



London Economics International LLC

Regulatory and policy issues in Newfoundland and Labrador

**Prepared for:
Commission of Inquiry Respecting the Muskrat
Falls Project**

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Background on A.J. Goulding



In his role as president of London Economics International LLC, A.J. Goulding manages a growing international consulting firm focused on finance, economic, and strategic consulting to the energy and infrastructure industries.

- ▶ **A.J. Goulding is president of London Economics International LLC (“LEI”). He has 27 years of experience advising on energy and infrastructure regulatory matters.**
- ▶ **Mr. Goulding has testified before regulatory bodies in Alberta, Manitoba, Ontario, and Nova Scotia, as well as in commercial litigation in a number of matters in the US and Canada.**
- ▶ **He recently served as a member of the Ontario Energy Board’s Advisory Committee on Innovation, and led a two year study of regulatory and ownership arrangements in Hawaii.**
- ▶ **He is an adjunct associate professor teaching electricity markets and overseeing graduate workshops at Columbia University’s School of International and Public Affairs, and is a fellow of the Columbia Center for Global Energy Policy.**
- ▶ **He has a master’s degree in international business from Columbia and an undergraduate degree in economics.**

LEI was engaged to provide a report addressing five questions relating to electricity regulation in Newfoundland and Labrador

- 1. How does Newfoundland and Labrador's ("NL's") electricity regulation system compare to other comparable systems? Does NL's system of legislation and regulations adequately cover both sale of electricity to NL ratepayers and to others?**
- 2. Is NL's system of regulation adequate to deal with the new challenges that arise after interconnection, including energy marketing? Does it meet the needs of current players in NL's electrical system including ratepayers, and if not, what changes should be made?**
- 3. Should environmental considerations be made part of the Province's energy policy?**
- 4. At a high level, how effective is the current electricity pricing model, and should any changes to it be considered? Is it appropriate to continue to set rates for consumers of electricity on a cost of service basis or is there another more appropriate basis to set rates?**
- 5. Is there likely to be any role for renewable energy generation expansion in the coming decades, either for internal use or for export?**

How does NL's electricity regulation system compare to other comparable systems?

- ▶ **An electricity regulation system consists of a set of laws, institutions, and regulations**
 - Institutions include **policy setting** bodies, such as ministries, as well as **rate and standard setting** bodies, such as regulators
 - Laws in NL include the **Electrical Power Control Act** and the **Public Utilities Act**
 - Institutions in NL are the **Department of Natural Resources** ("DNR"), responsible for policy setting, and the **Board of Commissioners of Public Utilities** ("PUB") as regulator
 - Regulations in NL: e.g. Regulation 39/96, Board of Commissioners of Public Utilities Regulations, 1996
- ▶ **Comparable systems are Canadian provinces with a total number of customers equal to or greater than those in NL (AB, BC, MB, NB, NS, ON, QC, SK)**

Similarities across provinces	Differences across provinces
<ul style="list-style-type: none"> • Policy and regulatory bodies are separate • Laws establish the role for policy and regulatory bodies • Provincially owned entities are corporatized and professionally managed • Processes for establishing rates are set forth in regulations 	<ul style="list-style-type: none"> • Role for the market • The extent of alternatives for customers • Whether integrated resource plans ("IRPs") are encouraged – other provinces appear to be reverting authority back to the regulator to approve large projects and IRPs • Whether there is an established consumer advocate

Does NL's system of legislation and regulations adequately cover both sale of electricity to NL ratepayers and to others?

Sales to ratepayers

The following aspects of NL's regulatory system should be considered for improvement.*

- ✓ Define a **public interest test** to set rates and review proposed projects
- ✓ Employ **outcome-based policy** direction
- ✓ Assess **need for new facilities** and cost-effectiveness of alternatives
- ✓ Require **IRPs** of all utilities
- ✓ Modernize the Public Utilities Act to grant the PUB the authority to set **budget filing thresholds** as it sees fit
- ✓ Address the **Rural Deficit Subsidy** – specifically price signals
- ✓ Establish a **timely rate review process**
- ✓ Develop a **rate handbook** similar to Ontario
- ✓ All expenditures included in ratebase should be subject to **regulatory review**
- ✓ Address the issue of **customer choice**

Sales to others

The regulatory system only needs to address sales to others when those sales have an **adverse impact on ratepayers**.

Otherwise, normal **commercial relations** apply – corporate boards should provide oversight, and courts interpret disputes.

However, one key area where additional clarity is required relates to **allocation of system costs associated with transmitting exports** to the Province's borders.

- ✓ LEI recommends charging exports an appropriate allocation of system costs using NL's **open access transmission tariff** ("OATT")

* Some of these recommendations were identified in a 2015 Power Advisory LLC report, *Review of the Newfoundland and Labrador Electricity System*.

Regulatory system adequacy

Consolidated response

- ▶ While NL's electricity regulation system contains elements similar to those of comparable systems, shortcomings identified in the 2015 Power Advisory report remain to be addressed.
- ▶ LEI believes that for NL's system of legislation and regulations to adequately cover sales to NL ratepayers, it must further empower the regulator, particularly with regards to large capital project approvals.
- ▶ With regards to sales to others, NL needs to assure that the regulator has the authority to approve or deny any export sales contract which has an adverse impact on ratepayers, and that transmission costs are appropriately allocated between exports and domestic ratepayers.

Is NL's system of regulation adequate to deal with the new challenges that arise after interconnection, including energy marketing?

- **Adequacy of regulation is based on the extent to which it reflects the minimum institutional framework in place in other jurisdictions**

Challenges arising after interconnection

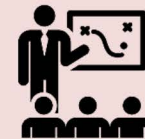
NL has **limited influence over regulations** to which it must adhere, as it is one of the smallest jurisdictions integrated into the North American grid



Monitor developments at the US Federal Energy and Regulatory Commission ("FERC"), North American Electric Reliability Corporation ("NERC"), New England's Independent System Operator ("ISO-NE"), and other Atlantic provinces



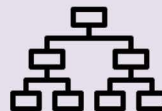
Greater **participation in regional planning** and exposure to US Federal and ISO rules and NERC standards



NL must **fund and resource** participation in institutions



Nalcor Energy Marketing must have strong **risk management and compliance functions** in place, independent of the trading function



Energy marketing requires the ability to **post credit**



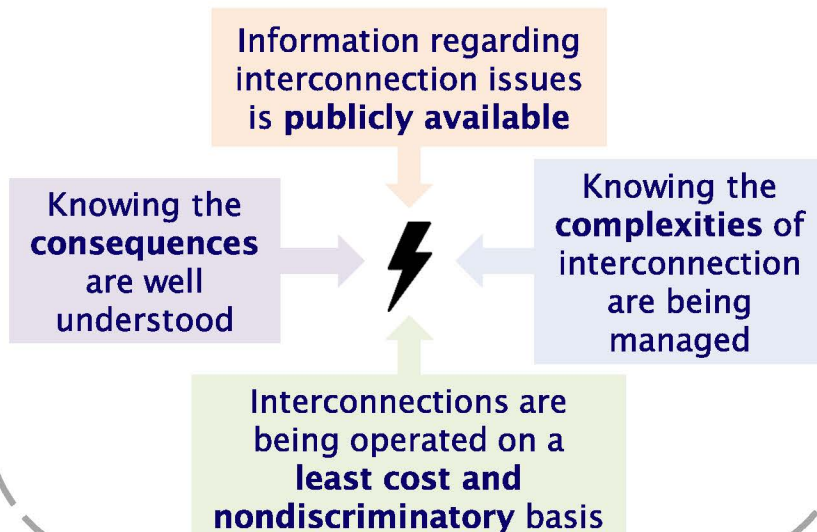
Does it meet the needs of current players in NL's electrical system including ratepayers, and if not, what changes should be made?

Needs of current players

Current players in NL's electrical system include:

- ▶ Ratepayers
- ▶ Utilities
- ▶ Independent power producers ("IPPs")
- ▶ Industrial consumers (who fall into the ratepayer category)
- ▶ Policymakers

The needs of current players are as follows:



Changes to be made

- ▶ The **Newfoundland and Labrador System Operator** ("NLSO") is responsible for many issues relating to interconnection
- ▶ However, as it is **newly established**, it may not be fair to suggest that it's not meeting the needs of stakeholders

LEI recommends that the following aspects should be monitored:

- ☑ NLSO will require **PUB oversight**
- ☑ **Stakeholder engagement**
- ☑ NLSO and policymakers will need to consider the implications of open access with regards to **domestic power sector monopolies**
- ☑ Consider **combining system operators** from NL, NS, NB, or setting up an **Energy Imbalance Market** ("EIM")

Interconnection challenges

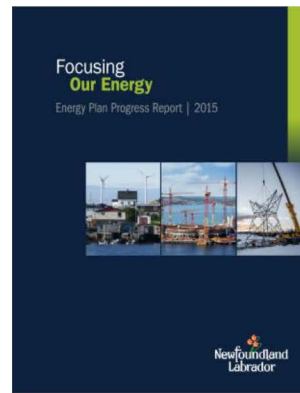
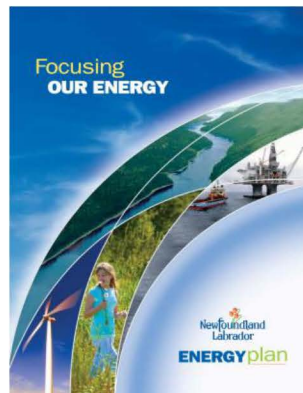
Consolidated response

- ▶ NL's system of regulation is evolving to meet the challenges arising from interconnection.
- ▶ Both the PUB and NLSO will need to further develop their capabilities, and engage in frequent stakeholder consultation, to assure that open access is properly implemented.
- ▶ Nalcor Energy Marketing's risk management policies need to be reviewed at least annually, and both it and NLSO need to be mindful of the challenges of US compliance.

Should environmental considerations be made part of the Province's energy policy?

Energy policy

A consolidated energy policy for the province is unclear – the DNR's comprehensive energy plan, *Focusing Our Energy*, was released in 2007 by the previous government and thus **may not represent current political realities**.



Environmental policy

- ▶ The **Department of Municipal Affairs and Environment** develops policy to support environmental protection and enhancement in the province
- ▶ The **Climate Change Branch** within the Department develops strategies and policies on climate change adaptation and mitigation
- ▶ Much of NL's environmental policy can be found within its climate change plans, specifically its five-year climate change action plan released in 2019, *The Way Forward on Climate Change*

The Province's energy plan already includes explicit references to NL's environmental goals

Should environmental considerations be made part of the Province's energy policy?

Recommendations for better integration

Integration of environmental and energy policy should extend to PUB authority, including potential use of IRPs

Coordination of policies and implementation – specifically related to vehicle electrification, energy efficiency, and electric heating



Co-development of energy and environmental policies (e.g. regularly updating the energy plan a year after regularly scheduled environmental plan updates)

Creation of ongoing inter-ministerial working groups (although entities likely already exist, at least on an informal basis)

Environmental considerations in energy policy

Consolidated response

- ▶ **Environmental considerations should be made part of the Province's energy policy. Energy policy is an exercise in constrained optimization; one of the elements which impacts how this optimization occurs is environmental policy.**
- ▶ **Environmental policies must be clearly stated, and ideally allow for multiple pathways to compliance. As such policies are updated, the corresponding energy policy must be updated as well. When the energy policy is updated, it should explicitly reference areas of intersection with environmental policy, along with an implementation plan.**
- ▶ **The implementation plans should be monitored quarterly by the aforementioned inter-ministerial working group.**

At a high level, how effective is the current electricity pricing model, and should any changes to it be considered?

► NL's current electricity pricing model:

- The PUB provides regulatory oversight of electricity rates by presiding over a **general rate application** ("GRA") process, which both Newfoundland and Labrador Hydro ("NLH") and Newfoundland Power ("NP") must adhere to
- Rates are set on a **cost of service** ("COS") basis, with some **incentive characteristics**, such as an asymmetrical earnings sharing mechanism ("ESM") and the fact that GRAs are not necessarily performed annually
- In between applications, rates are adjusted for **variations in fuel costs** and changes in **appropriate return on equity** ("ROE")
- A **net metering program** is also deployed in NL

Defining effectiveness as a focus on impacts



NL's current electricity pricing model faces challenges across all four of these measures

Is it appropriate to continue to set rates for consumers of electricity on a cost of service basis or is there another more appropriate basis to set rates?

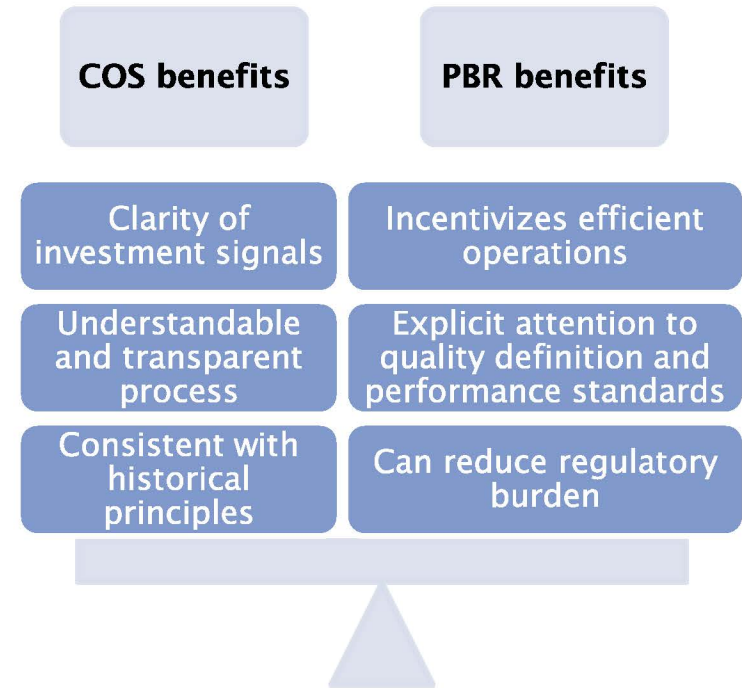
- ▶ **Appropriateness focuses on alternative methods of achieving the same goal**
- ▶ **Alternatives considered include performance-based ratemaking (“PBR”), next generation PBR, as well as new ways of approaching sector regulation**
 - PBR mechanisms include **“soft” mechanisms** (regulatory lags, rate freezes), **performance standards, ESMs**, and **“hard” mechanisms** (price caps, revenue caps)
 - Next generation PBR develops broad categories of expected outcomes for regulated utilities – in addition to efficiency and service quality standards, there are **social goals**
 - New ways of approaching sector regulation: the **distribution services platform provider (“DSPP”)** model, including the creation of a **distribution use of system (“DUoS”)** charge

Electricity pricing models evaluated against appropriateness criteria

Appropriateness criteria	Electricity pricing model			
	COS	Traditional PBR	Next generation PBR	DUoS
Transparency	High	Medium	Medium	Low
Administrative simplicity	High	Medium	Low	Low
Incentives compatibility	Low	High	Medium	High
Consistency with capital expenditure cycle	High	Medium	Low	High
Opportunity for fair return on prudent investment	High	Medium	Low	Medium
Reflects technological evolution	Low	Medium	High	High
Provides value to ratepayers	Low	High	Medium	High
Reflects local conditions	Medium	Medium	Low	Low

Current electricity pricing model effectiveness

- ▶ The most appropriate approach for NL based on the screening exercise is to transition to PBR by improving incentives for productivity, changing approaches to capital expenditure planning, and linking performance standards to consequences
 - Although potential rate increases can be mitigated, a transition to PBR will yield only **incremental change**, orders of magnitude will be small, and **PBR cannot make preexisting costs disappear**



Consolidated response

- ▶ The current electricity pricing model is not as effective as it could be. Changes should be considered. NL should consider evolving to a PBR framework, as this is a more appropriate basis to set rates than COS.

Is there likely to be any role for renewable energy generation expansion in the coming decades, either for internal use or for export?

- ▶ For the purposes of generation, renewable resources include wind, solar, hydroelectric, biomass, tidal, wave, and geothermal
 - From a technical perspective, there is significant untapped potential in NL, particularly **wind and hydro**

Need for new generation in NL

- ▶ NLH's 2018 Reliability and Resource Adequacy Study determined there was **no need for incremental capacity additions up to 2028** under its base case outlook
- ▶ The need for incremental capacity based on unit retirements is unlikely
- ▶ The potential for development of renewable generation options in **NL's isolated communities** are in their early exploratory stages

Renewable energy generation expansion in export markets

- ▶ Export markets considered: Nova Scotia and the Northeastern US, specifically New York and New England
- ▶ **New-build transmission** will likely be required to secure firm contracts
- ▶ Peak load and **energy outlooks** for these markets are **flat to negative** for the 2019 to 2028 period
- ▶ When procuring new-build resources, these markets prefer to build them in their **own jurisdictions**

Future role for renewable energy expansion

Consolidated response

- ▶ There is a limited role for renewable energy generation expansion in NL in the coming decades. Such expansion is more likely to be justified for internal use, but given that load growth in NL is expected to be minimal and few additional retirements of existing generating stations are expected, renewables expansion will be small in scale and episodic.
- ▶ Initial opportunities are more likely in remote communities to reduce use of fossil resources where cost effective. Wind or wind plus storage installations are likely to be most cost-effective and can be installed in smaller unit sizes and more rapidly than hydro.
- ▶ Export markets are unlikely to provide justification for renewables development in NL given slowing demand, cost of transmission, and the existence of closer, cheaper resources.