Action Plan*"].
[58] *Ibid* at page 24.
[59] See NL Energy Plan Progress Report, *supra* note 51 at pages 12, 14, 23, 30-31, 39.
[60] Government of Newfoundland and Labrador, "Net Metering Policy Framework" (July 2015) at pages 2-3 ["NL Net Metering Policy Framework"].
[61] *Ibid* at page 3.

Following the release of the government's *Net Metering Policy Framework*, NP and NL Hydro applied to the PUB for approval of net metering programs developed in line with the policy framework and *Net Metering Exemption Order*. The PUB approved the utilities' proposals in PUB Order No. 17 (2017), accepting the proposed sources of renewable electricity listed above.

(iii) Responsibilities for Energy Efficiency and Conservation Programs

Unlike the provincial governments of New Brunswick and Nova Scotia, the Government of Newfoundland and Labrador has not established or empowered specific organizations or utilities to develop and implement energy efficiency and conservation programs within the province.

Provincial law does give the Minister of Municipal Affairs and Environment responsibility for "policy development, as well as coordination and monitoring of implementation activities, for energy efficiency", but only insofar as that responsibility is not the responsibility of "another minister, agency, body, corporation, board, organization or person".[62] It is not clear that the Minister is actively involved in overseeing the energy efficiency and conservation initiatives that are currently being carried out in the province: our research indicates instead that such initiatives are being developed and implemented by NP and NL Hydro on their own initiative and are being overseen by the PUB in accordance with its core regulatory responsibilities.

In the late 2000s, NP and NL Hydro established a joint initiative through which the two utilities implement energy conservation programs together. The programs are delivered in accordance with the overarching provincial government policy that seeks to ensure access to least-cost reliable power. In effect, the projected costs of such programs are submitted to the PUB for assessment through regular rate-setting processes, and the PUB exercises its general rate-making authority to approve them if the standard criteria are met.[63]

(iv) Programs Designed to Facilitate Local Generation and Use of Renewable Electricity

The Government of Newfoundland and Labrador does not appear to have developed programs requiring the purchase of locally generated renewable electricity; however, it paved the way for two programs designed to enable such purchases.

(a) *Biogas Electricity Generation Pilot Program*

In 2014-2015, the Government of Newfoundland and Labrador established a Biogas Electricity Generation Pilot Program designed to encourage the use of biogas generators at facilities producing considerable biogas, such as landfills and farms, so that gases such as methane could be captured, burned, and used to generate electricity rather than being released directly into the atmosphere.[64]

---

[62] *Department of Municipal Affairs and Environment Notice*, NL Reg 97/19 at subsection 5(j).
[63] For PUB decisions illustrating the genesis of the joint initiative, see PUB Order No. PU 8 (2007), PUB Order No. 13 (2009), and PUB Order No. 14 (2009).
[64] See Government of Newfoundland and Labrador, "Electricity: Biogas Electricity".

The details of the Biogas Electricity Generation Pilot Program do not appear to have been set out in statute or regulation; however, the provincial government established the *Biogas Project Exemption Order* as a regulation under the *EPCA* to exempt Newfoundland and Labrador Hydro from provisions of the *EPCA* and the *Public Utilities Act* that would otherwise inhibit the program's implementation.

(b) *Net Metering*

As noted above, the provincial government established a *Net Metering Policy Framework* in 2015 to guide the development of net metering programs to be administered by NP and NL Hydro. The government's stated policy objectives are worth noting, as they distinguish Newfoundland and Labrador's renewable energy needs from those of other jurisdictions such as New Brunswick and Nova Scotia. The policy framework states:

> In many jurisdictions, net metering policies are often introduced as part of a broader policy to encourage the development of renewable energy sources. This is particularly the case in jurisdictions that continue to rely on fossil fuels for energy generation. Newfoundland and Labrador differs from these jurisdictions in that its system has one of the highest proportions of renewable hydraulic generation in North America. The province's current energy mix is 85 percent renewable, and this will increase to 98 percent when the Muskrat Falls project is completed. Therefore, the primary driver for a net metering policy in Newfoundland and Labrador is not to encourage the development of renewable energy, but to provide customers with the option to offset their own energy usage through small-scale renewable generation they develop themselves.[65]

To pave the way for net metering programs developed by NP and NL Hydro, the provincial government established a *Net Metering Exemption Order* as a regulation under the *EPCA* to create exemptions from *EPCA* provisions that would otherwise inhibit such programs. NP and NL Hydro then developed proposed net metering programs and applied to the PUB to have those programs approved. The PUB approved the proposed programs in PUB Order No. 17 (2017).

[65] See NL Net Metering Policy Framework, *supra* note 59 at page 2.

E. Québec

(1) Overview of the Regime

Electricity in Québec falls under the purview of the Ministère de l'Énergie et des Ressources naturelles (the "MERN")—in English, the Ministry of Energy and Natural Resources—and is regulated directly by the Régie de l'énergie (the "Régie"). Québec's primary electric utility is the Crown corporation Hydro-Québec, but Québec law recognizes municipal, private, and cooperative electric power systems as well.

The Canada Energy Regulator's provincial energy profile for Quebec indicates that in 2018, electricity generation by fuel type in the province was comprised of:

- 95% hydro;
- 4% wind;
- less than 1% biomass / geothermal;
- less than 1% petroleum;
- less than .1% natural gas; and,
- less than .1% solar.

Although most electricity customers within the province benefit from the renewable electricity supply, several rural communities exist off-grid and are served by electricity generated by fossil fuels.[66] Provincial electricity policy expresses the desire to reduce those communities' reliance on fossil fuels, and Hydro-Québec has projected that all such off-grid systems will be converted to use cleaner energy sources by 2025.[67]

Core provincial laws pertaining to electricity are set out in several statutes and regulations, the most significant of which are summarized below in Table 4:

Table 4: Core Electricity Statutes and Regulations in Québec

Statute	Purpose of Statute	Noteworthy Regulations Established under the Statute
Hydro-Québec Act	This Act establishes and empowers Hydro-Québec and governs the Crown corporation's structure and operations. The Act also includes the schedule in which the province's electric power distribution rates are set out.	
Act respecting the Régie de l'énergie	This Act establishes, empowers, and mandates the Régie de l'énergie and also governs the Régie's structure and operations.	*Rules of Procedure of the Régie de l'énergie*, which set out the various rules governing proceedings before the Régie, including the rules concerning intervention.

[66] Transition énergétique Québec, "Municipalities that are supplied by off-grid networks".
[67] Hydro-Québec, "Sustainable development: Energy transition and innovation: Managing electricity consumption in a northern climate".

Statute	Purpose of Statute	Noteworthy Regulations Established under the Statute
Act respecting Transition énergétique Québec	This Act establishes and empowers Transition énergétique Québec ("TEQ"), which is the agency established to oversee energy efficiency and conservation matters in the province. Notably, the provincial government is in the process of establishing a new statute that will dissolve TEQ and give its responsibilities to the MERN. The new regime, which has not yet been given the force of law, is set out in Projet de loi n° 44: Loi visant principalement la gouvernance efficace de la lutte contre les changements climatiques et à favoriser l'électrification.	
Watercourses Act	Among other things, this Act creates exclusive rights to hydropower over which the province lays claim.	
Environment Quality Act	Among other things, this Act provides the foundation for Québec's cap-and-trade system.	*Regulation respecting a cap-and-trade system for greenhouse gas emission allowances*, which set out rules for Québec's cap-and-trade system, including provisions specific to the electricity regime.

(i) Legislated Electricity Policy

Neither the *Hydro-Québec Act* nor the *Act respecting the Régie de l'énergie* contain a legislated electricity policy like those found in New Brunswick's *Electricity Act*.

Québec's current electricity policy is set out in a policy document entitled "The 2030 Energy Policy – Energy in Québec: A Source of Growth" (the "2030 Electricity Policy"). After creating the 2030 Electricity Policy, the provincial government took steps to implement key aspects through legislation. Specifically, the government established *An Act to implement the 2030 Energy Policy and to amend various legislative provisions*, which, among other things, enacted the *Act respecting Transition énergétique Québec* and thereby established and empowered that agency to carry out core energy efficiency and conservation planning in accordance with the ambitions set out in the policy.

As noted above in Table 4, the provincial government is currently in the process of establishing a new statute that will dissolve TEQ and give its responsibilities to the MERN. The new regime, which has not yet been given the force of law, is set out in Projet de loi n° 44: Loi visant principalement la gouvernance efficace de la lutte contre les changements climatiques et à favoriser l'électrification.

(ii) Core Electricity Mandate of the Régie de l'énergie

The core electricity mandate of the Régie de l'énergie is expressed in section 5 of the *Act respecting the Régie de l'énergie*, which states:

> In the exercise of its functions, the Régie shall reconcile the public interest, consumer protection and the fair treatment of the electric power carrier and of distributors. It shall promote the satisfaction of energy needs in a manner consistent with the Government's energy policy objectives and in keeping with the principles of sustainable development and individual and collective equity.

As compared to the mandates of New Brunswick's EUB and Nova Scotia's UARB, this mandate has two especially noteworthy characteristics.

First, the Régie's mandate requires the regulator to reconcile the "public interest" *and* "consumer protection" with the interests of the electric power carrier and distributors. This suggests strongly that Québec's legislated electricity regime does not equate the public interest with consumer protection, as the New Brunswick and Nova Scotian regimes both appear to do.

Second, unlike New Brunswick's EUB and Nova Scotia's UARB, the Régie is explicitly mandated to regulate in accordance with principles of sustainable development and individual and collective equity. This language builds environmental considerations into the Régie's core powers and duties in a manner that has not been employed in New Brunswick and Nova Scotia. Notably, Québec is the only province in eastern Canada that explicitly recognizes environmental rights in legislation. The Régie's mandate may reflect a relatively progressive provincial outlook on the intersections between healthy environments, healthy people, and healthy economies.

(iii) Public-interest Advocacy before the Régie de l'énergie

Québec law does not establish formal public-interest advocacy roles like that of New Brunswick's Public Intervener or those of Nova Scotia's consumer and small business advocates. Persons who have an interest in matters before the Régie can apply to intervene in Régie proceedings, and the rules governing such interventions are set out in the Régie's *Rules of Procedure*.

(2) Affordability

(i) Rate-setting

The *Act respecting the Régie de l'énergie* empowers the Régie to fix or modify the rates and conditions for the transmission of electric power at any time,[68] but the rates for the distribution of electric power may only be fixed or modified according to a five-year schedule or under specific conditions and processes set out by the law.

Régie-approved distribution rates are currently set out in Schedule 1 of the *Hydro-Québec Act*. Under section 22.0.1.1. of the Act, the rates are adjusted annually for inflation according to the formula set out in the Act, but otherwise they will apply until new rates are set in 2025, unless special circumstances arise.

[68] *Act respecting the Régie de l'énergie* (chapter R-6.01) at section 48 ["*Act respecting the Régie*"].

Specifically, under section 48.2 of the *Act respecting the Régie de l'énergie*, Hydro-Québec must apply to the Régie on April 1, 2025, and every five years thereafter, to fix or modify the rates set out in Schedule 1 of the *Hydro-Québec Act*;[69] however, the law also allows Hydro-Québec to apply for modifications outside of the scheduled five-year timeline if it can show, in a report submitted to the provincial government, that due to special circumstances it will not be able to meet its obligations under section 24 of the *Hydro-Québec Act*.[70] Those obligations are to "maintain its power rates at a sufficient level to defray, at least", "all operating expenditures", "the interest on its debt", and "the amortization of its fixed assets over a maximum period of fifty years". If the provincial government then makes an order to the Régie indicating "its economic, social, and environmental concerns" with respect to Hydro-Québec's application, the Régie may modify the existing rates.[71]

As regards the Régie's authority to fix or modify transmission rates, section 49 of the *Act respecting the Régie de l'énergie* identifies a number of responsibilities that the Régie must carry out. They include responsibilities to:

(1) determine the rate base of the electric power carrier or of the natural gas distributor after giving due consideration, in particular, to the fair value of the assets the Régie considers prudently acquired and useful for the operation of the electric power transmission system or of a natural gas distribution system, as well as to the unamortized research and development and marketing expenditures, commercial programs, pre-operating costs and working capital required for the operation of such systems;
(2) determine the overall amounts of expenditure the Régie considers necessary for the provision of the service, including, as concerns all rates, expenditures attached to commercial programs and, as concerns transmission rates, expenditures attached to transmission service contracts entered into with another enterprise for the purpose of allowing the electric power carrier to use its own electric power transmission system;
(3) allow a reasonable return on the rate base;
(4) favour measures or incentives to improve the performance of the electric power carrier or a natural gas distributor and the satisfaction of customer needs;
(5) ensure that financial ratios are maintained;
(6) consider the cost of service, the varying risks according to classes of consumers and, as concerns natural gas rates, the competition between the various forms of energy and the maintenance of equity between rate classes;
(7) ensure that the rates and other conditions for the provision of the service are fair and reasonable;
(8) consider the sales forecasts
(9) consider service quality;

---

[69] *Act respecting the Régie*, *supra* note 67 at section 48.2.
[70] *Ibid* at sections 48.3-48.4.
[71] This rate-setting regime is quite new: it was established in 2019 through *An Act to simplify the process for establishing electricity distribution rates*, which made several amendments to the *Act respecting the Régie de l'énergie* and the *Hydro-Québec Act*.

(10) consider such economic, social and environmental concerns as have been identified by order by the Government; [and]
(11) maintain, subject to any government order to the contrary, uniform rates throughout the territory served by the electric power transmission system[.]

Here we see familiar invocations of reasonability and justness—albeit with the concept of "justness" expressed by the word "fair" rather than "just"—along with corresponding financial considerations as well as environmental and equity considerations.

(ii) Low-income Considerations

Under section 48 of the *Act respecting the Régie de l'energie*, when the electric power distributor applies to the Régie to have distribution rates fixed or modified, the application "must include a document describing the impact a rate increase would have on low-income earners". The Act does not provide further guidance as to how the Régie should take such an impact into account when exercising its rate-setting authority.

(3) Reliability

(i) NERC Reliability Standards

NERC reliability standards apply with respect to the functioning of the bulk power system.[72]

Section 85.2 of the *Act respecting the Régie de l'énergie* requires the Régie to "ensure that electric power transmission in Québec is carried out according to the reliability standards it adopts". Section 85.4 empowers the Régie to enter into an agreement with another body that "proves it has the expertise to establish or monitor the application of electric power transmission reliability standards, in order to":

- "develop electric power transmission reliability standards for Québec";
- "carry out inspections or investigations [...] as part of plans to monitor compliance with the reliability standards"; or,
- "provide the Régie with opinions or recommendations".

The same provision also states that the provincial government must authorize such an agreement. In 2009, the Government of Québec authorized the Régie to enter into an agreement with the NERC and the NPCC to develop transmission reliability standards and an associated monitoring program for Québec,[73] and in 2014 the government approved an agreement between the Régie, the NERC, and the NPCC to establish a monitoring and enforcement program.[74] Under that program, compliance monitoring and enforcement are carried out as in Nova Scotia: that is, the

[72] This provincial summary document prepared by the NERC offers a helpful overview of the Québec regime.
[73] Décret 443-2009 (8 avril 2009).
[74] Décret 765-2014 (26 août 2014).

NPCC carries out the necessary compliance monitoring and makes recommendations to the Régie, which is responsible for conducting enforcement proceedings.[75]

Additionally, the *Act respecting the Régie de l'énergie* requires the Régie to designate a Reliability Coordinator for Québec, and the Coordinator's powers and duties are defined by the statute.[76] Hydro-Québec's senior directorate of system control and operations is the designated Reliability Coordinator for the province.[77]

(ii) Province-specific Service, Performance, or Reliability Standards

Québec law does not require the Régie to establish additional performance or service standards in addition to the NERC reliability standards it adopts, and the Régie does not appear to have done so.

(4) Sustainability

(i) Renewable Electricity Targets

The Government of Québec has not established renewable electricity targets in legislation, although government policy documents attest to the desire to reduce remote northern communities' reliance on electricity generated by fossil fuels.[78]

(ii) Renewable Electricity Sources Recognized by the Province

Québec legislation does not establish a formal definition of "renewable electricity"; however, the *Plan directeur en transition, innovation et efficacité énergétiques du Québec 2018-2023* includes references to hydropower, wind, solar, geothermal, and biomass as sources of renewable electricity,[79] and it also suggests that biofuels could be used to reduce remote northern communities' reliance on electricity generated by fossil fuels.[80]

(iii) Responsibilities for Energy Efficiency and Conservation Programs

Currently in Québec, responsibility for energy efficiency and conservation measures is distributed amongst the agency Transition énergétique Québec ("TEQ") (in English, Energy Transition Québec), the government, and the electric utilities, but TEQ plays the most crucial coordinating role. However, if the proposed Projet de loi n° 44: Loi visant principalement la gouvernance efficace de la lutte contre les changements climatiques et à favoriser

---

[75] Régie de l'énergie, *Québec Reliability Standards Compliance Monitoring and Enforcement Program (QCMEP)* (10 October 2014) at pages 5-6.
[76] *Act respecting the Régie de l'énergie*, *supra* note 67 at sections 85.5-85.13.
[77] Hydro-Québec, "Reliability Coordinator for the Québec Interconnection".
[78] See for example Transition énergétique Québec, *Plan directeur en transition, innovation et efficacité énergétiques du Québec 2018-2023* at page 107 ["*Plan directeur*"].
[79] *Ibid* at page 124.
[80] *Ibid* at page 115.

l'électrification is passed as designed, TEQ will be dissolved, and its powers and duties will be transferred to the MERN.

Section 5 of the *Act respecting Transition énergétique Québec* establishes TEQ's core mandate, which is to:

(1) develop and coordinate the implementation of the programs and measures set out in the master plan taking into account such factors as greenhouse gas emissions;
(2) contribute, by providing financial support, to implementing those programs and measures, and educating and informing consumers;
(3) advise and support consumers wishing to take advantage of energy transition, innovation and efficiency programs or measures, and facilitate their access to such programs and measures;
(4) collaborate with Investissement Québec, other investors or financial institutions to offer financial services to enterprises for the implementation of energy transition, innovation and efficiency measures;
(5) administer certification programs in accordance with the standards defined by the Government;
(6) prepare reports on energy in Québec and benchmarking studies on best practices with respect to energy consumption and production;
(7) support research and development in the energy sector;
(8) in collaboration with the main stakeholders in research and industry, establish a list of research subjects to prioritize;
(9) advise the Government on standards and other elements that may influence energy consumption, and propose appropriate changes;
(10) propose new targets to the Government in addition to those defined by the Government;
(11) advise the Government on any question the latter submits to it; and
(12) carry out any other mandate given to it by the Government.

TEQ's most significant responsibility is set out in section 8 of the Act, which requires TEQ to prepare an energy transition, innovation, and efficiency master plan—in French, a "*plan directeur*"—every five years to facilitate the practical implementation of the government's energy policies. Per section 10 of the Act, that plan must include:

(1) the energy targets defined and the policy directions and general objectives set by the Government in relation to energy matters;
(2) a report on the state of energy in Québec and on the progress of Québec's transition as concerns achieving the targets;
(3) the general policy directions and priorities set by Energy Transition Québec for the life of the master plan in relation to energy transition, innovation and efficiency;
(4) a summary of all the programs and measures, including the objectives pursued by them, the clientele targeted, the level and type of contribution by Energy Transition Québec and the impact on greenhouse gas emissions;
(5) the designation of the person responsible for implementing each program and measure;

(6) the departments', agencies' and energy distributors' budgetary estimates and time frames for carrying out the programs and measures;
(7) the energy distributors' financial investment toward carrying out the master plan, by form of energy;
(8) a list of priority research subjects; and
(9) the projects for which Energy Transition Québec intends to issue calls for proposals under the second paragraph of section 5.

Specific processes that must be followed in preparing the master plan are set out in subsequent sections of the Act, and they include a formal review by a stakeholders panel as well as a formal review by government.[81] Ultimately, each master plan must be submitted to the Régie for assessment and approval, and the Régie is empowered (although not required) to hold public hearings on the plan before making its decision.[82]

Once the Régie has approved a completed master plan, aspects of that plan will have the force of law. Specifically, section 15 of the *Act respecting Transition énergétique Québec* states that "[t]he departments, agencies and energy distributors must carry out the programs and measures for which they are responsible under the master plan", and, under the same section,

> If an energy distributor is unable to carry out such a program or measure within the time and in the manner specified in the master plan, it must notify Energy Transition Québec. Energy Transition Québec may, at the distributor's expense, implement the program or measure the distributor has failed to carry out after giving the distributor 30 days' written notice to that effect.

The master plan that is currently in force is the *Plan directeur en transition, innovation et efficacité énergétiques du Québec 2018-2023*.[83]

(iv) Programs Designed to Facilitate Local Generation and Use of Renewable Electricity

As the majority of electricity supplied in Québec is hydropower, it might be said that Québec's legislated electricity regime is, on the whole, designed to facilitate the local generation and use of renewable electricity. However, in terms of programs designed to facilitate the local generation and use of renewable electricity on a small scale, the Government of Québec does not appear to have established any such programs through legislation.[84]

---

[81] See in particular *Act respecting Transition énergétique Québec* (chapter T-11.02) at sections 11-15.
[82] *Ibid* at section 25.
[83] The complete master plan is only available in French, but an abridged version is available in English.
[84] Hydro-Québec has established a net-metering program, and the rates for customer-generators whose electricity is supplied by an off-grid system are fixed in Schedule 1 of the *Hydro-Québec Act*. Provincial government policy documents such as Government of Québec, *The 2030 Energy Policy – Energy in Québec: A Source of Growth* (2016) and the *Plan directeur*, *supra* note 77, attest to the government's intent to support the rural, off-grid communities' transition away from fossil-fueled electricity.

PART II: UNITED STATES OF AMERICA[85]

A. Introduction

In the US, the federal government regulates the interstate transmission of electricity and the sale of electricity at wholesale in interstate commerce. Nuclear energy and the licensing, construction, and operation of hydroelectric facilities are also regulated federally.

In individual states such as Massachusetts and Vermont, state public utility commissions regulate the intrastate generation, transmission, and distribution of electricity. Typical powers include: approving (or rejecting) the establishment of proposed electric facilities; licensing electricity companies doing business within their states; setting rates or supervising competitive retail systems, depending on the regime in place; reviewing and approving utilities' Integrated Resource Plans; establishing and monitoring local service or performance standards; and, implementing state government directives by imposing rules and regulations designed to further government policy.

In practical terms, this means that the operations of electricity providers who purchase electricity from wholesale markets in order to resell it to end-use customers are shaped by two levels of government regulation working in tandem.

(i) Brief Overview of the Federal Regulatory Regime

American law affirms that federal regulation of interstate electricity commerce and the sale of electricity at wholesale is carried out in the public interest.[86] Federal regulation is carried out primarily by the FERC, and in addition to performing an oversight role, the Department of Energy promotes federal energy policies by supporting research and technology development.

Codified federal laws pertaining to electricity are set out in the *United States Code* ("*USC*"), particularly significant chapters of which include:

---

[85] In the US, permanent and general statute laws are codified after they are created by government. The *United States Code* ("*USC*") houses codified federal laws, the *General Laws of Massachusetts* ("*MGL*") houses the codified laws of the Commonwealth of Massachusetts, and the *Vermont Statutes Annotated* (*"VSA*") houses the codified laws of Vermont. Although American legal commentary may reference individual statutes or the codified forms of the laws contained within them, our research has relied primarily on the codes, as they provide the most accessible overviews of the essential laws of the land. Regulations and administrative rules and orders are not codified, however, and so our analyses in this section refer to such instruments individually when necessary.

The *USC* is organized by title, chapter and subchapter, and section and subsection, with smaller units of organization used when necessary. Because sections are numbered consecutively across chapters (meaning that each chapter does not start again at 1, but instead continues numbering from the chapter before), citations are designed to identify the relevant title and section numbers alone. For example, a reference to subsection 824 of title 16, chapter 12 will look like this: 16 *USC* §824, with the sign "§" signifying "section" or "subsection".

[86] See 16 *USC* §824(a), which states in part: "It is declared that the business of transmitting and selling electric energy for ultimate distribution to the public is affected with a public interest, and that Federal regulation of matters relating to generation to the extent provided in this subchapter and subchapter II of this chapter and of that part of such business which consists of the transmission of electric energy in interstate commerce and the sale of such energy at wholesale in interstate commerce is necessary in the public interest".

- Chapter 12 of Title 16, which deals with most practical matters concerning the federal regulation and development of power and is the primary codification of the *Federal Power Act*;[87]
- Chapter 46 of Title 16, which addresses federal government policies concerning the regulation of public utilities and includes federal guidance on state regulation of electric utilities;
- Chapters 23 and 73 of Title 42, which deal with the development and control of atomic energy and establish the Nuclear Regulatory Commission, respectively;
- Chapter 84, which establishes and mandates the federal Department of Energy as well as the FERC and addresses several matters concerning the FERC's jurisdiction and operations;
- Chapters 134, 149, and 152 which collate federal energy policies and direct federal government investment in numerous programs and initiatives;

Other legal instruments, such as regulations established by government and rules and orders established by the FERC, also contribute to the regime.

American law authorizes the FERC to appoint and empower Independent System Operators ("ISOs") or Regional Transmission Organizations ("RTOs") to oversee localized electricity systems through which interstate wholesale commerce is coordinated. Federal law defines an ITO as an entity approved by FERC "to exercise operational or functional control of facilities used for the transmission of electric energy in interstate commerce" and "to ensure non-discriminatory access to the facilities",[88] and it defines an RTO similarly as "an entity of sufficient regional scope" approved by FERC to carry out the same functions on a larger geographic scale.[89]

The New England region has a FERC-approved RTO that operates under the name "ISO New England" ("ISO-NE"), which was established as an ISO before later securing status as an RTO. As a FERC-approved entity established and empowered under federal law, ISO-NE's functional control of New England's wholesale electricity market reflects the delegation of federal government powers.

(a) *Rate-setting*

Under the law, the FERC is responsible for creating rules and regulations governing schedules of rates and charges, and it has primary oversight authority as well.[90]

Justness and reasonability are core principles that determine the FERC's rate-setting responsibility. Under the law,

> All rates and charges made, demanded, or received by any public utility for or in

[87] For an accessible overview of the *Federal Power Act*, as codified in the *USC*, see Congressional Research Service, "The Legal Framework of the Federal Power Act" (22 January 2020).
[88] 16 *USC* §796(28).
[89] 16 *USC* §796(27).
[90] 16 *USC* §§824(c)-(g), §§824e(a)-(e).

> connection with the transmission or sale of electric energy subject to the jurisdiction of the Commission, and all rules and regulations affecting or pertaining to such rates or charges shall be just and reasonable, and any such rate or charge that is not just and reasonable is hereby declared to be unlawful.[91]

American law also prohibits rates that are "unduly discriminatory or preferential" and establishes a corresponding FERC duty to rectify the situation when it determines that unjust, unreasonable, or unduly discriminatory or preferential rates and charges are found.[92]

(b) *Reliability*

As described above, American law required the FERC to certify an Electric Reliability Organization ("ERO") that would exist under the FERC's jurisdiction and establish and enforce reliability standards for the North American bulk power system,[93] and, in July 2006, the FERC certified the North American Electric Reliability Corporation (the "NERC") as that ERO.[94] Under the law, the NERC is responsible for filing reliability standards or modifications to such standards with the FERC, and the FERC is responsible for approving those standards or modifications if it determines that they are "just, reasonable, not unduly discriminatory or preferential, and in the public interest".[95]

American federal law empowers the NERC to impose penalties on users, owners, and operators of the bulk power system who violate approved reliability standards, and it also empowers the FERC to order compliance or to impose penalties for actual or impending violations.[96] Since 2007, NERC's authority to monitor and enforce compliance by member jurisdictions in eastern Canada and the New England region has been delegated to the Northeast Power Coordinating Council (the "NPCC"), with FERC approval.[97]

[91] Unless otherwise noted, references to "the Commission" within legislative provisions quoted throughout this part of the report are references to the FERC.
[92] 16 *USC* §§824e(a).
[93] 16 *USC* §§824o(b)-(c).
[94] See FERC Docket No. RR06-1-000, "Order Certifying North American Electric Reliability Corporation as the Electric Reliability Organization and Ordering Compliance Filing" (20 July 2006).
[95] 16 *USC* §824o(d).
[96] 16 *USC* §824o(e).
[97] North American Electric Reliability Corporation, "Key Players".

B. Massachusetts[98]

(1) Overview of the Regime

Electricity in the Commonwealth of Massachusetts falls under the purview of the Department of Energy Resources (the "DOER"), and regulation of electricity matters within the state's jurisdiction is carried out in two primary ways:

- by the Department of Public Utilities ("DPU"), which is under the supervision and control of the Commonwealth Utilities Commission and is responsible for regulating investor-owned utilities doing business within the state; and,

- by municipal light departments or municipal light commissions, which are responsible for regulating the municipal light plants under their control.

In the late 1990s, Massachusetts restructured its electricity regime to create a competitive retail market; however, it also retained municipal light plants' power to exist as localized electricity monopolies in the communities they serve. There are currently 41 municipal light plants serving all or part of 50 municipalities in the state.[99] Massachusetts law governs the structure and operations of municipal light plants, but they exist outside of the DPU's rate-setting authority and are not subject to a number of the requirements—including requirements respecting renewable energy portfolio standards—that investor-owned utilities doing business in the Massachusetts must meet.[100]

Insofar as electricity providers doing business in Massachusetts participate in New England's wholesale electricity market, they are also subject to management and control by the ISO-NE and regulation by the FERC.

The US Energy Information Administration's online energy profile for Massachusetts indicates that most electricity generated within the state is fueled by natural gas, with non-hydroelectric renewables and hydroelectricity contributing additional power.

The *General Laws of Massachusetts* ("*MGL*") set out the commonwealth's codified electricity laws. Particularly significant chapters include:

---

[98] The *General Laws of Massachusetts* ("*MGL*") are organized by part, title, chapter, section, and subsection, with smaller units of organization used when necessary. Unlike sections in the *USC*, sections in the *MGL* are not numbered consecutively across chapters. Our citations therefore identify the relevant part, title, chapter, and section or subsection when referencing the code. For example, a reference to section 34A of part I, title II, chapter 164 will look like this: I-II *MGL* ch.164 §134A. In preparing this overview, we have relied primarily on a web version of the *MGL* established by the General Court of Massachusetts, which is an unofficial version of the code.

[99] Commonwealth of Massachusetts, "Massachusetts municipally-owned electric companies" online: <https://www.mass.gov/info-details/massachusetts-municipally-owned-electric-companies>.

[100] Core laws concerning the establishment and operation of municipal light plants are found in I-II *MGL* ch.164 §34A to I-II *MGL* ch.164 §47E. I-II *MGL* ch.164 §47A expressly exempts municipal light plants from requirements to allow competitive choice of generation supply and authorizes municipal light plants to prohibit retail sales by suppliers and electric companies to customers within the municipal light plants' service territories.

- Chapter 25 of Part I, Title II, which establishes and empowers the DPU and the Commonwealth Utilities Commission;
- Chapter 25A of Part I, Title II, which establishes and empowers the DOER;
- Chapter 164 of Part I, Title XXII, which addresses most practical matters concerning the manufacture and sale of gas and electricity within the commonwealth, including the structure and operations of municipal light plants; and,
- Chapter 164A of Part I, Title XXII, which sets out state-specific rights and responsibilities flowing from participation in the New England Power Pool.

Other legal instruments, such as regulations established by government and rules and orders established by the DPU, also contribute to the regime.

(i) Legislated Electricity Policy

The Massachusetts General Court (the state legislature) does not appear to have legislated a core electricity policy as the Government of New Brunswick has done in its *Electricity Act*.

(ii) Core Electricity Mandate of the Department of Public Utilities

As noted above, the DPU regulates investor-owned electric utilities doing business in Massachusetts. Core aspects of the DPU's mandate are found within Chapter 164 of Part I, Title XXII of the *MGL*, which codifies laws assigning the DPU jurisdiction over electricity distribution within Massachusetts[101], along with the responsibility to license "all generation companies, aggregators, suppliers, energy marketers, and energy brokers" doing business therein.[102]

Although the codified laws of Massachusetts law do not appear to state explicitly that the DPU must regulate in the public interest, the regulator's public-interest mandate is demonstrated by several of its powers and duties, including its duty to ensure that retail electricity customers in Massachusetts have the benefit of "the utmost consumer protections contained in law".[103] The DPU itself affirms and implements its responsibility "to carry out its administration of jurisdictional companies in the public interest".[104]

(iii) Public-interest Advocacy before the Department of Public Utilities

The codified laws of Massachusetts do not create designated advocacy roles like that of New Brunswick's Public Intervenor or the representative advocates that may be appointed on a case-by-case basis in Nova Scotia. Persons wishing to participate in proceedings before the DPU must apply in accordance with the regulation 220 CMR 1.03, which sets out the DPU's rules and procedures governing appearances, intervention, and participation.

---

[101] See I-XXII *MGL* ch.164 §1. For the purposes of this chapter, the term "distribution" is defined as meaning "the delivery of electricity over lines which operate at a voltage level typically equal to or greater than 110 volts and less than 69,000 volts to an end-use customer within the commonwealth".
[102] See I-XXII *MGL* ch.164 §1F.
[103] See I-XXII *MGL* ch.164 1F.
[104] Department of Public Utilities, DPU 18-150 at page 47.

(2) Affordability

(i) Rate-setting

In the words of the DPU itself, Massachusetts law gives it "extensive ratemaking authority over electric and gas distribution companies".[105] Under the law, the DPU has a responsibility to ensure that rates within its jurisdiction are just and reasonable, not unjustly discriminatory, and not unduly preferential.[106] Additionally, the DPU must ensure that rates are "consistent with long-standing ratemaking principles, including fairness, equity, and continuity".[107]

(ii) Low-income Considerations

Massachusetts law requires the DPU to ensure that distribution companies provide discounted rates for low-income customers in accordance with a regime set out by law.[108] Under the law, discounted rates for low-income customers are subsidized by "the rates charged to all other customers of a distribution company", and the DOER is responsible for creating the eligibility guidelines that distribution companies must use.[109]

(3) Reliability

(i) NERC Reliability Standards

NERC reliability standards apply with respect to the functioning of the bulk power system.

(ii) State-specific Service, Performance, or Reliability Standards

Massachusetts law requires the DPU to create rules and regulations establishing performance standards for emergency preparation and service restoration for electric and gas distribution companies doing business in Massachusetts.[110] The DPU established the required standards in the regulation 220 CMR 19.00.

(4) Sustainability

(i) Renewable Electricity Targets

(a) *Renewable Energy Portfolio Standard*

Massachusetts law required the DOER to establish a renewable energy portfolio standard

[105] Department of Public Utilities, DPU 18-150 at page 46.
[106] I-XXII *MGL* ch.164 §94.
[107] Department of Public Utilities, DPU 18-150 at page 46; see also I-XXII *MGL* ch.164 §94.
[108] See I-XXII *MGL* ch.164 §1F(4)(i).
[109] I-XXII *MGL* ch.164 §1F(4)(i).
[110] I-XXII *MGL* ch.164 §1J.

("RPS") for retail electric suppliers selling electricity to end-use customers within the state. Within the RPS regime, retail electric suppliers are required to provide increasingly large minimum percentages of renewable electricity sales to their commonwealth end-use customers.[111]

The RPS regime imposes minimum percentage requirements for two resource categories: "Class I renewable energy generating sources" and "Class II renewable energy generating sources". The percentage requirements are based on the percentage of renewable electricity sales that commonwealth end-use customers were receiving before January 1, 2000, and they increase in accordance with set schedules. Table 5 provides a broad overview of the regime, but it should be noted that various nuances may apply in specific circumstances.

Table 5: Massachusetts' Renewable Energy Portfolio Standard

Class I Renewable Energy Requirement	Class II Renewable Energy Requirement
The Class I renewable energy requirement is the foundation of the RPS regime. After the basepoint is established, it requires: • an additional 1% of sales by December 31, 2003, or one calendar year from the final day of the first month in which the average cost of any renewable technology is found to be within 10% of the overall average spot-market price per kWh for electricity in the commonwealth, whichever is sooner; • an additional one-half of 1% of sales each year thereafter until December 31, 2009; • an additional 1% of sales each year thereafter until December 31, 2019; • an additional 2% of sales each year thereafter until December 31, 2029; and, • an additional 1% of sales every year thereafter.[112]	The Class II renewable energy requirement applies to retail electric suppliers providing service under contracts executed or extended on or after January 1, 2009.[113] The minimum percentage requirements are not set out in the *MGL* but are to be approved annually by the DER.

In 2018, the required percentage amount was 13%.[114] This means that the 2020 amount will be

[111] I-II *MGL* ch.25A §11F(a). Per I-II *MGL* ch.25A §11F(i), municipal light plants are exempt from the minimum percentage renewable energy obligation if they are exempt from requirements to allow competitive choice of generation supply under I-II *MGL* ch.164 §47A.

Massachusetts law also required the DOER to establish a comparable alternative energy portfolio standard that obliges applicable retail electricity suppliers to provide a minimum percentage of alternative energy sales to their commonwealth end-use customers: see I-II *MGL* ch.25A §11F1/2. As the alternative energy portfolio standard regime encompasses a wider variety of energy sources, not all of which are renewables, we do not address it at length in this overview.

[112] I-II *MGL* ch.25A §11F(a).

[113] I-II *MGL* ch.25A §§11F(d)-(e).

[114] Government of Massachusetts, "Program Summaries: Summaries of All the Renewable and Alternative Energy Portfolio Standard Programs" ["MA Program Summaries"].

16%, and the 2021 amount will be 18%. Both amounts are significantly lower than the 40% targets set beyond 2020 by the laws of New Brunswick and Nova Scotia, respectively.[115]

The RPS regime also includes special "solar carve-outs", which require a set portion of the Class I renewable energy requirement to come from solar PV.[116] This requirement was designed to promote the development of new solar PV installations within the state.

(b) *Clean Peak Energy Portfolio Standard*

Massachusetts law also required the DOER to establish a clean peak resource requirement for retail electric suppliers providing service to end use-customers within the commonwealth under contracts executed or extended after December 31, 2018.[117] The DOER filed its final regulation with the Secretary of State on July 23, 2020, and it came into effect on August 7, 2020.[118]

According to the regulation, 225 CMR 21.00, the purpose of the clean peak energy portfolio standard is to increase the amount of clean energy being used during peak demand periods.[119] Among other things, qualified clean peak resources will include Class I renewable generation units and Class II renewable generation units as defined for the purposes of the RPS discussed above.[120]

(c) *Clean Energy Standard*

In addition to the RPS and Clean Peak Energy Portfolio Standard imposed by the DOER, electric utilities and competitive retail suppliers in Massachusetts must also meet the requirements of a Clean Energy Standard ("CES") that the Department of Environmental Protection has imposed as a means to reduce GHG emissions within the state and meet targets set out under the state's *Global Warming Solutions Act*, now codified in I-II *MGL* ch.21N. That standard is implemented under the regulation 310 CMR 7.75, which was recently amended.

The CES requires total annual sales of all retail electricity products sold to end-use customers in Massachusetts (other than by municipal electric departments or municipal light boards) to include a minimum percentage amount of electricity with "clean generation attributes" and "clean existing generation attributes". The CES is designed to dovetail with the RPS, and the generating sources that can be used to meet the RPS Class I renewable energy requirement are also sources of electricity with "clean generation attributes" under the CES regime. The annual percentage amounts required by the CES regime are higher than the annual amounts required by the RPS, however. For example, whereas the RPS requires 16% renewable electricity in 2020,

---

[115] The amount required by December 31, 2031 will be 36%, which is also significantly lower than the percentage amount of 75% that Vermont's Renewable Energy Standard requires by January 1, 2032.
[116] See MA Program Summaries, *supra* note 113.
[117] I-II *MGL* ch.25A §17(a). Per I-II *MGL* ch.25A §17(d), the clean peak resource requirement will not apply to municipal light plants.
[118] Commonwealth of Massachusetts, "Clean Peak Energy Standard Notices and Updates".
[119] 225 CMR 21.00 at §21.01.
[120] For a more detailed summary of the regime (written before the final regulation came into effect), see Kirkland & Ellis, "Massachusetts Pushes Its Renewable Energy Program into New Territory by Issuing Final Regulations for Its Clean Peak Energy Portfolio Standard" (21 April 2020).

the CES requires 20%, meaning that electricity retailers will need to ensure that an additional 2% of their electricity sales, over and above the RPS requirement, is "clean" in order to comply with both the RPS and the CES regimes.

By regulation, the CES is currently set to reach 80% by 2050.

(ii) Renewable Electricity Sources Recognized by the State

As in other jurisdictions, the term "renewable energy" is defined more than once in Massachusetts law, and its definitions are often contextualized according to the specific purposes of the provisions to which they apply. For the purposes of the RPS and clean peak energy portfolio standard discussed above, the codified laws of Massachusetts define "renewable energy generating source" as meaning a source that generates electricity using any of the following:

- solar photovoltaic or solar thermal energy;
- wind energy;
- ocean thermal, wave or tidal energy;
- fuel cells utilizing renewable fuels;
- landfill gas;
- waste-to-energy which is a component of conventional municipal solid waste plant technology in commercial use;
- naturally flowing water and hydroelectric;
- low emission advanced biomass power conversion technologies using fuels such as wood by-products or waste from agricultural crops, food or animals, energy crops, biogas, liquid biofuel including but not limited to biodiesel, organic refuse-derived fuel, or algae; or,
- geothermal energy.[121]

Additionally, "Class I renewable generating sources" and "Class II renewable generating sources" are given more specific meanings that incorporate several nuances concerning the age and power production capacities of generating facilities.[122]

Massachusetts law empowers the DOER to add new technologies or technology categories to the definitions of "renewable energy generating sources," "Class I renewable energy generating source", and "Class II renewable energy generating source", but the department can only do so after conducting administrative proceedings, and it is expressly barred from considering coal, oil, natural gas, and nuclear power as renewable energy supplies.[123]

[121] I-II *MGL* ch.25A §11F(b).
[122] I-II *MGL* ch.25A §§11F(c)-(d).
[123] I-II *MGL* ch.25A §11F(f).

(iii) Responsibilities for Energy Efficiency and Conservation Programs

(a) *The Department of Energy Resources*

The DOER carries significant responsibility for energy efficiency and conservation programs in Massachusetts. In broad terms, the codified laws of Massachusetts mandate the DOER to:

- "develop and administer programs relating to energy conservation, alternative energy development, non-renewable energy supply and resource development, energy bond authority, energy information, and energy emergencies";

- "advise, assist, and cooperate with other state, local, regional, and federal agencies in developing appropriate programs and policies relating to energy planning and regulation in the commonwealth including assistance and advice in the preparation of loan or grant applications with respect to energy programs for state, local and regional agencies"; and,

- "promote the development of sound energy education programs".[124]

More specifically, the DOER is also empowered to oversee and coordinate ratepayer-funded energy efficiency programs. Massachusetts law requires the DOER to "seek to achieve" the following goals:

- "ensure that energy efficiency funds are allocated equitably among customer classes";

- "ensure that there will be adequate support for 'lost opportunity' efficiency programs in areas such as new construction, remodeling, and replacement of worn-out equipment";

- "give due emphasis to statewide market transformation programs in order to systematically eliminate market barriers to energy efficiency goods and services"; and,

- "provide weatherization and efficiency services to low-income customers".[125]

This list is not exhaustive, and the DOER can pursue other related goals as well.

Although the DOER bears the responsibility for overseeing and coordinating such programs, the codified laws of Massachusetts give the DPU oversight over energy efficiency and conservation spending, as the DPU is required to "review and approve energy efficiency expenditures after determining that implementation of such programs was cost-effective".[126] Additionally, Massachusetts law has established an Energy Efficiency Advisory Council (the "EEAC"), which is responsible for reviewing the energy efficiency investment plans and budgets of investor-

[124] I-II *MGL* ch.25A §6.
[125] I-II *MGL* ch.25A §11G.
[126] *Ibid.*

owned electric utilities within the state and working with those utilities on implementation. The EEAC is chaired by the Commissioner of the DOER, and other members are appointed by the DUP.[127]

(b) *The Department of Public Utilities*

Massachusetts law also assigns certain energy efficiency and conservation responsibilities to the DPU. Among other things, the DPU is required to:

- require a mandatory charge per kWh purchased by customers (except those served by municipal light plants) to be used to fund energy efficiency programs, including DSM programs;[128]
- ensure that such energy efficiency programs are delivered in a cost-effective manner;[129]
- ensure that low-income customers receive the benefit of such energy efficiency programs in accordance with the requirements of the law;[130]
- require a mandatory charge per kWh purchased by customers (except those served by municipal light plants) to be used to support renewable energy projects;[131]
- work actively to remove impediments to the development of efficient, low-emissions distributed generation;[132] and,
- ensure that "electric and natural gas resource needs shall first be met through all available energy efficiency and demand reduction resources that are cost effective or less expensive than supply".[133]

These obligations condition the DPU's mandate and clearly align the public interest with environmental policies while maintaining a familiar focus on low-cost service.

(iv) Programs Designed to Facilitate Local Generation and Use of Renewable Electricity

Dozens of rebate or tax incentive programs and regulatory policies designed to encourage energy efficiency or local renewable generation apply in Massachusetts, some of which are federal initiatives.[134] This section profiles three state initiatives that were evident from our review of the

[127] See Government of Massachusetts, "Energy Efficiency Advisory Council (EEAC)".
[128] I-II *MGL* ch.25 §19(a).
[129] *Ibid*.
[130] I-II *MGL* ch.25 §19(c).
[131] I-II *MGL* ch.25 §20(a).
[132] I-XXII *MGL* ch.164 §142.
[133] I-II *MGL* ch.25 §21(a).
[134] See NC Clean Energy Technology Center, "Massachusetts".

codified laws shaping Massachusetts' electricity regime.

(a) *Renewable Energy Portfolio Standard*

The codified laws of Massachusetts require that retail electric suppliers meet the Class I renewable energy generating source requirements of their RPS obligations by supplying a portion of the minimum percentage of renewable energy sales from "new on-site renewable energy generating sources located in the commonwealth" that have a power production capacity of 6 MW or less and that began commercial generation after December 31, 2007.[135] The portion amount is not set out in the *MGL* but is to be established by the DOER.

As noted above, the RPS regime also includes specific "solar carve-outs", which require a set portion of the Class I renewable energy requirement to come from solar PV energy and were designed to encourage the development of new solar PV installations within the state.

(b) *Net Metering*

The codified laws of Massachusetts contain a legislated net metering regime that allows three classes of net metering facilities to generate and use electricity and feed the excess back to the grid. The classes are differentiated according to the scale and source of the electricity being generated:

- a Class I net metering facility is "a plant or equipment that is used to produce, manufacture or otherwise generate electricity and that is not a transmission facility and that has a design capacity of 60 kilowatts or less";

- a Class II net metering facility is "an agricultural net metering facility, an anaerobic digestion net metering facility, solar net metering facility, or wind net metering facility with a generating capacity of more than 60 kilowatts but less than or equal to 1 megawatt; provided, however, that a Class II net metering facility of a municipality or other governmental entity may have a generating capacity of more than 60 kilowatts but less than or equal to 1 megawatt per unit"; and,

- a Class III net metering facility is "an agricultural net metering facility, an anaerobic digestion net metering facility, solar net metering facility, or wind-net-metering facility with a generating capacity of more than 1 megawatt but less than or equal to 2 megawatts; provided, however, that a Class III net metering facility of a municipality or other governmental entity may have a generating capacity of more than 1 megawatt but less than or equal to 2 megawatts per solar net metering, anaerobic digestion net metering or wind net metering unit".

Codified laws informing the net metering program are set out primarily in I-XXII *MGL* ch.164 §§ 138-40, and additional program details are established in the regulations 220 CMR 18.00 and 220 CMR 8.00.

[135] I-II *MGL* ch.25A §11F(g).

(d) *Solar Massachusetts Renewable Target ("SMART") Program*

The Solar Massachusetts Renewable Target ("SMART") Program was designed by the DOER and sponsored by three electric utilities to promote local investment in solar PV. The program is governed by the regulation 225 CMR 20.00, which describes the program as "a statewide solar incentive program to encourage the continued use and development of generating units that use solar photovoltaic technology by residential, commercial, governmental and industrial electricity customers throughout the Commonwealth".[136]

[136] 225 CMR 20.00 at page 1.

C. Vermont[137]

(1) Overview of the Regime

Electricity in Vermont falls under the purview of the Department of Public Service (the "DPS"), and the regulation of electricity matters within the state's jurisdiction is carried out by the Vermont Public Utility Commission (the "PUC"). Among the six New England states, Vermont is the only one that has not restructured its electric industry to accommodate retail competition.[138] Operating within the state are fourteen municipal electric departments, two member-owned rural electric cooperatives, and one large investor-owned utility, all of which are regulated monopolies that operate under the PUC's approval and regulatory supervision. Insofar as they participate in New England's wholesale electricity market, they are also subject to management and control by the ISO-NE and regulation by the FERC.

The US Energy Information Administration's online energy profile for Vermont indicates that most electricity generated within the state is supplied by hydropower, with non-hydroelectric renewables comprising the most significant remainder.

The *Vermont Statutes Annotated* ("*VSA*") sets out Vermont's codified electricity laws. Particularly significant chapters include:

- Chapter 1 of Title 30, which structures and empowers the Department of Public Service and the Public Utility Commission;
- Chapter 5 of Title 30, which sets out the state energy policy along with a number of laws pertaining to electricity distribution within the state;
- Chapter 77 of Title 30, which sets out core laws pertaining to gas and electric companies doing business in the state;
- Chapter 79 of Title 30, which deals with municipal electric plants;
- Chapter 81 of Title 30, which deals with electric cooperatives; and,
- Chapter 89 of Title 30, which sets out the core laws pertaining to renewable energy programs in the state.

Other legal instruments, such as regulations established by government and rules and orders established by the PUC, also contribute to the regime.

(i) Legislated Electricity Policy

Like the Government of New Brunswick, the Government of Vermont has legislated a core statement of its energy policy.[139] 30 VSA §202A states:

---

[137] The *Vermont Statutes Annotated* ("*VSA*") is organized like the *USC*, with sections numbered consecutively across chapters. Our *VSA* citations therefore take the same form as our *USC* citations. For example, a citation for section 209 of title 30, chapter 5 will look like this: 30 *VSA* §209. In preparing this overview, we have relied primarily on the *Vermont Statutes Online* database, which is an unofficial version of the *VSA*.

[138] See State of Vermont, Department of Public Service, "Electric".

[139] That statement may be amended by Vermont's *Global Warming Solutions Act*, which was passed by the state House of Representatives and Senate on September 9, 2020, but vetoed by the Governor on September 15, 2020. On

It is the general policy of the State of Vermont:

(1) To assure, to the greatest extent practicable, that Vermont can meet its energy service needs in a manner that is adequate, reliable, secure, and sustainable; that assures affordability and encourages the State's economic vitality, the efficient use of energy resources, and cost-effective demand-side management; and that is environmentally sound.

(2) To identify and evaluate, on an ongoing basis, resources that will meet Vermont's energy service needs in accordance with the principles of least-cost integrated planning; including efficiency, conservation, and load management alternatives, wise use of renewable resources, and environmentally sound energy supply.

Compared to the Government of New Brunswick's legislated electricity policy, Vermont's legislated policy prioritizes sustainability and environmental concerns more clearly and directly.

(ii) Core Electricity Mandate of the Public Utility Commission

Core elements of the PUC's electricity mandate are listed in 30 *VSA* §209. In broad terms, they establish the PUC's responsibility to ensure that the business carried out under its supervision is conducted reasonably, expediently, safely, and lawfully, without unjust discrimination.[140] Various other aspects of the PUC's mandate flow from the directions given with respect to specific responsibilities, such as the Commission's responsibility to assess and approve the siting of proposed facilities by granting Certificates of Public Good[141] and its responsibility to ensure that rates, tolls, charges, and schedules are just and reasonable.[142]

To the extent that Vermont's codified laws create more complex and varied requirements and opportunities to bring environmental, efficiency, and affordability considerations into the electricity market, the PUC, correspondingly, plays a more active role in promoting progressive policies than the EUB in New Brunswick and the UARB in Nova Scotia, which have not been so empowered.

(iii) Public-interest Advocacy before the Public Utility Commission

Vermont law mandates the DPS to represent the public interest in matters before the PUC (and the FERC as well), and the department has a Public Advocacy division through which that mandate is fulfilled. Under 30 *VSA* §2(f), when carrying out its public advocacy duties, the department is required to:

September 17, 2020, the House of Representatives voted to override the Governor's veto, but a similar vote must be held by the Senate before the fate of the Act is determined. If the *Global Warming Solutions Act* becomes law, targets that currently exist as goals in Vermont law will become binding legal requirements, and straightforward causes of action will exist to enable citizens to hold the government to account if those requirements are not met.

[140] See 30 *VSA* §209.

[141] See 30 *VSA* §231.

[142] See 30 *VSA* §218(a).

> [...] give heightened consideration to the interests of ratepayer classes who are not independently represented parties before the Commission, including residential, low-income, and small-business consumers, as well as other consumers whose interests might otherwise not be adequately represented but for the Department's advocacy.

This explicit mandate to represent the interests of low-income ratepayers, among others, distinguishes the department's mandate from that of New Brunswick's Public Intervenor and represents a more progressive approach to public-interest advocacy in electricity matters.

(2) Affordability

(i) Rate-setting

Cost-effective energy efficiency considerations are built into the PUC's rate-setting role. 30 *VSA* §218(b) states:

> The Department of Public Service shall propose, and the Commission through the establishment of rates of return, rates, tolls, charges, or schedules shall encourage the implementation by electric and gas utilities of energy-efficiency and load management measures which will be cost-effective for the utilities and their customers on a life cycle cost basis.

The PUC is also required to ensure that rates, tolls, charges, and schedules are just, reasonable, and not unjustly discriminatory.[143] 30 *VSA* §218(a) states in part:

> When, after opportunity for hearing, the rates, tolls, charges, or schedules are found unjust, unreasonable, insufficient, or unjustly discriminatory, or are found to be preferential or otherwise in violation of a provision of this chapter, the Commission may order and substitute therefore such rates, tolls, charges, or schedules, and make such changes in any regulations, measurements, practices, or acts of such company relating to its service, and may make such order as will compel the furnishing of such adequate service as shall at such hearing be found by it to be just and reasonable.

With regard to municipal electric plants, Vermont law provides expressly that the PUC must allow a reasonable rate of return on capital investments when determining rates charged by the plant, that such return must be "commensurate" with that of private utilities having corresponding risks, and that it must be "equivalent" to that which is "necessary for private utilities to assure confidence in the financial integrity of the enterprise so as to maintain its credit and attract new capital".[144] Revenue requirements for electric cooperatives are set out in 30 *VSA* §3030.

[143] See 30 *VSA* §218(a). See also 30 *VSA* §2801(a), which requires the charges for electricity sold and distributed within the state to be reasonable

[144] 30 *VSA* §2923(a).

(ii) Low-income Considerations

Vermont law empowers the PUC to approve rate schedules, tariffs, agreements, contracts, or settlements that provide reduced rates for low-income electric utility customers to make electricity more affordable.[145] Green Mountain Power, Vermont's single investor-owned electric utility, has established a PUC-approved energy assistance program in accordance with the law, and it provides a rate subsidy funded by the rates charged to non-low-income Green Mountain Power customers.[146]

(3) Reliability

(i) NERC Reliability Standards

NERC reliability standards apply with respect to the functioning of the bulk power system.

(ii) State-specific Service, Performance, or Reliability Standards

The PUC approves Service Quality and Reliability Plans for the investor-owned utility, municipal electric departments, and electric cooperatives operating within Vermont. Vermont law does not appear to establish uniform requirements for such plans, and the PUC describes the plans as being similar, but not identical.[147] According to the PUC, the standards included in the plans "cover seven broad areas of service":

- "customer service phone answering";
- "billing";
- "meter reading";
- "work completion";
- "customer satisfaction";
- "worker safety"; and,
- "reliability of service".[148]

Additionally, each plan includes at least one "service guarantee", which the PUC describes as "a specific credit or financial benefit to the affected individual retail customers if the utility fails to meet one of its service commitments", as well as a service quality compensation mechanism.[149]

[145] 30 *VSA* §218(e).
[146] See State of Vermont, Department for Children and Families, "Energy Assistance" and LIHEAP Clearinghouse: Vermont (April 2017) ["LIHEAP Clearinghouse"].
[147] State of Vermont, Public Utility Commission, "Electric Service Quality".
[148] *Ibid.*
[149] *Ibid.*

(4) Sustainability

(i) Renewable Electricity Targets

(a) *Renewable Energy Standard*

Vermont law established a renewable energy standard ("RES") and required the PUC to create and adopt the rules necessary for its implementation and maintenance.[150] The PUC met that requirement with Commission Rule 4.400-Renewable Energy Standard, which became effective on April 1, 2020.

In broad terms, the RES requires all retail electricity providers selling or otherwise providing electricity within Vermont to either:

- own sufficient energy produced by renewable energy plants;
- own sufficient renewable energy credits from energy plants that can deliver energy in New England; or,
- sufficiently support "energy transformation projects" in accordance with the rules of the RES regime.[151]

The RES regime contains three categories of required resources—"total renewable energy", "distributed renewable generation", and "energy transformation"—and establishes rules for their interaction.[152] Table 6 provides a broad overview of the targets established by the regime, but it should be noted that a various nuances may apply in specific circumstances.

Table 6: Vermont's Renewable Energy Standard

Total Renewable Energy	Distributed Renewable Generation	Energy Transformation
The regime requires that 55% of each retail electricity provider's annual retail electric sales be total renewable energy as of January 1, 2017. Every three years, that percentage must increase by	The regime requires that 1% of each retail electricity provider's annual retail electric sales be distributed renewable generation during the year beginning on January 1, 2017. That percentage must increase by three-fifths of a percent each	The regime requires that 2% of each retail electricity provider's annual retail electric sales be "energy transformation" during the year beginning on January 1, 2017. That percentage must increase by an additional two-thirds of a percent

[150] 30 *VSA* §§8004(a)-(b).
[151] See 30 *VSA* §8004(a). Under 30 *VSA* §8001(28), the term "energy transformation project" is defined as meaning "an undertaking that provides energy-related goods or services but does not include or consist of the generation of electricity and that results in a net reduction in fossil fuel consumption by the customers of a retail electricity provider and in the emission of greenhouse gases attributable to that consumption". Examples given by the same subsection include: "home weatherization or other thermal energy efficiency measures; air source or geothermal heat pumps; high efficiency heating systems; increased use of biofuels; biomass heating systems; support for transportation demand management strategies; support for electric vehicles or related infrastructure; and infrastructure for the storage of renewable energy on the electric grid".
[152] 30 *VSA* §8005.

Total Renewable Energy	Distributed Renewable Generation	Energy Transformation
4%, until the target amount of 75% is reached on January 1, 2032.[153]	subsequent January until the target amount of 10% is reached on January 1, 2032.[154]	each subsequent January until the target amount of 12% is reached on January 1, 2032.[155] Lesser amounts are required for municipal electric utilities serving 6,000 customers or less. The energy transformation requirement may also be satisfied through additional distributed generation or a combination of distributed generation and energy transformation projects.[156]

Rather than complying with the total renewable energy, distributed renewable generation, or energy transformation requirements of the RES regime, retail electricity providers may make alternative compliance payments instead, in the amounts of $0.01 per kWh in lieu of the total renewable energy requirements and $0.06 per kWh in lieu of the distributed renewable generation and energy transformation requirements (subject to annual adjustment for inflation).[157] Alternative compliance payments are deposited in Vermont's Clean Energy Development Fund and must be used to fund energy transformation projects in the service territories of the retail electricity providers making the payments.[158] Some energy transformation projects are designed to benefit low-income customers specifically, such as low-income weatherization programs.

The PUC implements the RES under PUC Rule 4.400.

(b) *Baseload Renewable Power Portfolio Requirement*

In addition to the RES, Vermont currently requires the electricity supplied by all Vermont retail electricity providers to include a *pro rata* share of a baseload renewable power portfolio requirement, which is an annual average of 175,000 MWh of baseload renewable power from an in-state woody biomass plant commissioned before September 30, 2009 with a nominal capacity of 20.5 MW and in service as of January 1, 2011.[159] Under the law, the PUC is responsible for setting the price to be paid for the power used to satisfy this requirement, and the requirement will terminate on November 1, 2022.[160]

Our research did not locate corresponding rules or orders of the PUC, demonstrating if and how

[153] 30 *VSA* §8005(a)(1)(B).
[154] 30 *VSA* §8005(a)(2)(C).
[155] 30 *VSA* §8005(a)(3)(B).
[156] 30 *VSA* §8005(a)(3)(A).
[157] 30 *VSA* §§8005(a)(4)(A)-(B)
[158] See 30 *VSA* §8015(c)(3). The Clean Energy Development Fund is administered by the DPS.
[159] See 30 *VSA* §8009.
[160] 30 *VSA* §8009(d), 30 *VSA* §8009(b).

this requirement is met; however, Green Mountain Power's 2018 Integrated Resource Plan indicates that a Baseload Renewable Energy Standard was implemented.[161]

(ii) Renewable Electricity Sources Recognized by the State

Vermont law assigns a broad definition to the term "renewable energy", defining it as meaning "energy produced using a technology that relies on a resource that is being consumed at a harvest rate at or below its natural regeneration rate".[162] The law expressly considers "methane gas and other flammable gases produced by the decay of sewage treatment plant wastes or landfill wastes and anerobic digestion of agricultural products, byproducts, or wastes, or of food wastes", as well as "silviculture waste" to be renewable energy sources, and it expressly prohibits considering nuclear fuel renewable.[163] Additionally, although the law empowers the PUC to add technologies or technology categories to the definition of "renewable energy", it prohibits considering coal, oil, propane, and natural gas as renewable energy supplies.[164]

As concerns renewable electricity specifically, the law requires that only electricity produced by a resource or technology that qualifies as renewable under the definitions cited above may be considered renewable electricity.[165]

(iii) Responsibilities for Energy Efficiency and Conservation Programs and Measures

Vermont law encourages the DPS, the PUC, and all gas and electric utility companies to "propose, develop, solicit, and monitor energy efficiency and conservation programs and measures", and it assigns the PUC responsibility to approve such programs and measures "if it determines that they will be beneficial to the ratepayers of the companies".[166]

However, despite allowing a broad distribution of responsibility to propose, develop, solicit, and monitor energy efficiency and conservation programs, Vermont law also contemplates specialized efficiency program delivery. Specifically, the law empowers the PUC to appoint "independent efficiency entities" that are authorized to develop, implement, and monitor energy efficiency and conservation programs and measures in place of utility-specific programs.[167] The PUC has appointed two such entities: Efficiency Vermont, which has a state-wide mandate, and the Burlington Electric Department, a municipal electric department which is empowered to deliver efficiency and conservation programs within its defined service area.[168]

Vermont law also empowers the PUC to impose an energy efficiency charge on ratepayers in

---

[161] Green Mountain Power, *2018 Integrated Resource Plan: 5. Our Increasingly Renewable Energy Supply* at pages 28-29.
[162] 30 *VSA* §8002(21).
[163] 30 *VSA* §§8002(21)(A)-(B).
[164] 30 *VSA* §8002(21)(D).
[165] 30 *VSA* §8002(21)(C).
[166] 30 *VSA* §209(d)(1).
[167] 30 *VSA* §209(d)(2)(A).
[168] See State of Vermont, Department of Public Service, "Energy Efficiency Utilities" and LIHEAP Clearinghouse, *supra* note 145.

order to fund such efficiency and conservation programs and measures.[169]

(iv) Programs Designed to Facilitate Local Generation and Use of Renewable Electricity

Dozens of rebate or tax incentive programs and regulatory policies designed to encourage energy efficiency or local renewable generation apply in Vermont, some of which are federal initiatives.[170] This section profiles four state initiatives that were evident from our review of the codified laws shaping Vermont's electricity regime.

(a) *Net Metering*

Vermont law empowers electricity customers to install and operate net metering systems in accordance with a regime established by law and implemented by the PUC.[171] As directed by government, the PUC has adopted and implements rules that govern the installation and operation of net metering systems and establish and maintain the net metering program, and they are found in PUC Rule 5.100.

Vermont law directed the PUC to establish rules that would allow customers to either retain ownership of the environmental attributes of the energy generated by their net-metering systems, along with associated tradeable renewable energy credits, or to transfer those attributes and credits to the retail electricity providers with whom they are interconnected.[172] This appears to add an additional market incentive to net metering.

(b) *Standard Offer Program*

Vermont law establishes a standard offer program that facilitates long-term, fixed-priced contracts between renewable energy developers and electric distribution utilities in order promote renewable generation.[173]

(c) *Simplified Procedures for Small Renewable Energy Plants*

Under Vermont law, the Public Service Board—the predecessor of the PUC—was required to establish simplified procedures to govern the application, issuance, and revocation of Certificates of Public Good for renewable energy plants with plant capacities between 150 kW and 2.2 MW and the interconnection of such plants with the systems of Vermont retail electricity providers.[174] The Board established such procedures in its Order re Simplified Procedures for Renewable Energy Plants with a Capacity Between 150 kW and 2.2 kW [*sic*].[175]

---

[169] 30 *VSA* §209(d)(3). See also LIHEAP Clearinghouse, *supra* note 145.
[170] See NC Clean Energy Technology Center, "Vermont".
[171] See 30 *VSA* §8010.
[172] 30 *VSA* §8010(c)(1)(H).
[173] 30 *VSA* §§8005a(a)-(c). PUC orders and other documents relevant to the program are available at State of Vermont, Public Utility Commission, "Standard Offer".
[174] See 30 *VSA* §8007.
[175] The order title erroneously refers to the high end of the plant capacity scale as 2.2 kW instead of 2.2 MW.

(d) *Renewable Energy Pricing*

Vermont law empowers electric utilities, municipal departments, and electric cooperatives to develop renewable energy pricing programs for their customers and implement such programs with the approval of the PUC.[176] The law recognizes a number of program options, all of which require voluntary participation by customers and allow customers to either "purchase all or part of their electric energy from renewable sources" or "cause the purchase and retirement of tradeable renewable energy credits" in a way that increases the electric company's reliance on renewable energy sources.[177]

[176] 30 *VSA* §§8003(a)-(g).
[177] 30 *VSA* §§8003(22)(A)-(B).

Appendix: Comparative Summary Tables

Table 7: Reliability, Service, and Performance Standards at the Provincial and State Level

	New Brunswick	Nova Scotia	Newfoundland and Labrador	Québec	Massachusetts	Vermont
Reliability Standards	NERC standards apply with respect to the functioning of the bulk power system	NERC standards apply with respect to the functioning of the bulk power system	Provincial law does not require the PUB to establish and enforce reliability standards; NL Hydro carries out internal reliability and resource adequacy assessments which are reviewed by an independent consultant commissioned by the PUB	NERC standards apply with respect to the functioning of the bulk power system	NERC standards apply with respect to the functioning of the bulk power system	NERC standards apply with respect to the functioning of the bulk power system
Additional Reliability, Service, or Performance Standards	None legislated	NS *Public Utilities Act* requires the UARB to impose performance standards on NSPI addressing reliability, adverse weather response, and customer service; standards were set in 2016	None legislated	None legislated	Massachusetts law requires DPU to establish performance standards for emergency preparation and service restoration for electric and gas distribution companies doing business in the state	PUC approves Service Quality and Reliability Plans; Vermont law does not appear to establish uniform requirements for such plans

Table 8: Rate-setting

	New Brunswick	Nova Scotia	Newfoundland and Labrador	Québec	United States of America (Federal)	Massachusetts	Vermont
Core Principles	Rates must be just and reasonable	Rates must be just, reasonable, and non-discriminatory	Rates must be reasonable and not unjustly discriminatory	Rates must be fair and reasonable	Rates must be just, reasonable, and not unduly discriminatory or preferential	Rates must be just, reasonable, not unjustly discriminatory, and not unduly preferential	Rates must be just, reasonable, not unjustly discriminatory, and not preferential
Low-income Rate Provisions	None legislated	None legislated	None legislated, but provincial government fixes reduced rates for rural customers being served by isolated diesel systems	Applications to fix or modify rates must describe the impact a rate increase would have on low-income earners		Massachusetts law requires DPU to ensure that distribution companies provide discounted rates for low-income customers in accordance with a regime set out by law	PUC is empowered, but not required, to approve rate schedules, tariffs, agreements, contracts, or settlements that provide reduced rates for low-income customers
Affordability Issues Emerging in Regulator Decisions or Case Law	NB *Electricity Act* states that NB Power can deliver energy efficiency and conservation programs for low-income customers if the government pays for them; EUB holds that NB Power is therefore barred from using ratepayer funds to pay for such programs	NS *Public Utilities Act* requires like rates for like services; UARB and NSCA hold that UARB is barred from adopting or fixing special rates for low-income customers, as special rates would be "discriminatory" under the Act	It has been argued that subsidized fix rates for rural customers are "unjustly discriminatory", but the PUB does not appear to have made a determination on this point				

Table 9: Renewable Electricity Targets and Renewable Portfolio or Renewable Energy Standards

	New Brunswick	Nova Scotia	Newfoundland and Labrador	Québec	Massachusetts	Vermont
Renewable Electricity Target or **Renewable Portfolio or Renewable Energy Standards**	Target of **40%** by December 31, 2020; applies annually after that, with no increasingly ambitious targets set beyond that time	Target of **40%** by 2020; applies annually after that, with no increasingly ambitious targets set beyond that time	None legislated	None legislated	Renewable portfolio standard implemented through regime in which increasingly large minimum percentage requirements build from a basepoint; the regime requires that **16%** of sales be renewable energy by December 31, 2020 and **36%** of sales be renewable energy by December 31, 2031	Renewable energy standard implemented through regime which requires that **55%** of sales be total renewable energy by January 1, 2017 and **75%** of sales be total renewable energy by January 1, 2032
Alternative Compliance Payments Allowed?	No	No	N/A	N/A	Yes	Yes

Table 10: Sources of Renewable Electricity

	Sources of Renewable Electricity
New Brunswick	"Electricity from renewable sources" defined by *Electricity from Renewable Resources Regulation* as meaning: "electricity that is generated inside the Province in an innovative manner and provides a net environmental benefit to the Province", "electricity generated inside or outside the Province from a source", and "electricity that is obtained under the Large Industrial Renewable Energy Purchase Program"; with respect to the phrase "electricity generated inside or outside the Province from a source", the term "source" is defined as including: "solar energy", "wind energy", "hydroelectric energy", "ocean-powered energy", "biogas energy", "biomass energy", and "sanitary landfill gas"
Nova Scotia	"Renewable electricity" defined by *Renewable Electricity Regulations* as meaning "heritage renewable electricity", "renewable low-impact electricity generated after December 31, 2001", and "imported electricity that in the opinion of the Minister is generated from renewable sources"; "renewable low-impact electricity" defined by *Renewable Electricity Regulations* as meaning electricity produced from any of the following sources: "solar energy", "wind energy", "run-of-the-river hydroelectric energy", "ocean-powered energy", "tidal energy", "wave energy", "biomass that has been harvested in a sustainable manner", "landfill gas", and "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"; "low-emissions electricity" defined by *Greenhouse Gas Emissions Regulations* as meaning "electric energy produced from any source of renewable energy, including any of the following": "solar energy", "wind energy", "biomass that has been harvested in a sustainable manner", "run-of-the-river hydroelectric energy", "ocean-powered energy", tidal energy, "landfill gas", "liquid biofuel and other biogas energy", "nuclear power", and "large hydro"
Newfoundland and Labrador	No specific definition legislated, but provincial net metering policy recognizes wind, solar, photovoltaic, geothermal, tidal, wave, and biomass
Québec	No specific definition legislated, but *Plan directeur en transition, innovation et efficacité énergétiques du Québec 2018-2023* refers to hydropower, wind, solar, geothermal, and biomass as sources of renewable electricity, and it also suggests that biofuels could be used to reduce remote northern communities' reliance on electricity generated by fossil fuels.

	Sources of Renewable Electricity
Massachusetts	For the purposes of the RPS and clean peak energy portfolio standard, Massachusetts law defines "renewable energy generating source" as meaning a source that generates electricity using any of the following: solar photovoltaic or solar thermal energy; wind energy; ocean thermal, wave or tidal energy; fuel cells utilizing renewable fuels; landfill gas; waste-to-energy which is a component of conventional municipal solid waste plant technology in commercial use; naturally flowing water and hydroelectric; low emission advanced biomass power conversion technologies using fuels such as wood by-products or waste from agricultural crops, food or animals, energy crops, biogas, liquid biofuel including but not limited to biodiesel, organic refuse-derived fuel, or algae; or, geothermal energy.
Vermont	"Renewable energy" defined broadly as meaning "energy produced using a technology that relies on a resource that is being consumed at a harvest rate at or below its natural regeneration rate"; Vermont law considers "methane gas and other flammable gases produced by the decay of sewage treatment plant wastes or landfill wastes and anerobic digestion of agricultural products, byproducts, or wastes, or of food wastes", as well as "silviculture waste", to be renewable energy sources; it expressly prohibits considering nuclear fuel renewable; although the law empowers PUC to add technologies or technology categories to the definition of "renewable energy", it prohibits considering coal, oil, propane, and natural gas as renewable energy supplies