The NEB's Role in Electricity Regulation and Energy Information: A Critical Review

Expert Report

submitted to the
NEB Modernization Expert Panel

on behalf of the

Front commun pour la transition énergétique

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1. QUALIFICATIONS

Philip Raphals is cofounder and executive director the Helios Centre, a non-profit energy research and consulting group based in Montreal. Over the last 25 years, he has written extensively on issues related to hydropower and competitive energy markets. He has appeared many times as an expert witness before regulators in several provinces, in relation to transmission access and other issues.

Rick Hendriks is a senior analyst at the Helios Centre and director of Camerado Energy Consulting, an Ontario-based firm providing environmental assessment, energy planning, policy analysis, and research services to clients across Canada. For the past two decades, he has been engaged in the planning and assessment of several large-scale hydroelectric developments, and provided testimony before regulatory bodies concerning their economic viability, environmental effects, socio-economic impacts and implications for Indigenous rights.

2. INTRODUCTION AND SUMMARY

We have been asked by the *Front commun pour la transition énergétique* to prepare a report in the context of the work of the Expert Panel concerning NEB Modernization.

The bulk of this paper will focus on the NEB's regulation of the electricity sector. Focusing primarily on the similarities and differences between the Board's mandate and that of the Federal Energy Regulatory Commission (FERC), sections 3 through 5 will look at the Board's powers concerning international and interprovincial power lines and concerning electricity exports. In section 6, we will look at several key procedural issues. Finally, in section 7, we will speak to the Board's role in collecting and publishing energy information.

3. NEB AND FERC[1]

Canada and the United States are both federations, where jurisdiction is shared between federal and sub-federal (provincial or state) jurisdictions. However, the respective roles of the NEB and the FERC are very different in the two countries. In particular, the FERC plays a dramatically larger role with respect to electricity regulation in the US than does the NEB in Canada.

The reasons for this difference are, to a certain extent, constitutional. Whereas the Canadian constitution explicitly allocates jurisdictions between the federal government and the provinces (though with significant grey zones and areas of shared jurisdiction), the U.S. constitution does not. Rather, to take one important example, while the Tenth Amendment to the U.S. Constitution reserves to the states (or to the people) all powers not delegated to the federal government by the Constitution, the federal government can extend its reach simply by adopting legislation that preempts state regulation of a particular subject matter. As a result, the powers exercised by Washington have increased greatly over time.

In Canada, because article 92 of the *Constitution Act* grants the provinces jurisdiction over natural resources, virtually all aspects of energy development in the provinces have been undertaken under their jurisdiction. Article 92A, adopted as one of the constitutional amendments associated with the patriation of the Canadian constitution in 1982, went one step further. Bearing the heading "Non-Renewable Natural Resources, Forestry Resources and Electrical Energy," it explicitly empowers the provinces to make laws in these three areas, and in particular permits provincial legislatures to "make laws in relation to the export from the

[1] Sections of this paper rely upon a report prepared by the Helios Centre in 2005 for the Latin American Energy Organization (OLADE) in 2005. Entitled **The Evolution of Competitive Energy Markets in North America,** it was written by Philip Raphals in collaboration with Peter A. Bradford**.** It can be consulted at http://www.centrehelios.org/downloads/studies_marches_concurrentiels_planification/2005_EN_Helios_OLADE_Evolution_of_Competitive_Energy_Markets.pdf.

province to another part of Canada of ... the production from facilities in the province for the generation of electrical energy," as long as they do not provide for discrimination in prices or in supplies exported to another part of Canada. This further entrenched the primacy of the provincial role in energy regulation, limiting the federal role to international and, in some cases, inter-provincial issues.

Thus, many of the powers exercised in Canada by the provinces are exercised in the U.S. by the FERC. Furthermore, the absence of a bright line separating federal from state jurisdiction has led to greater complexity in the U.S. electricity regulatory system, which Canada is fortunate to have avoided.

That said, it must be acknowledged that, due in part to the geographical fact that most Canadian population centres are closer to their U.S. neighbours than they are to each other, and to the tenfold difference in size between the two countries, as well as other factors to be addressed below, the evolution of the continental electricity market has been designed almost exclusively in the U.S., with little or no Canadian involvement. As we shall see below, the FERC has become in many ways the *de facto* electricity regulator for North America.

In the context of the NEB Modernization initiative, it is relevant to ask whether or not it would be in Canada's interest for the federal government in general, and the NEB in particular, to take a more active role in this regard. The question is vast, and a complete response would far exceed the scope of this paper. That said, the following sections attempt to circumscribe the relevant issues in this regard.

4. THE NEB'S ROLE WITH RESPECT TO ELECTRICITY

The NEB's jurisdiction with respect to electricity is limited, consisting essentially of the power to approve (but not set rates for) international power lines and to issue permits for electricity

exports. Since 1990, the Board has, in theory, had a certain jurisdiction over interprovincial power lines, but this jurisdiction has never been exercised.

4.1. International power lines

The NEB's jurisdiction over international power lines (IPLs) is set out in Part III.1 (sections 58.1 through 58.4) of the *NEB Act* ("the *Act*"). Part III.1 was added to the *Act* in 1990, following several years of debate, by Bill C-23, which implemented the Canadian Electricity Policy of 1988.

As in other areas of its jurisdiction, the NEB can grant IPLs either permits or certificates. **Permits** *must* be granted by the Board, without public hearing, unless the GIC has ordered that the application shall be dealt with as an application for a **certificate** (s. 58.15).[2] The Board may recommend that the GIC so order (s. 58.14(1)), but may not on its own accord designate a permit application as a certificate application. If an application is so designated, the Board *may* issue a certificate, "if the Board is satisfied that the line is and will be required by the present and future public convenience and necessity" (s. 58.16(1)). In deciding whether to issue a certificate, the Board has broad discretion with regard to the issues to consider (s. 58.16(2)). The time limit for the review is specified by the NEB Chair, but may not exceed 15 months from the time when the Board considers the application to be complete (s. 58.16(5)).

For projects designated under the regulations to CEAA 2012, the NEB must also, within the same time period, "ensure that an environmental assessment is conducted" and prepare a report on that environmental assessment (CEAA 2012, s. 22). Under s. 39 of those regulations, the projects designated are those that involve "the construction, operation, decommissioning and

[2] The GIC may issue such an order before a permit is issued, or may revoke a permit that has already been issued, within 45 days of such an issuance.

abandonment of a new electrical transmission line with a voltage of 345 kV or more that requires a total of 75 km or more of new right of way."

While these physical parameters determine whether or not an environmental assessment must be performed, there are no such bright lines to indicate when an application should be treated as an application for a permit or for a certificate. As noted above, if application is made for a permit, the Board must either issue the permit (s. 58.11(1)) or recommend under s. 58.14(1) that the GIC convert it to an application for a certificate. The GIC can also do so on its own initiative.

4.1.1. Provincial regulators

The provisions of the *Act* setting out the relationship between federal and provincial jurisdiction are rather complex.

Sections 58.17 through 58.19 describe the role of provincial regulators with respect to the portions of IPLs in their province. Section 58.21 states that the provisions of the *NEB Act* do not limit the jurisdiction of provincial regulators regarding the portions of IPLs that are within their provinces:

> 58.21 A provincial regulatory agency designated under section 58.17 has, in respect of those portions of international power lines that are within that province, the powers and duties that it has under the laws of the province in respect of lines for the transmission of electricity from a place in the province to another place in that province, including a power or duty to refuse to approve any matter or thing for which the approval of the agency is required, even though the result of the refusal is that the line cannot be constructed or operated. (underlining added)

The following section states that the NEB's permits and certificates benefit from the principle of paramountcy with respect to provincial actions.

> 58.22 Terms and conditions of permits and certificates and Acts of Parliament of general application are, for the purpose of applying the laws of a province under section 58.2 or 58.21, paramount to those laws.

However, under s. 58.23, an applicant or holder of a permit or certificate can elect that the IPL be under federal jurisdiction.

> **Location and Construction under Federal Law**
>
> Election
>
> 58.23 The applicant for or holder of a permit or certificate may file with the Board in the form prescribed by the regulations an election that the provisions of this Act referred to in section 58.27 and not the laws of a province described in section 58.19 apply in respect of the existing or proposed international power line.
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> 1990, c. 7, s. 23.

According to s. 58.18, **s. 58.21 does not apply to projects for which such an election is made.** Thus, an applicant may elect to replace provincial jurisdiction with federal jurisdiction. Should it do so, the provisions set out in s. 58.27 will apply, which read as follows:

> 58.27 (1) Sections 32 to 45 and 48 to 51.3 and Part V, except sections 74, 76 to 78, 108 to 111.3, 112, 114 and 115, apply in respect of international and interprovincial power lines referred to in section 58.24 as if each reference in any of those provisions to
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> (a) a “company” were a reference to the applicant for or holder of the permit or certificate issued in respect of the line;
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> (b) a “pipeline” or “line” were a reference to the international or interprovincial power line; and
>
> (c) “hydrocarbons” were a reference to electricity.
>
> (2) If a deviation, change or alteration is required to be made to a portion of an international power line by the holder of a permit or certificate issued in respect of the power line and the deviation, change or alteration passes in, on, over, under, through or across a navigable water, section 45 also applies to that portion of the power line as if each reference in that section to
>
> (a) a “company” were a reference to the holder of the permit or certificate; and
>
> (b) a “pipeline” were a reference to the international power line.

Thus, an IPL for which such an election has been made is regulated by the NEB as if it were a pipeline, superseding the provincial authority described in s. 58.21.

More specifically, the following provisions apply:

- Sections 32 to 45, regarding the choice of route;
- Sections 48 to 51.3, including the regulation of construction and operation, liability, the polluter-pay principle, claims for compensation, inspections, but excludes the section on Offences and punishment (51.4);
- Section 73, 75, 79 to 107, and 111.4 (Part V), concerning the taking of lands.[3]

However, Part IV (ss. 58.5 to 72) concerning Tolls and Tariffs does *not* apply to IPLs. Thus, regardless of whether the construction of the IPL is approved under federal or provincial jurisdiction, the charges for the *use* of the IPL remain under provincial jurisdiction. In the TPC decision discussed in the next section, the Board made a clear distinction between "regulation of a physical work and undertaking" and "*economic* regulation of a physical work and undertaking":

> In this case, the Applicant has requested a certificate to authorize construction and operation and has not requested permission to charge rates for the transmission or supply of electricity. Those two subjects constitute different subject-matter, one dealing with the regulation of a physical work and undertaking, particularly its design, safety and environmental suitability, while the other subject relates to the economic regulation of a work and undertaking. The Board was not asked by TPC to approve a transmission or service charge in this application.[4] (underlining added)

As we shall see below, it is FERC's *economic* regulation of interstate transmission in the U.S. that has led to its dominant role in regulation of power markets. The exclusion of economic regulation from the Board's jurisdiction over power transmission is thus of great significance.

It is noteworthy that s. 52 and 53 also do *not* apply to IPLs. Section 52 describes the Board's report with respect to an application for a certificate, including the issues it must address (s. 52(2)). S. 53 considers orders by the GIC to return an application to the Board for

[3] The specific inclusions and exclusions are complex and worthy of careful review, which is however beyond the scope of this paper.

[4] National Energy Board, TransCanada Power Corp., EH-1-96, January 1997, page 10.

reconsideration. As these are fundamental aspects of the certificate process, it is not clear why they should not apply to IPLs as well.

4.1.2. Electing federal jurisdiction

This process whereby an applicant can elect federal jurisdiction for an IPL was created by amendments to the *NEB Act* in 1990. The first application to make such an election did not occur until 1996, when TransCanada Power Corporation (TPC) elected federal jurisdiction for a 69 kV 15 km power line between Alberta and the U.S.

In its Order, the NEB carefully reviewed the relevant provisions, and wrote:

> A third instrument for the creation of an international power line consists of a certificate which may be issued pursuant to an election filed by an applicant pursuant to section 58.23 of the Act. An election automatically converts any permit application into an application for a certificate. Where an election is filed, the Board examines the application in a public hearing, following which it may, in its discretion, grant or deny the application. Like a designation certificate, the issuance of an elective certificate is subject to the approval of the Governor in Council.[5] However, unlike a designation certificate, an international power line constructed and operated pursuant to an elective certificate does not result in the application of provincial laws with respect to its location, construction, operation and abandonment. An international power line authorized by an elective certificate remains under federal law for all purposes and the provisions of the Act relating to pipelines are adopted, with the necessary changes, for the regulation of international power lines authorized under this instrument.[6] (underlining added)

Thus, election of federal jurisdiction by the applicant circumvents all provincial jurisdiction over the construction and operation of an IPL.

The 1990 amendments to the *NEB Act* that created this structure had been hotly debated for several years, and the ongoing frictions between Quebec and Newfoundland and Labrador (NL)

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[5] The Board's basis for this statement is not clear. S. 58(23), quoted above, does not mention approval by the GIC.

[6] National Energy Board, TransCanada Power Corp., EH-1-96, January 1997.

played a key role in these debates. On the one hand, Quebec insisted on maintaining control over its own territory, and obtained s. 58.21 which, as noted above, retains for the province "the powers and duties that it has under the laws of the province … including a power or duty to refuse to approve any matter or thing for which the approval of the agency is required, even though the result of the refusal is that the line cannot be constructed or operated."

At the same time, NL and the Maritime provinces sought federal jurisdiction in order to oblige Quebec to provide transmission access to the U.S. And they obtained s. 58.23, which does indeed create such jurisdiction, upon election by the applicant. Thus, neither side in the dispute went home empty-handed.

In 2010, Newfoundland Labrador Hydro's attempt to reserve transmission access through Quebec by virtue of Hydro-Québec's OATT in order to sell power in the US from the planned Lower Churchill Project was stymied due to a technicality, upheld by the Régie de l'énergie after a long hearing.[7] In theory, it appears that Newfoundland and Labrador Hydro could have proposed to build an IPL through Quebec and elected federal jurisdiction for it, which would have exempted it from provincial jurisdiction with respect to its construction and operation. Almost certainly, the government of Quebec would have vigorously fought such a proposal, on both legal and political fronts. In all likelihood, however, this path was not even given serious consideration, given the enormous cost of such an undertaking.

4.2. Interprovincial power lines

Bill C-23, which introduced these amendments to the NEB Act in 1990, had its first reading in June 1989. It flowed largely from debates that took place in the context of the negotiation of the Canada-US Free Trade Agreement, which came into effect that year. In 1988, the Minister of Natural Resources had asked the chair of the NEB "to review and report on possible measures

[7] Régie de l'énergie, decision D-2010-053.

that could properly be taken to enhance interprovincial trade in electricity by encouraging greater cooperation between utilities in systems planning and development; and by enabling buyers and sellers of electricity to obtain commercial acces.s to available transmission capacity through intermediate provinces for wheeling purposes." In response, the NEB produced a report entitled *Review of Inter-Utility Trade in Electricity* – but not until 1994! [8]

According to Karl Froschauer of Simon Fraser University:

> As it turns out, the concern to eliminate barriers to interprovincial electricity trade had less to do with creating a national Canadian electricity market than it did with opening the Canadian market for electricity suppliers from the US — in other words, changing Canada from an 'electricity hinterland' of the US to a country engaged in transborder electricity trade reciprocity.[9]

The amended *NEB Act*, under s. 58.4, gave the Board jurisdiction with respect to interprovincial powerlines ("IPPLs"), but only in cases so designated by the Governor in Council:

> **Interprovincial Power Lines**
> **Where certificate required**
> 58.4 (1) The Governor in Council may make orders
> (a) designating an interprovincial power line as an interprovincial power line that is to be constructed and operated under and in accordance with a certificate issued under section 58.16; or
> (b) specifying considerations to which the Board shall have regard in deciding whether to issue such a certificate.
> **Prohibition**
> (2) No person shall construct or operate any section or part of an interprovincial power line in respect of which an order made under subsection (1) is in force except under and in accordance with a certificate issued under section 58.16.
>
> 1990, c. 7, s. 23.

NEB staff has informed us that <u>the Board has never received an application for an interprovincial power line</u>. However, the wording of s. 58.4 indicates that it is not up to the applicant but rather

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[8] NEB, *Review of Inter-Utility Trade in Electricity* (January 1994), page 1.

[9] K. Froschauer, *White Gold : Hydroelectric Power in Canada* (UBC Press, 1999), p. 46.

to the Governor in Council (GIC) to designate such a line as "an interprovincial power line that is to be constructed and operated under and in accordance with a certificate issued under section 58.16" — i.e., a certificate of public convenience and necessity. The GIC has never done so.

In a 2012 presentation to the Canadian Association of Members of Public Utility Tribunals (CAMPUT), the organization's vice-chair Raymond Gorman indicated that, when IPPLs were built in the past, each province's regulator approved construction of the facilities on its own side of the border, relying on the 1981 Fulton decision of the Supreme Court of Canada. Fulton concerned a transmission line between Alberta and British Columbia; certain landowners claimed that the Alberta Energy Resources Conservation Board did not have jurisdiction to order expropriations for an interprovincial power line. The Supreme Court held that it did, but only because there was no operative federal legislation that could be invoked. It wrote[10]:

> An electrical distribution system could competently be within s. 92(10)(*a*) [of the *British North America Act*]. In the absence of federal legislation, the provincial legislature's authorization of a provincial statutory board to entertain applications for the construction of intraprovincial facilities and to empower an applicant to connect its local facilities with those of an agency in an adjoining province but without presuming to regulate the interconnection fell within the provincial authorization in relation to local works and undertakings. There was no operative federal legislation to underscore federal exclusiveness or to support federal paramountcy. Although exclusiveness could arise even in the absence of federal legislation, the present situation did not provide a basis for its assertion. There was no single promoter in a position to effect on his own an interprovincial connection and the proposed works in Alberta, ninety-nine per cent of whose output was to be delivered to customers within the Province, could properly be regarded as local or intraprovincial for the purposes of the application that was before the Energy Resources Board.
>
> The prospect of a federal legislative interest when an interconnection was made with the facilities in British Columbia was not enough to bring this case within s. 92(10)(*a*) when there was no applicable federal legislation. The decision of the Board, in so far as it approved interconnection with British Columbia facilities, was merely permissive. The application was merely to enable Calgary Power Ltd. to reap the benefits of interconnection when made, as it saw fit, with the Board, for the present, being asked to approve the construction and operation of facilities wholly within Alberta. (underlining added)

[10] [1981] 1 SCR 153. https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/5547/index.do

Thus, the absence of any federal legislation concerning IPPLs at the time when the Fulton decision was written was a significant element in its reasoning. Indeed, the Fulton case explicitly states (page 160):

> There are a number of important background facts which are relevant to the proper disposition of this appeal. First, it is conceded that there is no existing federal regulatory authority that embraces the situation that is presented here.

According to Mr. Gorman, this creates legal uncertainty regarding continuing application of the Fulton decision:

> Given the NEB now has authority to regulate designated interprovincial transmission lines, future interprovincial transmission lines authorized in this manner may face a constitutional challenge.[11]

Thus, in his view, the very existence of the Act's provisions regarding IPPLs casts doubt upon the legal basis upon which provincial regulators continue to approve them.

As efforts to decarbonize the Canadian electric system increase, interest in new IPPLs does as well. Should there be a federal role in planning, approving and/or operating such lines, or should those functions be left entirely to the regulators of the participating provinces? If so, how should the federal role be circumscribed? Are the current provisions of the *Act*, which simply allow the question to be determined by the Governor in Council, adequate?

These are important questions, the responses to which unfortunately far exceed the scope of this paper.

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[11] Raymond Gorman, "Introduction to Electricity and Gas Regulation in Canada: Who does what". CAMPUT 2012. http://www.camput.org/wp-content/uploads/2013/09/2012-07-21_-Gorman_Canada_Electricity-Gas-Regulation.pdf, p. 9; found at http://www.camput.org/about-camput/international/

4.3. Electricity exports

The Board's jurisdiction with respect to electricity exports is set out in Division II (Electricity) of Part VI (Exports and Imports) of the *Act*; specifically, in sections 119.02 through 119.094. These provisions also date from the 1990 amendments to the *Act*.

The architecture of Division II is similar to that for the approval of IPLs, described above. An application for a permit *must* be approved by the NEB (s. 119.03(1)), without public hearing. The Board may, however, *recommend* to the GIC that the application be designated an application for a **licence,** governed under s. 119.08. As in the case of IPL's, the Board's power is limited to recommendation; it cannot decide on its own to designate an export permit application as a licence application.

S. 119.06(2) reads:[12]

> In determining whether to make a recommendation, the Board shall seek to avoid the duplication of measures taken in respect of the exportation by the applicant and the government of the province from which the electricity is exported, and shall have regard to ~~all considerations that appear to it to be relevant, including~~
>
> a) The effect of the export on other provinces;
>
> ~~b) The impact of the export on the environment;~~
>
> c) Whether the applicant has:
>
> a. Informed other potential buyers in Canada of the quantities and classes of service available, and
>
> b. Given them an opportunity to purchase the electricity on terms at least as favorable as those offered for export; and
>
> d) Other considerations, as may be specified by regulation.

[12] The strikeout text indicates passages that were repealed in the 2012 Harper government amendments to the Act.

If the application is so designated, the Board *may* issue a licence (s. 119.08(1)), implying of course that it may also decide not to issue one. This is different from the situation for IPLs, where the Board can only make a *recommendation* regarding the issuance of a certificate. However, the Board's decision to issue a licence is nevertheless subject to the approval of the GIC (s. 119.08(1)).

Until 2012, in deciding whether or not to issue a licence, the Board was empowered to "have regard to all considerations that appear to it to be relevant". Since 2012, the matters it may consider are limited to those mentioned above in s. 119.06(2) — excluding, again, the environmental impacts of the export.

Prior to 1990, electricity exports were governed by s. 118, which required that the Board a) ensure that the power was surplus to Canadian needs, and b) that the price of the export was just and reasonable in relation to the public interest.

In the past, export licences were generally issued in relation to specific export contracts. Thus, for example, licences were issued to Hydro-Québec in 1990, following a long and highly publicized hearing, authorizing exports to Vermont Joint Owners and to the New York Power Authority, based on contracts signed between 1987 and 1989. This licence was appealed to the Supreme Court, which upheld the Board's right to condition the licence upon the successful completion of environmental assessment for future generating facilities that would serve them (referring among others to the Great Whale Project).[13]

More recently, these messy debates have been avoided, thanks to applications for the export of power from a Canadian utility to its US subsidiary. Thus, for instance, in 2010 Hydro-Québec obtained Permit EPE-370, which allows it to export up to 2.6 TWh per year to its subsidiary H.Q. Energy Services (U.S.) Inc., for a period of 27 years. As the Board found that "there is no

[13] SCC, Quebec (Attorney General) v. Canada (National Energy Board), [1994] 1 SCR 159.

nexus between the proposed export and new facilities, changes to existing facilities, or modifications to the operation of existing facilities and environmental effects," it concluded that: "further consideration of the environmental effects of the proposed export is not required".[14]

The NEB now explicitly offers blanket permits "whereby applicants request an electricity export permit without having any pre-negotiated export sales arrangements or contracts in place."[15]

Given the reduction of the issues the Board can consider with respect to electricity exports combined with this "blanket permit" approach, one can conclude that the Board no longer exercises a meaningful role with respect to Canadian electricity exports.

5. FERC

5.1. FERC's jurisdiction with respect to electricity

The *Federal Power Act* begins with the declaration that "the business of transmitting and selling electric energy for ultimate distribution to the public is affected with a public interest", and asserts jurisdiction over "the transmission of electric energy in interstate commerce and the sale of such energy at wholesale in interstate commerce".[16]

FERC's legislative mandate with respect to electricity is to regulate interstate transmission and sale of electricity and to licence hydroelectric facilities, including the following activities:[17]

- regulating the transmission and wholesale sales of electricity in interstate commerce;

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[14] NEB, File OF-EI-Elec-Q016-2011-01 01, Letter Order dated 19 August 2011.

[15] NEB website, Electricity Export Permit Applications - Frequently Asked Questions (FAQs)

[16] U.S. Code, Title 16, Chapter 12, Subchapter II, Regulation of Electric Utility Companies Engaged in Interstate Commerce, s. 824(a).

[17] https://www.ferc.gov/about/ferc-does.asp

- reviewing certain mergers and acquisitions and corporate transactions by electricity companies;
- reviewing siting application for electric transmission projects (under certain circumstances);
- licensing and inspecting private, municipal, and state-owned hydroelectric projects;
- protecting the reliability of the high voltage interstate transmission system through mandatory reliability standards;
- monitoring and investigating energy markets;
- enforcing FERC regulatory requirements through imposition of civil penalties and other means;
- overseeing environmental matters related to and hydro projects; and
- administering accounting and financial reporting regulations and conduct of regulated companies.

FERC does not have explicit jurisdiction with respect to imports or exports of electricity, but they are nevertheless subject to its general authority over the sale of electricity in interstate commerce. International power lines require a presidential permit, administered by the Secretary of State.

Areas outside of FERC's jurisdictional responsibility, most of which are dealt with by states, include:

- regulation of retail electricity and natural gas sales to consumers;
- approval for the physical construction of electric generation facilities;
- reliability problems related to failures of local distribution facilities; and
- tree trimmings near local distribution power lines in residential neighbourhoods.

5.2. FERC's role in US power markets

FERC's jurisdiction to regulate the transmission and sale of wholesale electricity in interstate commerce is very broad. Interestingly, the balance between these two roles has shifted dramatically in the last two decades.

Until the 1990s, FERC set rates for most wholesale power transactions. However, the confluence of two historical developments changed all that. In 1978, Congress adopted the *Public Utilities Regulatory Policies Act* **(***PURPA*), which required utilities to purchase power from so-called "qualifying facilities" at rates based on the utility's avoided costs (the cost the utility would otherwise have to pay to generate or purchase power).[18] It led to the rapid development of large amounts of non-utility generation, without which the move to competition might never have occurred.

With *PURPA*, Congress hoped to reduce the demand for fossil fuels and to overcome utilities' traditional reluctance to purchase power from, and to sell power to, the non-traditional facilities. *PURPA* sought to overcome this utility "reluctance" through its "must-buy" provisions. Specifically, it required FERC to "prescribe . . . such rules as it determines necessary to encourage cogeneration and small power production." The statute requires that the rates set by the Commission for the purchase shall (a) be just and reasonable to the electric consumers of the electric utility and in the public interest, and (b) not discriminate against qualifying cogenerators or qualifying small power producers. The statute states that the maximum rate is the incremental cost to the electric utility of alternative electric energy, known as the utility's "avoided cost".[19]

At the same time, another driving force gained significance in the U.S., this time regulatory and political. In the 1970s and 80s, many U.S. utilities had embraced nuclear power, but the dreams of power "too cheap to meter" quickly disappeared. Instead, faced with dedicated grassroots political opposition and wave after wave of technical difficulties, the cost of nuclear power spiralled ever higher.

[18] Qualifying facilities included renewables and high-efficiency thermal generation, including cogeneration.

[19] PURPA s. 210(b), 16 U. S. C. s. 824a-3(b).

While bankruptcies were rare, regulated electricity rates climbed rapidly as the high costs of the nuclear plants entered the rate base. Within a decade, inexpensive small-scale gas turbines became commercially available. Before long, industrial consumers began to clamour for the right to buy power directly from new, independent power producers, to import power from neighbouring regions or to install their own on-site power plants in order to avoid the high rates of their local utilities.

The confluence of these two historical developments led to the adoption by Congress of the *Energy Policy Act of 1992* (*EPAct*). This landmark legislation mandated FERC to create conditions that would allow a competitive market in electricity generation to flourish while leaving to the states all decisions as to whether to allow or require customer choice at the retail level. At the same time, the new law recognized that drastic changes to the way the transmission system is managed would be fundamental to the establishment of such a market.

Under the mandate created by the *EPAct*, FERC has issued a number of important rulings to further the development of competitive wholesale energy markets in the U.S. These can be broadly divided into two major spheres of action: open access to the bulk transmission system and access to deregulated wholesale power markets.

At the heart of FERC's efforts to create a competitive wholesale power market in the U.S. is Order 888, issued in 1995. Order 888 was predicated on the understanding that the primary impediment to the development of a fully competitive market in electric energy was the ability of vertically integrated utilities to use their control over their transmission systems to hinder transactions that were not in their interests (or those of their marketing subsidiaries or affiliates). It required utilities to offer open access to their transmission systems, at non-discriminatory rates and conditions.

The ongoing efforts to remove transmission obstacles in order to create a level playing field between utility and non-utility generators are far from over. While significant achievements have been made, obstacles still remain.

The primary concern is market power. Section 205 of the *Federal Power Act* requires FERC to establish "just and reasonable" rates for the sale or transmission of electric energy. If a generator is in a position to manipulate market prices to its own benefit, unregulated market prices will neither send efficient price signals nor be just and reasonable. The statutory requirement for just and reasonable rates thus implies the need to control monopoly power and political interference through price regulation. However, the courts have found that, "when there is a competitive market the FERC may rely upon market-based prices in lieu of cost-based regulation to assure a 'just and reasonable' result."[20]

As early as 1989, FERC began to recognize that, under certain conditions, it could loosen its regulatory control over prices for wholesale electricity sales without opening the door to monopoly power. Thus, FERC granted certain companies the right to buy and sell "bulk" electricity without obtaining prior regulatory approval — in other words, to engage in transactions at market-based rates — once it was convinced that they couldn't exercise monopoly power.

For FERC to grant market-based rate authority, it must find specific evidence that a competitive market will produce just and reasonable rates. The specific evidence must demonstrate that "neither buyer nor seller has significant market power."[21] When neither buyer nor seller can exercise significant market power, the Commission may infer "that the [market] price is close to marginal cost, such that the seller makes only a normal return on its investment" rather than monopoly profits.[22]

At first, this so-called "energy marketer status" was granted only to independent marketers that did not own generation or transmission facilities, had no monopoly service territory and were not

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[20] Elizabethtown Gas Co. v. FERC, 10 F.3d 866, 870 (D.C. Cir. 1993).

[21] Tejas Power Corp. v. FERC, 908 F.2d 998, 1004 (D.C. Cir. 1990).

[22] Ibid.

affiliated with any such company.[23] In 1993, FERC decided to grant similar status to marketers affiliated with independent power producers (IPPs), as long as they had neither transmission nor a monopoly service territory.[24] More broadly, it would allow such marketers to transact at market-based rates, as long as neither the marketer nor its IPP affiliate had the ability to exercise monopoly control or market power.

Order 888 called for "functional separation" between the transmission and energy marketing functions of vertically integrated utilities. FERC judged that such functional unbundling would be adequate to create confidence on the part of other users of the transmission system that they were being treated fairly, and that the transmission operator would not unduly favour its own marketing affiliates at the expense of other users. At the same time, it favoured, but did not require, the creation of Independent System Operators (ISO). An ISO is a non-profit organization that controls and operates, but does not own, a transmission system.

In rejecting demands that vertically integrated utilities be broken up, FERC took a calculated risk — that these halfway measures would be good enough to allow competition to take root. Order 888 did in fact result in an explosion of restructuring activity, but it gradually became clear that vertically integrated utilities were still able to use their control over transmission lines to their own advantage. In response, FERC began the process that led to the issuance of Order 2000 in December 1999.

In Order 2000, FERC acknowledged that Order 888 was not entirely successful, and that there remained significant barriers and impediments to fully competitive electricity markets. The Order strongly favours the creation of "regional transmission organizations" (RTOs), regional bodies that would control and operate the transmission systems of the utilities located within their territories, while remaining independent of control by any company that generates or sells

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[23] FERC, Citizens Power & Light Corp., 48 FERC 61,120 (1989).

[24] FERC, Enron Power Marketing, Inc., 65 FERC 61,305 (1993).

power. The intent is to ensure that the transmission system — the most critical element to a truly competitive market — cannot be used to favour the interests of its owners and their affiliates.

Order 890, adopted in February 2007, was meant to "address and remedy opportunities for undue discrimination under the pro forma Open Access Transmission Tariff (OATT) adopted in 1996 by Order No. 888".

The *EPAct* thus initiated a shift away from the historic regime whereby prices for electrical energy were fixed by a regulator based on the generator's costs, toward a new regime where energy prices would be determined by market forces (supply and demand). With a competitive market slowly taking form, private companies began to build power plants without any long-term commitment for the purchase of their output. Instead, power from these "merchant" plants would be sold on the open market, at the best price that could be obtained.

Thus, it was FERC's economic jurisdiction over interstate transmission that led to the creation of the electricity markets that are now the primary vehicle for wholesale electricity sales in North America, and because of its ongoing jurisdiction over transmission and over market access, FERC remains the gatekeeper to these markets.

5.3. Contrast with the NEB

It is essential to note that it is FERC's jurisdiction over the *use* of transmission networks that creates this role, not its jurisdiction over their *construction*.

The difference between this and the NEB's jurisdiction is striking. As we have seen, the NEB has jurisdiction over the construction and operation of the physical assets, but not over the rates charge for their use — and only for international power lines, not for the networks that supply them. And this jurisdiction does *not* extend to inter-provincial power lines (IPPLs); though a theoretical carve-out has been made in that direction, the NEB's jurisdiction over IPPLs remains theoretical.

The geographic difference between the two countries accentuates this difference. In the US, with its 50 states, most regional electricity grids cross state lines. Thus, virtually all high-voltage power lines in the US participate in interstate commerce. In Canada, by contrast, provinces are much larger, and more interconnected with neighbouring US states than with each other. So even if the NEB did have full jurisdiction over IPPLs, this would not have the same implications as does FERC's jurisdiction over interstate transmission in the US.

There is a historical dimension as well. The *Federal Power Act* dates from 1920, and so the US electrical industry has developed in an environment where federal jurisdiction has always played a large — if not always dominant — role.

In Canada, by contrast, power systems were developed by the provinces, without any significant federal presence. Any attempt now for Ottawa to claim jurisdiction over IPPLs would be met by howls of protest, or worse, from provincial governments. So there is no clear path to a greater federal role in interprovincial transmission, leaving FERC's role as *de facto* regulator of the North American transmission system uncontested.

This is not to imply that FERC exercises extra-territorial powers; in fact, it is quite careful not to do so. However, insofar as Canadian utilities want to participate in US power markets, they need FERC to grant their marketing subsidiaries Power Marketer Authorizations. By application of longstanding policies that, as noted above, were not originally conceived in relation to Canadian entities, FERC will only grant these authorizations if the parent company allows non-discriminatory access to its transmission system, by subscribing to an Open Access Transmission Tariff (OATTs) that meets the minimum standards set out by FERC. As a result, FERC's *pro forma* transmission tariff — conceived without Canadian input and with no awareness of its consequences in Canada — has become the template for transmission tariffs adopted by Canadian regulators.

In so doing, precisely because it cannot and does not exercise any formal regulatory powers outside the US, FERC does not and cannot take Canadian stakeholders' concerns into account.

FERC's primary concern with respect to Canadian transmission is the access by US consumers to low-cost power. Thus, in its order concerning Hydro-Québec's Power Market Authorization, FERC indicated that granting authorization would "facilitate the introduction into United States markets of otherwise-unavailable power from Canadian sources or assist United States suppliers in reaching new Canadian customers."[25]

Canadian transmission utilities are subject to Canadian provincial regulators, not US ones. But insofar as these utilities have US marketing affiliates that required power marketer authorization, they need to persuade FERC that the transmission tariffs adopted by their transmission-owning affiliates (who in turn have no relationship whatsoever with FERC) have adopted an OATT that in fact meets FERC's norms. As a result, Canadian utilities go through an elaborate ritual of persuading Canadian regulators to approve complex regulatory texts that, in fact, were adopted by a foreign regulator for its own purposes, many of which have no relevance in Canada.

Because these texts are so complicated and so detached in many cases from Canadian reality, the processes to review and adopt them before Canadian regulators are long and convoluted. In Quebec, the hearing that led to the approval of HQ TransÉnergie's FERC-compliant tariff after the creation of the Régie de l'énergie[26] took some four years, from beginning to end. A second major hearing, with the explicit purpose of adapting HQT's OATT to meet FERC's new requirements under Order 890, was similar in scope.[27]

All of this takes place without any involvement whatsoever of the Canadian government or its energy regulator the NEB. Indeed, the Board acknowledged that:

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[25] FERC, H.Q. Energy Services (U.S.) Inc., 81 FERC ¶ 61,184 (Nov. 12, 1997),

[26] R-3401-98. An earlier FERC-compliant tariff, regulation 659, had been adopted by Order-in-Council before the creation of the Régie.

[27] The lead author of this paper appeared as an expert witness in both of these proceedings.

> [T]he NEB Act does not contain provisions which empower the Board to regulate transmission access to international power lines.[28]

Furthermore, it must be acknowledged, it is far from obvious how Canadian federal involvement would improve the situation.

6. PROCEDURAL ISSUES

While a full review of the procedural differences between the NEB and the FERC is beyond the scope of this paper, we wish to focus on three issues: rehearing or reconsideration; rulemaking; and the architecture underlying the statute.

6.1. Rehearing and reconsideration

The *NEB Act* provides for appeal to on the Federal Court of Canada on a question of law or of jurisdiction, with leave (s. 22(1)). Under s. 23(1), except as provided for in the *Act*, all of the Board's decisions and orders are "final and conclusive".

In contrast, right to rehearing is explicit in the *Federal Power Act*:

> **(a) APPLICATION FOR REHEARING; TIME PERIODS; MODIFICATION OF ORDER**
>
> **16 U.S. Code § 825l - Review of order**
>
> Any person, electric utility, State, municipality, or State commission aggrieved by an order issued by the Commission in a proceeding under this chapter to which such person, electric utility, State, municipality, or State commission is a party may apply for a rehearing within thirty days after the issuance of such order. The application for rehearing shall set forth specifically the ground or grounds upon which such application is based. Upon such application the Commission shall have power to grant or deny rehearing or to abrogate or modify its order without further hearing. Unless the Commission acts upon the application for rehearing within thirty days after it is filed, such application may be deemed to have been denied. No proceeding to review any order of the Commission shall be brought by any entity

[28] NEB, File OF-EI-Elec-Q016-2010-01 01, letter order dated 29 October 2010.

unless such entity shall have made application to the Commission for a rehearing thereon. Until the record in a proceeding shall have been filed in a court of appeals, as provided in subsection (b), the Commission may at any time, upon reasonable notice and in such manner as it shall deem proper, modify or set aside, in whole or in part, any finding or order made or issued by it under the provisions of this chapter. (underlining added)

FERC's Rule 713 sets out the conditions applying to a request for rehearing, as follows:

§ 385.713 Request for rehearing (Rule 713).

(a) Applicability.

(1) This section applies to any request for rehearing of a final Commission decision or other final order, if rehearing is provided for by statute, rule, or order.

(2) For the purposes of rehearing under this section, a final decision in any proceeding set for hearing under subpart E of this part includes any Commission decision:

(i) On exceptions taken by participants to an initial decision;

(ii) When the Commission presides at the reception of the evidence;

(iii) If the initial decision procedure has been waived by consent of the participants in accordance with Rule 710;

(iv) On review of an initial decision without exceptions under Rule 712; and

(v) On any other action designated as a final decision by the Commission for purposes of rehearing.

(3) For the purposes of rehearing under this section, any initial decision under Rule 709 is a final Commission decision after the time provided for Commission review under Rule 712, if there are no exceptions filed to the decision and no review of the decision is initiated under Rule 712.

(b) ***Time for filing; who may file.*** A request for rehearing by a party must be filed not later than 30 days after issuance of any final decision or other final order in a proceeding.

(c) ***Content of request.*** Any request for rehearing must:

(1) State concisely the alleged error in the final decision or final order;

(2) Conform to the requirements in Rule 203(a), which are applicable to pleadings, and, in addition, include a separate section entitled "Statement of Issues," listing

each issue in a separately enumerated paragraph that includes representative Commission and court precedent on which the party is relying; any issue not so listed will be deemed waived; and

(3) Set forth the matters relied upon by the party requesting rehearing, if rehearing is sought based on matters not available for consideration by the Commission at the time of the final decision or final order.

(d) ***Answers.***

(1) The Commission will not permit answers to requests for rehearing.

(2) The Commission may afford parties an opportunity to file briefs or present oral argument on one or more issues presented by a request for rehearing.

(e) ***Request is not a stay.*** Unless otherwise ordered by the Commission, the filing of a request for rehearing does not stay the Commission decision or order.

(f) ***Commission action on rehearing.*** Unless the Commission acts upon a request for rehearing within 30 days after the request is filed, the request is denied.

[Order 225, 47 FR 19022, May 3, 1982, as amended by Order 375, 49 FR 21316, May 21, 1984; Order 575, 60 FR 4860, Jan. 25, 1995; 60 FR 16567, Mar. 31, 1995; Order 663, 70 FR 55725, Sept. 23, 2005; 71 FR 14642, Mar. 23, 2006]

Rehearing constitutes a normal part of FERC's activities. Major orders and rulemakings are routinely followed by numerous requests for rehearing, which generally lead to a follow-up decision that either denies or accepts, in part, the requests. For major rulemaking proceedings such as Order 888, these decisions are denominated "Order 888-A", etc. Requests for rehearing can also flow from such decisions. It is not infrequent for there to be several rounds of rehearing (e.g., Orders 888-A, 888-B, 888-C and 888-D).

While it must be acknowledged that this process inevitably increases the regulator's workload and the time required before a matter is fully resolved, it also has the important benefits of avoiding unintended consequences and of ensuring that the regulator has come to the best possible decision.

Review of these related orders demonstrates that, at each stage, the majority of rehearing requests are denied. In effect, the regulator reviews the file and generally confirms that, yes, the

Commission did make the right decision. However, at each stage, we also see details where, on further consideration, the regulator either recognizes an error in its conclusions or, more often, a lack of precision or nuance. In allowing these problems to be identified at the outset, rehearing facilitates the development of a solid and well-grounded jurisprudence on which future applicants can rely.

In our view, allowing rehearing requests for the Board's decisions and orders would be a highly desirable evolution of the *Act*.

6.2. Rulemaking

Another important difference between the Board and FERC concerns the practice of Rulemaking. In complement to their roles as adjudicators, regulators generally also have a role as delegated legislation, in that their orders and decisions implicitly or explicitly create rules that will apply to future applicants.

FERC has formalized this process in the form of "rulemaking proceedings". These proceedings are initiated by the FERC itself (occasionally under legislative order), rather than by an applicant. Their purpose is to set out a clear set of rules that will govern future applications.

The most well known FERC rulemaking is the one that led to Order 888, but in fact this has been a regular part of FERC practice for many years.

The rulemaking process begins with a Notice of Proposed Rulemaking ("NOPR"), in which the regulator sets out its thinking about the issues before it, and the questions for which it seeks input from stakeholders. (In a sense, this NEB Modernization process in many ways resembles such a rulemaking proceeding.)

There then follows a full public hearing, based on the NOPR. At the end, FERC issues a rule (and then likely modifies it, in response to requests for rehearing). This process has been instrumental in creating the regulatory structures that define the US power market.

To the best of our knowledge, there is no equivalent process in place at the NEB. We encourage the Expert Panel to recommend to government to consider adding rulemaking to the Board's mandate, and, in so doing, to carefully review the procedures in place at the FERC.

6.3. Architecture

We wish also to comment on the architecture underlying the structure of the current *Act*. For both IPLs and electricity exports, the structure is similar. An application is made for a permit, which the Board is obliged to issue (with or without conditions). Only if that application for a permit is designated as an application for a certificate (IPL) or a licence (exports) does the Board have jurisdiction to recommend that the application be approved or denied. The designation of an application for a permit to an application for a certificate or a licence requires the approval of the GIC, as does the eventual issuing thereof.

This curious architecture raises two issues, both of which affect the independence and the credibility of the regulator. First, in obliging the regulator to approve a permit, the *Act* implicitly limits its scope of action, creating the impression of a rubberstamp rather than a true regulatory authority. Second, in requiring GIC approval to hold a public hearing and hence reflect seriously on whether or not the proposed activity is in the public interest, the *Act* once again diminishes the regulator's role and substitutes a political logic for a regulatory one.

We recognize that there are good reasons to require GIC approval for certain major actions. However, in our view, the *Act* as currently drafted goes too far in subjugating the regulatory authority to political control.

We respectfully suggest that this architecture be revised. No regulator should be obliged by law to issue a permit, nor should it require government permission to hold hearings or to deepen its inquiry in a given matter.

Insofar as the purpose of this architecture is to ensure light-handed regulation for matters which do not raise significant issues, there are certainly better solutions to be found — including leaving the matter up to the regulator to determine by rulemaking.

7. ENERGY INFORMATION

7.1. Energy information collection, analysis and publication

In Discussion Paper #3 dealing with energy information, reports and advice, the Expert Panel asked: Does Canada need energy information to be coordinated by one entity? If so, what entity would best serve in this role?

In considering these questions, we note that the Expert Panel received some preliminary views on these matters. Our review of these comments suggests that there appears to be agreement among participants in this process on:

- the need for a strategic approach to planning and information gathering;
- the need to modernize the approach to information gathering to better reflect Canada's renewable energy future;
- the need to broaden the scope of energy information collected, analyzed and published, and to improve the accessibility of that information; and
- that the lack of a single entity in Canada responsible for energy information is problematic and needs to be addressed.

A key issue of disagreement among participants concerns whether the mandate of the NEB should be expanded so that it can assume the role of an energy information coordinating entity, or whether another existing entity or new entity should be mandated to coordinate energy information.

There are numerous benefits to having a single energy information coordinating agency, including:

- efficient access by federal, provincial, territorial and indigenous government departments, researchers, academics, industry and the general public to a single definitive source of energy information;
- avoiding duplication between federal government departments and agencies, and other levels of government;
- impartiality in the provision of energy information for the promotion of sound policy making; and
- increased understanding of energy sources, markets, conservation, efficiency, costs, social benefits and environmental impacts to support energy regulation.

The following sections of this submission explore some of these issues, and the entities within the federal government that could potentially play such a role.

7.2. The NEB's current role as energy information coordinator

The current mandate of the NEB with respect to the collection, analysis and publication of energy information flows from its responsibilities as a regulator, as outline in the *NEB Act*. Appendix A summarizes the information currently collected by the NEB.

7.2.1. Part II — Advisory Functions

Part II of the *Act* delineates what are really two distinct energy information responsibilities of the NEB over which the federal Parliament has jurisdiction. The first concerns the collection, review and reporting of information that relates to energy matters (ss. 26(1)a) and 26(1.1)a)). The second relates to the safety and security of pipelines and international transmission lines (ss. 26(1)b) and s. 26(1.1)b)). In other jurisdictions, including the United States, these responsibilities are typically distinct from each other, and also distinct from the regulator.[29]

[29] The first is handled by the U.S Energy Information Administration, an independent agency within the Department of Energy, and the second by the Pipeline and Hazardous Materials Safety Administration

The *Act* further mandates (s. 26.2) the Board with responsibilities related to provision of advice, reports and recommendations to the Minister in relation to energy matters, sources of energy and safety of both pipelines and international transmission lines. The *Act* also provides (s. 26.4) flexibility for the NEB to provide advice, on request, respecting these same issues to ministers, other departments or government agencies. Neither of these advisory roles requires that the NEB be the entity responsible for coordinating information on energy matters or pipeline and transmission line safety. The *Act* also allows for, and indeed encourages, the Board to make use of other government agencies in obtaining the information necessary to carry out its duties.

> 26(3). In carrying out its duties and functions under this section, the Board shall, wherever appropriate, utilize agencies of the Government of Canada to obtain technical, economic and statistical information and advice.

This provides a precedent for the Board to rely on external agencies for information necessary to fulfilling its mandate.

7.2.2. Part VI — Exports and Imports

Part VI of the *Act* implies certain information needs of the NEB in the context of its regulatory responsibilities, particularly:

- Division I Oil and Gas – issuance of licences for oil and gas exports, and
- Division II Electricity – issuance of permits and licences for electricity exports and, where designated, interprovincial power lines.

In its submissions to the Expert Panel, the Board staff noted the importance of a broad understanding of energy markets, including markets outside of its jurisdiction, in fulfilling its mandate.

within the Department of Transportation. Both of these Administrations are distinct from the Federal Energy Regulatory Commission.

> So this responsibility, the Energy Information Program, supports the Board's responsibilities under Part 6 of the Act, which is approving exports for hydrocarbons or electricity and imports for natural gas, but it is also very relevant to other aspects of the Board's regulatory responsibilities around economic and financial regulation. [30]

Clearly, it is important that the energy information necessary for the NEB to fulfil its mandate be collected, analyzed and reported. While the Board must retain (or at least must have access to sufficient resources to retain) analytical expertise concerning this information in fulfilling its mandate, there is no compelling reason why the Board must be responsible for the collection or dissemination of this information.

7.2.3. Other energy information

The NEB also engages in the production of energy information that extends beyond its regulatory mandate, examples of which include the following:

- *Canada's Energy Future*: A long-term outlook with detailed projections covering all energy commodities, such as crude oil and natural gas, across all provinces and territories.
- *Market Snapshots*: Weekly articles on emerging trends in various segments of the energy market, including oil, natural gas, natural gas liquids, and electricity (including renewables).
- *Canada's Renewable Power Landscape – Energy Market Analysis*: One of a series of publications on energy supply, demand, and infrastructure that the NEB publishes regularly as part of its ongoing market monitoring.
- *Canadian Pipeline Transportation System*: An overview of NEB-regulated pipeline systems as well as analysis of pipeline capacity and throughput, pipeline tolls and tariffs, and the financial soundness of pipeline companies.

[30] National Energy Board. November 29, 2016. NEB's Presentations and Background Materials for the Expert Panel Conducting the NEB Modernization Review. Presentation to the Expert Panel - Overview of NEB's Current Role, Structure and Mandate [Transcript], p.12.

We note that the first three of these kinds of activities are typically undertaken by independent energy information agencies (e.g. the Alberta Electricity System Operator, the Ontario Independent Electricity System Operator, the U.S. Energy Information Administration) and not by an energy regulator. An existing or new federal agency tasked with energy information coordination could readily continue these activities. The third item is typically the responsibility of an energy regulator, but only to the extent that it excludes safety information, which is usually the purview of safety agencies such as the TSSA in Ontario or the PHMSA in the United States that are entirely independent of the regulator.

7.3. Suitability of the NEB as energy information coordinator

7.3.1. Mandate expansion

The energy information of interest to the NEB in fulfilling its mandate is only a subset of the energy information needs of federal, provincial, territorial and indigenous governments, energy researchers, academics, industry, other regulatory boards and the general public. Meeting those broader needs through the NEB would require a substantial expansion of its current role, and well beyond a role that is typical of an energy regulator.

Much of the information collected and published by the NEB appears to be either necessary to its regulatory mandate or of potential value to Canadians. However, these are not reasons for the NEB to *necessarily* continue in this role, nor are they compelling reasons to expand the role of the NEB in this respect, especially considering the potential adverse consequences of doing so, as discussed below.

7.3.2. The risks in prognostication

For the past several decades, the NEB has been providing Canadians with long-term projections of energy supply and demand in Canada, including in individual provinces, in the Board's *Canada's Energy Future* publications. These reports contribute to the knowledge of the energy industry in Canada, though it is unusual for reports of this nature to be produced by an energy

regulator. This practice raises several questions, including: **How can the NEB remain neutral when a proponent argues that its proposal is "needed" based on projections made by the NEB itself?**

While the NEB is careful to note that its projections should not be mistaken for predictions,[31] this practice potentially exposes the Board to criticism. Has the NEB has systematically overestimated future demand for fossil fuels? Has it understated the role of conservation and energy efficiency in meeting future energy requirements, resulting in Canadians paying more for energy than necessary? Could renewables play a greater role in Canada's energy future than the NEB now projects, or has historically projected?

The NEB's role in prognostication thus potentially exposes the Board to criticism that could contribute to further undermining its credibility with Canadians. **To avoid this pitfall, the NEB's role in the collection, analysis and publication of energy information should be transferred to an independent energy information agency**.

7.3.3. Impartiality

What the Expert Panel heard from the NEB respecting "neutrality":

> The language of the NEB Act is general and allows for a broad and comprehensive energy information program. Given that market monitoring is relevant to the entirety of our mandate, not just part 6 of the legislation, clarity of and a greater focus on expanding our mandate powers and flexibility under part 2 of the act may be warranted.
>
> Our energy information program can play a very important role into the future to present the interconnectivity of energy systems from a neutral perspective, be predictive and sensitive to

[31] e.g. see National Energy Board. November 2013. Canada's Energy Future 2013: Energy Supply and Demand Projections to 2035, p.2.

> emerging trends that are occurring within the broader energy systems and provide objective and neutral information to policy makers.[32]

There are dangers in this approach, and in the presumptions that may underlie it. The NEB appears to presume that it is "neutral by virtue of its good intentions", relieving it of the obligation to be "neutral by design".

As long as the regulator is not captured or perceived to be captured, it might appear that allowing the NEB to control both the inputs (i.e. the information and analysis, including both economic and environmental assessment) and the outputs (i.e. the recommendation and decisions) is without risk. However, it is when a regulator is accused of partiality that "neutrality by design" becomes essential. This involves basing regulatory decisions on information from unimpeachable sources that are **independent of the regulator**. Thus, assessments of environmental effects, social implications and economic benefits should be undertaken by entities without any stake in the outcome of the proceeding.[33]

Under the current framework, the NEB is in the unusual position of determining the scope of the information required, assessing and analyzing the environmental, social and economic effects, and relying on that information to make recommendations and decisions. If the NEB were to also become the federal energy information coordinating agency, it would then also be responsible for providing much of the economic, energy and environmental information that would inform its assessments and analysis.

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[32] National Energy Board. November 29, 2016. NEB's Presentations and Background Materials for the Expert Panel Conducting the NEB Modernization Review. Presentation to the Expert Panel – Introduction (Peter Watson) [Transcript], p.9.

[33] While not the topic of this submission, the inclusion of environmental assessment under the purview of the NEB is not in the interest of "neutrality by design". Environmental assessments need to be undertaken by a different government agency (e.g. the CEAA) or by a separate board so mandated, an example of which is the Clean Environment Commission in Manitoba.

As it is in the interest of government to promote impartiality and the appearance of impartiality in the decision-making of the NEB, energy information should be collected and maintained by an agency independent from the regulator.

7.4. Establishing an independent energy information agency

Several federal government departments currently have responsibilities for gathering, analyzing and disseminating energy-related information.[34] Some of this information relates to economic aspects (e.g. supply, demand, pricing, etc.) while other information relates to environmental baseline and impacts of energy projects and activities (e.g. biodiversity, air quality, pollutants, etc.). An exhaustive review of the roles of these agencies in the coordination of energy information is beyond the scope of this report. **If the Expert Panel has not already undertaken such a review as part of its current mandate, we recommend that the Minister undertake a review of current energy information responsibilities within the federal government with a view to centralizing these responsibilities within a single entity**.

The following section describes the relevant energy-related information collected and maintained by various federal government entities, and their strengths and weakness as a potential home for an independent energy information agency.

7.4.1. Environment Canada

The energy information maintained by Environment and Climate Change Canada (ECCC) relates largely to the effects on the environment of energy production, distribution and use. This includes information related to pollutant emissions, greenhouse gas emissions, biodiversity, migratory birds, species at risk, and other matters within federal jurisdiction.

[34] As summarized in Appendix A.

While ECCC might be more impartial than the NEB in its collection and analysis of energy information, it currently lacks sufficient expertise to assume this responsibility. The more salient question is whether any of the existing responsibilities of ECCC, including in relation to greenhouse gas data collection, should be transferred to the NEB or to an energy information coordinating entity more generally.

In its reporting of greenhouse gas emissions to the IPCC,[35] the Government of Canada characterizes Canada's national emissions (in MT/year) by the following sectors:

- Energy (594 MT/year)
- Industrial processes and product use (51 MT/year)
- Agriculture (59 MT/year)
- Waste (29 MT/year)
- Land use, land-use change and forestry (72 MT/year).

Energy thus composes the largest portion of emissions, which provides some basis for considering transferring the collection of greenhouse gas emissions data to an energy information entity. However, many of the sources have no relationship to energy. As energy emissions are projected to decline at a faster rate than those in other sectors, this proportion will decline over time.

Furthermore, ECCC currently collects emissions information concerning a number of other air pollutants from energy sources, not mentioned by the Expert Panel, though the NEB may indirectly affect these emissions through its regulatory activities, as it does for greenhouse gas emissions.

[35] Environment and Climate Change Canada. 2016. National Inventory Report 1990-2014: Greenhouse Gas Sources and Sinks in Canada 1990-2014. Part 3, p.14.

In summary, it is not clear that there is a compelling case for having an energy information entity collect greenhouse gas emissions data. **Regardless of whether the NEB becomes the energy information coordinating entity, we recommend that ECCC retain the responsibility for collection of greenhouse gas emissions data.**

7.4.2. Statistics Canada

Statistics Canada (Statcan) produces statistics in relation to Canada's population, resources, economy, society and culture. In addition to the quinquennial Census, Statcan has about 350 surveys active at any time. As Canada's central statistical office, Statcan is legislated through the federal *Statistics Act* to provide statistics for the Canada, including each of the provinces and territories. The duties of the bureau are specified in the *Statistics Act*, as follows:

> *a) to collect, compile, analyse, abstract and publish statistical information relating to the commercial, industrial, financial, social, economic and general activities and condition of the people;*
>
> *b) to collaborate with departments of government in the collection, compilation and publication of statistical information, including statistics derived from the activities of those departments;*
>
> *c) to take the census of population of Canada and the census of agriculture of Canada as provided in this Act;*
>
> *d) to promote the avoidance of duplication in the information collected by departments of government; and*
>
> *e) generally, to promote and develop integrated social and economic statistics pertaining to the whole of Canada and to each of the provinces thereof and to coordinate plans for the integration of those statistics.*

The provision of integrated statistics, collaborating with other departments in the collection of statistical information, and avoiding duplication are all factors that suggest Statcan as a potential location for a single energy information coordinating entity. The *Statistics Act* also contains provisions binding all employees to non-disclosure (s. 6), addressing non-discrimination by the GIC or the Minister (s. 9), information sharing (s. 12), confidentiality (s. 17) privilege (s. 18), and punishment for false declaration (s. 30), false information (s. 31), or disclosure of secret information (s. 34), among other protections designed to support the impartial collection of information in the public interest.

Concerning energy matters, Statcan collects, analyses and publishes data, statistics and reports through CANSIM, its key socioeconomic database. As indicated in Appendix A, these statistics concern the supply, transport, demand, operations and receipts related to fuel and electricity transport domestically and internationally. Our review of the detailed table[36] listing energy-related information indicates that much of it is relevant to the mandate of the NEB, and that almost all of it is obtained through surveys conducted by Statcan. The only exceptions are information obtained from other public sources or provided to Statcan by NRCan.

The structure of Statcan, its independence from other federal departments, and its impartial reporting of information, position it well for taking on the additional role of independent energy information agency.

Consideration should thus be given to housing an energy information agency within Statistics Canada, or at least to making use of the legislative provisions and policies that support impartiality and technical competence at the bureau when designing such an agency. In the event that an independent energy information agency is established elsewhere in the federal government, consideration should be given to transferring responsibility for the energy-related surveys currently undertaken by the Statcan to that agency.

7.4.3. Natural Resources Canada

Natural Resources Canada (NRCan) has a broad mandate in relation to development, research, regulation and management of energy, mineral, forestry and other natural resources in Canada, pursuant to several statutes. In support of its energy mandate, the Department collects, analyzes and reports directly and through numerous agencies under its authority, including the Office of

[36] CANSIM – Table directory – Section (Energy)
http://www5.statcan.gc.ca/cansim/a29?lang=eng&groupid=126&p2=17

Energy Efficiency, the Office of Energy Research and Development, and CanmetENERGY. This mandate is specified in the *Department of Natural Resources Act*:

> **6(i)** gather, compile, analyse, coordinate and disseminate information respecting scientific, technological, economic, industrial, managerial, marketing and related activities and developments affecting Canada's natural resources.

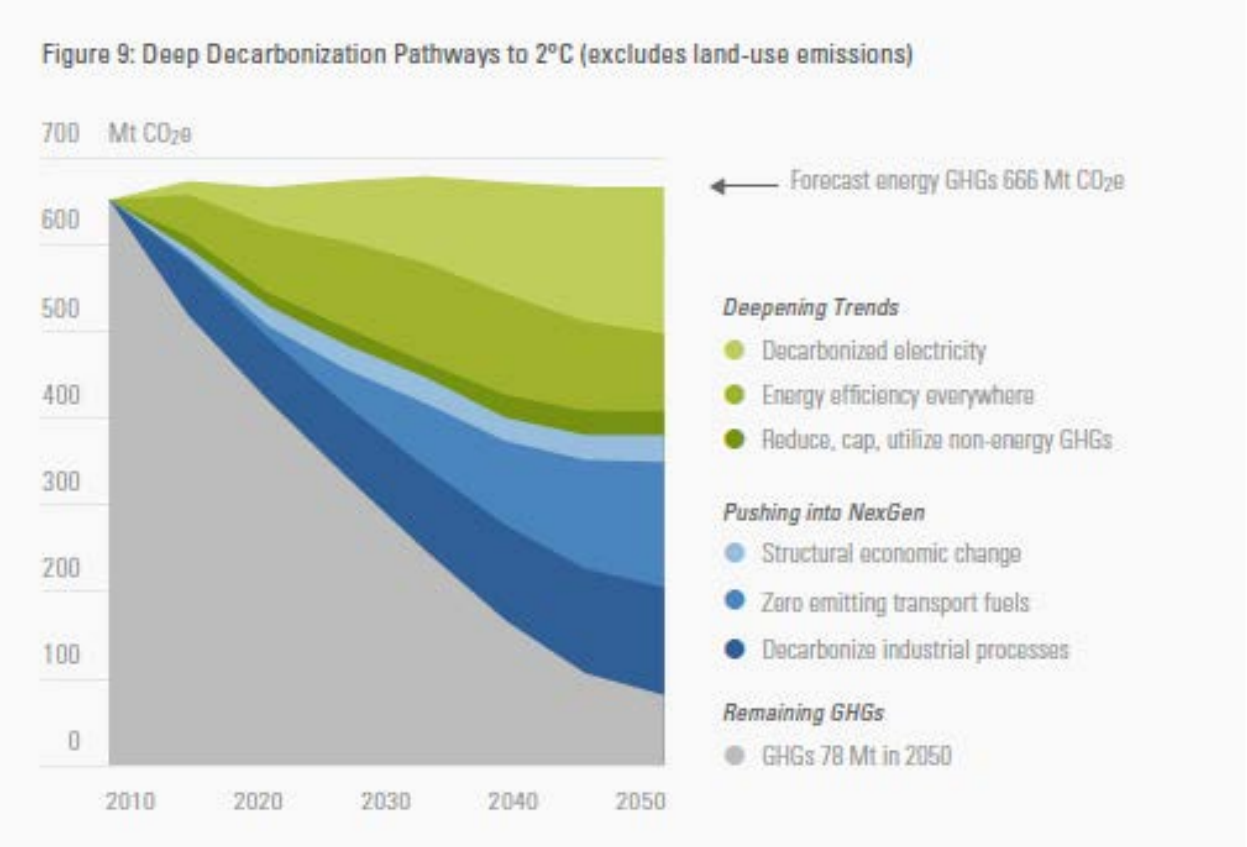
Considering this mandate and the extent of the energy information gathering, analysis and publication already occurring at the Department, as summarized in Appendix A, NRCan is well-suited in terms of technical expertise and relevance of mandate to support an energy information coordinating agency.

In the event that NRCan is to take on this additional mandate, additional consideration will need to be given to ensuring that it earns the confidence of Canadians as being both competent and impartial in its collection, analysis and publication of energy-related information.

As the Expert Panel is aware, the Government of Canada recently released its Mid-Century Long-Term Low-Greenhouse Gas Development Strategy, which contemplates reductions in greenhouse gas emissions on the order of 80% by mid-century.[37] While there is no clear prescription on how these reductions will be achieved, they will almost certainly include increases in electrification, much greater use of renewable fuels (e.g. biofuels, renewable natural gas, and hydrogen synthesized from renewable electricity), technological innovation, substantial decreases in overall energy consumption, and substantial decreases in the use of fossil fuels for meeting Canada's energy needs. The following figure illustrates one possible pathway to achieving deep decarbonisation in Canada.[38]

[37] Government of Canada. 2016. Canada's Mid-century Long-term Low-greenhouse gas Development Strategy, p.9.

[38] SDSN and IDDRI. 2015. pathways to deep decarbonisation in Canada, p.18.



A review of NRCan's website and recent publications reveals that NRCan continues to maintain a strong focus on fossil fuels. The federal natural resources portfolio[39] includes a number of agencies committed to the fossil fuel and nuclear sectors, including the Canadian Nuclear Safety Commission, the NEB, Atomic Energy Canada Limited, the Canada-Newfoundland and Labrador Offshore Petroleum Board, the Canada-Nova Scotia Offshore Petroleum Board, the Northern Pipeline Agency, and the Energy Supplies Allocation Board.

The Minister of Natural Resources Mandate letter, which emphasizes "clean" energy and technology, the federal government's commitment of about 50% of energy research and

[39] Natural Resources Canada. The Natural Resources Portfolio. https://www.nrcan.gc.ca/portfolio/10864

development spending to renewables,[40] and its commitment to double investment in clean energy research and development by 2020 as part of Mission Innovation,[41] reflect an approach somewhat more consistent with achieving reductions in greenhouse gas emissions. However, the Department does not yet appear to have fully embraced the reality that clean and renewable energy resources currently meet less than 20% of Canada's energy needs.[42] That share will need to more than double, and likely triple, by 2050 if Canada is to achieve greenhouse gas emission reductions consistent with the objectives in the Paris Agreement.

The Department's priorities also appear to downplay the importance of energy conservation and efficiency. For example, NRCan recently determined that energy efficiency provided 1600 PJ of energy savings between 1990 and 2013, compared to 2000 PJ of additional energy contributions from *all other forms of secondary energy* combined over that period, making energy efficiency the most important energy resource over that period. Yet, the Department has largely compartmentalized energy efficiency into the Office of Energy Efficiency, rather than taking a "whole of government" approach to conservation and energy efficiency. Canadians remain among the world's highest per capita energy consumers, and the highest in the G20.[43]

In short, the nature and scope of the information that is required by Canada and Canadians to transition to a sustainable energy future will go far beyond the sectors that have been and remain the primary focus of the Department. It remains to be seen whether NRCan can develop the capacity to fill the "honest broker" role required of an independent energy information agency.

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[40] Natural Resources Canada. 2017. Energy Fact Book 2016-17, p.16.

[41] Mission Innovation Member Participation – Canada. Available at: http://mission-innovation.net/participating-countries/canada/.

[42] Natural Resources Canada. 2017. Energy Fact Book 2016-17. Total primary energy supply, by source, 2014, p.26. Renewable energy sources made up 17.7% of Canada's TPES in 2014.

[43] World Bank. 2014. Energy use (kg of oil equivalent per capita). Available at: http://data.worldbank.org/indicator/EG.USE.PCAP.KG.OE?year_high_desc=true.

In the event that the Expert Panel recommends that an independent energy information agency be housed within NRCan, we recommend that it be designed and mandated to function independently within NRCan, and independent from other government departments.

7.5. Conclusion

In this section, we have reviewed several possible structures for a Canadian energy information agency. We recommend removing this function from the NEB, in order to avoid self-dealing and the appearance of partiality. We find that Environment and Climate Change Canada lacks sufficient expertise to assume this role.

There remain three plausible solutions:

- Give the energy information mandate to Statistics Canada, which is appropriate given StatCan's independence from other federal departments and its existing mandate of impartial reporting of information;
- Create an independent energy information agency within Natural Resources Canada, but only if the new agency enjoys sufficient independence, as does the Energy Information Agency (EIA) within the American Department of Energy (DOE); or
- Create an independent freestanding energy information agency, that would report to several ministers as does StatCan.

Whichever solution is adopted, we recommend:

- that the government consult broadly with the Board, with the relevant federal Departments, and with other provincial, territorial and indigenous governments, regulatory boards, industry, academia, environmental organizations, and the general public in designing any new energy information agency; and
- that examples of similar agencies within the federal government (e.g. Statistics Canada), provincial governments, the United States government (particularly the Energy Information Administration), and other foreign governments be reviewed for best practices in establishing an impartial, competent and effective energy information agency for Canada.

8. SUMMARY AND CONCLUSIONS

This paper has explored the NEB's regulation of the electricity sector. In addition, it has explored issues respecting Board procedures and its role in the collection and publishing of energy information.

The NEB's jurisdiction with respect to electricity is limited, consisting essentially of the power to approve (but not set rates for) international power lines and to issue permits for electricity exports. The FERC as a result of its *economic* regulation of interstate transmission in the U.S. has thus become in many ways the *de facto* electricity regulator for North America. While this issue was the object of considerable anticipatory debate in the 1980s and 1990s,[44] now that these changes have taken place, they have largely vanished from public view.

We therefore recommend that, in its review of the modernization of the NEB, the Expert Panel widen its view to explore the broader question of Canada's role with respect to the future development of its own electric transmission system.

Our review of the *NEB Act* has identified several matters for further consideration by the Expert Panel in modernizing the NEB:

- **Interprovincial power lines**: The absence of any federal legislation concerning IPPLs at the time when the Fulton decision was written was a significant element in the reasoning of the Supreme Court, which held that the Alberta Energy Resources Conservation Board did have jurisdiction to order expropriations for an interprovincial power line. However, since the changes to the NEB Act in 1990, the NEB now has the legal authority to regulate designated interprovincial transmission lines. This could lead to constitutional challenges to provincial approvals of IPPLs.
- **Electricity exports**: In the past, export licences were generally issued in relation to specific export contracts, triggering a role for the NEB in conditioning the licence for these exports on completion of an environmental assessment for the associated

[44] See, for instance, the *Review of Inter-Utility Trade in Electricity* prepared by the Board in 1994.

generation facilities. More recently, Canadian utilities have applied for export directly to their US subsidiaries, removing the connection between the proposed exports and the environmental effects of new or modified facilities. The result has been to further narrow the Board's role with respect to Canadian electricity exports.

- **Procedural issues**: Allowing rehearing requests for the Board's decisions and orders would be a highly desirable evolution of the *NEB Act*. In addition, we encourage the Expert Panel to recommend that the government add rulemaking to the Board's mandate, and, in so doing, to carefully review the procedures in place at the FERC. Finally, in our view, no regulator should be obliged by law to issue a permit, nor should it require government permission to hold hearings or to deepen its inquiry in a given matter.
- **Energy information:** The energy information currently collected, analyzed and published by the NEB is useful, but the Board is not the only agency that could play this role, nor are there compelling reasons to expand the role of the NEB in this respect. The Board's role in providing energy supply and demand projections potentially exposes the Board to criticism, and its involvement in energy information collection raises concerns of the appearance of partiality. To avoid these pitfalls, we recommend that the NEB's role in the collection, analysis and publication of energy information be transferred to an independent energy information agency. We see three plausible solutions:
  - Give the energy information mandate to Statistics Canada, which is appropriate given StatCan's independence from other federal departments and its existing mandate of impartial reporting of information;
  - Create an independent energy information agency within Natural Resources Canada, but only if the new agency enjoys sufficient independence, as does the Energy Information Agency (EIA) within the American Department of Energy (DOE); or
  - Create an independent freestanding energy information agency, that would report to several ministers as does StatCan.

  Prior to the establishment of such an agency, the Minister should undertake a review of current energy information responsibilities within the federal government, consult broadly on the formation of such an agency, and investigate best practices in other jurisdictions.

Appendix A: Energy-related information collected by the federal government

Entity	Topic	Description
NEB[45]	Statistic and analysis • Commodity tracking • Production • Inventories • Export authorizations • Exports and imports summaries • Analysis and publications	Crude oil and petroleum products Electricity (including renewables) Natural gas Natural gas liquids (NGLs)
	Integrated energy analysis	Canada's Energy Future Energy markets • Market Snapshots • Commodity prices and trade updates • Feature articles • Canadian Energy Dynamics • Canadian Energy Overview Canadian Pipeline Transportation System
	Tools	Energy information glossary Energy conversion calculator Conversion and unit tables
ECCC[46]	Air	Air quality forecasts
	Greenhouse gases	Greenhouse gas inventory
	Biodiversity	2020 Biodiversity Goals and Targets for Canada Canadian Biodiversity Strategy Biodiversity Outcomes Framework Species at risk assessment and classification Migratory birds
	Pollutants	National Pollutant Release Inventory Air Pollutant Emission Inventory Black Carbon Emission Inventory
Statistics Canada	Energy[47]	Summary tables Census tables CANSIM Publications Information for analysts and researchers Definitions, data sources, methods
	CANSIM[48]	Energy (general)

[45] https://www.neb-one.gc.ca/nrg/index-eng.html

[46] https://www.ec.gc.ca/cc/

[47] http://www5.statcan.gc.ca/subject-sujet/theme-theme?pid=1741&lang=eng&more=0

	• Production • Capital expenditures • Operating costs • Revenues • Supply • Inventories • Receipts • Sales • Exports and imports • Storage • Transmission and distribution	Coal Crud oil and natural Gas Energy consumption and disposition Nuclear and electric power Petroleum products Pipelines
Natural Resources Canada[49]	Energy Sources and Distribution • Pricing • Resources • Inventories • Processing • Research • Supply and demand • Environmental aspects • Technologies	Crude oil Alternative Fuels Refining Natural Gas Offshore Oil and Gas Coal and CO2 capture and storage Pipelines Electricity Infrastructure Renewables Uranium/Nuclear Energy
	Energy Efficiency	Energy Star Products Communities and infrastructure Housing Buildings Industry Transportation National Energy Use Database
	Energy Resources	Energy pipeline products Energy offices and labs • Office of Energy Efficiency • Office of Energy Research and Development • CanmetEnergy Statistics and analysis Data analysis software and modelling tools Transportation fuel prices

[48] http://www5.statcan.gc.ca/cansim/a33?lang=eng&spMode=master&themeID=1741&RT=TABLE

[49] https://www.nrcan.gc.ca/energy