Doane Grant Thornton

Executive summary

Government of Prince Edward Island

May 30, 2025

Doane Grant Thornton

Norbert Carpenter

Deputy Minister

Environment, Energy and Climate Action, Minister's Office

Junes Building, 11 Kent Street, Charlottetown, PE,

C1A 7N8, 4th Floor

Doane Grant Thornton LLP
Suite 300
15 International Place
St. John's, NL
A1A 0L4

T +1 709 778 8800
F +1 709 722 7892
www.GrantThornton.ca

May 30, 2025

Dear Mr. Carpenter,

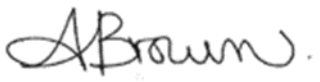
We enclose our Report pertaining to your retention of the services of Doane Grant Thornton LLP ("Doane Grant Thornton", "Doane GT", "we", "our", "us") to assist the Government of PEI with a number of subject matters as defined in Section 3 of this report.

This Report is to provide a summary of all notable conclusions resulting from the full scope of our work which has been completed using criteria and procedures as determined by us.

We thank you for the opportunity to provide our services and will be pleased to discuss the forgoing with you at your convenience.

Sincerely,

Doane Grant Thornton LLP



Troy MacDonald, CPA, CA, CBV
Partner, Advisory Services

Angie Brown, CPA, CA, CIA
Partner, Advisory Services

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1 Overview

Electricity is a critical issue for Prince Edward Island ("PEI" or, the "Island") given the significant population growth, electrification trends, intense environmental events and its island geography.

The Government of Prince Edward Island (the "Government" or "The Province") has been focused on developing and implementing strategies to address these challenges and improve outcomes for all stakeholders in the immediate-term and long-term. Doane Grant Thornton LLP was engaged as a leading financial advisor in the power industry to provide insights, financial advice and financial analysis to help the Government develop its go forward strategy.

Recent events emphasized the importance of these matters, as a February 2025 power outage in western PEI affected over 19,000 customers due to damage at Maritime Electric's Sherbrooke substation. The City of Summerside was at risk of potential rolling blackouts to manage the electricity interruption and residents were urged to reduce energy consumption, especially during peak hours. Public comments have expressed concern with the reliability of electricity as of the date of this report. As a result, there is currently increased public scrutiny surrounding the regulatory effectiveness and overall resilience of the Island's power infrastructure.

This executive summary provides an overview of the reports provided to the Government by Doane Grant Thornton LLP as per the terms of our engagement.

2 Government objectives

To understand the Government's objectives for electricity we reviewed:

- Electric Power Act,
- Island Regulatory and Appeals Commission Act, and
- Renewable Energy Act.

Based on this review we understand that the following are key priorities for PEI:

- **Customer protection:** Ensuring the rights of PEI residential, commercial, and industrial consumers of electricity, under the above noted Acts, are respected and protected.
- **Minimizing rate impacts:** Maintaining affordable short and long-term electricity rates for customers while undertaking system maintenance and upgrades to meet consumer needs.
- **Reliability of power supply and infrastructure:** Ensuring electrical capacity is available to support PEI customers' needs both in the immediate term and long term and that construction and maintenance of electric power infrastructure meets reliability and safety standards.
- **Resiliency of the electrical grid:** Ensuring the electrical grid on PEI has the flexibility and capability to withstand long term increases in capacity and to recover quickly from outages and extreme weather events.
- **Environmental sustainability:** Establishing environmentally sustainable electrical resources and practices where possible and practical within the PEI electrical system to reduce the environmental impact of energy generation.

- **Regulation of public utilities:** Proper regulation of public utilities supplying electric power in order to allow for fair prices and reliable service.

3 Project objectives and scope

In the context of the Government objectives for electricity for PEI, Doane Grant Thornton was asked to:

1) Determine if an acquisition of Maritime Electric Company Limited ("MECL"), a wholly owned subsidiary of Fortis Inc. ("Fortis"), by the Government should be explored based on our understanding of the Government's objectives from a financial and commercial perspective. This report is based on the information that is publicly available as of the date of this report. It is our understanding that Fortis is not actively considering a divestiture of MECL and the Government has not submitted an expression of interest to acquire MECL (**The MECL Ownership Model Business Case**).
2) Provide an overview of the current state of the Canadian electricity sector. The purpose is to build upon the Government's understanding of the current status of the industry's structure, operational framework, financial composition, and recent trends (**Canadian Electricity Environmental Scan**).
3) Provide an overview of PEI's current and upcoming energy infrastructure requirements (as identified by industry stakeholders) to comment on strategic financial considerations to consider in meeting the growing energy needs of PEI (**Critical Infrastructure Alternatives Business Case**).

4 Scope of work

We have prepared this assessment based on our experience as a financial advisor active in the Canadian power industry. Our reports are based upon publicly available information of MECL, interviews with representatives of the Government, interviews with MECL leadership and Doane GT industry knowledge and research. Doane GT is not providing commentary, advice or recommendations on technical, engineering or legal matters. The specific scope and services provided by Doane GT for each of the three deliverables are as outlined below:

#	Topic	Scope of work
1.	MECL ownership model business case	This report was prepared for the Government as part of an engagement for which the purpose is to provide an assessment of the viability of a potential acquisition of MECL and is not meant to conclude on price, structure or a decision to proceed. As the transaction is not actively being actioned and negotiated, we are unable to assess actual negotiated deal terms and timelines. Services provided by Doane GT included: • General business advisory and financial analysis; • Industry research and analysis relative to the power industry; and • Financial modelling to assess the viability of a potential acquisition of MECL.
2.	Canadian electricity environmental scan	• A summary of the electricity market and customer rates in PEI; • An overview of the current state of the Canadian electricity sector and how PEI's utility type and ownership structures compare to other jurisdictions across Canada;

#	Topic	Scope of work
		• An overview of the key components of Canadian regulation and how aspects of PEI's regulation align or differ from common practice across Canada; • Industry research surrounding the latest approved capital structures for regulated utilities across Canada including the cost of capital components; and, • Exploration of recent alternative funding sources for electricity infrastructure.
3.	Critical infrastructure alternatives business case	• Develop an understanding of Government energy infrastructure objectives; • Financial analysis and advice regarding new electricity industry models; and, • Industry research and analysis of energy infrastructure alternatives.

5 Restrictions, limitations and disclaimer

Our scope has been summarized above. The procedures undertaken in the preparation of this report do not constitute an audit of financial information and consequently, we do not express an audit opinion on any financial information that has been provided. This report is not intended to be reproduced or used for any purpose other than that outlined herein without prior written permission in each specific instance. This report shall be used solely for the benefit of the Government and not for the benefit of any third-party and may be relied upon only for the purpose for which the report is intended as contemplated and/or defined within. Doane GT recognizes no responsibility whatsoever to any third party who may choose to rely on this report.

Unless stated otherwise, Doane GT has performed our work based on our experience as professional accountants with a broad range of experience working with utilities, utility regulators, and governments in Canada. Therefore, we have referenced information provided by various third-party sources in the preparation of this report. Where we have referenced third party information, we have included relevant footnotes throughout this report, a summary of which can be found in **Appendix D – Documents relied upon**. At the time of this report, Doane GT believes this information to be reliable but is not providing commentary, advice or recommendations on technical, engineering or legal matters. We are not guarantors of the information referenced and upon which we have relied in preparing this report and, except as stated, we have not audited or otherwise attempted to verify any of the underlying information, data, or documents referenced contained in this report.

All analysis, information, and recommendations contained herein are based upon the information made available to Doane GT as of the date of this report. We reserve the right but are under no obligation to review and/or revise the contents of this report in light of any information which becomes known to us after the date of this report.

6 Summary of findings, observations, and/or conclusions

The key findings to be highlighted from this project have been summarized in the following table.

Topic	Findings, observations, and/or conclusions
MECL Ownership Model Business Case	
Purchase of MECL	A potential acquisition of MECL by the PEI Government offers multiple merits such as leveraging public sector ownership to reduce rates for customers, gaining greater control over utility operations to address provincial energy issues, and benefiting from an improved cost of capital. These benefits could allow PEI to improve on objectives it has outlined for the provincial electricity sector. However, the potential acquisition would include certain risks, loss of private sector capacity and economies of scale, complexities and, most notably, a high cost. We have estimated that the enterprise value of MECL required to purchase the company would range between $840 and $900 million. This includes an acquisition premium that would likely be required to purchase MECL that would range between $327 and $386 million as detailed in **Appendix C**. Further, stakeholders have emphasized the significant investment that's required to achieve power supply, reliability and resiliency requirements. The Government may find that there is strong demand for these funds to be invested in other critical electrical infrastructure or other Provincial priorities. The Government should also consider that its objectives can be met within the current ownership structure. Customer protection and rate minimization are addressed through IRAC regulation. Under Fortis, MECL is working to expand electrical capacity to ensure reliability of power supply. The resilience of the electrical grid has come into question in recent years; however, upgrades are being proposed by MECL and additional grid infrastructure could be provincially funded through PEI Energy Corporation ("PEI Energy"). Environmental sustainability has been and continues to be led by investment in renewable resources under PEI Energy. Based on the above, we believe that while there are merits to acquiring MECL, the Provincial capital could be better deployed elsewhere to achieve the Provinces' broader objectives.
Canadian electricity environmental scan	
Regulation	Overall, many aspects of PEI's electricity market are consistent with other jurisdictions across Canada. However, given the recent scrutiny surrounding the rolling blackout warnings in PEI, the strain on the Island's power grid and concerns regarding future capacity, it is recommended that the Province consider providing greater support, guidance, and access to additional resources to create added capacity for effective and efficient regulatory reviews. Given the increased public scrutiny surrounding PEI's regulatory effectiveness, it's important that timely decision making is balanced with ensuring there is robust oversight on any upcoming matters.

Topic	Findings, observations, and/or conclusions
Consumer advocacy and public intervention	The role of the Consumer Advocate ("CA') offers numerous benefits within the utility industry to aid in creating a more robust regulation process. PEI is the only Atlantic province without this role. We understand that PEI Energy has historically represented the government and public interests in electricity filings. However, the implementation of a defined CA role could enhance the rate hearing process in PEI by creating added consistency with neighboring jurisdictions on a go forward basis. Implementing a CA could provide a designated resource for addressing areas of importance such as engaging in the education of utility providers on the need for responsible electricity usage and Demand Side Management practices as well as offering a designated resource for monitoring the planning and/or reliability of the electrical grid. Specifically, given PEI Energy's access to technical resources within the market, it is recommended that placing responsibility for CA oversight with PEI Energy be explored as an option to manage costs. Although PEI Energy already appears on behalf of the Government in a number of IRAC electricity filings to ensure the public is represented, it is important to be mindful of any potential conflicts of interest that may exist when the CA may be required to play a role on PEI Energy's regulatory filings. To manage this conflict, it is recommended that the reporting line be carefully considered and that duties and responsibilities be clearly defined for IRAC and the CA with any legislative changes proposed as required.
Customer rates	When comparing customer rates in PEI to the rest of Atlantic Canada on an overall basis, as summarized in **Appendix B**, both the base and energy rates appear to be consistent and within the current range of other Atlantic Canadian utilities. Based upon Doane GT's industry expertise across the Canadian utility industry, PEI's customer rates are aligned with and fall near the midpoint of the national range.
Independent operators	Approximately half of the Canadian provinces currently have an Independent System Operator ("ISO"). PEI does not have an ISO. In jurisdictions where an ISO is not established, enhanced regulatory oversight specific to system reliability is warranted. For example, when NB dissolved their ISO the utility became responsible for system reliability, and the regulatory body became responsible for ensuring reliability standards were followed. However, while an ISO would enhance grid stability oversight and management, it is important to consider the cost of maintaining a stand-alone system operator. When considering the cost on a per customer basis, this may be significant and prohibitive in PEI when compared to other markets. Overall, implementing an independent operator in PEI is likely to incur significant costs without providing proportionate benefits. However, it is important that responsibility for the planning and reliability of the electrical grid be clearly defined. Although this is often the responsibility of the regulator or an ISO in other jurisdictions, another option for PEI could be to place this responsibility with a Consumer Advocate (further detailed in Section 4.3.5 of this report). A Consumer Advocate could specifically monitor the planning and decision-

Topic	Findings, observations, and/or conclusions
	making process, creating more structured oversight while being mindful of the costs to customers.
Critical infrastructure alternatives business case	
On-Island Generation	PEI's on-Island electrical generating capacity has declined to 31 per cent of its capacity needs as of 2023. By 2033 this is expected to fall to 17 per cent. At these levels, the lack of on-Island generation capacity would likely affect the daily lives of all Islanders if PEI were electrically disconnected from the mainland. Thus, it is important that the Government advance critical infrastructure projects to diversify PEI's supply of energy creating a system that better balances energy imported from New Brunswick with energy generated on-Island. Namely, MECL's On-Island Capacity for Security of Supply Project proposal will need regulatory and government support to advance in a timely and cost effective manner. We recommend that the Government work collaboratively with IRAC and MECL to expedite the review and approval process for MECL's proposed construction of the first two proposed projects (10 MW BESS and the 4th combustion turbine). It is important to note that construction of combustion turbines is not an environmentally sustainable option, however, it is recommended given the importance of increasing electricity supply to Islanders at this time. Given the environmental risk, MECL should consider implementing specific environmental Key Performance Indicators ("KPI"s) to ensure they are adequately monitoring environmental impacts on a regular basis. In addition, while timely deployment of critical infrastructure must be a key consideration, the Province should explore opportunities for the remaining generation assets (five 18 MW reciprocating engines) through collaboration between MECL, the Province and local communities to reduce the debt service costs and the overall cost to the rate payer of financing these new build assets, possibly through joint ventures between these parties.
PEI-NB interconnection	There is a requirement to replace two 100MW transmission lines that were constructed in 1977 as they are coming to the end of their useful lives. Additionally, the addition of new transmission infrastructure is required to satisfy the forecasted energy shortfall. Currently, the capacity of energy that can be sent to PEI is limited to 300 MW by the transmission infrastructure in New Brunswick even though the total capacity with new cables would be 720 MW. Therefore, to benefit from the additional capacity of new cables, additional transmission infrastructure in New Brunswick is required. The requirements include transmission line additions from the submarine cables in Murray Corner, NB to the substation in Memramcook, NB, new infrastructure, and a new transformer at the Memramcook station, and upgrades to the NB Power system as part of the Modified Atlantic Loop project. Upgrades to the submarine cables in conjunction with transmission infrastructure upgrades would increase transmission capacity from New Brunswick to PEI by 240 MW to a total of 540 MW. Given the Island's increasing electrical use and its capacity deficit that is forecasted to increase from 60 MW in 2025 to 156 MW by

Topic	Findings, observations, and/or conclusions
	2033, stakeholders stressed that investments in subsea cables and transmission infrastructure are necessary to secure more firm capacity and strengthen the resiliency of the Island's electrical system.
Cost of capital and rate impact	The total capital investment of the On-Island Capacity for Security of Supply Project and the upgrades to the PEI-NB interconnection ranges from $750 million to $1 billion with an additional amount yet to be determined. Given the size of the capital expenditure, private, public, and alternative capital pools will likely be needed. As a result, the potential customer rate impact is significant, and lower cost capital should be accessed where possible by accessing provincial borrowing cost and capacity where practical. Transmission assets such as submarine cables and transmission lines are assets which the Government can own and lease to MECL as has been done in the past to reduce customer rate impacts. Other alternative low-cost capital providers could play an important role.

Appendix A – Glossary of Terms

Abbreviation	Term
CA	Consumer Advocate
Doane GT, we, us, our	Doane Grant Thornton LLP
Fortis	Fortis Inc.
IRAC	Island Regulatory Appeals Commission
ISO	Independent System Operator
KPI	Key Performance Indicators
The Government, The Province, PEI, or PEI Government	Government of Prince Edward Island
MECL	Maritime Electric Company Limited
PEI Energy	PEI Energy Corporation

Appendix B – Customer rates

Residential customer rates in PEI

Customer rates charged by class for each PEI utility are summarized below based on actual customer rates as of the date of this report.

Figure 1 – Residential customer rates in PEI

Utility	Rate class	Base/service charge per month	Energy charge per kWh	
MECL	Urban	$24.57	< 2000 kWh: > 2000 kWh:	$0.1723 $0.1375
	Rural/seasonal	$26.92	< 2000 kWh: > 2000 kWh:	$0.1723 $0.1375
	Seasonal Option	37.50*	< 2000 kWh: > 2000 kWh:	$0.1723 $0.1375
Summerside Electric	Urban	$24.57	< 2000 kWh: > 2000 kWh:	$0.1723 $0.1375
	Rural/seasonal	$26.92	< 2000 kWh: > 2000 kWh:	$0.1723 $0.1375
	Seasonal Option	37.50**	< 2000 kWh: > 2000 kWh:	$0.1723 $0.1375

***** *For comparison purposes, we have considered the base charge associated with MECL's Seasonal Option to be an outlier given the nature of this rate class. We have therefore removed this base charge from our comparison of the maximum, minimum, and mean charges for the region in Figure 2 of the following section.*

PEI's customer rates in comparison to Atlantic Canada

We compared PEI's residential customer rates to residential rates in Newfoundland & Labrador, Nova Scotia, and New Brunswick in the following table, based on actual rates as of the date of this report. Please note that this table does not incorporate rates charged by smaller municipally owned utilities and focuses only on larger Atlantic Canadian utilities for comparison purposes.

Figure 2 – Comparison of residential customer rates in PEI to other Atlantic provinces

Province	Utility	Rate class	Base/service charge per month		Energy charge per kWh	
NL	**Newfoundland Power *** ("NF Power") [i]	Domestic Service	< 200 Amp:	$15.79	per kWh:	$0.14237
			> 200 Amp:	$20.79		
	Newfoundland Labrador Hydro ("NL Hydro") [ii]	Domestic Service (Island Interconnected)	< 200 Amp:	$15.79	per kWh:	$0.14237
			> 200 Amp:	$20.79		
		Domestic Service		6.87*	per kWh:	0.03154**

Province	Utility	Rate class	Base/service charge per month	Energy charge per kWh
		(Labrador Interconnected)		
NS	**Nova Scotia Power** ("NS Power") [iii]	Domestic Service	$19.17	$0.18561
NB	**New Brunswick Power** ("NB Power") [iv]	Urban	$29.55	$0.15170
		Rural/seasonal	$32.43	$0.15170
	Saint John Energy [v]	Residential Service	$23.44	$0.13380

	PEI	Atlantic Canada (inclusive of PEI)
Energy charge		
Minimum energy charge	$0.1375***	$0.13380
Maximum energy charge	$0.1723	$0.18561
Mean energy charge	$0.1549	$0.15971

	PEI	Atlantic Canada (inclusive of PEI)
Base/service charge		
Minimum base/service charge	$24.57	$15.790
Maximum base/service charge	$26.92	$32.430
Mean base/service charge	$25.745	$24.110

* *NF Power is currently working on revising rates in response to their most recent general rate application. Rates are expected to be revised on July 1, 2025.*

** *For comparison purposes, we have considered the base and energy charge associated with Hydro's Labrador Interconnected service to be an outlier given the unique contractual arrangements. Therefore, we have removed them from our comparison of the maximum, minimum, and mean charges for the region.*

***It is important to note that PEI is the only jurisdiction in Atlantic Canada with a declining second block, meaning as customers consume more energy and move to the second block (>2,000 kWh), rates decrease. Generally, utilities would increase rates for the second block as a means of encouraging efficiency. Other utilities have higher rates for the second block. The minimum energy charge for PEI of $0.1375 in the above table represents the second block charge. While there is no second block charge available in other Atlantic provinces, we have considered this as the minimum charge for the region for comparison purposes in the above table.*

Appendix C – Discounted Cash Flow Analysis

Note *– For the analysis included in this report and associated appendices, this communication does not express a conclusion and is not a report as defined by the Practice Standards of The Canadian Institute of Chartered Business Valuators. As such, readers are cautioned that it is only appropriate for the purpose expressly defined in this report.*

Additionally, the financial modelling included below is based on financial information that MECL has released publicly, which includes MECL's own estimated financial information up to fiscal 2025. We have obtained MECL's most recent audited financial statements which are strictly confidential and may not be included in this report. Having reviewed the audited financial results, we have concluded that our recommendations would not be altered due to any differences from estimated to actual results. Thus, the modelling based on estimates remains relevant. Please see the MECL Ownership Model Business Case report for further details.

Maritime Electric Company Limited

Estimate Valuation of Maritime Electric Company Limited as at December 31, 2023

DISCOUNTED CASH FLOW ANALYSIS - MECL

In CAD

		Notes & Reference	For the Years Ended December 31, 2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	Terminal value Low	Terminal value High
1	*Discount period*		*0.50*	*1.50*	*2.50*	*3.50*	*4.50*	*5.50*	*6.50*	*7.50*	*8.50*	*8.50*	*8.50*
2	**Revenue**		261,902	273,869	284,036	293,052	302,076	311,117	320,171	329,105	338,218	344,982	344,982
3	**Forecast normalized EBITDA**		73,907	78,013	83,519	88,525	93,458	98,327	103,125	107,718	112,404	117,030	117,030
	EBITDA margin		*28.2%*	*28.5%*	*29.4%*	*30.2%*	*30.9%*	*31.6%*	*32.2%*	*32.7%*	*33.2%*	*33.9%*	*33.9%*
4	Less: Income taxes	*[2]*	(23,035)	(24,314)	(26,030)	(27,590)	(29,128)	(30,645)	(32,141)	(33,572)	(35,033)	(36,474)	(36,474)
5	Cash flow from operations		50,872	53,699	57,489	60,934	64,330	67,681	70,984	74,146	77,371	80,555	80,555
6	Less: Net working capital required	*[3]*	(298)	(174)	(142)	(144)	(147)	(150)	(153)	(156)	(159)	(163)	(163)
7	Less: Capital expenditures, net of tax shield	*[4]*	(56,575)	(59,057)	(60,238)	(61,442)	(63,009)	(64,269)	(65,554)	(66,866)	(68,203)	(36,808)	(36,808)
8	Net after-tax debt free cash flow		(6,001)	(5,532)	(2,891)	(653)	1,174	3,262	5,276	7,124	9,009	43,584	43,584
9	Multiplied by: Partial period adjustment factor		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
10	Adjusted net after-tax debt free cash flow		(6,001)	(5,532)	(2,891)	(653)	1,174	3,262	5,276	7,124	9,009	43,584	43,584
11	Multiplied by: Terminal capitalization multiple											27.96x	29.61x
12	Terminal value											1,218,497	1,290,664
	Present value of cash flows - Low												
13	Multiplied by: Discount factor at 5.6%		0.9732	0.9217	0.8731	0.8270	0.7833	0.7419	0.7027	0.6656	0.6304	0.6304	
14	**Present value of cash flows - Low**		(5,840)	(5,099)	(2,524)	(540)	920	2,420	3,708	4,742	5,679	768,184	
	Present value of cash flows - High												
15	Multiplied by: Discount factor at 5.4%		0.9741	0.9244	0.8772	0.8325	0.7900	0.7497	0.7114	0.6752	0.6407		0.6407
16	**Present value of cash flows - High**		(5,845)	(5,113)	(2,536)	(543)	928	2,445	3,754	4,810	5,772		826,903

	Fair Market Value (CAD$'000)	Low	Mid	High
17	Sum of present value of cash flows	771,650	801,112	830,573
18	Add: Tax shield on existing UCC balance	70,215	70,215	70,215
19	**Enterprise value**	841,865	871,326	900,788
20	Add: Redundant assets	10,160	10,160	10,160
21	Less: Interest-bearing debt and debt equivalents	(296,335)	(296,335)	(296,335)
22	**En bloc FMV of MECL**	**555,690**	**585,151**	**614,613**
23	**Rounded**	**555,690**	**585,150**	**614,610**

Valuation metrics	Rate Base	Low	Mid	High
Enterprise value to:				
2023 Rate Base	482,143	1.75x	1.81x	1.87x
2024 Rate Base	502,370	1.68x	1.73x	1.79x
2025 Rate Base	536,382	1.57x	1.62x	1.68x

Valuation metrics	LTM Revenue (2023)	Low	Mid	High
LTM Revenue	249,256	2.78x	2.87x	2.95x

Valuation metrics	EBITDA (2023)	Low	Mid	High
EBITDA	70,010	9.90x	10.20x	10.51x

Maritime Electric Company Limited
Estimate Valuation of Maritime Electric Company Limited as at December 31, 2023

DISCOUNTED CASH FLOW ANALYSIS - MECL

In CAD

Notes

1. This schedule forms a part of, and must be read in conjunction with, the accompanying Grant Thornton LLP DRAFT report, dated MMMM DD, YYYY.
2. Combined federal and provincial tax rates in Prince Edward Island.
3. Incremental net working capital requirements:

Inventory	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000		
Gross operating expenses * 3.6%	6,903	7,077	7,219	7,363	7,510	7,660	7,814	7,970	8,129		
Income taxes paid	90	90	90	90	90	90	90	90	90		
Required working capital	9,993	10,167	10,309	10,453	10,600	10,750	10,904	11,060	11,219	11,444	11,444
Opening working capital (normalized)	9,695	9,993	10,167	10,309	10,453	10,600	10,750	10,904	11,060	11,281	11,281
Incremental net working capital required	298	174	142	144	147	150	153	156	159	163	163

4. Sustaining capital expenditures, net of tax shield per Management

Gross capital additions		78,564	80,060	81,661	83,294	84,960	86,660	88,393	90,161	91,964	49,632	49,632
Less: capital contributions		10,250	8,750	8,925	9,104	9,286	9,471	9,661	9,854	10,051	5,424	5,424
PPE additions net of capital contributions		68,314	71,310	72,736	74,191	75,675	77,188	78,732	80,307	81,913	44,207	44,207
Tax shield on sustaining capital expenditures	*[5]*	(11,739)	(12,253)	(12,498)	(12,748)	(12,666)	(12,919)	(13,178)	(13,441)	(13,710)	(7,399)	(7,399)
Sustaining capital expenditures, net of tax shield	*[6]*	56,575	59,057	60,238	61,442	63,009	64,269	65,554	66,866	68,203	36,808	36,808

5. Tax shield rate on tax amortization related to sustaining capital expenditures is calculated using the following formula:

*(Tax Amortization Rate * Tax Rate) / (Discount Rate + Tax Amortization Rate) * (1 + Tax Deduction in First Year * Discount Rate) / (1 + Discount Rate)*

Where:
- Tax Amortization Rate is the Company's weighted average CCA rate of 6.8%
- Tax Deduction in First Year is 100% in 2024-2028 and 50% thereafter.
- Tax rate of 26.5%.
- Discount Rate is 5.5%

6. Capital expenditures in the terminal year was assumed to approximate a maintainable level of capital expenditures into perpetuity.

Maritime Electric Company Limited - Enterprise Value & Implied Goodwill

CAD$'000	Low	Mid	High
Enterprise Value	841,865	871,326	900,788
Less: Tangible Asset Backing (operating net assets)	(514,840)	(514,840)	(514,840)
Implied fair market value of goodwill	**327,025**	**356,486**	**385,948**

Appendix D – Documents relied upon

The below list includes documents referenced throughout the above summary.

[i] Rate Book August 1, 2024
[ii] Schedule-of-Rates-Rules-and-Regulations_Jan-2025.pdf
[iii] Changes to Power Rates| Nova Scotia Power
[iv] nbp_rate-cards_eng_april-2025_85x11_001.jpg (2550×3300)
[v] Saint John Energy Rates Manual

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Critical Infrastructure Alternatives Business Case

Government of Prince Edward Island

May 30, 2025

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1. Executive summary

1.1. Project overview

Doane Grant Thornton LLP ("Doane GT", "we", "us", "our") has been engaged by the Government of Prince Edward Island (the "Government" or "PEI" or "PEI Government") to provide an overview of Prince Edward Island's ("PEI"'s) current and upcoming energy infrastructure requirements (as identified by industry stakeholders) to comment on strategic financial considerations to consider in meeting the growing energy needs of PEI.

1.2. Scope of work

The services provided by Doane GT include the following:

- Develop an understanding of Government energy infrastructure objectives;
- Financial analysis and advice regarding new electricity industry models;
- Industry research and analysis of energy infrastructure alternatives; and,
- Commentary on key strategic financial considerations for funding sources for electricity infrastructure.

The project aims to provide a recommendation based on Doane GT's understanding of the Government's objectives from a financial and commercial perspective based on information available at the date of this report. This report aims to serve as additional research to be taken into consideration alongside the PEI Energy Blueprint.

1.3. Government Objectives

It is our understanding that the Government's objectives within the scope of this report are as follows:

1.3.1. Customer protection

Ensuring the rights of PEI residential, commercial, and industrial consumers of electricity are respected and protected.

1.3.2. Minimizing rate impacts

Maintaining affordable short and long-term electricity rates for customers while undertaking system maintenance and upgrades to meet consumer needs.

1.3.3. Reliability of power supply and infrastructure

Ensuring electrical capacity is available to support PEI customers' needs both in the immediate term and long term and that construction and maintenance of electric power infrastructure meets reliability and safety standards.

1.3.4. Resiliency of the electrical grid

Ensuring the electrical grid on PEI has the flexibility and capability to withstand long term increases in capacity and to recover quickly from outages and extreme weather events.

1.3.5. Environmental sustainability

Establishing environmentally sustainable electrical resources and practices where possible and practical within the PEI electrical system to reduce the environmental impact of energy generation.

1.3.6. Regulation of public utilities

Proper regulation of public utilities supplying electric power in order to allow for fair prices and reliable service.

1.4. Restrictions, limitations and disclaimer

Our scope has been outlined throughout this report. The procedures undertaken in the preparation of this report do not constitute an audit of financial information and consequently, we do not express an audit opinion on any financial information that has been provided. This report is intended for internal use and is not intended for general circulation or publication nor is it to be reproduced or used for any purpose other than that outlined herein without prior written permission in each specific instance. This report shall be used solely for the benefit of the Government and not for the benefit of any third-party and may be relied upon only for the purpose for which the report is intended as contemplated and/or defined within. Doane GT recognizes no responsibility whatsoever to any third party who may choose to rely on this report.

Unless stated otherwise, Doane GT has performed our work based on our experience as professional accountants with a broad range of experience working with utilities, utility regulators, and governments in Canada. Therefore, we have referenced information provided by various third-party sources in the preparation of this report. Where we have referenced third party information, we have included relevant endnotes throughout this report, a summary of which can be found in **Appendix E - Documents relied upon**. At the time of this report, Doane GT believes this information to be reliable but is not providing commentary, advice or recommendations on technical, engineering or legal matters. Our financial analysis is based on infrastructure requirements identified by industry stakeholders. We are not providing any advice or recommendations on the technical viability, efficiency or effectiveness of those infrastructure alternatives. Additionally, we are not guarantors of the information referenced and upon which we have relied in preparing this report and, except as stated, we have not audited or otherwise attempted to verify any of the underlying information, data, or documents referenced contained in this report.

All analysis, information, and recommendations contained herein are based upon the information made available to Doane GT as of the date of this report. We reserve the right but are under no obligation to review and/or revise the contents of this report in light of any information which becomes known to us after the date of this report.

1.5. Summary of findings, observations and/or conclusions

The following represents a summary of our key findings and recommendations based on the procedures outlined throughout the report:

Figure 1 – Summary of findings, observations and conclusions

#	Report section	Findings, observations, and/or conclusions
2.3.2	NB Power Purchases	The current Energy Purchase Agreement ("EPA") with New Brunswick Power ("NB Power") was executed in March 2019 and expires on December 31, 2026. This is a critical matter for PEI as the Island relies heavily on the supply of power from New Brunswick. Critically, NB Power has indicated that it may not be able to meet PEI's future capacity needs with its own energy demands increasing.
2.4.4	Capacity requirements	In 2023, the amount of on-Island capacity resources fell to 31 percent of the company's system peak, and the percentage is forecast to fall to 17 percent by 2033 if on-Island capacity resources are not added. However, the proposed project by Maritime Electric Company Limited ("MECL") is expected to raise the on-Island dispatchable generation level to above 50 percent by 2031.
2.4.5	Capacity Resource Adequacy Assessment	It is forecasted that there will be a capacity deficit in the near term. Industry stakeholders noted the urgency of approving and constructing energy generation projects to ensure that energy costs remain stable, and customer service and reliability issues are mitigated.
3	Merits and concerns of current model	PEI faces several challenges that need to be addressed. Keeping pace with growth, enhancing resiliency against climate change, fostering innovation, increasing on-island generation capacity, reducing dependence on New Brunswick, and meeting the rising demand for power are all critical issues. Addressing these concerns will require coordinated efforts between the public and private sectors, as well as substantial investments in infrastructure and technology. Mitigating customer rate impact will need to be a key consideration.
4	Sources and cost of capital	PEI's potential sources of capital include: **Provincial:** PEI's approach to sourcing and funding capital for energy projects involves a mix of low-cost provincial funding, tax-efficient structures, and strategic borrowing. This method supports

#	Report section	Findings, observations, and/or conclusions
		the development of critical energy infrastructure while maintaining fiscal responsibility. Projects like the Eastern Kings Wind Farm exemplify how PEI effectively utilizes provincial funds to enhance its renewable energy portfolio and meet its sustainability goals. **Private sector:** PEI's strategy of leveraging private sector capital for energy infrastructure projects offers significant benefits, including access to expertise and reduced impact on provincial borrowing capacity. However, it also comes with higher capital costs and the influence of profit motives. Balancing these factors is crucial to ensure the sustainable development of the island's energy infrastructure. **Public private partnership ("PPP"):** PEI's approach to PPPs highlights the strategic use of private sector resources and expertise to optimize the financing of infrastructure projects. This method not only spreads financial risk effectively but also enhances the efficiency of project delivery, ultimately benefiting both the government and the public through timely and cost-effective infrastructure development. However, it also comes with higher costs, lack of public control and transparency, and the risk of long-term agreements that become unfavorable over time.
5	Joint Ventures	There may be merit in PEI Energy participating in joint ventures with the following parties: **MECL:** A joint venture to replace the transmission lines constructed between NB and PEI in 1977 could have merit given the success of the joint venture in 2017. **Engaging multiple levels of Government:** Participating in a joint venture with the Provincial, Federal, Municipal, or Indigenous Governments could help gain funding and financial support.
6	Possible critical infrastructure investment	**On-island generation:** While on-Island generation can offer benefits such as increased energy independence,

#	Report section	Findings, observations, and/or conclusions
		providing critical energy capacity and local job creation, it also presents significant challenges. PEI must weigh these concerns carefully, considering the environmental impact, supply chain vulnerabilities, cost uncertainties, and the substantial capital investment required. Exploring a diversified energy strategy that includes renewable energy sources and enhanced interconnections with mainland power grids may provide a more sustainable and resilient solution for the island's energy future. **Transmission & Maritime Interconnection:** While adding new transmission infrastructure between PEI and mainland Canada presents significant benefits such as increased capacity, enhanced reliability, and cost savings, it also brings several concerns. These include environmental impact, high initial costs, and overreliance on other provinces for electricity supply. Careful consideration and balanced decision-making are essential to ensure that the infrastructure development supports sustainable growth while addressing potential drawbacks effectively. **Storage:** Investing in energy storage infrastructure provides PEI with a modern, flexible, and cost-effective solution to meet its energy needs. This approach not only supports the island's transition to renewable energy but also enhances grid reliability and offers long-term economic benefits, making it a prudent alternative to acquiring a traditional utility company like MECL. However, while energy storage presents a promising alternative for enhancing PEI's energy infrastructure, addressing these concerns is crucial. The newer technology aspects including lifespan concerns, dependency on renewable energy or transmission, and the finite nature of stored energy necessitate thorough risk assessments and strategic planning to ensure the long-term success and reliability of energy storage investments.

#	Report section	Findings, observations, and/or conclusions
8	Recommendations	Based on Doane GT's understanding of PEI Government's objectives from a financial and commercial perspective and based on information provided by industry stakeholders available at the date of this report, we believe the following recommendations have merit: 1. Industry stakeholders have identified that the MECL on-Island generation, transmission investment and Maritime interconnection investment is critical for power supply and stability on PEI. These investments will need regulatory and government support in collaboration with MECL to advance these projects in a timely and cost-effective manner. 2. Work collaboratively with IRAC and MECL to expedite the review and approval process for MECL's proposed construction of the first two proposed projects (10 MW BESS and the 4th combustion turbine). It is important to note that construction of combustion turbines is not an environmentally sustainable option, however, it is recommended given the importance of increasing electricity supply to Islanders at this time. Given the environmental risk, MECL should consider implementing specific environmental Key Performance Indicators ("KPI"s) to ensure they are adequately monitoring environmental impacts on a regular basis. In addition, the Province could explore opportunities for the remaining generation assets (five 18 MW reciprocating engines) through collaboration between MECL, the Province and local communities to reduce the debt service costs and the overall cost to the rate payer of financing these new build assets.

#	Report section	Findings, observations, and/or conclusions
		3. The potential customer rate impact is significant and lower cost capital should be accessed where possible by accessing provincial borrowing cost and capacity where practical. Transmission assets such as submarine cables and transmission lines are assets which the Government can own and lease to MECL as has been done in the past to reduce customer rate impacts. Other alternative low-cost capital providers could play an important role, as well hybrid joint venture solutions to access low cost of capital from government and / or indigenous sources, while still having meaningful private sector involvement to access required expertise and capability. 4. The amount of capital required is significant and private, public and alternative capital pools will likely be needed.

2. Overview of PEI energy infrastructure today

2.1. Current events in PEI

A recent February 2025 power outage in western PEI affected over 19,000 customers due to damage at Maritime Electric's Sherbrooke substation. The City of Summerside was warned of potential rolling blackouts to manage the electricity interruption and residents were urged to reduce energy consumption, especially during peak hours.

This is a significant concern within the PEI community as of the date of this report as the growing population and electrification programs have increased the strain on the island's power grid, increasing public scrutiny surrounding the overall resilience of the island's power infrastructure.[1]

2.2. Current utilities and infrastructure in PEI

PEI's energy infrastructure combines both public and private sector efforts to ensure reliable and sustainable energy supply. PEI has three primary participants in the Electricity Sector: (1) MECL, (2) Summerside Electric, and (3) PEI Energy Corporation ("PEI Energy").

MECL is the primary distributor of electricity in PEI. The company is a public utility regulated by the Island Regulatory & Appeals Commission ("IRAC")[2] and operates under the provision of the Prince Edward Island Electric Power Act[3] and the Renewable Energy Act.[4] MECL owns

and operates a fully integrated system for the generation, transmission, distribution of electricity across the island.

Figure 2 – Summary of MECL[5]

MECL - by the Numbers	
Customers	89,000+
Employees	224
Years of service to PEI	105+
Transmission and distribution lines	6,600 KM+
Substations	30
Distribution and transmission poles across PEI	127,000+

Summerside Electric is owned and operated by the City of Summerside. It manages the local distribution network serving more than 7,000 customers. Summerside Electric owns and operates four wind turbines (combined 12 MW) and the Summerside Diesel Generation Plant, which generates up to 12.5 MW of electricity when needed. In addition, Summerside Electric operates a 21 MW solar farm and has invested in energy storage solutions to enhance grid stability and maximize the use of renewable energy.[6]

The Government of PEI formed PEI Energy in 1978 to develop and promote energy systems and the generation, production, transmission, and distribution of energy in an economic and efficient manner. This included providing financial assistance for the development, installation and use of energy systems, and to coordinate all government programs in the establishment and application of energy systems in the province.

PEI Energy is responsible for various renewable energy projects, including wind farms and other initiatives aimed at enhancing energy efficiency and sustainability on the island. The corporation also finances energy projects and systems, particularly those involving renewable development in PEI, such as the Wind Energy Institute of Canada. Additionally, PEI Energy develops and implements elements of the PEI Energy Strategy and provides guidance to the government for the formulation of provincial policy, programs, legislation, and agreements related to energy matters.

The following map shows PEI's total energy infrastructure that is operated by both public and private entities.

Figure 3 – Map of PEI's energy infrastructure[7]

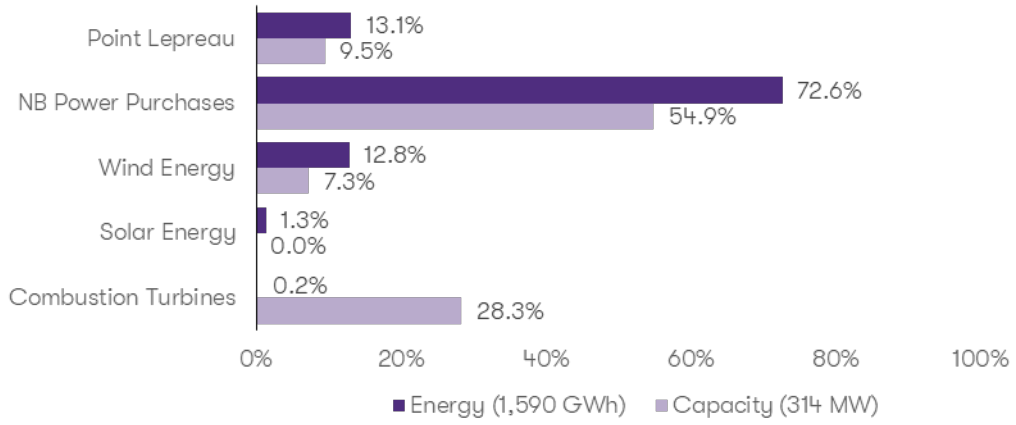
PEI is heavily reliant on importing electricity from New Brunswick. Therefore, PEI's transmission infrastructure is essential for importing electricity from the mainland and distributing it across the island. The province's transmission lines are connected to the mainland via four submarine cables, two 100 MW cables installed in 1977, and two 180 MW cables installed in 2017 which totals 560 MW. This ensures a steady and reliable supply of electricity.

In recent years PEI has added on island generation capacity through the construction of wind and solar generation assets. There are several large wind farms, such as West Cape, Hermanville, and the Eastern Kings Wind Farm, which collectively generate a significant portion of PEI's electricity needs. PEI boasts over 203 MW of installed wind capacity, with 92 MW under power purchase agreements with MECL from utility scale wind farms. PEI has 75 MW of installed solar capacity, including 54 MW under contract with MECL. This includes 10 MW from the Slemon Park Solar Farm under a PPA and 44 MW from net metered customers with solar panel systems which are not under a PPA.[8] The remaining 21 MW of solar power resources are under contract with the City of Summerside.

2.3. MECL's existing capacity and energy generation

MECL meets its current energy and capacity requirements with a combination of on and off island generating resources. The chart below shows a breakdown of their energy and capacity resources in 2023.

Figure 4 – MECL's energy and capacity resources[9]



2.3.1. Point Lepreau

MECL is party to a Unit Participation Agreement ("UPA") with Point Lepreau nuclear generating station in southern New Brunswick. MECL's participation share is 4.5 percent (i.e., 30 MW of the total 660 MW output), resulting in 29 MW of capacity, net of transmission losses, delivered to the Interconnection. Therefore, MECL receives 29 MW of energy for every hour that Point Lepreau is operational, and therefore provides 29 MW of capacity towards the company's capacity requirement. The UPA is for the life of the plant, which is expected to be decommissioned in 2039.[10]

A shutdown of Lepreau for 50 days in 2024 was accounted for in MECL's last rate application with the Island Regulatory and Appeals Commission ("IRAC"). However, problems were found in the main generator, which resulted in a 248-day outage, which could cost the utility over $13.3 million more than forecast.[11] In addition to this, according to their UPA with NB Power, MECL must pay 4.55 percent of the station's repair and maintenance costs.[12]

These additional costs will be accounted for within the Energy Cost Adjustment Mechanism ("ECAM") that is regulated by the IRAC. The difference between the forecast and actual energy costs will allow MECL to recover these additional costs from customers.

The provincial government said those costs would not likely be incorporated into the rates power consumers pay until MECL applies for a general rate increase in 2026. In addition, MECL has multiple applications for rate increases already waiting for approval by the IRAC, including one to cover the $37 million it cost to restore power after post-tropical storm Fiona in 2022.[13]

2.3.2. NB Power purchases

PEI purchased 72.6 percent of its energy from New Brunswick via four sub-sea cables in 2023. These cables are bi-directional so New Brunswick's energy resources can help power the island, and the island's wind power can provide energy to New Brunswick if needed when a surplus occurs.

In 1977, two 100 MW cables that connect Murray Corner, NB to Fernwood, PEI were opened. These were the first connection to the mainland grid. These transmission lines are nearing the end of their useful lives, so replacement is a key planning consideration, as well as the requirement to increase their transmission load to avoid a potential energy shortfall. While in

2017, two 180 MW cables that connect Cape Tormentine, NB to Borden, PEI were opened. MECL (in partnership with NB Power) acted as construction agents in a collaborative partnership between the Government of Canada and the Government of PEI to build the 180 MW submarine cables, overhead transmission lines and substation upgrades. The new submarine cables are owned by Prince Edward Island Energy Corporation ("PEI Energy") and are leased to and operated by MECL. They provide incremental transmission capacity and reliability benefits for the Island and allow for significantly increased energy imports from New Brunswick and NB Power and the export of surplus renewable energy from PEI to the mainland.

NB Power purchases are secured by MECL through an EPA. The current EPA was executed in March 2019 and expires on December 31, 2026. This is a critical matter for PEI, due to the current reliance on the supply of power from NB. The EPA includes the purchase of:

- Firm and non-firm energy.
- Firm capacity.
- Capacity-based ancillary services; and
- Transmission services in NB necessary to deliver these products.

MECL fulfills most of its capacity (54.9 percent in 2023) requirements through the EPA, which specifies an annual allotment of firm capacity. The EPA specified allotment of firm capacity is 180 MW, 185 MW and 190 MW for the calendar years 2024, 2025 and 2026, respectively. NB Power supplies the capacity from its own generating resources and through capacity purchases from third parties (e.g., neighboring electric utilities).

Recently, MECL's contracted allotments of firm capacity from NB Power were insufficient to meet the MECL's capacity requirements due to higher-than-expected system peak growth. To date, NB Power has had excess capacity available and has allowed MECL to purchase additional capacity, on a short-term basis, to meet capacity requirements. However, we understand that NB Power has indicated that, without the addition of new capacity resources, it too expects to be capacity deficient within five years. NB Power indicated that it intends to continue providing firm-capacity to MECL in the future but cannot guarantee what level of capacity will be available. As such, NB Power's ability to continue to increase its firm capacity allowances to MECL is unclear. MECL also purchases ancillary services from NB Power on an ongoing basis to fulfill MECL's generation reliability obligations. Ancillary service requirements can vary slightly but, generally, MECL must supply or secure the following ancillary services:

- 1.7 MW of frequency regulation.
- 4.7 MW of load following.
- 7.8 MW of spinning reserve.
- 19.7 MW of supplemental reserve (i.e., 10-minutes); and
- 16.2 MW of supplemental reserve (i.e., 30-minutes).

As MECL's Combustion Turbines ("CT") are used for peaking and backup supply purposes (i.e., they are typically not running), they cannot be used to fulfill the company's frequency regulation (1.7 MW), load following (4.7 MW), or spinning reserve (7.8 MW) requirements. To fulfill these requirements, generators must be operating (i.e., running) and not fully loaded, or they must be fast acting such as a battery energy storage system ("BESS"). MECL uses its existing CTs to fulfill its supplemental reserve requirements when possible.[14]

2.3.3. Wind energy

MECL has Purchase Power Agreements ("PPA"s) with PEI Energy to purchase a total of 92 MW of utility-scale wind farms. The table below summarizes a list of on-Island wind energy resources along with their size, which accounted for 12.8 percent of MECL's total energy supply in 2023 and 7.3 percent of capacity, as wind turbines are not dispatchable. Also, due to the intermittency of wind energy generation, only a portion of the wind turbine generators' nameplate capacity can be counted towards Maritime Electric's capacity requirements. The portion that can be counted as capacity is called the effective load carrying capability ("ELCC"), which is calculated using a probabilistic loss of load expectation ("LOLE") analysis for local wind energy.[15]

Figure 5 – Wind energy resources

Name	Location	Size (MW)	In Service Year	Owner
Wind Energy Resources Under Contract with MECL				
North Cape Phase 1	North Cape	5	2001	PEIEC
North Cape Phase 2	North Cape	5	2003	PEIEC
Aeolus	Norway	3	2004	PEIEC
Engie Norway	Norway	9	2007	ENGIE
Eastern Kings	Elmira	30	2007	PEIEC
WEICan	Norway	10	2012	WEICan
Hermanville	Hermanville	30	2014	PEIEC
Total Wind Energy Resources under Contract with MECL		**92**		
Wind Energy Resources NOT under Contract with MECL				
West Cape Wind Farm	West Cape	99	2009	ENGIE
City of Summerside	Summerside	12	2011	City of Summerside
Total Wind Energy Resources NOT under Contract with MECL		**111**		
Total Wind Energy resources		**203**		

2.3.4. Solar energy

MECL purchases all the energy output from PEI Energy's 10 MW utility-scale solar farm located in Slemon Park, PEI. The company also has a growing number of net metered customers with solar panel systems. A list of on-Island solar energy resources and their size is shown below. In 2023, solar energy accounted for 1.3 percent of the MECL's total energy supply and 0.0 percent of capacity. As MECL's system peak typically occurs in January or February between 5 p.m. and 6 p.m., which is after sunset (i.e., no solar generation), solar energy generation cannot be counted at all towards the company's capacity requirement.[16]

Figure 6 – Solar energy resources

Name	Location	Size (MW)	In Service Year	Owner
Solar Energy Resources Under Contract with Maritime Electric				
Slemon Park Microgrid	Slemon Park	10	2024	PEIEC
Net Metering Customer (solar)	Island-wide	44	2007-2024	Various owners
Total Solar Energy Resources under Contract with MECL		**54**		
Solar Energy Resources Not under contract with MECL				
City of Summerside	Summerside	21	2024	City of Summerside
Total Solar Energy Resources NOT under Contract with MECL		**21**		
Total Solar Energy Resources		**75**		

2.3.5. Combustion Turbines (CTs)

MECL owns and operates three CTs, as detailed below. As previously indicated, their CTs provide peaking and backup energy to the MECL grid. In contrast to renewable energy power, MECL's CT generators are dispatchable, meaning they can be started and their output adjusted remotely by system operators at any time. CT availability during system peak is predictable and, as such, they provided 28.3 percent (89 MW) of the 2023 capacity requirement. However, because the CTs are seldomly operated, they supplied only 0.2 percent of the energy needs in 2023.[17]

Figure 7 – Combustion turbine resources

Unit Name	Location	Size (MW)	In-Service Year	Anticipated Retirement Year	Owner
Combustion Turbine Resources under contract with MECL					
Combustion Turbine No. 1	Borden-Carleton	15	1971	2031	MECL
Combustion Turbine No. 2	Borden-Carleton	25	1973	2033	MECL
Combustion Turbine No. 3	Charlottetown	49	2005	2055	MECL
Total Combustion Turbine Resources		**89**			
Combustion Turbine Resources Not under contract with MECL					
Diesel Generation Plant	Summerside	13	1983	-	City of Summerside
Total Combustion Turbine Resources Not under Contract with MECL		**13**			
Total Combustion Turbine Resources		**102**			

2.4. MECL's energy requirement

Customer load determines both the amount of energy and capacity that a utility needs to supply. Customer load over a year determines the utility's annual energy supply requirement, measured in MWh, and the highest instantaneous customer load throughout the year (i.e., the system peak) is used to determine the capacity requirement, measured in MW.

2.4.1. Customer load growth

In recent years, MECL has indicated that the system peak has increased significantly. The two primary factors contributing to the recent customer load growth are:

(1) PEI's rapid increase in population

PEI's population has increased rapidly in recent years. Since 2015, PEI has experienced the fastest population growth of any Canadian province.[18] PEI's population increased by 24 percent since 2015, whereas Canada's population increased by only 17 percent during the same period.

(2) The transition from fossil fuel energy sources to electricity (i.e., electrification)

The most significant contributor to MECL's customer load growth has been the electrification of space heating. Historically, PEI residents used primarily furnace oil or wood for most of their space heating needs and, at that time, electricity accounted for less than 10 percent of PEI's space heating needs.

Residential space heating electrification has had the greatest impact on MECL's system peak, and this trend is expected to continue.

The demand for electricity on PEI will also increase due to the electrification of transportation. In 2022, 227 million litres of gasoline, 91 million litres of diesel and 113 million litres of furnace oil (i.e., light fuel oil) were sold on PEI.[19] As the PEI Government strives to achieve its net zero targets, converting 50 percent of these sources of energy to electricity would result in an estimated 33 percent increase in annual electricity supply requirements.[20]

2.4.2. Energy sales growth

PEI's electricity load has grown by 66 percent since 2005, which is over five times the Canadian average and the highest out of all Atlantic Canadian provinces.[21]

Historically, most of PEI's space heating came from furnace oil-based sources; therefore, electrification is leading to significant electricity load increases. In comparison, provinces like New Brunswick historically had higher portions of electric-based heating sources; therefore, customer load increases in that province have been more moderate. As a result, PEI's electricity load growth since 2005 is much higher than other provinces.

As increases in population and electrification on PEI are expected to continue, Maritime Electric forecasts continued growth in annual energy sales. Annual energy sales in 2033 are expected to be 27 percent higher than 2023 levels, which is comparable to the energy sales growth in the previous 10-year period from 2014 to 2023.[22]

2.4.3. System peak growth

The electrification of space heating has a greater impact on system peak compared to annual energy sales because most electric space heating is being added in the form of heat pumps. Heat pumps are an efficient way to provide space heating, but their efficiency decreases as temperatures drop.[23] Additionally, many heat pump users have electric resistive heating systems as a supplementary (i.e., backup) heat source. The result is the potential for extremely high system peaks during cold weather due to (1) a lack of diversity due to the decreased efficiency of heat pumps and (2) the operation of supplementary resistive electric heat, which compounds the impact on system peak.

In recent years, MECL's system peak has increased significantly. In the 5-year period from 2014 to 2018, the system peak increased by a compound annual growth rate of 2.7 percent. In the subsequent 5-year period from 2019 to 2023, the system peak increased by a compound annual growth rate of 10.0 percent. Overall, MECL's annual system peak increased by 60 percent between 2014 and 2023, whereas annual energy sales increased by only 27 percent during the same period. MECL forecasts that the system peak will increase by 32 percent in the 10-year period from 2024 to 2033.[24]

2.4.4. Capacity requirements

MECL's capacity requirements forecast provides the total amount of capacity required to meet customers' future needs. The table below shows the calculations for MECL's capacity requirements forecast for the 10-year period from 2024 to 2033. The forecast shows that the capacity requirement is expected to increase by 114 MW during the forecast period (454 minus 340 MW).[25]

Figure 8 – Forecast capacity requirement[26]

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Unadjusted System Peak Forecast	310	350	363	373	383	393	402	411	420	429
Less: Controllable DSM	0	0	-3	-9	-14	-18	-19	-19	-20	-20
Adjusted System Peak Forecast	310	350	360	364	369	375	383	392	400	409
Less: Interruptible Customer Loads	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14
Plus: 15% Planning Reserve Requirement	44	50	52	53	53	54	55	57	58	59
Capacity Requirement	**340**	**386**	**398**	**403**	**408**	**415**	**424**	**435**	**444**	**454**

2.4.5. Capacity Resource Adequacy Assessment ("CRAA")

MECL has a contractual obligation to secure adequate generating capacity, referred to as the capacity requirement, to meet the needs of its customers.

MECL evaluates its ability to meet the capacity requirements by completing a capacity resource adequacy assessment ("CRAA"), annually. The CRAA is based on MECL's capacity requirements forecast, which is summarized in the table below.

The CRAA is a 10-year outlook that compares the capacity requirements forecast to the expected available generating capacity resources. The table below shows the 10-year CRAA forecast, which includes MECL's existing capacity resources. The CRAA forecasts a capacity deficit of 60 MW in 2025, which is equivalent to the supply of electricity to approximately 17,100 homes during system peak periods, increasing to 156 MW by 2033, which is equivalent to the supply of electricity to approximately 44,600 homes during system peak periods.[27]

Figure 9 – Capacity adequacy assessment[28]

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Forecast Capacity Requirement	340	386	398	403	408	415	424	435	444	454
Capacity Resources										
Point Lepreau	29	29	29	29	29	29	29	29	29	29
NB Power from capacity purchases	180	185	190	190	190	190	190	190	190	190
NB Power short-term capacity purchases	19	-	-	-	-	-	-	-	-	-
Wind ELCC	23	23	26	26	26	30	30	30	30	30
CT1	15	15	15	15	15	15	15	-	-	-
CT2	25	25	25	25	25	25	25	25	25	-
CT3	49	49	49	49	49	49	49	49	49	49
Total Capacity Resources	340	326	334	334	334	338	338	323	323	298
Capacity Surplus (Deficit)	**-**	**(60)**	**(64)**	**(69)**	**(74)**	**(77)**	**(86)**	**(112)**	**(121)**	**(156)**

Until recently, the company had an amount of on-Island dispatchable generating capacity equal to at least 50 percent of its system peak. The recent retirement of the Charlottetown Steam Plant and significant customer load growth has significantly reduced this percentage. In 2023, the amount of on-Island capacity resources fell to 31 percent of the company's system peak, and the percentage is forecast to fall to 17 percent by 2033 if on-Island capacity resources are not added. The On-Island Security of Supply Project is expected to raise the on-Island dispatchable generation level to above 50 percent by 2031.[29]

As seen from the table above, it is forecasted there will be a capacity deficit moving forward, which illustrates the importance of approving and constructing energy generation projects to ensure that energy remains readily available and costs remain stable.

Also, PEI needs to be prepared for a situation in which it is electrically disconnected from New Brunswick. Since 2004, PEI has been either partially or fully disconnected nine times. As such a situation is likely to occur again, it is important to have enough on-Island resources. Currently, MECL would likely be forced to implement rolling blackouts most of the time as, in the best case, MECL could generate up to 160 MW of power including wind generation with on-Island resources. Historical load in the winter was higher than 160 MW 65% of the time. Without any wind generation, only 89 MW of electricity can be produced which is lower than historical load at any point in time during the winter. Without connection to the mainland, the lack of electrical generation on PEI would likely affect the daily lives of all Islanders.[30]

To directly mitigate the risk of disconnection, the province is considering replacing the subsea cables installed in 1977 and the addition of new transmission lines to be added in New Brunswick to carry energy to the new subsea cables. This will build in redundancy by providing four different transmission paths through which energy can travel to the Island. These upgrades are discussed further in Section 6.2 Interconnection & New Brunswick transmission infrastructure and Section 7.1 Upcoming/likely infrastructure investment.

Additionally, to reduce the severity of effects to Islanders in the event of a disconnection, the government could diversify its supply of energy. This means it will be beneficial for the Island to have generation on PEI from a diverse range of resource types. Having more energy resources closer to customers decreases both risk and cost by reducing the risk of transmission failure and decreasing transmission infrastructure costs over the long term. Additionally, increasing the resources that are controlled by either the Government or MECL provides security of supply for Islanders.

2.5. Expansion of on-Island energy generation

PEI is expecting an increase in the amount of on island energy generation under contract with MECL. There are currently seven projects that have requested to connect with MECL's electric system in the coming years. This will add 136 MW of wind energy and 204 MW of solar power to their energy supply.

Wind farms such as PEI Energy's Eastern Kings Phase II, a 30 MW Wind Plant expansion which is currently under construction has requested to join MECL's system along with private wind energy developers that are developing wind farms at Skinners Pond (93 MW) and Bedeque (13 MW). The table below shows the current list of wind energy projects requesting connection to MECL's system.

Figure 10 – Wind energy projects requesting to connect with MECL system[31]

Number	Location	Size (MW)	Requested in-service date
1	Eastern Kings	30	January 2026
2	Skinner's Pond	93	2028
3	Bedeque	13	September 2026
Total		**136**	

The expected development of additional wind energy projects on PEI will increase MECL's supply of renewable energy, which will support the Province's Net Zero emission targets.

MECL also intends to further increase the amount of solar energy produced on PEI. The Slemon Park Microgrid solar farm which opened in 2024, owned by PEI Energy, and the approximate 44 MW of net-metered solar customers connecting to the system each year are examples of working towards this goal. MECL has also received several requests from private solar energy developers looking to connect facilities to the company's transmission system. The table below shows the current list of solar energy projects requesting to connect to MECL's system.

Figure 11 – Solar energy projects requesting to connect with MECL system[32]

Number	Location	Size (MW)	Requested in-service date
4	Bedeque	100	December 2026
5	Bedeque	40	December 2026
6	Charlottetown	32	To be Determined
7	Mount Pleasant	32	To be Determined
Total		**204**	

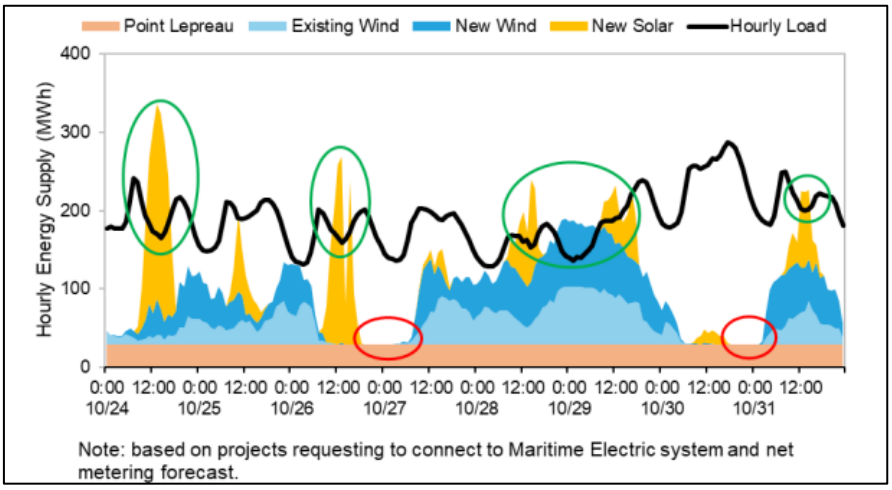
The expected development of new solar energy projects on PEI will increase MECL's supply of renewable energy, which supports the province's net zero emission targets.

The new renewable energy projects that will be placed under long-term PPAs, will help stabilize energy costs and protect customers from energy market price increases in the region.

As seen from the chart below, the intermittency of renewable energy generation impacts its ability to count towards a capacity requirement. Only a portion of the wind turbine generators' nameplate capacity can be counted towards MECL's capacity requirements, while solar energy generation cannot be counted at all towards MECL's capacity requirements due to MECL's system peak typically occurs in January or February between 5 p.m. and 6 p.m., which is after sunset (i.e., no solar generation).

On the chart below, the space between the existing wind generation and the hourly customer load is currently filled by NB Power energy purchases supplied through the Interconnection.

Figure 12 – Solar energy projects requesting to connect with MECL system[33]



Additionally, the chart above demonstrates an expectation that sometimes wind and solar generation will exceed the hourly customer load (i.e., period circled in green), in which case the excess energy must be stored, exported to off-Island markets, or curtailed. However, MECL currently does not have any means to store significant amounts of energy and there are no contracts currently in place that allows the sale of energy to NB Power. [34]

The increase in on island generation will help decrease the reliance on NB Power and will help diversify MECL's energy and capacity resources, as currently 85.7% of energy and 64.4% of capacity is imported from NB.[35] The increase in on island energy generation will also decrease PEI's reliance on diesel generated energy which is key for PEI's goals of achieving net zero emissions by 2040.

The focus on additional on island generation and diversifying the islands energy supply is currently a key topic for discussion, due to NB Power forecasting a capacity shortage by 2027 under a high electrification forecast, and 2030 using a low electrification forecast. Additionally, the upcoming negotiation of a new NB Power contract could potentially impact PEI's power prices, supply and capacity.[36]

2.6. Proposed projects to address capacity deficit

According to the "Application for On-Island Capacity for Security of Supply Project" report, MECL has forecasted a capacity deficit of 156 MW by 2033 due to population growth and electrification, which will increase MECL's system peak. To address the forecast capacity deficit, MECL has submitted an application seeking approval of the On-Island Capacity for Security of Supply Project, which includes the following:

- A 10 MW/40 MWh BESS.
- A 50 MW CT4 with synchronous condenser capability; and

- A 90 MW RICE plant.

The projects aim to add 150 MW of additional on-Island capacity resources, which is equivalent to the supply of electricity to approximately 42,900 homes during system peak periods.

The addition of 150 MW of on-Island capacity resources is expected to be significant, based on an AACE Class 4/5 cost estimate provided by S&L, the total cost of the Project was originally anticipated to be $427 million, with the expected accuracy within 30 percent. Updated figures obtained from MECL now project total costs to range from $452 to $587 million. The high end of the range reflects a 30% increase in costs based on the S&L report accuracy range.

Figure 13 - Project cost[37]

	Nominal Capacity (MW)	Total Cost in 2025 CAD ($ millions)		Upfront Engineering ($ millions)
		Low	**High**	
On-Island Capacity for Security of Supply Project				
10 MW / 40 MWh BESS	10	27	35	1
1 x LM6000 PC Sprint Simple Cycle (CT4)	50	166	215	6
5 x 18 MW Wärtsilä Reciprocating Engines (RICE)	90	259	337	9
Total proposed project by MECL	**150**	**452**	**587**	**16**

The cost estimate is based on 2025 costs and does not include inflation or cost changes due to market dynamics between 2025 and the time of construction. MECL will initially expend up to $16 million to complete upfront engineering design work and issue request for proposals for the Project, at which point more accurate cost estimates will be provided to IRAC. The $16 million represents approximately 3 percent of the estimated project costs. The Project is expected to provide a total of 150 MW of on-Island power generating resources, which will reduce MECL's dependence on off-Island power generating resources and avoid their associated costs. MECL's own net present value analysis that compares the costs and avoided costs of the Project determined that, over the useful life of the Project components, the Project results in a positive economic benefit to customers. Overall, MECL estimates the project to provide savings of approximately 20 percent compared to purchasing off-Island power generating capacity resources.[38] Details on the costs and assumptions of the net present value analysis were not disclosed publicly but should be independently verified when evaluating the proposal.

In evaluating the proposal, it is important to consider the cost per kW of energy as well as the cost per kW of capacity. Figure 14 below details the overnight capital costs (cost excluding financing and interest during the construction period) for various proposed resources. It is also relevant to factor in the lifespan of each resource in conjunction with the cost per kW. The cost per kW does not factor in a timeframe, so the longer the lifespan, the cheaper the resource. Therefore, the most cost-effective resources on a capital cost basis as spread over their lifespan are reciprocating engines followed by combustion turbines.

Notably, the capital cost per kW of installed capacity is much higher for wind power given only a small percentage of the rated energy output of the wind farm will count towards the capacity requirement. Also, the BESS, at 4 hours of storage, does count as a capacity resource but the resource will be depleted after the 4 hours expire until such a time when there is excess energy to recharge. Solar resources, given the uncertainty of sunlight from day to day, do not count towards capacity at all.

Figure 14 – Capital cost per kW by resource type[39]

Resource	Overnight Capital Cost ($CAD/kW)	Overnight cost of installed capacity ($CAD/kW)	Lifespan
Onshore Wind Power	$2,216 / kW	$37,964 / kW	30
Utility-Scale Solar PV	$2,389 / kW	N/A	30
Rooftop Solar PV	$3,131 / kW	N/A	30
Lithium-Ion BESS	$2,714 / kW	$2,714 / kW	20
Reciprocating Engines	$2,710 / kW	$2,710 / kW	50
Combustion Turbines	$3,120 / kW	$3,120 / kW	50

MECL's proposal for the On-Island Capacity project has been submitted to IRAC on December 18, 2024, for regulatory approval with the regulatory status of this application being unknown. It is also unknown what the expected completion date will be, which is key to both PEI and MECL due to the importance of this project to MECL's capacity requirement and the power stability of PEI.[40] Stakeholders stressed the importance to PEI's electricity grid that these projects receive approval and begin construction as soon as possible in order to avoid rolling blackouts or increases in energy costs, with electricity shortages forecasted from 2025 onwards.

2.6.1. Battery energy storage system

MECL is seeking IRAC approval to install a 10 MW BESS with 40 MWh of storage. The BESS will be used to help meet MECL's annual ancillary service and capacity requirements, reducing the amount of these products currently purchased from NB Power.[41]

2.6.2. Combustion turbine

MECL is seeking approval from IRAC to install a 50 MW CT at the Charlottetown Generating Station. If approved, the fourth CT will primarily serve as peaking and backup generation to help the company meet its capacity requirements, which will reduce the annual amount of generating capacity purchased from NB Power.[42]

2.6.3. Reciprocating Internal Combustion Engine Plant ("RICE")

MECL is seeking IRAC approval to install a 90 MW RICE plant. The RICE plant will include five 18 MW RICEs, fuel handling and storage infrastructure, associated equipment, a substation, and a transmission connection. If approved, the RICE plant will operate primarily as peaking and backup generation to help the MECL meet its capacity requirements, reducing the amount of annual generating capacity that is currently purchased from NB Power.[43]

2.7. Recommendation

As PEI faces increased scrutiny and concern surrounding the island's power infrastructure, the Government of PEI must regularly engage in planning for the future with partners including MECL and NB Power. Coordinated planning amongst industry partners will provide optimal and timely solutions for Islanders. Additionally, the Government should be prepared to evaluate a range of infrastructure alternatives to address the current challenges in the Province's electricity market. It is essential to identify a strategic path forward that minimizes the impact on ratepayers while effectively meeting demand requirements. To do so, it is important to establish a process specific to assessing available infrastructure options. The decision gating process, as detailed in Appendix B, in collaboration with an evaluation matrix, as provided in Appendix C, can be utilized to achieve this and help the Government make high-quality and informed infrastructure decisions.

3. Merits and concerns of current model

3.1. Merits of current model

The current model used in PEI's electricity industry has several merits, reflecting a balance between public control and the private sector involvement and expertise of MECL, which contributes to a resilient and sustainable energy system. This model combines external capital funds for distribution, lower cost provincial capital, external industry expertise, robust on-Island transmission networks, and provincial control over critical infrastructure.

The current model has the following merits:

- **Public control and strategic oversight:** The provincial government maintains control over components of critical infrastructure, ensuring that essential services are managed in the public interest. The PEI Energy Blueprint involves extensive public consultation, gathering feedback from Islanders and various stakeholders. This includes the regulation and oversight of MECL, which handles most of the island's electricity distribution and transmission.[44] This strategic oversight helps ensure that the electricity supply remains reliable, affordable, and aligned with broader policy goals such as sustainability and energy security.
- **Private sector participation:** The involvement of the private sector, particularly in renewable energy generation and utility operations, brings significant benefits. MECL brings utility operating expertise, as part of the Fortis group of companies. Private companies invest in and operate wind farms and other renewable energy projects, injecting capital and expertise into the island's energy sector. For example, the Norway Wind Farm that is discussed in further detail in Appendix D.[45]
- **External capital for infrastructure development:** The use of external capital funds for infrastructure development enables PEI to leverage financial resources beyond its borders. MECL allows PEI to access investor capital through Fortis. This approach helps finance large-scale projects, such as upgrading transmission lines and integrating advanced technologies like smart grids and energy storage systems, without overburdening local resources. PEI has successfully attracted external capital for infrastructure development through various funding programs. The Government of Canada, for example, has provided significant funding for projects like advanced metering infrastructure and renewable energy initiatives.[46] By attracting external investment, PEI can maintain and expand its energy infrastructure, ensuring it meets current and future demands.
- **Renewable energy integration:** PEI's current model strongly emphasizes renewable energy integration, particularly wind power, which represents a substantial portion of the island's electricity generation. Maritime Electric has played a key role in this integration, contributing to PEI's position as a leader in wind energy in North America. With over 203 MW of installed wind capacity, with 92 MW under power purchase agreements with MECL, the island benefits from reduced greenhouse gas emissions and enhanced energy security. The local generation of renewable energy also contributes to price stability and reduces vulnerability to external energy market fluctuations.[47]
- **Electrification and modernization:** MECL is involved in modernizing PEI's electrical grid through projects like the Sustainable Electrification Project. Supported by federal funding, this project aims to enhance the grid's resilience and efficiency, including the deployment of advanced metering infrastructure. This modernization is expected to improve the reliability of the electricity supply and help consumers manage their energy usage more effectively.[48]

- **Economic impact:** Infrastructure projects by MECL, such as the electrification initiative, are expected to generate economic benefits, including job creation. These efforts align with federal objectives to achieve a net-zero electricity system by 2040, contributing to a more sustainable economy.[49]
- **Efficient, resilient, and modern transmission networks:** The on-Island transmission network is robust and capable of integrating diverse energy sources, including locally generated renewable energy and imported electricity. The four submarine cables (560 MW) connecting PEI to the mainland are critical for ensuring a steady and reliable supply of electricity. This infrastructure supports the island's energy resilience, allowing it to balance local generation with imported power as needed. Additionally, as MECL has, in effect, a regulated monopoly over energy distribution on PEI (excluding Summerside), the energy grid is efficient and holistically managed.

The current model used in PEI's electricity industry effectively balances public control with private sector participation, ensuring a reliable, sustainable, and innovative energy system. The combination of external capital funds, robust on-Island transmission networks, and provincial oversight provides a solid foundation for continued growth and adaptation in response to evolving energy needs and environmental goals.

3.2. Concerns of current model

While PEI's current electricity model has several merits, there are also notable concerns that need to be addressed to ensure the sustainability and reliability of its energy infrastructure.

- **Keeping pace with growth:** One significant concern is the ability of the current model to keep pace with the island's population growth and electrification. As PEI's population and economic activities expand, the demand for electricity is increasing as the government has provided incentives for residents to purchase heat pumps, electric vehicles and solar panels which is increasing the demand for electricity. Traditionally, PEI has the highest concentration of homes heated with furnace oil in North America. As of 2022, 36% of PEI households relied on heating oil. The recent incentives to switch heating systems to heat pumps necessitates continuous upgrades to both distribution and transmission networks to avoid bottlenecks and ensure reliable service. Without adequate investment and expansion, the existing infrastructure might struggle to meet the rising demand, leading to potential service interruptions and increased operational costs.[50]
- **Meeting resiliency demands from climate change:** Climate change poses a growing threat to PEI's energy infrastructure. The island is vulnerable to extreme weather events, such as hurricanes and severe storms, which can damage power lines and disrupt electricity supply. Enhancing the resilience of the energy system is crucial to withstand these events. This includes investing in more robust infrastructure, incorporating smart grid technologies, and increasing the capacity for energy storage. However, current efforts may not be sufficient to fully address these resiliency demands, requiring more proactive measures and investments.
- **Bringing innovation to PEI:** Innovation is essential for modernizing PEI's energy infrastructure, but the current model may not fully support the rapid adoption of new technologies. While there is some integration of renewable energy and smart grid technologies, more needs to be done to foster innovation. This includes encouraging and incentivizing private sector investments in cutting-edge energy solutions, such as advanced energy storage systems, microgrids, and electric vehicle infrastructure, as this push is currently relying on the PEI Government to

fund it. Also, a longer-term view with regards to innovation could help PEI incorporate technologies that can create significant change such as small modular nuclear reactors. Without strong focus and incentives on innovation, PEI risks lagging in the transition to a more sustainable and efficient energy system.

- **Lack of on-island generation:** Another concern is the lack of sufficient on-Island generation capacity. While PEI has made strides in developing wind energy, it still relies heavily on imported electricity from New Brunswick. This dependency on external sources makes the island vulnerable to supply disruptions and price fluctuations in the mainland energy markets. Increasing on-Island generation capacity, particularly through renewable sources like wind and solar, would enhance energy security and reduce reliance on imported power and capacity. However, this needs to coincide with an increase in on island energy storage to increase the islands energy capacity.
- **Dependence on New Brunswick:** PEI's electricity model heavily depends on importing power from New Brunswick via submarine cables. Although these connections are critical for ensuring a stable supply, they also pose risks. Any issues with the submarine cables, such as maintenance requirements or damage from environmental factors, can lead to significant supply disruptions. Additionally, there is a need for further transmission investment due to the age of the original transmission lines and load growth. Reliance on a single external supplier for a large portion of its electricity can also lead to vulnerabilities related to pricing and availability, as NB Power has forecast a capacity shortage by 2027 under a high electrification forecast, and 2030 using a low electrification forecast. Given these concerns, the upcoming negotiation of a new NB Power contract will be significant for PEI given its impact on power prices, supply and capacity.[51] However, it is important that MECL continue to foster a strong working relationship with NB Power on a go forward basis.
- **Need for more power:** As PEI continues to grow, there is an increasing need for more power to support residential, commercial, and industrial activities. This demand is driven not only by population growth but also by the rising use of electricity in various sectors, including transportation (with the adoption of electric vehicles) and heating. To meet this growing demand, PEI needs to invest in both expanding its generation capacity and enhancing its import capabilities. This requires careful planning and significant financial resources to ensure that the island can meet future power needs without compromising reliability or sustainability.[52]
- **Cost and rate increases:** One concern with the partnership with MECL is the rate increases required by MECL to fund the utility. While most costs are consistent across differing ownership models, as a private sector investor, MECL will have a higher cost of capital than public sector ownership. While rate increases are a reality of the utility industry, its noted that they are a sensitive matter in light of economic pressures and the high cost of living in PEI. Given the significant infrastructure investment expected in coming years, mitigating customer cost impact will be a key consideration.
- **Private ownership and public scrutiny:** The debate over whether PEI's electricity Infrastructure should remain under private ownership continues. Critics argue that a public utility model might better serve the public interest by managing costs and aligning infrastructure investments with broader social and environmental goals as further discussed in the Canadian Electricity Environmental Scan report, prepared by Doane GT.

3.3. Conclusion

While PEI's current electricity model with Maritime Electric has many strengths, it also faces several challenges that need to be addressed. Keeping pace with growth, enhancing resiliency against climate change, fostering innovation, increasing on-Island generation capacity, reducing dependence on New Brunswick, and meeting the rising demand for power are all critical issues. Addressing these concerns will require coordinated efforts between the public and private sectors, as well as substantial investments in infrastructure and technology. Mitigating customer rate impact will need to be a key consideration.

4. Sources and cost of capital

The various sources and cost of capital have been summarized below with further detail included in Appendix D.

Figure 15 - Sources and cost of capital summary

Type	Advantages	Drawbacks & other considerations	Example project
Provincial funding sources	• Lower cost of capital compared to private sector financing. • Tax efficiency • Established structure via PEI Energy	• Impact on provincial borrowing capacity	Eastern Kings Wind Farm - This project, developed by PEI Energy, received significant provincial funding during the construction phase to expand the Island's renewable energy capacity.
Private sector	• Consistency with the Fortis/MECL model • Broadening access to capital by using private sector capital • Access to private sector expertise • Reducing impact on provincial borrowing capacity	• Higher cost of capital • Profit-motivated partners can influence project priorities and management • Attracts tax costs	Norway Wind Farm – ENGIE developed the 9 MW wind farm which has been operating since 2007.
Public private partnership	• Access to capital • Specialized expertise • Higher leverage • Risk transfer • Reduced government burden	• Higher costs • Lack of public control and transparency • Long term agreements that become	Confederation bridge - Capital was provided by a New Brunswick Crown Corporation, Strait Crossing Finance Inc, which issued bonds in order to raise the money to build the bridge.

Type	Advantages	Drawbacks & other considerations	Example project
		unfavorable over time	
Engaging multiple levels of Government (Federal, Municipal, Indigenous)	• Access to unique lower-cost financing options • Alignment with environmental, social, and governance goals • Tax efficiencies • Reduced provincial borrowing impact	• Additional time and complexity through involvement of additional partners • Long term agreements that may become unfavorable over time	Wasoqonatl transmission line - A major infrastructure initiative designed to enhance the reliability and capacity of the power grids in Nova Scotia and New Brunswick in partnership with the Wskijinu'k Mtmo'taqnuow Agency Ltd.

5. Joint ventures (JV)

Exploring a JV between PEI Energy and a JV partner, such as MECL, an indigenous community or the federal/provincial government to construct transmission projects for PEI's electricity infrastructure would provide significant benefits. These collaborations can help share the risk and financing requirements across participants, rather than having it solely financed by PEI ratepayers.

5.1. Maritime Electric Company Limited (MECL)

The benefits of having a joint venture with MECL has been seen in the past, as in 2017, two 180 MW cables were constructed that connected Cape Tormentine, NB to Borden, PEI. MECL acted as construction agents in a collaborative partnership between the Government of Canada and the Government of PEI to build the 180 MW submarine cables, overhead transmission lines and substation upgrades. The new submarine cables are owned by PEI Energy and are leased to and operated by MECL.[53] There is a requirement to replace the transmission lines that were installed in 1977 and revisiting this JV may be worthwhile when doing so.

Additionally, MECL and PEI Energy could collaborate on integrating renewable energy sources like wind and solar into the grid. This partnership could involve shared investments in energy storage solutions to ensure grid stability and reliability. By involving MECL, the financial risk is distributed between MECL and the province, reducing the burden on ratepayers and ensuring that the project benefits from private sector industry expertise.

5.2. Provincial/Federal Government

The provincial/federal government can provide essential financial assistance and policy support to facilitate the development of transmission projects and renewable energy projects. This support could come in the form of grants, subsidies, and favorable regulatory frameworks. PEIEC provides financial support for developing, installing, and using energy systems, especially those involving renewable energy. They also coordinate all government programs related to energy systems and offer guidance to the government on formulating provincial policies, programs, legislation, and agreements related to energy matters.

There has also been significant federal investment in PEI's energy infrastructure. There was a $1.4 million investment to install 13 fast charges across the province[54] and the federal government invested $19 million of federal funds to assist with the $47.6 million advanced metering infrastructure project in January 2024[55].

Additionally, municipal infrastructure upgrades has been encouraged through funding programs such as the Canadian Community-Building Fund[56] and the Investing in Canada Infrastructure Program[57] that has supported various green infrastructure projects.

By involving multiple stakeholders, the financial risk is spread across various entities, leveraging government funding to reduce upfront costs, and implementing revenue-sharing agreements to ensure all partners benefit from the profits generated by the transmission projects. These collaborative efforts can help PEI build a robust and sustainable electric infrastructure while sharing the financial and operational risks among multiple stakeholders.

6. Possible critical infrastructure investment

This section of the report summarizes the possible critical infrastructure investments proposed by industry stakeholders. It outlines the background, merits, concerns and conclusion of the following three areas: (1) On island generation, (2) Interconnection and (3) Storage.

6.1. On-Island generation

6.1.1. Background

Currently, on-Island power generation represents a small fraction of the power the province needs. In fact, New Brunswick supplies about 86 percent of PEI's electricity. As detailed in section 2, the electricity generated on PEI is primarily from renewable resources such as wind and solar farms. There are combustion turbines on PEI ready to provide energy when necessary, but, these are seldom used and make up only a fraction of PEI's capacity requirement.

Given the present situation, PEI lacks energy security and control that it could otherwise possess with on-Island generation. As PEI is already generating a significant portion of its electricity from renewable sources, MECL has proposed a project to generate electricity on-Island via a combustion turbine and a reciprocating internal combustion engine plant. Developing additional on-Island generation would present benefits and challenges for PEI which should be thoroughly considered.

6.1.2. Merits

Investing in on-Island generation for PEI offers several compelling benefits, enhancing the island's energy security and economic resilience.

Figure 16 - On island generation merits

Merit	Description
Reduces risk exposure from transmission-related issues	On-Island generation mitigates the risks associated with transmission-related issues by providing a local energy solution. This reduces the island's vulnerability to transmission line failures, maintenance outages, and other disruptions that can affect power supply from external sources.
Reduces dependency on New	By increasing its local generation capacity, PEI increases its much needed on island capacity and can reduce its heavy reliance on electricity imports and capacity from NB Power. This move towards greater energy independence not only

Merit	Description
Brunswick power system	enhances supply security but also provides better control over energy pricing and supply stability. However, it is important that MECL continue to foster a strong working relationship with NB Power on a go forward basis.
Offsets weather dependency of renewable generation	Investing in gas or diesel-fueled generation can complement the existing renewable energy infrastructure on the island. These traditional energy sources can provide a reliable backup during periods when renewable sources, such as wind and solar, are less effective due to unfavorable weather conditions.
Local economic benefit	On-Island generation offers the economic benefit of keeping energy expenditures within the local economy, potentially creating jobs and fostering technological advancements in the energy sector.
Proven technology	Gas and diesel generators are well-established technologies with a proven track record of reliability and efficiency. These systems are known for their ability to provide consistent power output, making them a dependable choice for enhancing the island's energy infrastructure.
Power production during weather events	As long as there is an adequate fuel supply on hand, gas and diesel generators can continue to produce power during severe weather events. This capability ensures that critical services and infrastructure can remain operational even in adverse conditions, enhancing the overall resilience of PEI's energy system.
Existing model for ownership via MECL	PEI can leverage its existing ownership model through MECL to manage new on-island generation projects. This approach provides a familiar and established framework for the development, operation, and maintenance of local generation facilities. Given the time sensitive need for this infrastructure, timing is likely more efficient via the existing ownership model.
Opportunity for diversification with alternate ownership models	There is potential to diversify the ownership and investment models for on-Island generation projects. PEI could explore public-private partnerships, community-owned energy projects, or cooperative models to enhance investment, foster local engagement, and distribute economic benefits more widely.
Balanced supply of energy	One of the challenges associated with wind and solar energy resources is their intermittent nature, which means that their output at any given time is unpredictable and dependent on wind speed or sunshine. Therefore, wind energy cannot supply all of the Island's energy needs, particularly in system peak periods. A RICE plant and CTs can be used to balance PEI's energy supply.
RICE plant can be modified to run on renewable fuels	With minimal modifications, a RICE plant can run on biodiesel instead of diesel. The Government of Canada considers biodiesel to be a renewable fuel which can significantly lower the carbon emissions as compared to diesel. This also protects the investment in the RICE plant if restrictions are elevated on fuels used for electricity generation. The major concern with biodiesel is availability and cost therefore the RICE will be originally intended to run on traditional diesel.

6.1.3. Concerns

Investing in on-Island generation for PEI involves several concerns that must be carefully considered. Here are the primary concerns:

Figure 17 - On island generation concerns

Concern	Description
Exposed to weather events / no geographic diversification	PEI, being a relatively small island, is highly vulnerable to severe weather events such as hurricanes, ice storms, and heavy winds. These events can disrupt power generation and distribution, causing outages and damage to infrastructure. The lack of geographic diversification means that if a major weather event impacts the island, it can affect the entire power generation system, leading to widespread and prolonged power outages.
Environmental impact from non-renewable power	Generating power from non-renewable sources such as coal, oil, or natural gas can have significant environmental impacts. These include greenhouse gas emissions, air pollution, and potential water and soil contamination from spills or leaks. For an island community like PEI, which relies heavily on its natural environment for tourism and fisheries, the environmental impact of non-renewable power generation can be particularly detrimental.
Fuel supply dependency	On-Island generation that relies on imported fuels creates a dependency on external suppliers. Any disruption in the fuel supply chain, whether due to geopolitical issues, natural disasters, or logistical problems, can threaten the island's energy security. This dependency can also lead to price volatility and supply shortages, impacting the reliability and cost of electricity.
Commodity exposure and logistics	The cost of fossil fuels is subject to global market fluctuations, which can lead to unpredictable operating expenses for power generation. Additionally, transporting fuel to the island involves logistical challenges and costs, including shipping, handling, and storage. Any disruption in these logistics can further complicate fuel supply and increase costs.
Need to ensure operating capability	Maintaining a reliable on-Island power generation system requires significant operational expertise and resources. This includes regular maintenance, skilled labor, and contingency planning for emergencies. Ensuring that the power plants operate efficiently and safely is crucial, but it can be resource-intensive and costly.
Fuel costs	Fuel costs represent a major operational expense for non-renewable power generation. These costs can be highly variable, influenced by global market trends, transportation costs, and seasonal demand fluctuations. High or rising fuel costs can lead to higher electricity prices for consumers and strain the island's economic resources.
Capital costs relative to other solutions	Investing in on-Island generation infrastructure requires significant capital investment. This includes the costs of building power plants, upgrading grid infrastructure, and implementing necessary environmental safeguards. Comparing these capital costs to alternative solutions, such as importing power through undersea cables, investing in renewable energy sources (e.g., wind, solar), or enhancing energy efficiency measures, is critical.

6.1.4. Conclusion

In summary, while on-Island generation can offer benefits such as increased energy independence, diversity of supply and local job creation, it also presents significant challenges. PEI must weigh these concerns carefully, considering the environmental impact, supply chain vulnerabilities, cost uncertainties, and the substantial capital investment required. Exploring a diversified energy strategy that includes renewable energy sources and enhanced interconnections with mainland power grids may provide a more sustainable and resilient solution for the island's energy future. The timing considerations create further

complexity due to the constraints of the current electrical infrastructure and need to invest before customer service and reliability is impacted.

6.2. Interconnection & New Brunswick transmission infrastructure

6.2.1. Background

As mentioned in section [3.3.2] of the report above, there is a requirement to replace two 100MW transmission lines that were constructed in 1977 as they are coming to the end of their useful life. In addition, new transmission infrastructure needs to be considered to satisfy the forecasted energy shortfall.

Currently, the capacity of energy that can be sent to PEI is limited to 300 MW by the transmission infrastructure in New Brunswick even though the total capacity of the cables is currently 560 MW. Therefore, to benefit from the additional capacity of new cables, additional transmission infrastructure in New Brunswick is required. The requirements include transmission line additions from the submarine cables in Murray Corner, NB to the substation in Memramcook, NB, new infrastructure and a new transformer at the Memramcook station, and upgrades to the NB Power system as part of the Modified Atlantic Loop project. Upgrades to the submarine cables in conjunction with transmission infrastructure upgrades would increase transmission capacity from New Brunswick to PEI by 240 MW to a total of 540 MW.

6.2.2. Merits

Investing in the replacement of existing submarine transmission cables and transmission infrastructure upgrades in New Brunswick offers several compelling benefits for PEI as outlined below:

Figure 18 – Transmission merits

Merit	Description
Increased capacity	Upgrading existing cables and transmission infrastructure can significantly increase the capacity to transmit electricity, accommodating PEI's growing demand for electricity.
Enhanced reliability	Additional transmission infrastructure and cables can increase reliability by providing additional paths for energy flow. This builds in redundancy to allow services to remain continuous if repairs or maintenance is needed.
Cost savings	Modernizing transmission infrastructure can lead to long-term cost savings by reducing maintenance costs and improving efficiency. Additionally, energy generated from more cost-efficient resources could be sold in PEI.
Economic growth	New transmission lines can stimulate economic growth by creating jobs during the construction phase and supporting new industries that rely on stable power supplies. It should be noted that given a significant component of these transmission lines are in New Brunswick, the economic growth would be shared with New Brunswick owned businesses instead of being focused on Island owned companies.
Energy security	Expanding the transmission network can enhance energy security by diversifying the sources and routes of electricity supply.
Maintaining strong partnerships	By collaborating on a mutually beneficial energy project, PEI will strengthen ties with its neighbors facilitating future energy projects and deals to benefit Islanders.

6.2.3. Concerns

Upgrading transmission infrastructure and subsea cables involves concerns that must be carefully considered. Here are the primary concerns:

Figure 19 – Transmission concerns

Concern	Description
High initial cost	Upgrading existing infrastructure can be expensive, with costs often passed on to consumers through higher electricity rates. MECL estimates costs for the upgrades to the cables, the transmission lines in NB, and the station in Memramcook range from $305 to $449 million. MECL expects total costs for the Maritime interconnection, ranging from $600 to $700 million, to be split between New Brunswick, Nova Scotia, and PEI. The cost split is not yet known but it will be based on the proportional benefit to each province. Overall, the costs attributable to PEI are expected to be significant.
Overreliance on other provinces	Expanding subsea cables and transmission lines to connect with other provinces can lead to overreliance on external electricity sources. This dependency can pose risks if there are disruptions in supply from those provinces, affecting energy security and stability.
Maintenance and safety	Transmission infrastructure require ongoing maintenance to prevent failures, which can be costly and pose safety risks if not properly managed.
Environmental impact	The construction and maintenance of new transmission lines can disrupt local ecosystems, affecting wildlife habitats and potentially leading to deforestation.
Vulnerability to weather events	With critical amounts of energy being transmitted to PEI, the province is vulnerable to weather events that may damage transmission lines.
Necessity if investing in on-Island supply	If PEI invests in significant on-Island capacity resources, the merit and timing of investing in costly transmission infrastructure in other provinces should be considered. This will depend on whether demand forecasts indicate that PEI will require additional supply from other provinces over and above the on-Island capacity available.

6.2.4. Conclusion

While adding new transmission lines and subsea cables between PEI and mainland Canada presents significant benefits such as increased capacity, enhanced reliability, and cost savings, it also brings several concerns. These include environmental impact, high initial costs, and overreliance on other provinces for electricity supply. Careful consideration and balanced decision-making are essential to ensure that the infrastructure development supports sustainable growth while addressing potential drawbacks effectively.

6.3. Storage

6.3.1. Background

PEI is actively working on enhancing its electricity storage capabilities as part of its broader energy strategy. PEI Energy, alongside Efficiency PEI, is spearheading initiatives to increase energy efficiency, reduce greenhouse gas emissions, and bolster the use of locally produced

renewable energy sources. Recently, the government of PEI outlined its plans to achieve net-zero emissions by 2040, emphasizing the importance of energy sources to enhance the grid reliability and integrate renewable energy sources effectively.[58]

Utility-scale energy storage is seen as a crucial component in this transition, offering solutions for storing surplus energy generated during off-peak periods and releasing it during peak demand. This not only helps stabilize the grid but also reduces the dependency on fossil fuels. Moving forward, PEI plans to continue investing in and developing energy storage technologies to support its renewable energy goals and improve overall energy resilience.[59]

Investing in energy storage infrastructure presents a strategic alternative for PEI to enhance its energy security, sustainability, and economic efficiency compared to acquiring MECL. Energy storage systems, such as BESS, thermal storage, and pumped hydro, are crucial for balancing the intermittent nature of renewable energy sources like wind and solar. These systems store excess energy during periods of low demand and release it during peak times, ensuring a stable and reliable power supply.

6.3.2. Merits

Investing in energy storage infrastructure offers several key advantages for PEI, aligning with its goals for sustainability, economic efficiency, and energy independence.

Figure 20 - Storage merits

Merit	Description
Helps balance renewable power generation and demand timing	Energy storage systems, such as BESS, effectively balance the supply and demand of electricity by storing excess energy produced during periods of low demand and releasing it during peak demand times. This capability is crucial for integrating renewable energy sources like wind and solar, which are inherently variable and can produce power inconsistently throughout the day.
Environmentally friendly and enhances reputation for clean energy	When coupled with renewable energy sources, energy storage systems significantly reduce greenhouse gas emissions by maximizing the use of clean energy. This integration supports PEI's commitment to environmental sustainability and strengthens its reputation as a leader in clean energy solutions. Demonstrating the ability to effectively harness and store renewable energy can attract eco-conscious businesses and investors, further bolstering PEI's green credentials.
Some reductions in dependency on NB Power	By investing in local energy storage, PEI can partially reduce its reliance on electricity imports from NB Power. This increased self-sufficiency not only enhances energy security but also provides greater control over energy costs and supply stability. Reducing dependency on external power sources is particularly important in mitigating risks associated with price volatility and supply disruptions. However, it is important that MECL continue to foster a strong working relationship with NB Power on a go forward basis.
Improved grid reliability and resilience	By providing services such as frequency regulation, voltage support, and backup power, storage systems help mitigate the impact of supply fluctuations and enhance the overall stability of the electrical grid.
Alternative to idle peak plants and other infrastructure investments	Currently, MECL has combustion turbines which add critical capacity to the system but have largely sat idle based on the most recent publicly available data.[60] Energy storage can reduce the need for expensive peak power plants and delay investments in new transmission and distribution infrastructure, leading to substantial cost savings over time.

6.3.3. Concerns

While investing in energy storage infrastructure offers numerous benefits for PEI, there are also several concerns that need to be carefully considered.

Figure 21 - Storage concerns

Concern	Description
Newer technology solution	Energy storage technologies, particularly large-scale battery systems, are relatively new and rapidly evolving. This means that the technology is still maturing, and there could be unforeseen issues related to durability, performance, and safety. The fast-paced advancements also mean that systems could become outdated quickly, potentially requiring further investments to upgrade or replace existing infrastructure. The uncertainties associated with new technology can pose risks to financial and operational stability.
Dependency on renewable production or transmission	Energy storage systems are heavily reliant on a consistent supply of energy to remain effective. For PEI, this means a continuous and reliable production of renewable energy from sources like wind and solar, or a stable transmission of energy from external suppliers. Any disruption in renewable energy generation, due to weather conditions or other factors, could limit the effectiveness of storage systems. Additionally, storage systems do not generate electricity; they only store and release what is available. Hence, without sufficient renewable production or reliable transmission, the storage units could be underutilized, reducing their economic and functional viability.
Limited supply without recharging	Energy storage systems have finite storage capacities and can only provide a limited supply of energy before needing to be recharged. This limitation means that during prolonged periods of high demand or low renewable generation, the stored energy might be depleted quickly, leading to potential supply shortages. The ability to recharge these systems depends on the availability of excess energy, which might not always align with demand patterns. This inherent limitation requires careful planning and management to ensure that storage systems can meet the grid's needs without frequent and significant gaps in supply.
Lithium-ion battery lifespan	MECL has estimated their proposed BESS will have a service life of 20 years. A lithium-ion battery experiences capacity fading, battery aging, and exhibits a cycle life limit. Essentially, a BESS will last a certain number of charge cycles instead of a defined number of years.[61] More frequent and intense use will cause faster deterioration of the battery system which could result in a lifespan closer to 10 years.[62] Maintaining a lifespan requires careful management and use as well as periodic augmentation to maintain the nameplate capacity value. Costs of augmentation can be up to 15% of the initial capital costs.[63]

6.3.4. Conclusion

In conclusion, investing in energy storage infrastructure provides PEI with a modern, flexible, and cost-effective solution to meet its energy needs. This approach not only supports the island's transition to renewable energy but also enhances grid reliability and offers long-term economic benefits, making it a prudent alternative to acquiring a traditional utility company like MECL. However, while energy storage presents a promising alternative for enhancing PEI's energy infrastructure, addressing these concerns is crucial. The newer technology aspects, dependency on renewable energy or transmission, and the finite nature

of stored energy necessitate thorough risk assessments and strategic planning to ensure the long-term success and reliability of energy storage investments.

7. Customer impact on energy infrastructure alternatives

There are several factors that make it challenging to provide an accurate cost estimate for the proposed On-Island Capacity Project. Similarly, these factors make it difficult to provide an accurate impact on rate base, revenue requirement and customer rates for the Project. The factors that will influence the estimated impact on rate base, revenue requirement and customer rates include:

- the capacity values of each Project component (i.e., 10, 50 and 90 MW) are nominal capacity values that may change during the RFP process.
- inflation between 2024 (i.e., the base year for the Project cost estimate) and the time of construction.
- the impact of CT and RICE equipment market pricing dynamics in a period of high demand.
- the USD to CAD exchange rate at the time of material purchases.
- the impact of tariffs potentially imposed by the U.S. and Canadian Governments.
- the level of accuracy of the Class 4/5 cost estimate provided by Sargent & Lundy ("S&L"), which is assigned an accuracy range of 30 percent.
- the timing of completion for each Project component.
- MECL's rate base and customer rates at the time of Project completion; and
- the cost of avoided capacity and ancillary service purchases from NB Power at the time of Project completion.[64]
- the ability and willingness of customers to absorb significant rate increases (inflation fatigue).

Given the large number of factors that influence the estimated impact on the rate base, revenue requirement and customer rates of the Project, it is not feasible to provide accurate estimates at this time.[65]

Similarly, it is not feasible to provide an accurate impact assessment for the PEI-NB Interconnection upgrades given factors like those noted above as well as the fact that the cost split between provinces for certain upgrades has yet to be determined.

7.1. Upcoming/likely infrastructure investment

As discussed in section [3.6] above, the proposed investment in PEI's on-Island generation infrastructure by MECL to meet the energy requirements over the forecast period will cost between $452 and $587 million. Please see figure [13] that provides a breakdown of the investment.

As discussed in further detail in section [6.2], there is a requirement to replace the two 100MW cables that were installed in 1977. Based on the average per annum increase for underground conductor devices from the Handy-Whitman Index of Public Utility Construction Costs of 8.19% and the 2017 installation cost of the two 180MW cables of $142.5m MECL estimates that it would cost approximately $212 million to $319 million in 2025, which would deliver a capacity between 306 MW – 720 MW.

In order to increase transmission capacity with the installation of the new submarine cables, interconnection infrastructure must be added in New Brunswick. This infrastructure includes two overhead transmission lines from Memramcook to Murray Corner[i], new riser stations in NB and PEI[ii], a new bay in Memramcook[iii], and a new transformer in Memramcook[iv]. This will increase the existing interconnection capacity by 240 MW to a total of 540 MW.

Additional to the above upgrades, NB Power is engaged in transmission studies to determine system upgrades required for the Modified Atlantic Loop project. Phase 1 and 2 of this project involve transmission upgrades in New Brunswick and Nova Scotia. Phase 3 of the project surrounds the upgrades required to allow 240 MW of additional energy transmissions to PEI. The total cost of all three phases is expected to be $600 to $700 million and will be split by each party based on the proportional benefits received which are yet to be determined.

As seen from the following table, the potential infrastructure investment requirement ranges from $757 million to $1,036 million.

Figure 22 – Potential critical infrastructure investment requirement

	Nominal Capacity (MW)	Total Cost in 2025 CAD ($ millions)	
		Low	**High**
On-Island Capacity for Security of Supply Project			
10 MW / 40 MWh BESS	10	27	35
1 x LM6000 PC Sprint Simple Cycle (CT4)	50	166	215
5 x 18 MW Wärtsilä Reciprocating Engines (RICE)	90	259	337
Total proposed project by MECL	**150**	**452**	**587**
PEI-NB Interconnection Project			
Two 180 MW Submarine Cables	240	212	319
Two Overhead Transmission Lines in NB		33	50
New Riser Stations and New Bay at Memramcook		37	56
318 MVA, 345/138 kV Transformer at Memramcook		23	24
NB Power System Upgrades to Allow Increased Import Capacity		TBD	TBD
Total PEI-NB Interconnection		**305**	**449**
Total required investment		**757**	**1,036**

8. Recommendations

Based on Doane GT's understanding of PEI Government's objectives from a financial and commercial perspective and based on information provided by industry stakeholders available at the date of this report, we believe the following recommendations have merit:

[i] MECL cost estimate of $33 to $50 million based on transmission line costs from 2016/17 inflated by 8.19% annually per the Handy-Whitman Index for total transmission plant.
[ii] MECL cost estimate based on actual costs from 2016/17 inflated by 4.54% annually per the Handy-Whitman Index for transmission station equipment.
[iii] MECL cost estimate of $10 million.
[iv] The new transformer is required for reliability needs irrespective of the interconnection project. The cost of $23 to $24 million relates to the PEI portion of the transformer and is based on a facilities study completed by NB Power.

1. Industry stakeholders have identified that the MECL on-Island generation, transmission investment and Maritime interconnection investment is critical for power supply and stability on PEI. These investments will need regulatory and government support in collaboration with MECL to advance these projects in a timely manner to ensure grid reliability. Excess time delays could lead to significant customer service and reliability issues if critical infrastructure is not delivered before growth or weather events overcome existing critical infrastructure limits.
2. Work collaboratively with IRAC and MECL to expedite the review and approval process for MECL's proposed construction of the first two proposed projects (10 MW BESS and the 4th combustion turbine). It is important to note that construction of combustion turbines is not an environmentally sustainable option, however, it is recommended given the importance of increasing electricity supply to Islanders at this time. Given the environmental risk, MECL should consider implementing specific environmental Key Performance Indicators ("KPI"s) to ensure they are adequately monitoring environmental impacts on a regular basis. In addition, the Province could explore opportunities for the remaining generation assets (five 18 MW reciprocating engines) through collaboration between MECL, the Province and local communities to reduce the debt service costs and the overall cost to the rate payer of financing these new build assets.
3. The potential customer rate impact is significant and lower cost capital should be accessed where possible by accessing provincial borrowing cost and capacity where practical. Transmission assets such as submarine cables and transmission lines are assets which the Government can own and lease to MECL, as has been done in the past to reduce customer rate impacts. Other alternative low-cost capital providers could play an important role.
4. The amount of capital required is significant and private, public, and alternative capital pools will likely be needed.
5. Hybrid solutions should be considered that allow the government objectives to be achieved and mitigation of the cost of capital through alternate capital sources, while ensuring private sector expertise is secured through financial participation in the critical infrastructure.

Appendix A – Glossary of terms

Abbreviation	Term
BESS	Battery Energy Storage System
CRAA	Capacity Resource Adequacy Assessment
CT	Combustion Turbine
Doane GT, we, us, our	Doane Grant Thornton LLP
ECAM	Energy Cost Adjustment Mechanism
ELCC	Effective Load Carrying Capability
Electrification	The transition from fossil fuel energy sources to electricity
EPA	Energy Purchase Agreement
EV	Electric Vehicle
Fortis	Fortis Inc.
IRAC	Island Regulatory and Appeals Commission
JV	Joint Venture
KPI	
LOLE	Loss of Load Expectation
MECL	Maritime Electric Company Limited
MW	Megawatts
NB Power	New Brunswick Power Inc.
PEI Energy	PEI Energy Corporation
PEI	Prince Edward Island
PPA	Power Purchase Agreement
PPP	Public-Private Partnership
RICE	Reciprocating Internal Combustion Engine
S&L	Sargent & Lundy
SCDI	Strait Crossing Development Inc.
The Government, PEI, or PEI Government	Government of Prince Edward Island

Abbreviation	Term
UPA	Unit Participation Agreement

Appendix B – Gating process

What is gating?

The project gating process approved and applied by the Government of Canada is a systematic approach used to assess a project's viability at key points throughout its life cycle. A project gate is a decision point where a formal review of the project's health is conducted. During this review, several factors are assessed, including the project risk, scope changes, stakeholder input, and overall progress.

This approach helps ensure that projects selected are aligned with the defined goals and remain on track once commenced, providing opportunities to make high-quality and informed decisions throughout the project lifecycle.

Key decision points

There is a consistent set of key decision points that should be incorporated into every gating process. The key decision gates are as follows:

Gate 1 - Verify business problem or opportunity by:

- Defining the business problem or opportunity
- Articulating the desired future state
- Validating the proposal

Gate 2 - Validate business justification and select short list of options by:

- Identifying a long list of options
- Narrowing the long list of options down to a short list
- Identifying the preferred option
- Identifying the desired benefits

Gate 2 involves an assessment and comparison of all potential alternatives which can be done through use of an evaluation matrix. See **Appendix C** for an example of this tool.

Gate 3 - Approve preferred option and approach by:

- Developing the project approach and delivery strategy
- Defining the project at a high level
- Planning the high-level project implementation

Gate 4 - **Fund** project deliverables by:

- Developing the project management plan
- Evaluating and soliciting vendors
- Finalizing the anticipated benefits

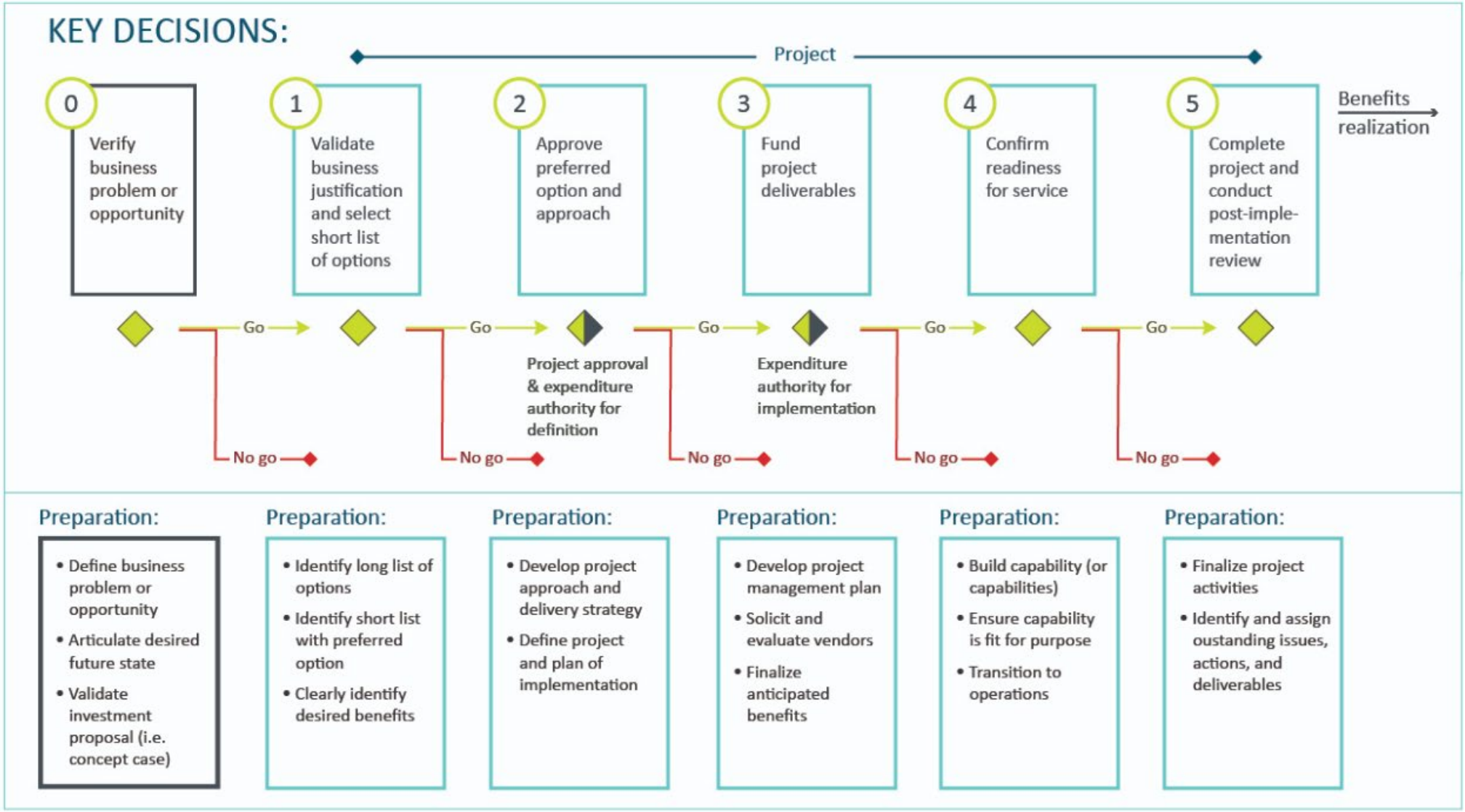
Gate 5 - Confirm readiness for service by ensuring:

- The capabilities are built
- The capabilities are fit for purpose
- The project deliverables are transitioned to the operational environment

Gate 6 - Complete project and conduct post-implementation review by:

- Finalizing project activities
- Identifying and assigning any outstanding issues, actions, and deliverables

The figure on the following page, as published by the Government of Canada, depicts the ideal flow of the decision gate process.[66]



Appendix C – Evaluation matrix

During the validation stage of the decision-making process ("Gate 2"), the project sponsor may need to evaluate project alternatives. The following represents an example project evaluation matrix that the province may use to inform their decision-making process for critical infrastructure investment.

Criterion:	Proposed project #1	Proposed project #2	Proposed project #3
Rate impact ***(1)***			
Reliability ***(2)***			
Environment ***(3)***			
Risk and uncertainty ***(4)***			
Financial viability ***(5)***			

Notes:

(1) Rate impact for the proposed infrastructure services should be carefully considered.

(2) Ensuring infrastructure reliable to minimize service disruptions and mitigate potential economic losses. Systems should be capable of withstanding natural disasters and operational stress.

(3) The power sources for each proposed option should be compared and environmentally sound.

(4) Components to consider when assessing an option's risk and uncertainty would be as follows:

- Access to supply of materials and resources
- Access to relevant operational expertise

(5) Components to consider when comparing an option's financial viability include:

- Initial estimated cost of each option (careful consideration to be placed on the class and the level of contingency built into the estimate)
- The investment climate and ability to attract investment dollars
- Access to capital
- Current credit rating
- The province's debt capacity
- Access to government and other funding sources

Appendix D – Sources and cost of capital

Provincial

Provincial funding sources

PEI leverages various provincial sources to fund its energy infrastructure projects, benefiting from low costs of capital, tax efficiency, and an established funding structure.

- **Low cost of capital:** Provincial funding for energy projects in PEI typically comes with a lower cost of capital compared to private sector financing. This is due to the government's ability to borrow at more favorable rates, reflecting its strong credit rating, status, and stable economic environment. Lower interest rates on government bonds and loans reduce the overall cost of capital, making it more affordable for customers to fund large-scale energy projects.
- **Impact on provincial borrowing capacity:** While provincial funding provides low-cost capital, it also impacts the province's borrowing capacity. The government must balance its debt levels to maintain a healthy fiscal position and credit rating. High levels of borrowing for energy projects could limit the availability of funds for other essential services and infrastructure. Therefore, the provincial government must carefully manage its borrowing strategy to ensure sustainability and fiscal responsibility.
- **Tax efficiency:** Funding energy projects through provincial sources is often tax efficient. Government-funded projects may benefit from tax exemptions and incentives that lower the overall cost of implementation. This efficiency helps maximize the impact of each dollar spent on energy infrastructure, ensuring that public funds are used effectively to achieve strategic energy goals.
- **Established structure via PEI Energy:** PEI has an established structure for funding and managing energy projects through entities like PEI Energy. This structure allows for streamlined project management, efficient allocation of resources, and effective oversight. PEI Energy plays a critical role in developing and implementing renewable energy projects, such as wind and solar farms, which are key components of the province's strategy to enhance energy sustainability and security.

Example project - Eastern Kings Wind Farm

An example of a provincially funded project is the Eastern Kings Wind Farm. This project developed by PEI Energy, received significant provincial funding to expand the island's renewable energy capacity. The wind farm, with an installed capacity of 30 MW, demonstrates the province's commitment to leveraging low-cost capital to finance sustainable energy projects. The cost of capital for such projects is kept low through provincial bonds and loans, ensuring that the financial burden on taxpayers is minimized while promoting green energy initiatives.[67]

Conclusion

PEI's approach to sourcing and funding capital for energy projects involves a mix of low-cost provincial funding, tax-efficient structures, and strategic borrowing. This method supports the development of critical energy infrastructure while maintaining fiscal responsibility. Projects like the Eastern Kings Wind Farm exemplify how PEI effectively utilizes provincial funds to enhance its renewable energy portfolio and meet its sustainability goals.

Private sector

Advantages of private sector funding

PEI effectively leverages private sector capital to finance its energy infrastructure projects, consistent with models like the Fortis Inc. ("Fortis")/MECL model. This approach offers several advantages and considerations:

- **Consistency with the Fortis/MECL model:** Utilizing private sector capital aligns with established models such as Fortis and MECL, where private companies invest in and manage energy infrastructure. This model demonstrates the successful integration of private capital and expertise in the development and operation of utility projects.
- **Broadening access to capital by using private sector capital:** By tapping into private sector funds, PEI reduces the reliance on provincial budgets for large-scale energy projects. This approach helps to diversify funding sources and ensures that critical infrastructure can be developed without solely depending on public finances.
- **Access to private sector expertise:** Private sector involvement brings valuable expertise and innovative technologies to PEI's energy sector. Private companies often have specialized knowledge in renewable energy, grid management, and advanced energy solutions, which can enhance the efficiency and effectiveness of energy projects.
- **Reducing impact on provincial borrowing capacity:** By relying on private capital, PEI can preserve its borrowing capacity for other essential services and infrastructure needs. This helps maintain the province's fiscal health and credit rating, ensuring that public funds are available for a broader range of projects.

Drawbacks of private sector funding

- **Higher cost of capital:** One notable drawback is the higher cost of capital associated with private sector funding. Private investors typically demand higher returns on their investments compared to the lower interest rates available to government entities. This can increase the overall cost of energy projects, impacting the final cost to consumers.
- **Profit-motivated partners:** Private sector partners are profit-driven, which can influence project priorities and management. While this can drive efficiency and innovation, it may also lead to conflicts with public interest goals, such as affordability and universal access.
- **Attracting tax costs:** Private sector investments often attract tax liabilities, which can affect the overall financial structure of energy projects. While tax incentives and credits can mitigate some of these costs, the need to generate taxable income for private investors can introduce additional financial considerations.

Example project: Norway Wind Farm, PEI

An example of a project funded with private sector capital is the 9 MW Norway Wind Farm. The wind farm is owned and operated by ENGIE, a French multinational electric utility company. The project has been operational since 2007 and contributes to the local community by providing jobs, tax revenues, and landowner payments in addition to the electricity generated.[68]

Conclusion

PEI's strategy of leveraging private sector capital for energy infrastructure projects offers significant benefits, including access to expertise and reduced impact on provincial borrowing capacity. However, it also comes with higher capital costs and the influence of profit motives. Balancing these factors is crucial to ensure the sustainable development of the island's energy infrastructure.

Public private partnership

Advantages of public private partnerships

The utilization of public-private partnerships for financing infrastructure projects involves accessing capital from both public and private sources. This approach proves advantages for specific, well-defined assets where the private sector can contribute specialized expertise and funding beyond what the public sector alone can provide.

PPPs typically employ higher leverage project finance models compared to traditional utility structures, which often rely heavily on equity financing (e.g., a 60/40 split between equity and debt). This allows projects to be funded with a greater proportion of debt, leveraging the private sector's capacity for financing and risk management.

One of the key benefits of PPPs is the transfer of risk to the party best equipped to handle it. This risk transfer can range from construction and operational risks to financial and demand risks, depending on the project specifics. By allocating risks appropriately, PPPs can reduce the burden on provincial borrowing capacity, as the financing is structured to be off the government's balance sheet.

Drawbacks of public private partnerships

PPPs in PEI's electricity infrastructure can present several challenges. One major drawback is the potential for higher costs, as private entities often seek to ensure a return on their investment, which can lead to increased expenses for public stakeholders.[69] Additionally, there can be a lack of public control and transparency, as private partners may prioritize their interests over public accountability. This can result in misaligned objectives and reduced public influence over project outcomes.[70] Furthermore, the long-term contracts typical of PPPs can lock public entities into agreements that may become unfavorable over time due to changing circumstances. These challenges highlight the need for careful planning and robust governance frameworks to ensure that PPPs effectively serve public interests in Prince Edward Island's electricity infrastructure.[71]

Example project: Confederation Bridge

The Confederation Bridge was designed and built by Strait Crossing Development Inc. ("SCDI"), an international private sector consortium. SCDI will operate and maintain the bridge for 35 years after which time it will be transferred to the Government of Canada.

Financing for the bridge was of an indirect nature i.e. the government of Canada did not borrow funds directly to build the bridge. Capital was provided by a New Brunswick Crown Corporation, Strait Crossing Finance Inc, which issued bonds in order to raise the money to build the bridge. This bond issue was secured by the Government of Canada which pledged to retire the bonds with a stream of annual payments of $41.9 million over thirty-five years. This sum is an estimate of the value of the annual subsidy which formerly went toward the Borden-Cape Tormentine ferry service.

SCDI is entitled to all toll revenue from the bridge for 35 years. Toll revenue will also be used to pay for bridge operations and maintenance during this period.[72]

Conclusion

In conclusion, PEI's approach to PPPs highlights the strategic use of private sector resources and expertise to optimize the financing of infrastructure projects. This method not only spreads financial risk effectively but also enhances the efficiency of project delivery, ultimately benefiting both the government and the public through timely and cost-effective infrastructure development. However, it also comes with higher costs, lack of public control and transparency, and the risk of long-term agreements that become unfavorable over time.

Appendix E – Documents relied upon

[1] PEI Outage Western PEI
[2] MECL Regulatory filings
[3] Electric Power Act
[4] Renewable Energy Act
[5] MECL Corporate profile
[6] Provincial Territorial Energy Profiles - Prince Edward Island
[7] Energy Knowledge Centre - PEI energy resources
[8] MECL request for the on-Island capacity for security of supply project
[9] MECL request for the on-Island capacity for security of supply project
[10] MECL request for the on-Island capacity for security of supply project
[11] CBC - PEI-NB Point Lepreau shutdown cost
[12] CBC - PEI Point Lepreau shutdown
[13] CBC - PEI Point Lepreau shutdown cost
[14] MECL request for the on-Island capacity for security of supply project
[15] MECL request for the on-Island capacity for security of supply project
[16] MECL request for the on-Island capacity for security of supply project
[17] MECL request for the on-Island capacity for security of supply project
[18] Stats Canada - Population estimates
[19] PEI Government - Annual statistical review 2022
[20] PEI Government - 2040 net zero framework
[21] Canada Energy Regulator - Canada energy future
[22] MECL request for the on-Island capacity for security of supply project
[23] Natural Resources Canada - Energy efficiency
[24] MECL request for the on-Island capacity for security of supply project
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[27] MECL request for the on-Island capacity for security of supply project
[28] MECL request for the on-Island capacity for security of supply project
[29] MECL request for the on-Island capacity for security of supply project
[30] MECL request for the on-Island capacity for security of supply project
[31] MECL request for the on-Island capacity for security of supply project
[32] MECL request for the on-Island capacity for security of supply project
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[38] MECL request for the on-Island capacity for security of supply project
[39] MECL request for the on-Island capacity for security of supply project
[40] MECL request for the on-Island capacity for security of supply project
[41] MECL request for the on-Island capacity for security of supply project
[42] MECL request for the on-Island capacity for security of supply project
[43] MECL request for the on-Island capacity for security of supply project
[44] PEI Government - PEI energy blueprint
[45] Norway - ENGIE North America
[46] CBC - PEI smart meter switch
[47] MECL request for the on-Island capacity for security of supply project
[48] MECL request for the on-Island capacity for security of supply project
[49] PEI Government - 2040 net zero framework
[50] CBC - PEI heating oil carbon tax
[51] NB Power - 2023 IRP
[52] CBC - Maritime Electric electricity demand
[53] CBC - PEI electrical cable complete
[54] Natural Resources Canada - Federal investment for new EV chargers across PEI
[55] Natural Resources Canada - Government of Canada announces 19 million to support electricity modernization in PEI
[56] Housing, Infrastructure and Communities Canada - Canada Community Building Fund
[57] Housing, Infrastructure and Communities Canada - Investing in Canada Infrastructure Program
[58] PEI Government - Energy strategy
[59] Torys - Energy storage in Canada

[60] MECL request for the on-Island capacity for security of supply project
[61] What Is The Life Expectancy Of A BESS Battery?
[62] Lifetime Limitations in Multi-Service Battery Energy Storage Systems
[63] MECL request for the on-Island capacity for security of supply project
[64] MECL request for the on-Island capacity for security of supply project
[66] Guide to Project Gating - Canada.ca
[67] PEIEC - Eastern kings wind farm
[68] Norway - ENGIE North America
[69] SNATIKA - The advantages and disadvantages of public private partnerships
[70] Brookings - The pros and cons of public private partnerships for infrastructure financing
[71] Worldbank - Public private partnerships
[72] CUPE - Confederation Bridge P3 case study

Doane Grant Thornton

Canadian Electricity Environmental Scan

Government of Prince Edward Island

May 30, 2025

Table of Contents

1 Executive Summary

1.1 Project overview

Doane Grant Thornton LLP ("Doane GT", "we", "us", "our") has been engaged by the Government of Prince Edward Island (the "Government" or "PEI" or "PEI Government") to provide an overview of the current state of the Canadian electricity sector. The purpose is to build upon the Government's understanding of the current status of the industry's structure, operational framework, financial composition, and recent trends.

1.2 Scope of work

The services provided by Doane GT include the following:

- A summary of the electricity market and customer rates in PEI;
- An overview of the current state of the Canadian electricity sector and how PEI's utility type and ownership structures compare to other jurisdictions across Canada;
- An overview of the key components of Canadian regulation and how aspects of PEI's regulation align or differ from common practice across Canada;
- Industry research surrounding the latest approved capital structures for regulated utilities across Canada including the cost of capital components; and,
- Exploration of recent alternative funding sources for electricity infrastructure.

1.3 Restrictions, limitations and disclaimer

Our scope has been outlined throughout this report. The procedures undertaken in the preparation of this report do not constitute an audit of financial information and consequently, we do not express an audit opinion on any financial information that has been provided. This report is intended for internal use and is not intended for general circulation or publication nor is it to be reproduced or used for any purpose other than that outlined herein without prior written permission in each specific instance. This report shall be used solely for the benefit of the Government and not for the benefit of any third-party and may be relied upon only for the purpose for which the report is intended as contemplated and/or defined within. Doane GT recognizes no responsibility whatsoever to any third party who may choose to rely on this report.

Unless stated otherwise, Doane GT has performed our work based on our experience as professional accountants with a broad range of experience working with utilities, utility regulators, and governments in Canada. Therefore, we have referenced information provided by various third-party sources in the preparation of this report. Where we have referenced third party information, we have included relevant footnotes throughout this report, a summary of which can be found in **Appendix C – Documents relied upon**. At the time of this report, Doane GT believes this information to be reliable but is not providing commentary, advice or recommendations on technical, engineering or legal matters. We are not guarantors of the information referenced and upon which we have relied in preparing this report and, except as stated, we have not audited or otherwise attempted to verify any of the underlying information, data, or documents referenced contained in this report.

All analysis, information, and recommendations contained herein are based upon the information made available to Doane GT as of the date of this report. We reserve the right but are under no obligation to review and/or revise the contents of this report in light of any information which becomes known to us after the date of this report.

1.4 Summary of findings, observations and/or conclusions

The following represents a summary of our key findings and conclusions based on the procedures outlined throughout the report:

Figure 1 – Summary of findings, observations and conclusions

#	Report section	Findings, observations, and/or conclusions
2.3	Customer rates	When comparing customer rates in PEI to the rest of Atlantic Canada on an overall basis, both the base and energy rates appear to be consistent and within the current range of other Atlantic Canadian utilities. Based upon Doane GT's industry expertise across the Canadian utility industry, PEI's customer rates are aligned with and fall near the midpoint of the national range.
3	Utilities across Canada	The type and ownership structure of PEI utilities appears to be comparable to other jurisdictions, offering a combination of vertically-integrated utilities under investor-owned, municipally owned, and crown ownership structures.
4.3.1	Provincial regulation	The role of IRAC appears to be broad in nature, covering a wider scope of responsibilities than regulators in some other Canadian provinces which can often slow the decision making process. However, on an overall basis, IRAC's mandate does appear to be relatively consistent with other regulatory authorities.
4.3.3	Independent operators	Approximately half of the Canadian provinces currently have an Independent System Operator ("ISO"). PEI does not have an ISO. In jurisdictions where an ISO is not established, enhanced regulatory oversight specific to system reliability is warranted. For example, when NB dissolved their ISO the utility became responsible for system reliability, and the regulatory body became responsible for ensuring reliability standards were followed. However, while an ISO would enhance grid stability oversight and management, it is important to consider the cost of maintaining a stand-alone system operator. When considering the cost on a per customer basis, this may be significant and prohibitive in PEI when compared to other markets. Overall, implementing an independent operator in PEI is likely to incur significant costs without providing proportionate benefits. However, it is important that responsibility for the planning

#	Report section	Findings, observations, and/or conclusions
		and reliability of the electrical grid be clearly defined. Although this is often the responsibility of the regulator or an ISO in other jurisdictions, another option for PEI could be to place this responsibility with a Consumer Advocate (further detailed in Section 4.3.5 of this report). A Consumer Advocate could specifically monitor the planning and decision-making process, creating more structured oversight while being mindful of the costs to customers.
4.3.4	Regulatory developments and efficiency agencies	The operations of efficiencyPEI is aligned with that of other efficiency agencies across Canada. However, the legislated federal emissions targets are not currently referenced in the Island's *Electric Power Act*, the *Island Regulatory and Appeals Commission Act*, or the *Renewable Energy Act*. Given these legislated targets influence the operations of the Island's regulatory and electricity sectors, stakeholders have raised the importance of having current regulatory legislation modified to clearly state these targets. This will help to ensure that all parties are aligned on the path to achieving these goals.
4.3.5	Consumer advocacy and public intervention	The role of the Consumer Advocate ("CA') offers numerous benefits within the utility industry to aid in creating a more robust regulation process which allows for greater independent representation of consumer and external stakeholder interests. PEI is the only Atlantic province without this role. We understand that PEI Energy has historically represented the government and public interests in electricity filings. However, the implementation of a defined CA role could enhance the rate hearing process in PEI by creating added consistency with neighboring jurisdictions on a go forward basis. Implementing a CA could provide a designated resource for addressing areas of importance such as engaging in the education of utility providers on the need for responsible electricity usage and Demand Side Management practices as well as offering a designated resource for monitoring the planning and/or reliability of the electrical grid. Specifically, given PEI Energy's access to technical resources within the market, it is recommended that placing responsibility for

#	Report section	Findings, observations, and/or conclusions
		CA oversight with PEI Energy be explored as an option to manage costs. Although PEI Energy already appears on behalf of the Government in a number of IRAC electricity filings to ensure the public is represented, it is important to be mindful of any potential conflicts of interest that may exist when the CA may be required to play a role on PEI Energy's regulatory filings. To manage this conflict, it is recommended that the reporting line be carefully considered and that duties and responsibilities be clearly defined for IRAC and the CA with any legislative changes proposed as required.
4.4	Rate regulation practices	On an overall basis, the application of Cost of Service ("COS") regulation in PEI is consistent with that of other Atlantic Canadian provinces of similar scale. However, exploring the implementation of Performance Based Regulation ("PBR") could provide new opportunities for utilities to increase returns and reduce risks if they provide the outcomes desired by customers, creating added benefit for both customers and investors.
4	Regulation across Canada	Overall, many aspects of PEI's electricity market are consistent with other jurisdictions across Canada. However, given the recent scrutiny surrounding the rolling blackout warnings in PEI, the strain on the Island's power grid and concerns regarding future capacity, it is recommended that the Province consider providing greater support, guidance, and access to additional resources to create added capacity for effective and efficient regulatory reviews. However, it is important that the Government carefully consider the associated costs of regulation as part of its decision-making process. Given the increased public scrutiny surrounding PEI's regulatory effectiveness, it's important that timely decision making is balanced with ensuring there is robust oversight on any upcoming matters.
5	Most recent approved regulated capital structure and cost of capital components	Our jurisdictional review noted approved common equity in the range of 20.00% to 45.00% across Canada with a 40.00% average, approved cost of equity (absolute ROE) in the range of 8.00% to 10.00 % across Canada with a 9.00% average, and weighted ROE in the range of 2.00% to 4.34% across Canada with an average weighted ROE of

#	Report section	Findings, observations, and/or conclusions
		3.52%. Overall, PEI's common equity of 40.00%, cost of equity of 9.35%, and weighted ROE of 3.74% fall within the respective ranges and are relatively consistent with the noted averages. Therefore, they appear to be comparable to other jurisdictions across Canada.
6	System reliability across Canada	Overall, MECL's target and actual System Average Interruption Duration Index ("SAIDI") has been consistently below or on par with other Atlantic Canadian utilities while actual System Average Interruption Frequency Index ("SAIFI") has been higher than most Atlantic Canadian regions in recent years. Therefore, while PEI's outages have been of shorter duration than other regions, they are experiencing a higher frequency of outages throughout the year.
7	Observations on other sources of capital used to fund electricity infrastructure	The Canadian electricity sector leverages a diverse array of capital sources to fund its infrastructure needs. By integrating traditional financing with innovative funding mechanisms, the sector can better address the challenges of modernization, sustainability, and resilience, ensuring a robust and reliable electricity supply for the future.

2 Background – PEI electricity sector

2.1 Purpose

Prior to beginning our analysis of the Canadian electricity sector, it is important to outline the current electricity market in PEI to offer a more in depth understanding of how the Island's market compares to the Canadian electricity sector as a whole. To do so, we have summarized the following:

- The main electric utilities in PEI along with their responsibilities and ownership structures;
- Current residential customer rates in PEI and how they compare to rates across Atlantic Canada;
- The current rate regulation authority and practices implemented in PEI; and,
- The presence of any other regulatory bodies on the Island.

2.2 Types of utilities and ownership structure in PEI

While there are some electricity generation assets in PEI, the majority of electricity consumed in the Province is imported from New Brunswick, which generates most of its

electricity from a mix of nuclear, fossil fuels, and hydroelectricity. Most of PEI's electricity transmission and distribution is provided by Maritime Electric Company Limited ("MECL"), a subsidiary of Fortis Inc. (a publicly traded investor-owned utility). Municipally-owned Summerside Electric also supplies electricity to more than 7,000 commercial and residential customers throughout Summerside and offers stand-by generation through diesel generators, solar farms, and wind farms.

In addition to MECL and Summerside Electric, PEI Energy Corporation ("PEI Energy") is a provincial government-owned entity focused on developing and promoting energy systems, particularly renewable energy such as wind power. PEI Energy is a multi-faceted organization that owns and operates several wind farms and transmission facilities, as well as provides financial support for energy projects. They are a regulated Demand Side Management ("DSM") utility with a focus on providing generation, transmission, and distribution of energy in all its forms on an economic and efficient basis. In addition, efficiencyPEI, provides programs, rebates and information for Islanders who are interested in reducing their day-to-day energy consumption. [1] [2] A summary of the utilities located in PEI and their respective responsibilities and ownership structures are summarized below:

Figure 2 – Summary of electric utilities in PEI

Utility	Utility type	Ownership structure	Rate regulation practice
MECL	Vertically-integrated (small amount of generation)	Investor-owned (Fortis Inc.)	Cost of service regulated by IRAC
Summerside Electric	Vertically-integrated (stand-by generation)	Municipally owned	Summerside Electric rates are matched to MECL
PEI Energy	DSM hybrid utility (generation & transmission but serves customers only through DSM programming)	Crown corporation	N/A – Only PEI Energy's DSM programs are regulated by IRAC

2.3 Customer rates

2.3.1 Residential customer rates in PEI

Customer rates charged by class for each PEI utility are summarized below based on actual customer rates as of the date of this report.

Figure 3 – Residential customer rates in PEI

Utility	Rate class	Base/service charge per month	Energy charge per kWh	
MECL	Urban	$24.57	< 2000 kWh: > 2000 kWh:	$0.1723 $0.1375
	Rural/seasonal	$26.92	< 2000 kWh: > 2000 kWh:	$0.1723 $0.1375
	Seasonal Option	37.50*	< 2000 kWh: > 2000 kWh:	$0.1723 $0.1375
Summerside Electric	Urban	$24.57	< 2000 kWh: > 2000 kWh:	$0.1723 $0.1375
	Rural/seasonal	$26.92	< 2000 kWh: > 2000 kWh:	$0.1723 $0.1375
	Seasonal Option	37.50**	< 2000 kWh: > 2000 kWh:	$0.1723 $0.1375

** For comparison purposes, we have considered the base charge associated with MECL's Seasonal Option to be an outlier given the nature of this rate class. We have therefore removed this base charge from our comparison of the maximum, minimum, and mean charges for the region in Figure 4 of the following section.*

2.3.2 PEI's customer rates in comparison to Atlantic Canada

We compared PEI's residential customer rates to residential rates in Newfoundland & Labrador, Nova Scotia, and New Brunswick in the following table, based on actual rates as of the date of this report. Please note that this table does not incorporate rates charged by smaller municipally owned utilities and focuses only on larger Atlantic Canadian utilities for comparison purposes.

Figure 4 – Comparison of residential customer rates in PEI to other Atlantic provinces

Province	Utility	Rate class	Base/service charge per month		Energy charge per kWh	
NL	**Newfoundland Power *** ("NF Power") [3]	Domestic Service	< 200 Amp: > 200 Amp:	$15.79 $20.79	per kWh:	$0.14237
	Newfoundland Labrador Hydro ("NL Hydro") [4]	Domestic Service (Island Interconnected)	< 200 Amp: > 200 Amp:	$15.79 $20.79	per kWh:	$0.14237
		Domestic Service (Labrador Interconnected)		6.87*	per kWh:	0.03154**
NS	**Nova Scotia Power** ("NS Power") [5]	Domestic Service		$19.17		$0.18561
NB		Urban		$29.55		$0.15170

Province	Utility	Rate class	Base/service charge per month	Energy charge per kWh
	New Brunswick Power ("NB Power") [6]	Rural/seasonal	$32.43	$0.15170
	Saint John Energy [7]	Residential Service	$23.44	$0.13380

	PEI	Atlantic Canada (inclusive of PEI)
Energy charge		
Minimum energy charge	$0.1375***	$0.13380
Maximum energy charge	$0.1723	$0.18561
Mean energy charge	$0.1549	$0.15971

	PEI	Atlantic Canada (inclusive of PEI)
Base/service charge		
Minimum base/service charge	$24.57	$15.790
Maximum base/service charge	$26.92	$32.430
Mean base/service charge	$25.745	$24.110

***** *NF Power is currently working on revising rates in response to their most recent general rate application. Rates are expected to be revised on July 1, 2025.*

****** *For comparison purposes, we have considered the base and energy charge associated with Hydro's Labrador Interconnected service to be an outlier given the unique contractual arrangements. Therefore, we have removed them from our comparison of the maximum, minimum, and mean charges for the region.*

***It is important to note that PEI is the only jurisdiction in Atlantic Canada with a declining second block, meaning as customers consume more energy and move to the second block (>2,000 kWh), rates decrease. Generally, utilities would increase rates for the second block as a means of encouraging efficiency. Other utilities have higher rates for the second block. *The minimum energy charge for PEI of $0.1375 in the above table represents the second block charge. While there is no second block charge available in other Atlantic provinces, we have considered this as the minimum charge for the region for comparison purposes in the above table.*

2.3.3 Conclusion

When comparing customer rates in PEI to the rest of Atlantic Canada on an overall basis, both the base and energy rates appear to be consistent and within the current range of other Atlantic Canadian utilities. Based upon Doane GT's industry expertise across the Canadian utility industry, PEI's customer rates are aligned with and fall near the midpoint of the national range.

2.4 Rate regulation

PEI has a provincial regulatory authority responsible for overseeing the electricity sector on the Island, the Island Regulatory Appeals Commission ("IRAC"). IRAC is an independent quasi-judicial tribunal with appellate, regulatory, and administrative responsibilities defined in the Island Regulatory and Appeals Commission Act and in a number of provincial statutes. Their responsibilities include the following:

1) **Electricity** - Under the Electric Power Act, IRAC regulates the operations of Maritime Electric Company Limited (***Note 1***).

2) **Petroleum** - Regulates petroleum pricing.
3) **Water/wastewater** - Regulates certain water and wastewater utilities and approves the rates charged by Island Waste Management Corporation.
4) **Land expropriation** - Conducting hearings and other required activities under the Lands Protection Act.
5) **Municipalities** - Advises government on proposals to establish or restructure municipalities under the Municipal Government Act.

Note 1 - MECL follows a cost of service rate regulation practice. Both MECL and PEI Energy are regulated by IRAC, while Summerside Electric is regulated by the municipality of Summerside.

2.5 Other regulatory bodies in PEI

Consumer Advocates and efficiency agencies are present in certain Canadian jurisdictions. EfficiencyPEI is PEI's local efficiency agency. This agency provides programs, rebates and information for residents of the Island who are interested in reducing their day-to-day energy consumption.

PEI does not currently have an appointed Consumer Advocate responsible for representing the interests of consumers.

2.6 Current events in PEI

A recent February 2025 power outage in western PEI affected over 19,000 customers due to damage at Maritime Electric's Sherbrooke substation. The City of Summerside was warned of potential rolling blackouts to manage the electricity interruption and residents were urged to reduce energy consumption, especially during peak hours.

Public comments have expressed concern with the reliability of electricity as of the date of this report. As a result, there is currently increased public scrutiny surrounding the regulatory effectiveness and overall resilience of the Island's power infrastructure.[8]

3 Utilities across Canada

3.1 Purpose

This section of our report aims to provide an overview of the current state of the Canadian electricity sector. To do so, we have completed the following:

- Provided a background overview of the important concepts in the Canadian electricity market including common utility types, ownership structures, system operations, and recent trends and developments;
- Provided a summary of the structure of various electric utilities across Canada; and,
- Provided a conclusion of how PEI's utility type and structure compares to other jurisdictions across Canada.

3.2 Background

3.2.1 System operation

The Canadian electricity utility industry operates through a complex system involving the generation, transmission, and distribution of electricity, managed either within a single

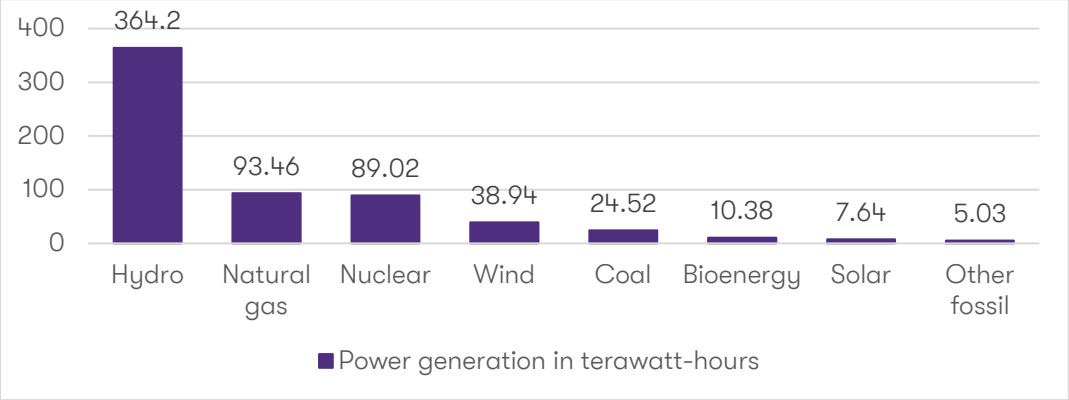
vertically-integrated utility or across multiple entities depending on the market structure. Each aspect of the electricity system is further explained below:

3.2.1.1 Generation

Electricity generation in Canada comes from diverse sources, including fossil fuels, and a significant proportion of renewable energy, particularly hydroelectric power. Nuclear power is also a source of generation in Canada, with NB Power being home to the only nuclear generating facility in Atlantic Canada.

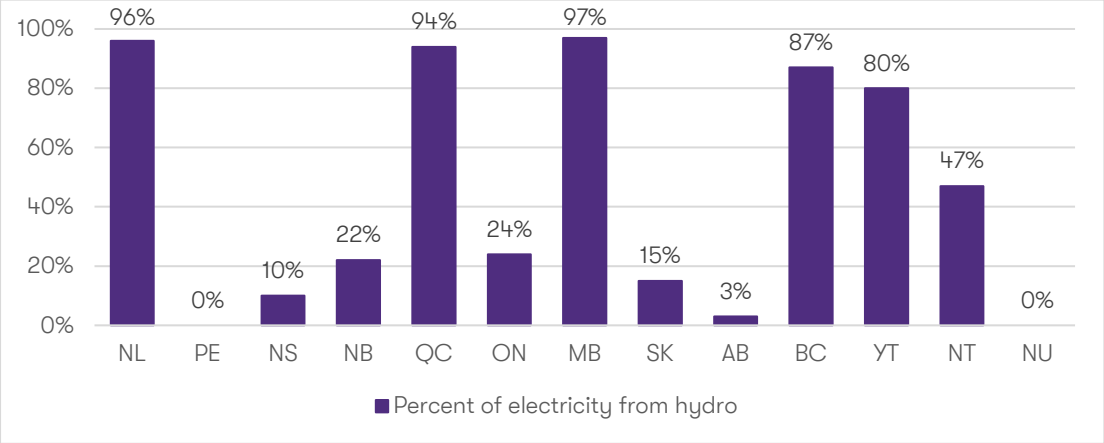
A breakdown of electricity generation by source in Canada for 2023 is displayed below:

Figure 5 – Canadian electricity generation by source[9]



In 2023, hydraulic turbines which are driven by flowing water, generated 364 terawatt-hours of the 633 terawatt-hours of electricity generated in Canada that year, making it the majority contributor.[10] Natural Resources Canada explained that five provinces in Canada use hydroelectricity to produce 80% or more of their total electricity generation. A summary of the percent of electricity from hydroelectricity by region is shown below:

Figure 6 – Hydroelectricity by region[11]



In provinces with vertically-integrated utilities, such as Quebec, a single entity such as Hydro-Québec oversees generation, transmission, and distribution. Conversely, in deregulated markets such as Alberta, these functions are often managed by different entities, with independent power producers ("IPP") generating electricity while transmission and distribution are handled by separate companies.

3.2.1.2 Transmission

The transmission of electricity in Canada involves moving high-voltage power from generation sites to substations near demand centers. High voltage transmission wires have served as the backbone of this system, enabling economies of scale in power production by transporting the energy from the central generating stations across large distances to areas where it is used or further distributed to households and businesses.[12] This is often managed by Transmission System Operators ("TSO"s) or Independent System Operators ("ISO"s) that ensure the grid's reliability and efficiency. In deregulated markets, these operators coordinate across multiple utilities and power producers. The major players in electricity transmission across Canada are summarized below[13]:

Figure 7 – Main electricity transmission utilities across Canada

Region	Utility	2024 market Share (%)
QC	Hydro-Quebec	21.80%
ON	Hydro One Limited	12.10%
BC	BC Hydro	7.70%
MB	Manitoba Hydro	2.90%

3.2.1.3 Distribution

Distribution is the final step in delivering electricity to consumers. Following transmission, electricity is then converted to lower voltages by power transformers, before finally being brought safely to households and businesses through smaller distribution wires.[14] This process is typically managed by local distribution utilities. These entities are responsible for the lower-voltage infrastructure that connects substations to homes and businesses. Even in deregulated provinces, distribution often remains a monopoly service provided by a single utility within a geographic area to ensure consistency and reliability.

Overall, the Canadian electricity utility industry exhibits a mix of vertically integrated and deregulated structures, each tailored to the specific needs and regulatory environments of the provinces. Coordination among various entities and adherence to national and provincial regulations help promote reliable system operation to ensure effective generation, transmission, and distribution of electricity across the country.

3.2.2 Recent trends and developments

The Canadian electricity utility industry is undergoing significant transformations driven by technological advancements, regulatory changes, electrification and a growing emphasis on sustainability.

3.2.3 Renewable energy sources

The growing emphasis on sustainability has sparked a number of trends in the utility industry, specifically the move towards renewable energy sources and regulatory impacts resulting in an increased presence of efficiency agencies and programs.

One of the most notable trends is the rapid expansion of renewable energy sources. Wind, solar, and hydroelectric power have seen substantial growth, supported by federal and provincial policies aimed at reducing greenhouse gas emissions and promoting clean energy. This shift is reflected in various large-scale projects, such as Ontario's extensive wind farms and Quebec's hydroelectric capacity, which have contributed to a decrease in reliance on fossil fuels. [15]

3.2.4 Technological advancements

As technology continues to improve, there are a number of recent trends and developments driven by these advancements such as grid modernization, energy storage solutions, microgrids, and electrification of transportation. These trends have been summarized below:

1. **Grid modernization** - Utilities are investing in smart grid technologies to enhance the reliability, efficiency, and resilience of electricity networks. These technologies include advanced metering infrastructure, automated control systems, and enhanced cybersecurity measures, which help manage the complexities of integrating distributed energy resources ("DER"s) and accommodating variable renewable energy sources. [16]
2. **Energy storage solutions** - Energy storage solutions are also gaining traction as a critical component of the evolving energy landscape. Battery storage systems are being deployed to stabilize the grid, store excess renewable energy, and provide backup power during outages. Notable projects, like those in Alberta and British Columbia, highlight the role of storage in achieving a more flexible and reliable electricity system. [17]
3. **Microgrids** - Additionally, there is a growing trend towards decentralization and the adoption of microgrids. These localized grids can operate independently or in conjunction with the main grid, providing enhanced energy security and resilience, especially in remote and rural areas. Microgrids are increasingly being used to integrate renewable energy sources and improve energy access in these regions. [18]
4. **Electrification** – Utilities are playing a crucial role in the electrification of transportation by developing the necessary infrastructure for electric vehicles ("EV"s). This includes the installation of EV charging stations and the integration of EVs into the grid, which is expected to increase electricity demand and necessitate further grid enhancements. [19]

In summary, the Canadian electricity utility industry is experiencing a dynamic period of change, characterized by the growth of renewable energy, advancements in grid technology, increased deployment of energy storage, and regulatory support for a sustainable future. These trends are positioning Canada as a leader in the global transition to clean energy.

3.2.5 Common utility types

Within each jurisdiction there can be various types of utilities. The main types of utility companies in Canada include the following:

1) **Vertically-integrated** – The utility is responsible for generation, transmission, and distribution of electricity in their province. Specifically, generating the electricity, transmitting it long distances, and then distributing it through local power lines to homes and businesses.
2) **Stand-alone generation** - The utility is responsible only for generating electricity from sources of primary energy.
3) **Stand-alone transmission** - The utility is responsible only for transmitting electricity long distances from the generator to distribution centers.
4) **Stand-alone distribution** - The utility is responsible only for distribution of electricity through local power lines.
5) **Hybrid** – The utility is responsible for a combination of generation, transmission, or distribution but does not partake in all three as would a vertically-integrated entity.

The above are the main utility types across Canada, however, unique to both Ontario and Alberta, is the existence of retailers who do not generate, transmit, or distribute electricity, they exclusively sell it to consumers.

3.2.6 Utility ownership structures

The ownership structure of the Canadian electricity utility industry is characterized by a mix of crown corporations, municipally-owned, and investor-owned utilities, each playing a vital role in ensuring the provision of electricity across the country. Provincial or territorial ownership is the most prominent model, with the majority of electricity generation, transmission, and distribution controlled by crown utilities that are owned by provincial or territorial governments.

Examples of major crown utilities include BC Hydro in British Columbia, which manages both hydroelectric and other energy resources; SaskPower in Saskatchewan, known for its diverse energy mix; Manitoba Hydro, which primarily relies on hydroelectric power; and Hydro-Québec, one of the largest utility companies in North America, renowned for its extensive hydroelectric facilities. There are a number of investor-owned utilities as well. Some of the largest utility investors across the country include Emera Inc., Fortis Inc., and ATCO. Finally, Summerside Electric in PEI, Saint John Energy in New Brunswick, ENMAX Corporation in Alberta, and Alectra Utilities Corporation & Toronto Hydro in Ontario are all examples of municipally-owned utilities across Canada.

While some jurisdictions across Canada have crown utilities only, many regions have a combination of crown utilities, investor-owned, and/or municipally owned electric utilities.

3.3 Summary of utility type and ownership by region

The following table summarizes the type and ownership structure by utility across each Canadian province and territory. Further detail on the individual utilities by region can be found in Appendix B.

Figure 8 – Summary of Canadian utility types and ownership structure

Region	Utility	Utility type	Ownership structure
NL	NF Power	Hybrid (primary distributor & transmission with small amount of generation)	Investor-owned
	NL Hydro	Vertically-integrated (primary generator)	Crown corporation
NS	NS Power	Vertically-integrated	Investor-owned
NB	NB Power	Vertically-integrated (home of the only nuclear generating facility in Atlantic Canada)	Crown corporation
	Saint John Energy	Standalone distribution	Municipally owned
PE	MECL	Vertically-integrated (small amount of generation only)	Investor-owned
	Summerside Electric	Vertically-integrated (stand-by generation)	Municipally owned
	PEI Energy	DSM hybrid utility (generation & transmission but serves customers only through DSM programming)	Crown corporation
QC	Hydro-Québec	Vertically-integrated	Crown corporation
ON	Hydro One Networks Inc.	Hybrid (distribution & transmission)	Investor-owned
	Alectra Utilities Corporation	Standalone distribution	Municipally owned - ***Note 1***
	Toronto Hydro	Standalone distribution	Municipally owned - ***Note 1***
	Ontario Power Generation ("OPG")	Standalone generation	Crown corporation

Region	Utility	Utility type	Ownership structure
MB	Manitoba Hydro	Vertically-integrated	Crown corporation
SK	SaskPower	Vertically-integrated	Crown corporation
AB	AltaLink	Standalone transmission (largest transmission provider in Alberta, responsible for the intertie between AB and BC)	Investor-owned
	ATCO Electric Ltd.	Hybrid (transmission & distribution)	Investor-owned
	Canadian Power Holdings	Standalone generation	Investor-owned
	Capital Power	Standalone generation	Investor-owned
	City of Medicine Hat Electric Utility	Vertically-integrated	Municipally owned
	City of Red Deer Electric Light and Power	Hybrid (distribution & transmission)	Municipally owned
	ENMAX Corporation	Vertically-integrated + energy retail	Municipally owned
	EPCOR Utilities Inc.	Hybrid (distribution, transmission + energy retail)	Municipally owned
	Fortis Alberta Inc.	Standalone distribution	Investor-owned
	TransAlta Corporation	Hybrid (generation & transmission)	Investor-owned
BC	BC Hydro	Vertically-integrated	Crown corporation
	Fortis BC Inc.	Hybrid Vertically-integrated (both gas and electric)	Investor-owned
YT	Yukon Energy Corporation	Hybrid (generation & transmission)	Crown corporation
	ATCO Electric Yukon	Standalone distribution	Investor-owned
NT	Northwest Territories Power Corporation	Vertically-integrated (primary generator)	Crown corporation
	Naka Power NWT (formerly Northland Utilities NWT)	Hybrid (generation & distribution)	Investor-owned
	Naka Power Yellowknife (formerly Northland Utilities Yellowknife)	Standalone distribution	Investor-owned
NU	Qulliq Energy Corporation	Hybrid (generation & distribution) – ***Note 2***	Crown corporation

Note 1 *– Please note that while we have highlighted Alectra Utilities Corporation and Toronto Hydro as examples of municipally owned utilities in Ontario, there a number of additional municipally owned utilities in the Province that have not been summarized in the above table.*

Note 2 *– While Qulliq Energy Corporation is the sole provider of electricity, Nunavut's energy system operates differently from other Canadian provinces as they do not have a shared transmission grid. Instead, each community relies on independent powerplants where power is generated and distributed to the local area, known as a "micro-grid" system.*[20]

3.4 Conclusion

The type and ownership structure of PEI utilities appears to be comparable to other jurisdictions, offering a combination of vertically-integrated utilities under investor-owned, municipally owned, and crown ownership structures.

4 Regulation across Canada

4.1 Purpose

The regulatory structure of the Canadian electric utility industry is complex, involving multiple layers of governance and initiatives. This section of our report aims to provide an overview of the key components of Canadian regulation. To do so, we have completed the following:

- Provided a summary of the key aspects of regulation;
- Outlined the various forms of system management and oversight present in the Canadian electricity sector including provincial and federal regulation, independent operators, efficiency agencies, and consumer advocacy;
- Provided a summary of Canadian rate regulation practices; and,
- Concluded on how aspects of PEI's regulation may align or differ from common practice across Canada.

4.2 Key aspects of regulation

The key focuses of utility regulation are as follows:

Rate setting - Provincial regulators are responsible for approving rates and tariffs proposed by utility companies to ensure they are fair and reasonable for consumers while allowing utilities to cover their costs and earn a reasonable return.

Market regulation - In provinces with competitive electricity markets (e.g., Alberta and Ontario), regulators oversee market rules to ensure fair competition and reliability of supply.

Environmental compliance - Both federal and provincial regulations govern the environmental impact of electricity generation, with a strong emphasis on reducing greenhouse gas emissions and transitioning to renewable energy sources.

Infrastructure development - Regulatory bodies also oversee the planning and approval of new infrastructure projects, such as transmission lines and power plants, ensuring they meet technical standards and public interest criteria.

4.3 System management and oversight

4.3.1 Provincial regulation:

Electricity regulation in Canada is predominantly a provincial matter. Each province has its own regulatory authority responsible for overseeing the generation, transmission, and distribution of electricity within its borders. These bodies ensure that electricity services are reliable, affordable, and environmentally compliant and are typically responsible for setting rates and monitoring utilities adherence to legislation. A summary of the regulators for each Canadian jurisdiction is provided in the following table. More details on these regulators and their responsibilities can be found in Appendix B.

Figure 9 – Summary of Canadian regulators

Jurisdiction	Regulator
NL	Board of Commissioners of Public Utilities ("PUB")
PE	Island Regulatory & Appeals Commission ("IRAC")
NS	Nova Scotia Utility and Review Board ("NSUARB")
NB	New Brunswick Energy & Utilities Board ("NBEUB")
QC	The Régie de l'énergie (the Régie)
ON	Ontario Energy Board ("OEB")
MB	The Public Utilities Board of Manitoba ("PUB MB")
SK	Saskatchewan Rate Review Panel ("SRRP")
AB	Alberta Utilities Commission ("AUC")
BC	The BC Utilities Commission ("BCUC")
YT	Yukon Utilities Board ("YUB")
NT	The Northwest Territories Public Utilities Board ("NWTUB")
NU	The Utility Rates Review Council ("URRC")

4.3.2 Federal and collaborative regulation

The federal government regulates aspects of the electricity industry that cross provincial or international boundaries. The key federal body is the Canada Energy Regulator ("CER"), previously known as the National Energy Board, which manages interprovincial and international power lines, electricity exports, and energy projects that impact more than one province.[21]

While provinces have primary jurisdiction, there are significant areas of overlap where federal and provincial authorities must collaborate, particularly in areas like environmental regulations, greenhouse gas emissions, and large-scale infrastructure projects.

4.3.3 Independent operators

System operations in Canada involve continuous real-time monitoring, demand forecasting, and grid stability management. Independent System Operators ("ISO") play a critical role in these operations, coordinating with various stakeholders to maintain a stable and reliable electricity supply. The independent operators in Canada have been summarized in the following table by jurisdiction. Further detail on these operators can be found in Appendix B.

Figure 10 – Summary of ISOs across Canada

Jurisdiction	Independent operator
NL	Newfoundland & Labrador System Operator ("NLSO")
PE	None noted
NS	Creation of independent grid operator currently in progress - ***Note 1***
NB	None noted - ***Note 2***
QC	None noted
ON	The Independent Electricity System Operator ("IESO")
MB	Midcontinent Independent System Operator ("MISO")
SK	None noted
AB	The Alberta Electric System Operator ("AESO")
BC	None noted
YT	None noted
NT	None noted
NU	None noted

Note 1 *- Per the Nova Scotia news release on February 27, 2024, the new Energy and Regulatory Boards Act will split the Nova Scotia Utility and Review Board into two new boards. It will create the new Nova Scotia Energy Board with expertise in and a focus on regulating public utilities in the energy sector. The new Energy Board will be required to consider the Environmental Goals and Climate Change Reduction Act in its decisions. The remaining responsibilities of the Utility and Review Board will stay with a restructured and renamed Regulatory and Appeals Board. The Independent Energy System Operator is not yet operational, but it is expected to be fully operational by late 2025.* [22]

Note 2 *– While NB did have an independent operator in the past, restructuring eliminated the New Brunswick System Operator as a separate entity as of October 1, 2013. The majority of the operations of the system operator were folded back into New Brunswick Power operations. The system operator's role ensuring that reliability standards are followed was transferred to the Board.*[23]

4.3.4 Regulatory developments and efficiency agencies

The Canadian government's commitment to achieving net-zero emissions by 2050 has led to stricter environmental regulations and incentives for clean energy projects. Programs like the federal Green Infrastructure Fund and various provincial initiatives support the transition to a low-carbon economy by funding renewable energy and energy efficiency projects. [24]

Specifically, PEI has set the goal of becoming Canada's first net-zero province by reaching a legislated target of no more than 1.2 megatonnes of greenhouse gas emissions yearly by 2030 and achieving net-zero emissions across the province by 2040 – all while creating new economic and employment opportunities.[25] These legislated targets have not been stated in the Island's *Electric Power Act*, the *Island Regulatory and Appeals Commission Act*, or the *Renewable Energy Act*. However, they are outlined in PEI's *Net-Zero Carbon Act*. Given these legislated targets influence the operations of the Island's regulatory and electricity sectors, stakeholders have raised the importance of having current regulatory legislation modified to clearly state these targets. This will help to ensure that all parties are aligned on the path to achieving these goals.

Efficiency agencies exist in a number of regions across Canada to assist provinces in achieving their emissions targets. Efficiency agencies are organizations that are focused on improving the efficiency of utility operations and the services they provide to consumers.

They aim to reduce waste, lower costs, and promote sustainable practices within the utility sector by promoting customer education and offering a variety of support through energy efficiency programs, incentive programs, and rebates.

Overall, this contributes to the Demand Side Management strategy used by electric utilities to control electricity demand by incentivizing customers to modify their energy consumption. An important piece of this process is ensuring utility providers are able to forecast power needs and short-term supply required to meet peak demands. It is important that educating providers on the need for responsible use of electricity be a priority for all regions.

There are a number of efficiency agencies across Canada which have been summarized below.

Figure 11 – Summary of efficiency agencies across Canada

Jurisdiction	Efficiency agency	Description
NL	takeCHARGE NL	In 2008, Newfoundland Power and Newfoundland and Labrador Hydro teamed up to create takeCHARGE, a program designed to help Newfoundlanders and Labradorians understand how to use energy wisely, while providing rebates to help both homeowners and businesses take action to reduce their energy use. [26]
PE	efficiencyPEI	efficiencyPEI provides programs, rebates and information for Islanders who are interested in reducing their day-to-day energy consumption. [27] [28]
NS	EfficiencyOne	An independent, non-profit organization which holds the exclusive franchise to provide energy efficiency and conservation activities in Nova Scotia. EfficiencyOne manages energy saving programs and services for Nova Scotians under a three-year supply agreement with Nova Scotia Power. [29]
NB	SaveEnergyNB	Offers a variety of financial incentives and programs delivered to individuals, businesses, and communities by New Brunswick Power with funding support from the Government of Canada and the Province of New Brunswick.[30]
QC	Efficient Solution Program (through Hydro Quebec)	Offered through Hydro Quebec, the Efficient Solutions Program is a financial support program to support Québec businesses that want to carry out projects to improve their energy performance.[31]
ON	Save on Energy	Save on Energy is the mark of energy-efficiency programs offered by the Independent Electricity System Operator. Save on Energy offers incentives and resources to make energy-efficiency projects more affordable and also raises awareness about the many ways we can reduce energy waste in our day-to-day lives.[32]
MB	Efficiency Manitoba	Efficiency Manitoba is Manitoba's Crown corporation committed to reaching long-term energy savings targets by offering cost-effective programs and services to Manitobans.[33]

Jurisdiction	Efficiency agency	Description
SK	No efficiency agency noted	While there is no noted efficiency agency in Saskatchewan, both SaskPower and SaskEnergy offer rebates and programs to promote energy savings.
AB	The Alberta Efficiency Alliance ("AEEA")	AEEA is a member-based organization with a diverse group of stakeholders actively working to maximize energy efficiency in the province of Alberta. Established in 2007, the AEEA is a group of industry, associations, municipal and non-profit organizations. The AEEA has established a core set of beliefs that inform both a shared vision for the future of Alberta and a focused mission statement for the organization.[34]
AB	Energy Efficiency Alberta	Energy Efficiency Alberta is a provincial agency that promotes and supports energy efficiency and community energy systems (including micro-generation and small-scale generation) for homes, businesses and communities.[35]
BC	CleanBC	CleanBC is the government's plan to lower climate-changing emissions by 40% by 2030. CleanBC provides rebates and incentives to help people and businesses in British Columbia switch to cleaner homes, buildings, and transportation.[36]
YT	No efficiency agency noted	While there is no noted efficiency agency in Yukon, "Good Energy" rebates are offered through the Government of Yukon allowing recipients to get money back for energy-efficient choices and support the government's "Our Clean Future" strategy to address the climate emergency.
NT	The Arctic Energy Alliance ("AEA")	The AEA is a not-for-profit society with a mandate "to help communities, consumers, producers, regulators and policymakers to work together to reduce the costs and environmental impacts of energy and utility services in the Northwest Territories." They offer various rebates and services and aim to lead and facilitate the integration of efficient, renewable and sustainable energy practices in the NWT. [37] [38]
NU	No efficiency agency noted	Nunavut does not have a dedicated efficiency agency but there are ongoing energy efficiency and conservation efforts being managed through various government initiatives and programs.

4.3.5 Consumer advocacy and public intervention

4.3.5.1 What is a Consumer Advocate

According to the NSUARB, a Consumer Advocate ("CA") is a person or organization appointed to represent the interests of anyone who buys power for their own use in a home. They are the voice of the ordinary resident in complex utility matters.[39]

Per the National Association of Regulatory Utility Commissioners ("NARUC"), CAs have the authority to represent utility consumers in rate cases and other proceedings at state public utility commissions. Some CAs represent all utility consumers, while others focus on specific sectors such as residential, farm, and small business interests. They can represent consumers in various forums, including courts, administrative hearings, and legislative lobbying. Overall, the CA acts as counsel on behalf of consumers, while the commission serves as the fact-finder and decision maker.

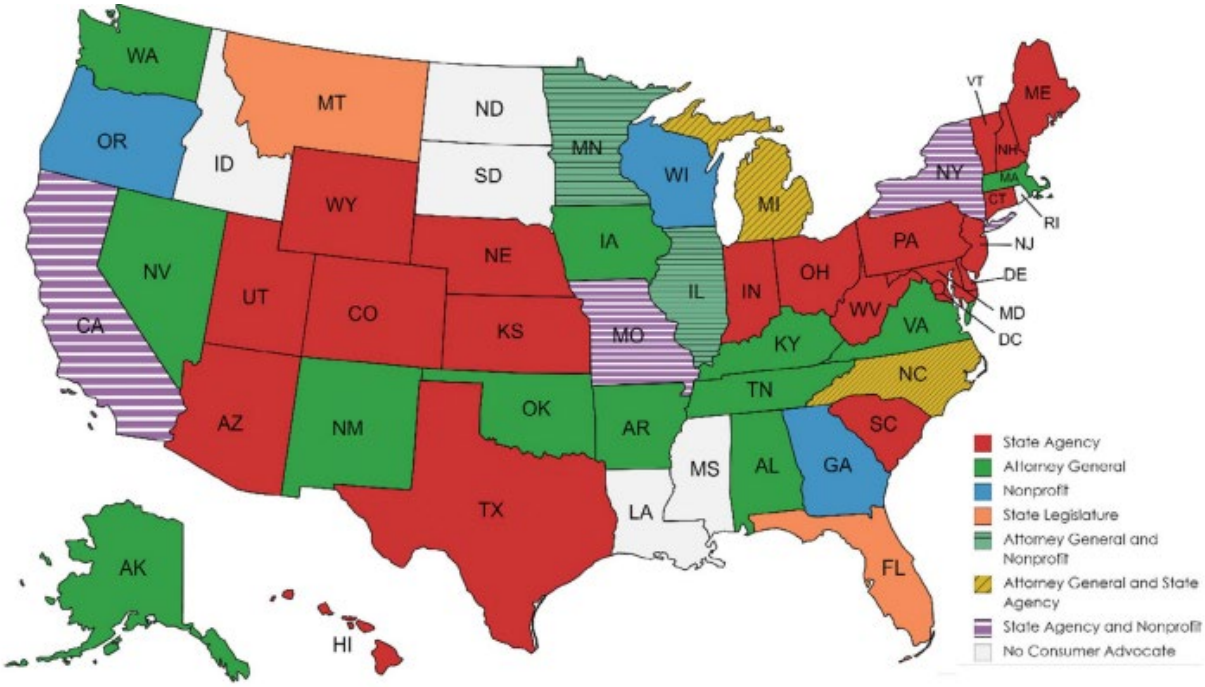
4.3.5.2 Why have a Consumer Advocate

CAs or public interveners play a crucial role in balancing the interests of consumers with those of utility companies and regulators. They offer the following benefits within the utility market:

- Represent the interests of utility consumers in regulatory proceedings, ensuring that consumer voices are heard;
- Work to secure fair and reasonable utility rates for consumers;
- Provides a legal check on regulatory actions given they have the authority to appeal commission decisions;
- Help protect consumers from unfair practices and ensure that their rights are upheld;
- Promote transparency and accountability in utility operations and regulatory decisions[40]; and,
- Creates a sense of equality. Most domestic customers do not have the time and resources to analyze all information required to prepare a case for an electricity matter as would a utility, larger business, or industrial customer. Therefore, a CA is appointed and provided with sufficient resources to put them on equal footing to properly make a case.[41]

Due to the many advantages, the majority of states in the United States of America have some form of consumer advocacy, whether that be a state agency, the Attorney General, a non-profit, or specific state legislature. The NARUC has provided a summary of consumer advocacy by state, as shown below[42]:

Figure 12 – Summary of consumer advocacy by state



It is important to note that of all 50 states, there are only five that do not have some form of CA in place, demonstrating the significance of its presence across the United States.

4.3.5.3 Consumer Advocacy across Canada

The presence and structure of consumer advocacy differs across Canada. The status of consumer advocacy has been summarized in the following map with further detail to be found in Figure 14:

Figure 13 – Summary of consumer advocacy by province

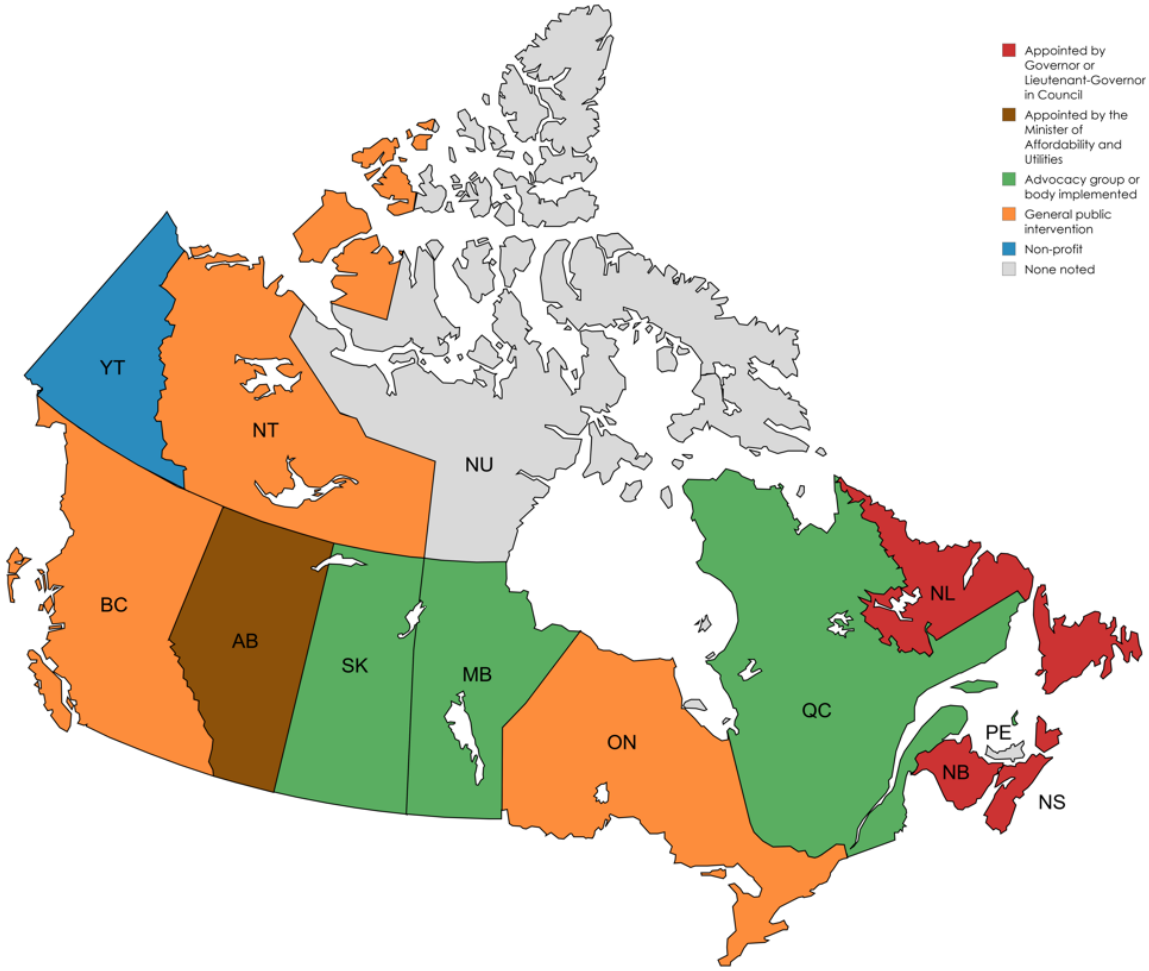


Figure 14 – Consumer Advocacy across Canada

Jurisdiction	Consumer Advocacy
NL	Consumer Advocate appointed by the Lieutenant-Governor in Council.
PE	None noted.
NS	Consumer Advocate appointed by NSUARB. The Governor in Council can direct NSUARB to appoint a CA.
NB	Public Intervener appointed by the Lieutenant-Governor in Council.
QC	Office de la protection du consommateur ("OPC")
ON	General public intervention (***Note 1***).
MB	Consumers' Association of Canada
SK	The Office of Public Energy Intervenor is an automatic party to hearings before the Board. The Public Intervenor advocates on behalf of the public interest, not a particular class or group.
AB	Consumer Advocate appointed by the Minister of Affordability and Utilities.
BC	General public intervention (***Note 1***). In addition, the Residential Consumer Intervener Association ("RCIA") is a group that serves as an intervener in BC's energy utility proceedings and hearings.

Jurisdiction	Consumer Advocacy
YT	The Yukon Utilities Consumers' Group is a not-for-profit organization registered as a society in the Yukon representing residential and small business ratepayers in regulatory proceedings.
NT	General public intervention (***Note 1***).
NU	None noted.

Note 1 *- Individuals or groups have the option to become an intervenor in a hearing before the regulator but there is no specified Consumer Advocate or Public Intervener as in some other provinces.*

While the type of consumer advocacy varies by region across Canada, it is important to note that the majority of Canadian provinces offer some form of advocacy or public intervention to represent consumers throughout the hearing process.

4.3.5.4 Implementation of Consumer Advocate

Across Atlantic Canada, directly appointing a specific CA is common practice. When appointing a CA, it is important to specifically outline the purpose, structure, competency profile, qualifications, time, and term required prior to appointment.

The Independent Appointments Commission in Newfoundland and Labrador summarizes the requirements for the appointment or implementation of a CA[43]:

1. **Define the purpose and duties of the CA –** For example, in NL, the CA is appointed by the Lieutenant-Governor in Council to represent the interests of electrical services customers in matters brought before the PUB *and* to represent the interests of automobile insureds.

   For regions with a pre-existing regulatory body (such as IRAC), it is important to specifically outline what responsibilities will lie with the regulator versus the CA as there may be overlapping duties if not adequately defined. Similarly, this may lead to required changes within the region's regulatory legislation which should be contemplated as part of this process.

2. **Outline the structure –** In NL, the Lieutenant-Governor in Council appoints a consumer advocate in accordance with the Public Utilities Act upon terms and conditions predetermined by the Lieutenant-Governor in Council.

3. **Outline the competency profile –** The competencies required to accomplish the defined purpose. For example, in NL, the following competencies are preferred for the CA:

   a. Knowledge and understanding of the legislation, regulations, programs, policies, practices and precedents governing electricity service and automobile insurance;

   b. Knowledge of the electric utility and insurance industries, including trends and issues;

   c. Knowledge of cost of service regulation, including knowledge of revenue requirements, deferral accounts, utility finance, income taxes, cost allocation, cost of service studies, rate design and terms and conditions of service;

   d. Knowledge of economic principles relating to utility rates and costing methodologies;

   e. Knowledge of automobile and insurance actuarial principles including loss development, loss trends, credibility standards and risk classifications;

   f. Knowledge of administrative law;

g. Effective advocacy skills in quasi-judicial and judicial hearings; and

h. Effective written and oral communication, advocacy, facilitation, negotiation and conflict resolution skills.

4. **Outline the required qualifications** – To assist in the appointment process, a specific list of qualifications should be defined for the CA. In NL, these qualifications are typically acquired through the completion of a law degree and are outlined as follows:

    a. Related experience in utilities regulatory intervention, insurance regulatory intervention, administrative tribunals and hearings;

    b. Ability to prepare and present comprehensive reports;

    c. Exceptional verbal, written, listening and interpersonal skills; and

    d. Conceptual, critical, analytical thinking and problem-solving skills.

5. **Determine the time commitments** – The time commitments for such a role can often fluctuate throughout the year and vary depending on the regulatory matter at hand. However, the time commitment for preparation and attendance at hearings can often be extensive.

6. **Set the term** – CAs are often appointed in relation to specific matters or hearings but may also be appointed on an annual basis.

4.4 Rate regulation practices

There are two common utility regulation practices applied across Canada; cost of service regulation ("COS") and performance-based regulation ("PBR").

4.4.1 Cost of service regulation

Under traditional cost of service regulation, rates are determined based on a two-step process. First, the revenue requirement (the cost of service), which reflects the amount that must be collected in rates for the utility to recover its costs and earn a reasonable return. Electricity rates are based solely on the recovery of utility costs. The basis of the rate making formula is as follows:

- rate base
- multiplied by the allowed rate of return
- equals required return
- Add/deduct adjustments to cost of service (i.e. fuel and purchased power, OM&G, depreciation and accretion etc.)
- Equals revenue requirement

Then, the individual customer rates are established to allow the utility to recover the total annual revenue requirement.

4.4.2 Performance-based regulation

The Alberta Utilities Commission describes performance-based regulation as follows:

"Rate regulation for electric and gas distribution utilities in Alberta is performed under a form of performance-based regulation, which was put in place by the AUC to replace the traditional cost-of-service rate regulation. Performance-based regulation is designed to mimic competition, encourage efficiency by providing incentives for the utility to reduce

costs, while safeguarding reliability. In doing so, utility rates are kept lower than they might otherwise have been for customers.

> *Under performance-based regulation, rates are calculated annually by means of an incentive-based formula rather than by the traditional ratemaking method which sets rates based on the costs utility companies are expected to incur in a given year. The more efficient the utility operates, the more savings it realizes, which results in a greater rate-of-return, and since these benefits are then shared with customers, the lower the rates can be. Quality of service is safeguarded through separate, enforceable, AUC requirements. Performance-based regulation also reduces the regulatory burden because once the formula is set, the utilities do not need to get their costs approved annually as they would under the traditional ratemaking method, until the PBR term has expired."* [44]

Under performance-based regulation there is typically an annual formulaic adjustment to rates. Rates in year one are still generally determined based on a cost of service approach but customer rates are then adjusted in subsequent years by a predefined formula throughout the PBR term.

An example of this formula is:

- Rates (yr 1) * (1 + (I-X)) = Rates (yr 2), whereby
- I = Inflation Factor
- X = Efficiency Factor
- Extraordinary or uncontrollable factors that may have a significant impact and are beyond the control of the utility may be eligible for non-routine customer rate adjustments.

Performance-based regulation may also include a variety of revenue adjustment mechanisms such as earnings sharing mechanisms ("ESM"). These mechanisms are generally used as a means of tying performance-based incentives to the utility's financial integrity and the customers' interests.

4.4.3 Benefits and drawbacks of PBR and COS

Both above regulation methodologies offer several benefits and drawbacks. It is important to understand both the advantages and disadvantages of each, as outlined below, to determine how each practice may impact a region's local utility market.

Figure 15 – Advantages and disadvantages of PBR vs. COS regulation

Regulation practice	Advantages	Disadvantages
PBR[45] [46]	• **Efficiency incentives**: PBR encourages utilities to improve efficiency and performance by tying their revenues to specific performance targets. • **Flexibility**: PBR frameworks can adapt to changing market conditions, allowing for more dynamic regulatory approaches. • **Innovation**: By focusing on outcomes rather than costs, PBR promotes investment in innovative technologies and practices. • **Alignment with public goals**: PBR can align utility incentives with broader societal goals, such as environmental sustainability and customer satisfaction. • **Customer benefit**: Customers automatically share in the expected efficiency gains and cost reductions achieved by the utility during the PBR term are then passed onto customers when customer rates are reset for the next PBR term. This will allow customers to receive stable and predictable rates.	• **Complexity**: Designing and implementing PBR frameworks can be complex, requiring sophisticated metrics and monitoring systems. • **Financial risk**: Utilities have the potential to face higher financial risks under PBR, as their revenues depend on performance outcomes. • **Potential for manipulation**: There is a risk that utilities might manipulate performance metrics to meet targets without genuinely improving service quality. • **Service quality**: While PBR creates incentives for a utility to find operating efficiencies, it does not create similar incentives for the utility to maintain or enhance service quality. Therefore, strong service and performance measures must be established to ensure service levels are met.
COS[47]	• **Predictability**: Provides stable and predictable revenue for utilities, aiding long-term planning and investment. • **Consumer protection**: Ensures that utility rates are based on actual costs, protecting consumers from excessive charges. • **Transparency:** Cost of service regulation ensures that utility rates are based on the actual costs incurred by the utility, making the process transparent. • **Encourages investment:** Utilities are assured of	• **Regulatory burden:** Detailed cost reviews and rate-setting processes can be time-consuming and resource-intensive. • **Inefficiency**: Since a higher rate base results in a higher return under this methodology, this may not incentivize utilities to operate efficiently since they are guaranteed to recover their costs. Therefore, they have little incentive to reduce costs or improve performance beyond regulatory requirements. • **Regulatory lag**: There can be delays in adjusting rates to

Regulation practice	Advantages	Disadvantages
	recovering their costs, which can encourage investment in infrastructure and maintenance.	reflect current costs, leading to potential mismatches between costs and revenues. • **Limited innovation**: Utilities might be less motivated to innovate or adopt new technologies if they are focused on recovering costs rather than improving efficiency.

4.4.4 Summary regulation practice by region

To understand rate regulation across Canada, the following table summarizes the rate regulation practice applied to utilities in the various regions across the country.

Figure 16 – Summary of regulatory practice across Canada

Jurisdiction	Regulatory practice
NL	COS
PE	COS
NS	COS
NB	COS
QC	PBR
ON	PBR
MB	COS
SK	COS
AB	PBR/COS
BC	PBR
YT	COS
NT	COS
NU	COS

While the COS methodology is applied in more jurisdictions across the country, the PBR methodology is applied in the larger markets such as Alberta and Ontario which contain a higher number of utilities. On an overall basis, the application of COS regulation in PEI is consistent with that of other Atlantic Canadian provinces of similar scale. However, exploring the implementation of PBR could provide new opportunities for utilities to increase returns and reduce risks if they provide the outcomes desired by customers, creating added benefit for both customers and investors.

4.5 Conclusion

Based on our analysis of utility regulation across Canada, we have made the following observations regarding PEI's regulation practices in comparison to other provinces:

- The role of IRAC appears to be broad in nature, covering a wider scope of responsibilities than regulators in some other Canadian provinces which can often

slow the decision making process. However, on an overall basis, IRAC's mandate does appear to be relatively consistent with other regulatory authorities;

- Approximately half of the Canadian provinces currently have an Independent System Operator ("ISO"). PEI does not have an ISO. In jurisdictions where an ISO is not established, enhanced regulatory oversight specific to system reliability is warranted. For example, when NB dissolved their ISO the utility became responsible for system reliability, and the regulatory body became responsible for ensuring reliability standards were followed. However, while an ISO would enhance grid stability oversight and management, it is important to consider the cost of maintaining a stand-alone system operator. When considering the cost on a per customer basis, this may be significant and prohibitive in PEI when compared to other markets. Overall, implementing an independent operator in PEI is likely to incur significant costs without providing proportionate benefits. However, it is important that responsibility for the planning and reliability of the electrical grid be clearly defined. Although this is often the responsibility of the regulator or an ISO in other jurisdictions, another option for PEI could be to place this responsibility with a Consumer Advocate (further detailed in Section 4.3.5 of this report). A Consumer Advocate could specifically monitor the planning and decision-making process, creating more structured oversight while being mindful of the costs to customers;
- The operations of efficiencyPEI is aligned with that of other efficiency agencies across Canada. However, the legislated federal emissions targets are not currently referenced in the Island's *Electric Power Act*, the *Island Regulatory and Appeals Commission Act*, or the *Renewable Energy Act*. Given the importance of these targets on the operations of the Island's regulatory and electricity sectors, it is important that the current regulatory legislation be modified to clearly state these targets to ensure all parties are aligned on the path to achieving these goals.
- The role of the Consumer Advocate ("CA') offers numerous benefits within the utility industry to aid in creating a more robust regulation process which allows for greater independent representation of consumer and external stakeholder interests. PEI is the only Atlantic province without this role. We understand that PEI Energy has historically represented the government and public interests in electricity filings. However, the implementation of a defined CA role could enhance the rate hearing process in PEI by creating added consistency with neighboring jurisdictions on a go forward basis. Implementing a CA could provide a designated resource for addressing areas of importance such as engaging in the education of utility providers on the need for responsible electricity usage and Demand Side Management practices as well as offering a designated resource for monitoring the planning and/or reliability of the electrical grid. Specifically, given PEI Energy's access to technical resources within the market, it is recommended that placing responsibility for CA oversight with PEI Energy be explored as an option to manage costs. Although PEI Energy already appears on behalf of the Government in a number of IRAC electricity filings to ensure the public is represented, it is important to be mindful of any potential conflicts of interest that may exist when the CA may be required to play a role on PEI Energy's regulatory filings. To manage this conflict, it is recommended that the reporting line be carefully considered and that duties and responsibilities be clearly defined for IRAC and the CA with any legislative changes proposed as required; and,
- The application of cost of service ("COS") regulation in PEI is consistent with that of other Atlantic Canadian provinces. However, exploring the implementation of PBR could provide new opportunities for utilities to increase returns and reduce risks if they provide the outcomes desired by customers, creating added benefit for both customers and investors.

Overall, many aspects of PEI's electricity market are consistent with other jurisdictions across Canada. However, in recent months Island rate payers have experienced warnings of potential rolling blackouts. This demonstrates the strain on the Island's power grid and concerns regarding future capacity. As a result, it is recommended that the Province consider providing greater support, guidance, and access to additional resources to create added capacity for effective and efficient regulatory reviews. Given the increased public scrutiny surrounding PEI's regulatory effectiveness, it's important that timely decision making is balanced with ensuring there is robust oversight on any upcoming matters.

5 Most recent approved regulated capital structure and cost of capital components

5.1 Purpose

A Company's capital structure deals with how it finances its overall operations and growth through different sources of funds, including the mix of debt and equity investment. It's important that the regulated capital structure and cost of capital strike the right balance of lowering the cost of capital, the financial health of the utility and the ability to attract capital for investment. This report section aims to provide a jurisdictional review of cost of capital considerations. To do so, we have completed the following:

- Examined the allowed return on equity ("ROE") and the equity ratios of Canadian regulators by utility; and,
- Concluded on how PEI's capital structure compares to other Canadian jurisdictions.

5.2 Summary of allowed ROE and equity ratios by Canadian utility

It is important to note that the cost of equity and capital structures must not be considered only in isolation. As an example, a jurisdiction with a higher return on equity may have a lower equity ratio, resulting in an overall lower return (or vice versa). The following table has been included for information purposes to summarize the return on equity, capital structure, and other relevant factors that may impact a utility's overall return.

Figure 17 – Summary of ROE & capital structure across Canadian utilities

Region	Utility	Current Approved Cost of Equity	Current Approved Common Equity	Weighted ROE
NL	Newfoundland Power Inc. - *integrated electric* [48] [49]	8.50%	45.00%	**3.83%**
PE	Maritime Electric Company Limited ("MECL")- *integrated electric* [50] [51]	9.35%	40.00%	**3.74%**
NS	Nova Scotia Power Inc. - *integrated electric* [52]	9.00%	40.00%	**3.60%**
NB	New Brunswick Power [53] [54]	10.00%	20.00%	**2.00%**
QC	Énergir - *gas distribution* [55] [56]	8.90%	38.50%	**3.43%**
ON	Generic cost of equity [57]	9.25%	40.00%	**3.68%**
MB	Centra Gas Manitoba Inc. - *gas distribution* [58]	N/A*	30.00%	**N/A***
MB	Manitoba Hydro - *integrated electric* [59]	N/A*	30.00%	**N/A***
SK	SaskPower - *integrated electric* [60]	8.50%	40.00%	**3.40%**
SK	SaskEnergy - *gas distribution* [61]	8.30%	37.00%	**3.07%**
AB	Generic cost of equity [62]	9.28%	37.00%	**3.43%**
BC	FortisBC Energy Inc.- *gas distribution* [63]	9.65%	45.00%	**4.34%**

Region	Utility	Current Approved Cost of Equity	Current Approved Common Equity	Weighted ROE
BC	FortisBC Inc. - *integrated electric* [64]	9.65%	41.00%	**3.96%**
YT	ATCO Electric Yukon - *electric distribution* [65]	9.00%	40.00%	**3.60%**
NT	Northwest Territories Power Corp. - *integrated electric (current – revised rates are pending approval)* [66] [67]	8.00%	41.00%	**3.28%**
NU	Quilliq Energy Corporation - integrated electric [68]	8.30%	40.00%	**3.32%**
Minimum		**8.00%**	**20.00%**	**2.00%**
Maximum		**10.00%**	**45.00%**	**4.34%**
Average		**9.00%**	**40.00%**	**3.52%**

***N/A** – *Per Concentric Energy Advisors, "N/A indicates the data are not available. In recent years, the Manitoba Board has not established an authorized ROE for Manitoba Hydro, but has considered whether the company has sufficient income to meet certain interest coverage ratios and capital coverage ratios at its target debt/equity ratio. Similarly, Centra Gas Manitoba previously operated under an ROE adjustment mechanism tied to government bond yields. Centra Gas contended in its 2013/14 GRA filing that the formula was not producing reasonable returns. The Board directed Centra Gas to propose an update to the ROE that is reflective of an appropriate level to be used in the feasibility test.*[69]

5.3 Regulated return on equity

Utilities that have a regulated ROE (such as MECL) have a target ROE approved by their regulator that reflects the risk associated with investing in the utility. Investors require a return proportionate to the risk they assume. This balances the need for fair investor returns with the impact on consumer rates. The objective is to ensure the utility can maintain financial health without overburdening customers. Therefore, the profit to the utility itself is reflective of market risk and closely monitored by the regulator.

Overall, this is consistent with industry standards and common practice across Canada.

5.4 Conclusion

Based on the above utilities selected, our jurisdictional review noted approved common equity in the range of 20.00% to 45.00% across Canada with a 40.00% average, approved cost of equity (absolute ROE) in the range of 8.00% to 10.00 % across Canada with a 9.00% average, and weighted ROE in the range of 2.00% to 4.34% across Canada with an average weighted ROE of 3.52%. Overall, PEI's common equity of 40.00%, cost of equity of 9.35%, and weighted ROE of 3.74% fall within the respective ranges and are relatively consistent with the noted averages. Therefore, they appear to be comparable to other jurisdictions across Canada.

6 System reliability across Atlantic Canada

6.1 Purpose

System reliability is an important component of the Canadian electricity sector as it ensures the consistent and reliable operation of power systems across the country. This report section aims to summarize the reliability standards implemented by utilities in Atlantic Canada as well as their specific reliability measures to assess where MECL lies in comparison to other utilities of similar scale.

6.2 System reliability standards

The main reliability standards implemented in Atlantic Canada are as follows:

1. **North American Electric Reliability Corporation ("NERC") standards**: NERC was certified as the Electric Reliability Organization ("ERO") for the United States in 2006. In Canada, recognition of NERC and its regional entities as the ERO, adoption of NERC Reliability Standards, and the establishment of measures to monitor and enforce the standards are done at the provincial level. The standards are enforceable or are in the process of becoming enforceable in almost all provinces connected to the North American Bulk Electric System ("BES").[70] NERC Reliability Standards define the reliability requirements for planning and operating the North American bulk power system and are developed using a results-based approach that focuses on performance, risk management, and entity capabilities.[71] Specifically, these standards are often enforced through Northeast Power Coordinating Council ("NPCC") membership, which currently consists of the eight regional entities that work with NERC.
2. **Canadian Standards Association ("CSA") requirements**: The CSA Group has worked with regulators, consumers, manufacturers, and the electrical industry to develop standards that improve safety and reliability of the electrical system as well as electrical products for consumers and businesses. They also continue to support improved energy performance and sustainability, including renewable energy through new and updated codes and standards.[72] CSA requirements are well established standards that are reviewed and adjusted by the CSA as required.

NERC reliability standards and CSA requirements are commonly applied by utilities across Atlantic Canada. An overview of system reliability standards for each Atlantic Canadian province is provided below:

Figure 18 – Reliability standards across Atlantic Canada

Province	Reliability standards
NL	Provincial reliability is presently governed by voluntarily-adopted electric reliability practices developed by NL Hydro and NF Power based on standard industry practices with review oversight exercised by the PUB. NL is presently contemplating ways to ensure the appropriate reliability standards are in place following interconnection, and assessing the implications of NERC and NPCC membership and standards implementation as well as any reliability oversight roles that may change following interconnection.[73] In addition, NF Power's infrastructure is built to meet or exceed CSA standards.[74]
NS	Nova Scotia Power adheres to NERC reliability standards. These standards are enforced in Nova Scotia through a Memorandum of Understanding with the NSUARB and the NPCC.[75]
NB	NB Power adheres to the NERC reliability standards, which are enforced by the NBEUB. [76]
PE	PEI is not a member of the NPCC, however they generally follow the reliability criteria as set out for NPCC members. [77] In addition, MECL adheres to specific CSA standards.

6.3 System reliability measures

The main reliability targets relied upon by Canadian utilities to measure the performance and reliability of distribution and transmission system performance are as follows:

1. **System Average Interruption Duration Index ("SAIDI"):** This measures the total duration of power outages for an average customer over a year.
2. **System Average Interruption Frequency Index ("SAIFI"):** This measures the average number of interruptions a customer experiences in a year.

All Atlantic Canadian utilities utilize SAIDI and SAIFI measures. However, the Circuit Average Interruption Duration Index ("CAIDI") and the Circuit Average Interruption Frequency Index ("CAIFI") are used by some utilities in addition to SAIDI and SAIFI.

6.4 MECL's system reliability targets in comparison to other Atlantic Canadian utilities

For comparison purposes, the following table summarizes SAIDI and SAIFI measures for Atlantic Canadian utilities for the period of 2019-2023. Please note that both target and actuals have been summarized for SAIDI. However, given MECL relies primarily on SAIDI as their primary reliability metric and has not set SAIFI targets in the past, we have analyzed actuals only for the SAIFI figures.

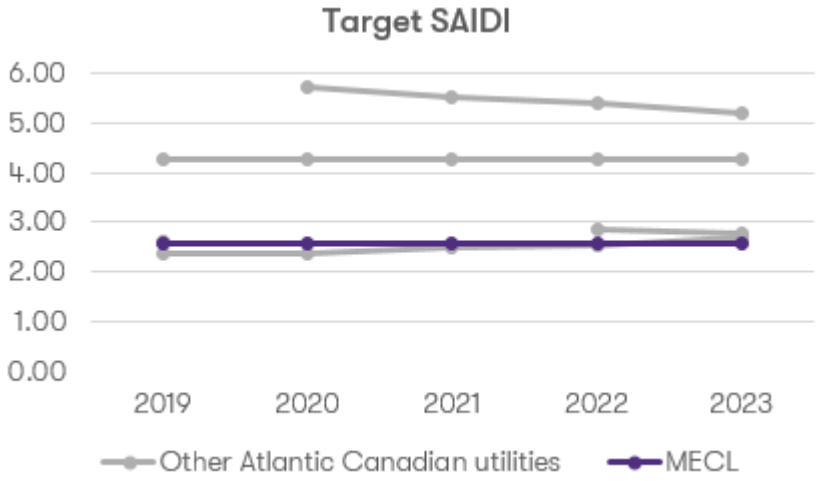
Figure 19 – SAIDI & SAIFI measures for Atlantic Canadian utilities (2019-2023)

Province	Utility	Reliability measure				
		Target SAIDI				
		2019	2020	2021	2022	2023
NL	NF Power[78]	2.39	2.37	2.50	2.55	2.69
	NL Hydro[79] [80] [81] [82]	2.61	N/A*	N/A*	2.84	2.77
NS	NS Power [83] [84]	4.29	4.29	4.29	4.29	4.29
NB	NB Power [85] [86] [87] [88]	N/A*	5.75	5.55	5.40	5.20
PE	MECL	2.57	2.57	2.57	2.57	2.57
Minimum target SAIDI		**2.39**	**2.37**	**2.50**	**2.55**	**2.57**
Maximum target SAIDI		**4.29**	**5.75**	**5.55**	**5.40**	**5.20**
Median target SAIDI		**2.59**	**3.43**	**3.43**	**2.84**	**2.77**
Mean target SAIDI		**2.97**	**3.75**	**3.73**	**3.53**	**3.50**
		Actual SAIDI				
NL	NF Power	2.34	2.98	2.48	3.02	2.62
	NL Hydro	2.71	N/A*	3.03	2.44	2.33
NS	NS Power	5.99	3.98	5.23	5.16	5.21
NB	NB Power	N/A*	5.58	5.51	5.59	6.95
PE	MECL	2.98	2.57	3.04	3.40	4.11
Minimum actual SAIDI		**2.34**	**2.57**	**2.48**	**2.44**	**2.33**
Maximum actual SAIDI		**5.99**	**5.58**	**5.51**	**5.59**	**6.95**
Median actual SAIDI		**2.85**	**3.48**	**3.04**	**3.40**	**4.11**
Mean actual SAIDI		**3.51**	**3.78**	**3.86**	**3.92**	**4.24**
		Actual SAIFI				
NL	NF Power	1.62	2.35	1.96	2.06	2.04
	NL Hydro	0.88	N/A*	1.45	1.08	1.32
NS	NS Power	2.58	2.05	2.27	2.19	2.18
NB	NB Power	N/A*	2.17	2.20	2.35	2.42
PE	MECL	2.31	2.19	2.27	3.00	2.98
Minimum actual SAIFI		**0.88**	**2.05**	**1.45**	**1.08**	**1.32**
Maximum actual SAIFI		**2.58**	**2.35**	**2.27**	**3.00**	**2.98**
Median actual SAIFI		**1.97**	**2.18**	**2.20**	**2.19**	**2.18**
Mean actual SAIFI		**1.85**	**2.19**	**2.03**	**2.14**	**2.19**

**N/A – Data is not publicly available and has therefore been omitted from our analysis.*

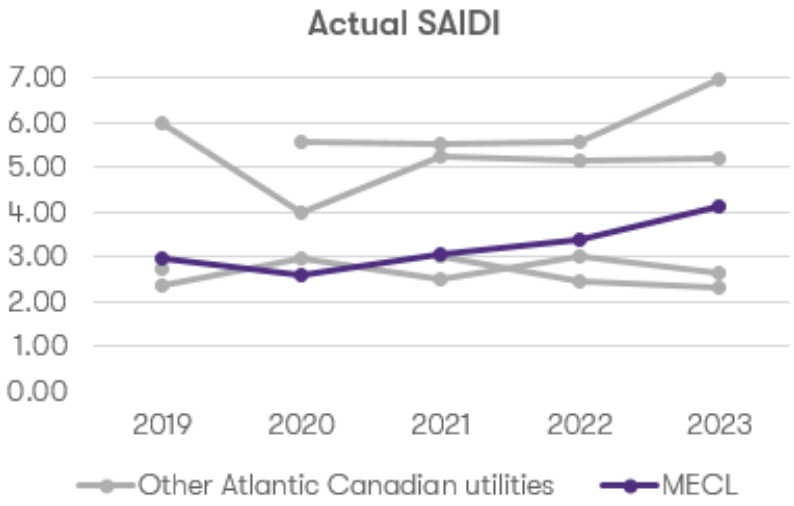
As shown in the previous table, MECL's target SAIDI is on the lower end when compared to other Atlantic Canadian utilities as their targets are set below both the median and mean target SAIDI in all years from 2019-2023. As displayed in the below graph, this means that MECL is being held to a higher standard than other Atlantic utilities for SAIDI measures.

Figure 20 – Target SAIDI comparison (2019-2023)



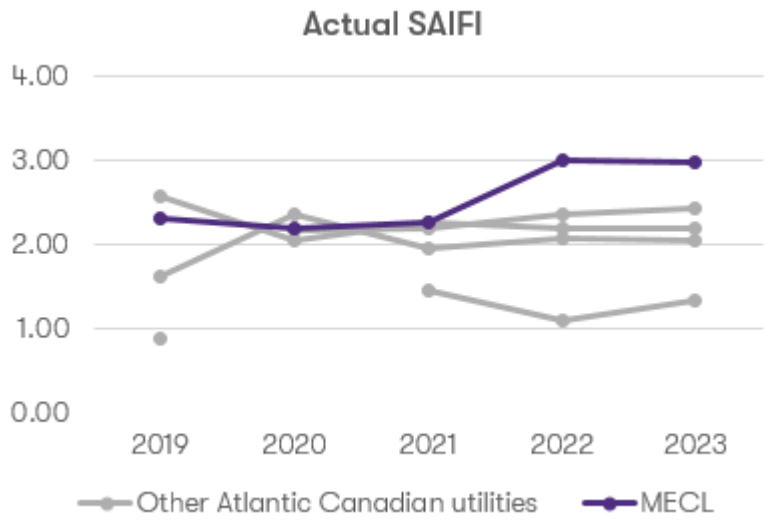
MECL's actual SAIDI results have been consistently lower than the mean actual SAIDI results on a year-over-year basis. However as shown below, in 2022 and 2023, MECL's actual SAIDI was comparable to the median, making it reasonably in line with SAIDI results across Atlantic Canada.

Figure 21 – Actual SAIDI comparison (2019-2023)



While MECL's target and actual SAIDI have been consistently below or on par with other Atlantic Canadian utilities, as shown below, actual SAIFI in PEI has been above other Atlantic Canadian provinces since 2021, meaning they have experienced a greater number of interruptions each year.

Figure 22 – Actual SAIFI comparison (2019-2023)



6.5 Conclusion

Overall, MECL's target and actual SAIDI have been consistently below or on par with other Atlantic Canadian utilities while actual SAIFI has been higher than most Atlantic Canadian regions in recent years. Therefore, while PEI's outages have been of shorter duration than other regions, they are experiencing a higher frequency of outages throughout the year on an overall basis.

7 Observations on other sources of capital used to fund electricity infrastructure

7.1 Purpose

In addition to traditional debt and equity financing, the Canadian electricity sector relies on various alternative sources of capital to fund its infrastructure needs. This report section aims to summarize these other sources, providing relevant examples of each.

7.2 Sources of capital

Alternative funding mechanisms help to support the electricity sector's expansion, modernization, and transition towards more sustainable energy systems. The key observations on these alternative funding mechanisms are summarized below.

1. **Government grants and subsidies -** Governments provide significant financial support through grants, subsidies, and incentive programs. An example of this is the Government of Canada's Investing in Canada Infrastructure Program ("ICIP") which funded $35 million towards the Wataynikaneyap Power project, connecting remote First Nations communities in Northern Ontario to the grid.[89]
2. **Green Bonds and Climate Bonds –** Green Bonds and Climate Bonds are bonds used for raising capital for environmentally friendly projects. Hydro-Québec has issued green bonds to finance renewable energy projects, including hydroelectric refurbishment and wind energy development.[90] Similarly, PEI Energy issued Green Bonds for their Eastern Kings (2006) project.
3. **Public-Private Partnerships ("PPP") -** PPPs mobilize private capital and expertise while sharing risks. A notable example is the Lower Churchill Project in Newfoundland

and Labrador which is a partnership between Nalcor Energy and Emera Inc. to develop transmission in Newfoundland and Labrador and enable the movement of Lower Churchill energy. [91]

4. **Infrastructure Investment Funds -** Infrastructure Investment Funds pool capital from institutional investors to invest in long-term projects.
5. **The Canada Infrastructure Bank ("CIB")** – CIB is a federal Crown Corporation of Canada that financially supports revenue-generating infrastructure projects that are "in the public interest" by catalyzing private investment through methods such as direct investment and public-private partnerships. For example, the CIB has committed $1.5 billion to the Canada Growth Fund to support clean energy and green infrastructure projects, including electricity infrastructure. [92]
6. **Equity investments from strategic partners -** Partnerships with equity investors provide additional capital and expertise. Enbridge Inc. has co-invested in wind and solar projects across Canada with various renewable energy companies. [93]
7. **Community and crowdfunding initiatives -** Community-based funding and crowdfunding support smaller, localized projects. The Oxford Community Energy Cooperative in Ontario raised funds through local investment to develop wind and solar energy projects.[94]
8. **International financial institutions -** Multilateral development banks and institutions provide financing and technical assistance. The North American Development Bank ("NADB") has financed several renewable energy projects in Canada, including wind farms and solar power plants.[95]
9. **Industrial customers -** Large industrial customers invest in dedicated energy projects for reliable power. Rio Tinto has invested in hydroelectric power facilities in British Columbia to supply its aluminum smelters.[96]
10. **Engaging all levels of Government –** Federal, Provincial, Municipal, and Indigenous Governments may invest in and partner on energy projects.

7.3 Conclusion

The Canadian electricity sector leverages a diverse array of capital sources to fund its infrastructure needs. By integrating traditional financing with innovative funding mechanisms, the sector can better address the challenges of modernization, sustainability, and resilience, ensuring a robust and reliable electricity supply for the future.

Appendix A – Glossary of Terms

Abbreviation	Term
AEA	The Artic Energy Alliance
AEEA	The Alberta Efficiency Alliance
AUC	Alberta Utilities Commission
AESO	The Alberta Electric System Operator
BCUC	The BC Utilities Commission
BES	North American Bulk Electric System
CA	Consumer Advocate
CAIDI	Circuit Average Interruption Duration Index
CAIFI	System Average Interruption Frequency
CER	Canada Energy Regulator
CIB	Canada Infrastructure Bank
COS	Cost of Service Regulation
CSA	Canadian Standards Association
DER	Distributed Energy Resource
Doane GT, we, us, our	Doane Grant Thornton LLP
DSM	Demand Side Management
ERO	Electric Reliability Organization
ESM	Earnings sharing mechanisms
EV	Electric Vehicle
ICIP	Investing in Canada Infrastructure Program
IPP	Independent Power Producer
IRAC	Island Regulatory and Appeals Commission
IESO	Independent Electricity System Operator
ISO	Independent System Operator
MECL	Maritime Electric Company Limited
MISO	Midcontinent Independent System Operator
NADB	North American Development Bank

NARUC	National Association of Regulatory Utility Commissioners
NBEUB	New Brunswick Energy & Utilities Board
NERC	North American Electric Reliability Corporation
NB Power	New Brunswick Power Corporation
NF Power	Newfoundland Power Inc.
NL Hydro	Newfoundland and Labrador Hydro
NS Power	Nova Scotia Power Inc.
NLSO	Newfoundland & Labrador System Operator
NPCC	Northeast Power Coordinating Council
NSUARB	Nova Scotia Utility and Review Board
NWTUB	The Northwest Territories Public Utilities Board
OEB	Ontario Energy Board
OPC	Office de la protection du consommateur
OPG	Ontario Power Generation
PBR	Performance-based regulation
PEI Energy	PEI Energy Corporation
PEI	Prince Edward Island
PPP	Public-Private Partnerships
PUB	Board of Commissioners of Public Utilities (NL)
PUB MB	The Public Utilities Board of Manitoba
RCIA	Residential Consumer Intervener Association
ROE	Return on Equity
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SRRP	Saskatchewan Rate Review Panel
The Government, PEI, or PEI Government	Government of Prince Edward Island
The Régie	The Régie de l'énergie
TSO	Transmission System Operator
URRC	The Utility Rates Review Council

YUB	Yukon Utilities Board

Appendix B – Jurisdictional summary

See accompanying excel summary file.

Appendix C – Documents relied upon

[1] Efficiency PEI | Government of Prince Edward Island
[2] Home
[3] Rate Book August 1, 2024
[4] Schedule-of-Rates-Rules-and-Regulations_Jan-2025.pdf
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[48] http://www.pub.nl.ca/PU/orders/2025/P.U.%203(2025).pdf
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[50] IRAC Order UE-19-08, September 27, 2019, page 53 https://irac.pe.ca/Orders/Electric/2019/UE19-08.pdf

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[52] https://nsuarb.novascotia.ca/sites/default/files/M10431%20-%20GRA%20Decision.pdf
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Doane Grant Thornton

MECL Ownership Model Business Case

Government of Prince Edward Island

May 30, 2025

Table of Contents

1. Executive summary

1.1. Project overview

Doane Grant Thornton LLP ("Doane GT", "we", "us", "our") has been engaged by the Government of Prince Edward Island (the "Government" or "PEI" or "PEI Government") to determine if an acquisition of Maritime Electric Company Limited ("MECL") , a wholly owned subsidiary of Fortis Inc. ("Fortis"), by the Government should be explored based on our understanding of the Government's objectives from a financial and commercial perspective based on the information that is publicly available as of the date of this report. It is our understanding that Fortis is not actively considering a divestiture of MECL and the Government has not submitted an expression of interest to acquire MECL.

1.2. Scope of work

The role of Doane GT is to prepare this assessment based on its experience as a financial advisor active in the Canadian power industry. The report is based upon publicly available information of MECL, interviews with representatives of the Government, interviews with MECL leadership and Doane GT industry knowledge and research. Doane GT is not providing commentary, advice or recommendations on technical, engineering or legal matters. This report was prepared for the Government as part of an engagement to provide an assessment of the viability of a potential acquisition of MECL and is not meant to conclude on price, structure or the decision to proceed. As the transaction is not actively being actioned and negotiated, we are unable to assess actual negotiated deal terms and timelines.

The services provided by Doane GT include the following:

- General business advisory and financial analysis;
- Industry research and analysis relative to the power industry; and
- Financial modelling to assess the viability of a potential acquisition of MECL.

1.3. Government Objectives

It is our understanding that the Government's objectives within the scope of this report are as follows:

1.3.1. Customer protection

Ensuring the rights of PEI residential, commercial, and industrial consumers of electricity are respected and protected.

1.3.2. Minimizing rate impacts

Maintaining affordable short and long-term electricity rates for customers while undertaking system maintenance and upgrades to meet consumer needs.

1.3.3. Reliability of power supply and infrastructure

Ensuring electrical capacity is available to support PEI customers' needs both in the immediate term and long term and that construction and maintenance of electric power infrastructure meets reliability and safety standards.

1.3.4. Resiliency of the electrical grid

Ensuring the electrical grid on PEI has the flexibility and capability to withstand long term increases in capacity and to recover quickly from outages and extreme weather events.

1.3.5. Environmental sustainability

Establishing environmentally sustainable electrical resources and practices where possible and practical within the PEI electrical system to reduce the environmental impact of energy generation.

1.3.6. Regulation of public utilities

Proper regulation of public utilities supplying electric power in order to allow for fair prices and reliable service.

1.4. Restrictions, limitations and disclaimer

Our scope has been outlined throughout this report. The procedures undertaken in the preparation of this report do not constitute an audit of financial information and consequently, we do not express an audit opinion on any financial information that has been provided. This report is intended for internal use and is not intended for general circulation or publication nor is it to be reproduced or used for any purpose other than that outlined herein without prior written permission in each specific instance. This report shall be used solely for the benefit of the Government and not for the benefit of any third-party and may be relied upon only for the purpose for which the report is intended as contemplated and/or defined within. Doane GT recognizes no responsibility whatsoever to any third party who may choose to rely on this report.

Unless stated otherwise, Doane GT has performed our work based on our experience as professional accountants with a broad range of experience working with utilities, utility regulators, and governments in Canada. Therefore, we have referenced information provided by various third-party sources in the preparation of this report. Where we have referenced third party information, we have included relevant footnotes throughout this report, a summary of which can be found in **Appendix C – Documents referenced**. At the time of this report, Doane GT believes this information to be reliable but is not providing commentary, advice or recommendations on technical, engineering or legal matters. We are not guarantors of the information referenced and upon which we have relied in preparing this report and, except as stated, we have not audited or otherwise attempted to verify any of the underlying information, data, or documents referenced contained in this report.

All analysis, information, and recommendations contained herein are based upon the information made available to Doane GT as of the date of this report. We reserve the right but are under no obligation to review and/or revise the contents of this report in light of any information which becomes known to us after the date of this report.

1.5. Summary of findings, observations and/or conclusions

The following represents a summary of our key findings and conclusions based on the procedures outlined throughout the report:

#	Report section	Findings, observations, and/or conclusions
2	Overview & history of MECL	• Under Fortis, MECL has maintained a strong financial position and has continued capital investment in infrastructure. Currently, MECL is allowed a 9.35% return on equity and a 60/40 debt to equity split under IRAC regulation. By 2025, MECL's rate base is expected to be $519 million. • The majority of MECL's distributed electricity and overall capacity is provided by NB Power. NB power is forecasting limits to the amount of power that it can provide to PEI in the future. Generation resources on PEI are largely made up of renewables and backup combustion turbines. For these reasons, MECL is proposing a project ranging between $452 and $588 million to add 150 MW of additional generating capacity on PEI to support future electricity demands.
3	Overview of Fortis – MECL's Parent Company	• Fortis is a large public utility holding company. It had revenues of $12 billion and EBITDA of $5.4 billion in 2024. The company serves 3.5 million electricity and natural gas customers. Over the past 20 years, the company's total annualized shareholder return is 10.7%.
4	Support provided by Fortis to MECL	• Fortis supports MECL in numerous ways including the following: o Providing access to purchasing scale, capital markets, and a lower cost of capital o Attracting leadership talent o Sharing industry knowledge, best practices, and innovation o Improving insurance rates, cybersecurity capabilities, and safety o Providing backup resources when necessary o Supporting through oversight and governance
5	Overview of PEI electricity industry & recent developments	• Due to population growth and electrification, PEI's electricity load has grown by 66 percent since 2005 which is well above the Canadian average of 13%. This growth is forecasted to stretch the limit of electricity that NB Power can provide which has led to MECL's proposal for additional on-Island generation.

#	Report section	Findings, observations, and/or conclusions
6	MECL valuation & pricing analysis	• Using a discounted cash flow analysis and comparing to public company valuations and market transactions for similar companies, the enterprise value of MECL was determined to be in the range of $842 million to $901 million. After deducting operating net assets, goodwill was determined to be in the range of $327 million to $386 million. MECL's midpoint value from the DCF analysis implies valuation multiples of 1.73x rate base, 2.87x revenue, 10.20x EBITDA, which are consistent with market comparables.
7	Merits & Concerns for PEI's potential acquisition of MECL	• Merits: Public sector ownership has been successful in other provinces and tends to demonstrate lower costs for customers. It would also provide PEI with greater control over MECL's operations, tax advantages, and could improve MECL's cost of capital. • Concerns: The acquisition premium of $327 to $386 million is significant. The Government could allocate these funds to critical infrastructure or other priorities rather than acquire MECL. Upon acquisition, PEI would lose the capability and support Fortis provides. Furthermore, Fortis would likely be an unwilling seller which could make a potential transaction difficult.
8	Process for making an offer to acquire MECL	• The Government could acquire MECL by making an unsolicited offer which demonstrates clear benefits to Fortis shareholders. Additionally, the Government may have other legal alternatives to force a transaction. In either case, appropriate legal advice should be obtained. • An acquisition process to acquire MECL would include due diligence, definitive legal agreements, financing arrangements, determination of leadership and governance structure, regulatory approvals, and securities law compliance.
9	Recommendations	• While there are benefits to acquiring MECL, there are also concerns and the capital required to purchase the company could be better deployed elsewhere to achieve the Government's objectives.

2. Overview & History of MECL

2.1. Introduction

MECL has been a part of PEI's electricity supply for over a century. Founded in 1918, MECL has grown from a modest utility provider to the primary electricity distributor for the island, serving approximately 91,000 customers. The company's headquarters are located in Charlottetown, the capital city of PEI, and it operates under the regulatory oversight of the Island Regulatory and Appeals Commission ("IRAC").

MECL is predominantly focused on electrical distribution and transmission. MECL procures the majority of its electricity from the New Brunswick Power Corporation ("NB Power") via underwater transmission lines, as well as on-island renewable energy generated by private sector and public sector market participants. PEI Energy Corporation ("PEI Energy") is a provincial crown corporation that owns significant renewable generation assets and the underwater transmission lines connecting MECL to NB Power.

Throughout its history, MECL has demonstrated a commitment to providing reliable and efficient electrical services. In its early years, the company was focused on electrifying rural and urban areas, which required significant infrastructure and technology and technology investments. Over the decades, MECL has continually upgraded its grid infrastructure, incorporating modern technologies to enhance service reliability and operational efficiency.

MECL's has been owned by Fortis since 1990. Fortis, a leading North American utility holding company, provides MECL with financial support, strategic direction, purchasing scale, operational support and technical expertise. This has enabled MECL to undertake significant projects, such as upgrading transmission lines, investing in smart grid technologies, and integrating renewable energy sources into the grid.

In recent years, MECL has been adopting sustainable energy practices, reflecting PEI's broader commitment to environmental stewardship and renewable energy. The company has collaborated with public sector and private sector stakeholders on various initiatives to reduce greenhouse gas emissions, increase energy efficiency, and support the integration of wind and solar power into the local energy mix.

2.2. Financial position

MECL has maintained a stable and healthy financial position throughout its history. As the primary electricity distributor on PEI, MECL's financial health is important. It directly impacts the cost of capital which is a significant component of customer power rates. It also impacts the ability to access capital for investment in energy infrastructure. MECL's financial position is enhanced by being a part of Fortis.

Historically, MECL has demonstrated steady financial performance. The company's revenue is primarily driven by electricity sales to residential, commercial, and industrial customers. Over the years, MECL has benefited from a relatively stable customer base and predictable demand patterns, which have contributed to consistent cash flow generation. In more recent years, MECL has seen more significant customer growth and increasing demand for electricity as demonstrated by the income statement summary below.[i1]

[i] Financial results were estimated for 2022 to 2025 based on available public information.

MECL Income Statement Summary

CAD $'000	Actual 2021	Estimated 2022	Estimated 2023	Estimated 2024	Estimated 2025
Net Revenue	225,258	234,179	249,256	261,902	273,869
EBITDA	163,852	172,661	179,246	187,995	195,856
Net Earnings - Regulated	15,180	16,363	18,659	19,850	21,065
Return on Equity - Regulated	9.16%	9.35%	9.96%	9.95%	9.95%

MECL has been able to maintain its financial position while continuing a steady program of capital investment into its infrastructure. In recent years, MECL has continued to invest in modernizing its grid and integrating renewable energy sources, aligning with broader environmental goals and regulatory requirements.[2]

MECL Financial Position Summary

CAD $'000	Actual 2021	Estimated 2022	Estimated 2023	Estimated 2024	Estimated 2025
Net Capital Expenditures	44,250	39,294	52,395	77,458	93,552
Average Rate Base	420,414	447,428	471,023	492,257	519,376
Total Debt	262,349	272,405	289,112	308,813	326,493
Common Equity	168,253	181,654	192,838	206,191	217,255
Total Debt (%)	61%	60%	60%	60%	60%
Common Equity (%)	39%	40%	40%	40%	40%

Regulatory oversight by the IRAC plays a crucial role in shaping MECL's financial landscape. Rate adjustments and capital expenditure approvals by IRAC ensure that MECL can recover its costs and earn a reasonable return on its investments, providing financial stability while protecting consumers' interests.

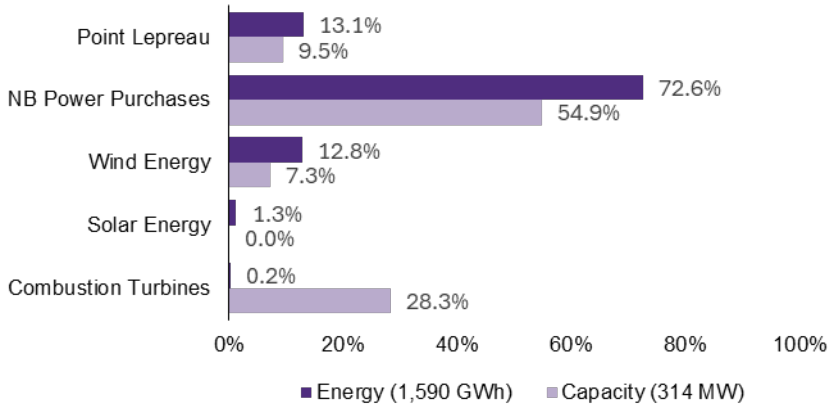
Customer rate adjustments are guided by MECL's projected rate base and achieving a specified return on the rate base. The rate base is the total of the investor-funded plant, facilities, and other investments used by the company to serve its customers. Per MECL's general rate application in 2023, the rate base is forecast to increase at an average of $26 million per year to a total of $519 million in 2025.

The return on the rate base is the total annual cost of financing the rate base which includes the cost of debt and the cost of equity. Therefore, the required return is based on the company's weighted average cost of capital as approved by IRAC.[3] Given the cost of debt fluctuates with the market, IRAC specifies an allowed return on equity ("ROE") to meet returns on the rate base. The current allowed ROE per IRAC through 2025 is 9.35 percent with allowance up to 9.70 percent through operational efficiencies.[4]

2.3. Infrastructure and energy generation

MECL currently serves its 91,000 customers with 7,000 kilometers of transmission and distribution lines, 30 substations, and 127,000 distribution and transmission poles across PEI which are primarily owned and operated by MECL.[5] The company meets energy demand through both on island and off island resources including purchases from NB Power, wind farms, and solar farms. The company owns and operates three combustion turbines that provide peaking, capacity and backup energy to the MECL grid when necessary.

The chart below depicts MECL's capacity and energy use in 2023.



2.3.1. Point Lepreau

MECL has a Unit Participation Agreement ("UPA") with the Point Lepreau nuclear facility which provides the company with 4.5 percent of the facility's production or 29 megawatts ("MW") net of transmission losses in capacity. Notably, MECL, under its UPA, is accountable for 4.5 percent of the station's repair and maintenance costs. The UPA extends for the life of the Point Lepreau plant which is expected to be decommissioned in 2039.

2.3.2. NB Power

MECL purchases power from NB Power through an Energy Purchase Agreement ("EPA") which is set to expire on December 31, 2026. The agreement allows MECL to purchase firm and non firm energy, firm capacity, capacity based ancillary services, and transmission services in NB. MECL is allotted firm capacity of 180 MW, 185 MW, and 190 MW for the 2024, 2025, and 2026 calendar years under this EPA.

In recent years, MECL's firm capacity under the current EPA was insufficient to meet the company's needs. NB Power has also stated that it expects to be capacity deficient in the next 5 years. Thus, NB Power's ability to meet MECL's energy requirements after contract expiry in 2026 is uncertain. Firm capacity is an important consideration in meeting energy requirements, as renewable generation is not always available.

2.3.3. Wind Energy

MECL obtains wind energy through Power Purchase Agreements ("PPA"s) with PEI Energy. MECL does not own any wind turbines itself. The company's PPAs allow it to purchase energy from utility wind farms with 92 MW of total energy output. The table below details the wind energy resources under contract with MECL as well as the wind energy resources on PEI not under contract with MECL.

Wind Energy Resources

Name	Location	Size (MW)	In Service Year	Owner
Wind Energy Resources Under Contract with MECL				
North Cape Phase 1	North Cape	5	2001	PEIEC
North Cape Phase 2	North Cape	5	2003	PEIEC
Aeolus	Norway	3	2004	PEIEC
Engie Norway	Norway	9	2007	ENGIE
Eastern Kings	Elmira	30	2007	PEIEC
WEICan	Norway	10	2012	WEICan
Hermanville	Hermanville	30	2014	PEIEC
Total Wind Energy Resources under Contract with MECL		**92**		
Wind Energy Resources NOT under Contract with MECL				
West Cape Wind Farm	West Cape	99	2009	ENGIE
City of Summerside	Summerside	12	2011	City of Summerside
Total Wind Energy Resources NOT under Contract with MECL		**111**		
Total Wind Energy resources		**203**		

2.3.4. Solar Energy

MECL purchases solar energy from PEI Energy's 10 MW solar farm and net metering customers. Net metering customers are MECL customers who possess small or residential scale solar resources who may send excess energy generated to the MECL grid.[6] The table below summarizes solar resources under contract with MECL and solar resources on PEI not under contract.

Solar Energy Resources

Name	Location	Size (MW)	In Service Year	Owner
Solar Energy Resources Under Contract with Maritime Electric				
Slemon Park Microgrid	Slemon Park	10	2024	PEIEC
Net Metering Customer (solar)	Island-wide	44	2007-2024	Various owners
Total Solar Energy Resources under Contract with MECL		**54**		
Solar Energy Resources Not under contract with MECL				
City of Summerside	Summerside	21	2024	City of Summerside
Total Solar Energy Resources NOT under Contract with MECL		**21**		
Total Solar Energy Resources		**75**		

2.3.5. Combustion Turbines

MECL owns three combustion turbines that provide peaking and backup energy to the company's GRID. The total capacity of MECL's turbines is 89 MW or 28.3 percent of the 2023 capacity requirement. However, the combustion turbines supplied only 0.2 percent of energy needed in 2023 given their role as backup.[7]

Combustion Turbine Resources

Unit Name	Location	Size (MW)	In-Service Year	Anticipated Retirement Year	Owner
Combustion Turbine Resources					
Combustion Turbine No. 1	Borden-Carleton	15	1971	2031	MECL
Combustion Turbine No. 2	Borden-Carleton	25	1973	2033	MECL
Combustion Turbine No. 3	Charlottetown	49	2005	2055	MECL
Total Combustion Turbine Resources under Contract with MECL		**89**			
Combustion Turbine Resources Not under contract with MECL					
Diesel Generation Plant	Summerside	13	1983	-	City of Summerside
Total Combustion Turbine Resources Not under Contract with MECL		**13**			
Total Combustion Turbine Resources		**102**			

2.3.6. Subsea Transmission Cables

There are four subsea transmission cables which connect the MECL grid to New Brunswick. Two 100 MW cables installed in 1977 owned by the Government of PEI and two 180 MW cables owned by PEI Energy installed in 2017 totaling 560 MW. As 85.7 percent of energy used in 2023 was purchased from NB Power or Point Lepreau, subsea transmission lines are of critical importance. Notably, the import capacity limit from NB Power is 300 MW as the connecting NB Power system infrastructure currently has less capacity than the subsea cables themselves. Given the growing demand and the age of the legacy transmission lines, its expected that new investment in transmission lines is expected to be required within the next ten years. In addition to this investment, there is also a need for investment in NB transmission system to add required capacity.[8]

2.4. Proposed project to increase Island generating capacity

In December 2024, to address capacity and peak demand concerns, MECL proposed a project to install 150 MW of generating capacity on PEI. This is a proposal for a Battery Energy Storage System, a Combustion Turbine, and a Reciprocating Internal Combustion Engine plant.[9] Per MECL's updated cost estimate, the project will range from $452 to $588 million. Further details of the proposal are discussed in Section 5.6.

3. Overview of Fortis – MECL's Parent Company

Fortis is a major North American utility company headquartered in St. John's, Newfoundland and Labrador, Canada. It operates extensively in the electricity and natural gas sectors, serving customers across Canada, the United States, and the Caribbean. Fortis is responsible for the generation, transmission, and distribution of electricity, with significant operations managed through its subsidiaries.

The table below details the scale of Fortis' subsidiaries and the company as a whole.[10]

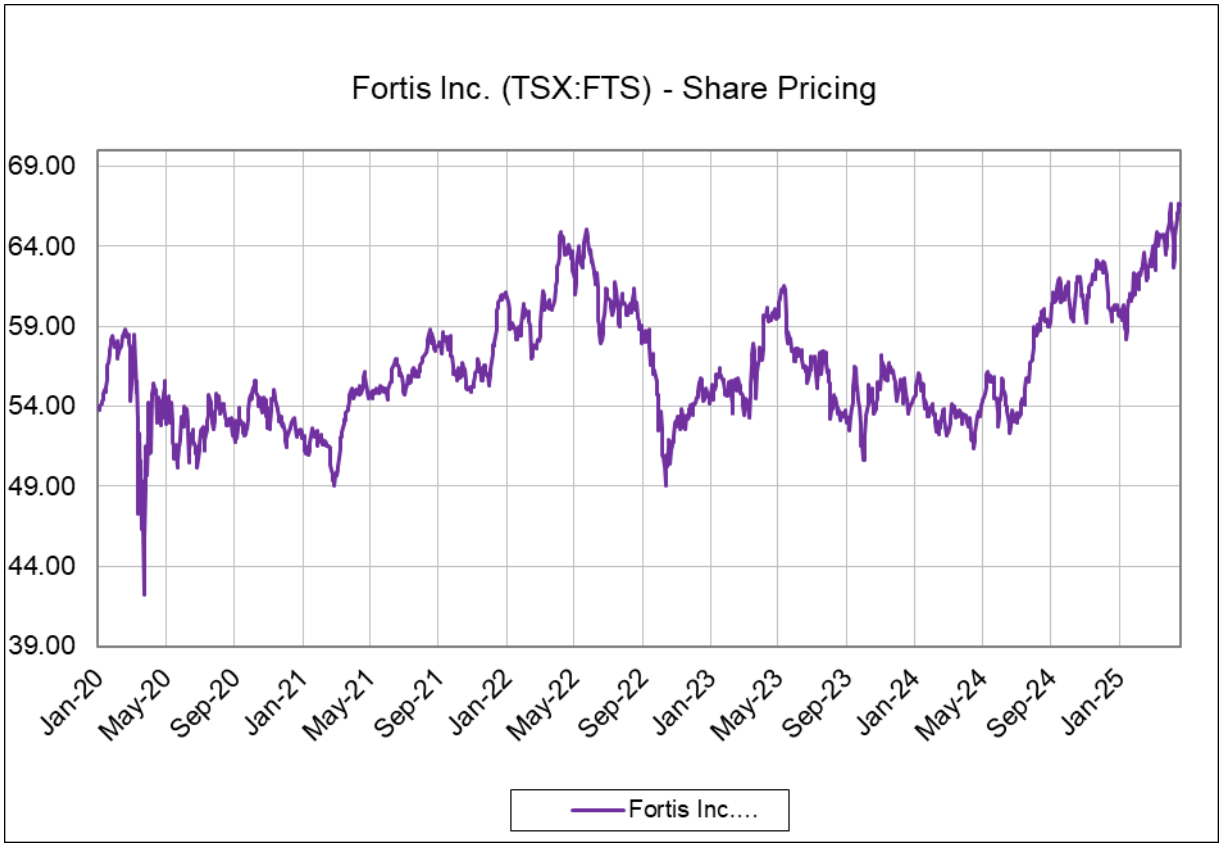
Fortis Inc. Subsidiaries

Company	Electricity customers	Natural gas customers	Power lines (km)	Gas pipelines (km)	Generating capacity (MW)
ITC Holdings Corp.	-	-	26,100	-	-
UNS Energy	557,000	170,000	-	-	3,442
FortisBC	195,000	1,098,000	7,400	51,700	-
FortisAlberta	603,000	-	91,100	-	-
Central Hudson	315,000	90,000	15,300	2,400	
Newfoundland Power	277,000	-	11,600	-	145
Maritime Electric	91,000	-	7,000	-	90
FortisOntario	70,000	-	3,400	-	-
Caribbean Utilities	35,000	-	800	-	166
FortisTCI	18,000	-	700	-	99
Fortis Belize	-	-	-	-	51
Waterikaneyap Power	-	-	1,800	-	-
Fortis Inc. Total	2,161,000	1,358,000	165,200	54,100	3,993

Fortis has stated that their commitment to infrastructure investment is a cornerstone of its operational strategy. The company invests in upgrading and expanding its facilities to ensure reliable and safe service delivery. This includes the development of new substations, enhancement of existing infrastructure, and the adoption of advanced technologies. These efforts are part of Fortis' broader capital investment programs aimed at sustaining long-term growth and improving operational efficiency.[11] Sustainability and environmental stewardship have also been identified by Fortis as key priorities. Fortis is actively engaged in community-based environmental initiatives, collaborating with industry associations, government bodies, and other stakeholders to promote sustainable practices.[12]

Fortis shares traded on the Toronto Stock Exchange under the ticker symbol FTS. In 2024, Fortis reported annual net earnings of $1.6 billion. The company has achieved 50 years of consecutive annual dividend increases, making it one of only two companies on the Toronto Stock Exchange (TSX) to reach this milestone. Fortis has also yielded a total annualized shareholder return of 10.3% over 20 years, or 616% in total. The company's 2024 capital expenditures amounted to $5.2 billion as part of a $26 billion five year plan. Fortis remains committed to its regulated growth strategy, aiming for annual dividend growth of 4-6% through 2028.[13]

The charts below detail the share price, key financials from the income statement, and relevant multiples and ratios of Fortis for the past five years.[14]



Key Financials[1]

For the Fiscal Period Ending	12 months Dec-31-2020A	12 months Dec-31-2021A	12 months Dec-31-2022A	12 months Dec-31-2023A	12 months Dec-31-2024A	12 months† Dec-31-2025E
Currency	*CAD*	*CAD*	*CAD*	*CAD*	*CAD*	*CAD*
Total Revenue	**8,935.0**	**9,448.0**	**11,043.0**	**11,517.0**	**11,508.0**	**12,431.13**
Growth Over Prior Year	*1.7%*	*5.7%*	*16.9%*	*4.3%*	*(0.1%)*	*8.02%*
Gross Profit	**3,936.0**	**3,974.0**	**4,408.0**	**4,857.0**	**5,219.0**	**-**
Margin %	*44.1%*	*42.1%*	*39.9%*	*42.2%*	*45.4%*	*71.08%*
EBITDA	**3,967.0**	**4,019.0**	**4,500.0**	**4,919.0**	**5,292.0**	**5,772.36**
Margin %	*44.4%*	*42.5%*	*40.7%*	*42.7%*	*46.0%*	*46.43%*
EBIT	**2,539.0**	**2,514.0**	**2,832.0**	**3,146.0**	**3,365.0**	**3,554.12**
Margin %	*28.4%*	*26.6%*	*25.6%*	*27.3%*	*29.2%*	*28.59%*
Earnings from Cont. Ops.	**1,389.0**	**1,405.0**	**1,514.0**	**1,710.0**	**1,828.0**	**-**
Margin %	*15.5%*	*14.9%*	*13.7%*	*14.8%*	*15.9%*	*-*
Net Income	**1,274.0**	**1,294.0**	**1,394.0**	**1,573.0**	**1,680.0**	**1,714.74**
Margin %	*14.3%*	*13.7%*	*12.6%*	*13.7%*	*14.6%*	*13.79%*
Diluted EPS Excl. Extra Items[3]	**2.6**	**2.61**	**2.78**	**3.1**	**3.24**	**3.4**
Growth Over Prior Year	*(31.2%)*	*0.4%*	*6.5%*	*11.4%*	*4.6%*	*3.66%*

[1]All results are taken from the most recently filed statement for each period. When there has been more than one, earlier filings can be viewed on the individual statement pages.
[3]All forward period figures are consensus mean estimates provided by the brokers and may not be on a comparable basis as financials.
†Growth rates for forward periods are calculated against prior period estimates or actual pro forma results as disclosed on the Estimates Consensus page.

Fortis Inc. - Multiples Detail

For Year Ending		Dec-31-2020	Dec-31-2021	Dec-30-2022	Dec-29-2023	Dec-31-2024
TEV/LTM Total Revenue	Average	5.95x	5.96x	5.88x	5.24x	5.41x
	High	6.24x	6.25x	6.35x	5.66x	5.77x
	Low	5.19x	5.67x	5.29x	4.90x	4.98x
	Close	5.86x	6.24x	5.56x	5.06x	5.63x
TEV/LTM EBITDA	Average	13.47x	13.42x	13.88x	12.75x	12.25x
	High	14.52x	14.28x	14.81x	13.56x	12.72x
	Low	11.78x	12.62x	12.65x	11.97x	11.74x
	Close	13.06x	14.26x	13.30x	12.18x	12.41x
P/BV	Average	1.42x	1.50x	1.54x	1.38x	1.36x
	High	1.62x	1.65x	1.75x	1.52x	1.50x
	Low	1.16x	1.34x	1.26x	1.25x	1.26x
	Close	1.38x	1.65x	1.33x	1.33x	1.42x

Fortis Inc. - Relevant Ratios

For the Fiscal Period Ending	12 months Dec-31-2020	12 months Dec-31-2021	12 months Dec-31-2022	12 months Dec-31-2023	12 months Dec-31-2024
Return on Equity %	6.9%	6.8%	6.9%	7.4%	7.4%

4. Support provided by Fortis to MECL

Fortis provides support to MECL by enhancing its capacity to deliver reliable and sustainable energy to PEI. As the parent company, Fortis has facilitated strategic initiatives and investments that bolster MECL's infrastructure and service quality. MECL identified the following specific benefits from MECL's relationship with Fortis summarized in the following table.

Benefits	Commentary
Access to purchasing scale	Fortis is a company with revenues of $11.5 billion and capital expenditures of $5.2 billion in fiscal 2024. The total market capitalization is approximately $33.6 billion as currently listed on the TSX exchange. Given the relative size of Fortis to MECL, Fortis can provide MECL with much more purchasing power than it could yield on a standalone basis. This enables MECL to get better rates from suppliers and maintain lower costs for consumers.[15]
Lower cost of capital	As a wholly owned subsidiary of Fortis, MECL may have access to better terms and rates on financing than it would have otherwise as a standalone entity of its size.
Ability to attract leadership talent	MECL's ability to attract and retain top leadership talent at both the executive and board level is improved by being a subsidiary of Fortis due to the recognition of being part of a larger public company and the opportunities, experiences, and support that Fortis can provide to MECL leaders.
Industry best practices knowledge	As noted in charts above, Fortis has 2.2 million electricity customers, 165,200 km of power lines, and significant

	power generation resources. This is spread across 12 companies in North America. En aggregate, Fortis has numerous teams of individuals within its network of companies to share best practices and find solutions to common problems. Notably, Fortis has helped MECL upgrade the grid infrastructure, implement smart technologies, and improving customer service mechanisms. These efforts are aimed at ensuring that MECL can provide continuous and dependable power to its customers, even during adverse conditions.[16]
Ability to share innovation	As alluded to above, solutions or innovations from one company may be provided to the next company so they too can improve operations. If MECL were a standalone entity, innovations occurring at other companies would not be available to MECL's business. One significant area of support is in sustainability and environmental stewardship. Fortis has championed various programs to advance renewable energy sources and reduce carbon emissions. MECL, under Fortis's guidance, has been active in promoting electrification and the adoption of renewable energy technologies, such as solar energy and electric vehicles, which are crucial for PEI's transition to a greener economy.[17]
Access to capital and capital markets	As Fortis is a large public company spanning North America, it has access to capital through its public listing on the TSX. It also has access to other capital markets such as debt capital markets which can help MECL's secure required capital for investment.
Better insurance rates	Larger companies have more bargaining power with insurance companies over insurance for property damage, potential liabilities, and business interruption. A larger employee pool for health and employee benefit related insurance would allow a company to risk pool translating to lower premiums and costs for ratepayers.
Improved cybersecurity capabilities	Electrical utilities are essential resources for the economy, people's health, and security. As such, electrical utilities have been targets of cyber attacks in the past and this threat continues to persist going forward. Fortis provides MECL with the ability to pool resources and knowledge to better fend off these threats. Fortis notes the company has not had any cybersecurity breaches since the company began reporting it as a performance indicator in 2018.[18]

Availability of backup resources	During times of need for MECL, Fortis can allocate backup resources. For example, following Hurricane Fiona in 2022, 240 Fortis crew members assisted in restoring power to MECL customers helping to restore health and safety to those affected.[19]
Safety Capabilities	As a utility dealing with industrial amounts of electrical power, MECL workers engage in dangerous and potentially life-threatening work at times. Fortis diligently works to ensure safety and reliability. Senior operational executives from all Fortis utilities meet regularly to share best practices on a range of operational areas including health and safety.[20]
Oversight and governance by industry experts	Fortis has expertise managing numerous electrical utility companies. The Fortis team can provide strategic guidance and support to MECL's executive team which it would otherwise not have.[21]

5. Overview of PEI electricity industry & recent developments

5.1. Participants

Prince Edward Island's electricity industry consists of several key participants that play distinct roles in generating, distributing, and regulating electrical power across the province. Here's an overview of the major participants:

1. **MECL**: As the primary utility company on PEI, MECL is responsible for the distribution of electricity to most of the island's residents and businesses. It operates the provincial transmission and distribution networks, and sources electricity from the mainland via undersea cables. Historically, the company has operated combustion turbine generation on PEI. MECL is a subsidiary of Fortis, a large North American utility holding company. The company's responsibilities include maintaining and upgrading infrastructure, managing customer accounts, and ensuring the reliable supply of electricity.[22] [23] The company is rate regulated by IRAC.

2. **Summerside Electric**: This is a municipal utility owned and operated by the City of Summerside. Summerside Electric generates a portion of its power needs through renewable sources such as wind energy and also purchases additional power as needed. It serves the residents and businesses within the city limits of Summerside and focuses on integrating sustainable energy solutions and innovative technologies to enhance efficiency and reduce environmental impact.[24] Despite operating as separate entities in PEI, they do have a relationship with MECL in terms of power supply and grid operations as Summerside relies on submarine transmission cables under the Northumberland Strait and grid infrastructure to purchase electricity from NB Power. MECL provides a more extensive grid infrastructure and has access to various power generation sources. This interconnectedness ensures stability and

reliability in the power supply across the island, allowing both utilities to support each other as needed.[25]

3. **PEI Energy**: This provincial crown corporation is responsible for developing and promoting energy systems on the island. They own and operate multiple wind farms, including Elmira (30 MW), Hermanville/Clearspring (30 MW), North Cape (10.56 MW), and Aeolus (3 MW). The company owns the two subsea transmission lines installed in 2017 totaling 360 MW between PEI and New Brunswick. PEI Energy also manages electrical transmission facilities in Prince County, connecting renewable energy generators to the MECL grid. Additionally, PEI Energy provides financial support for developing, installing, and using energy systems, especially those involving renewable energy. They coordinate all government programs related to energy systems and offer guidance to the government on formulating provincial policies, programs, legislation, and agreements related to energy matters.

4. **Government of Prince Edward Island**: The Government, through its departments and agencies, sets policies and regulations that govern the electricity sector. This includes the implementation of programs and incentives to promote energy efficiency and renewable energy adoption. The Government also works in collaboration with federal entities to secure funding for infrastructure projects and other energy-related initiatives.[26] Assets owned by the Government of PEI include the two original subsea transmission lines between PEI and New Brunswick totaling 200 MW via PEI Energy.

5. **IRAC:** They are the regulatory body that oversees the electricity sector in PEI. IRAC is responsible for approving rates, ensuring fair practices, and protecting consumer interests. It also regulates the operations of utility companies like MECL to ensure compliance with provincial and federal regulations.[27]

6. **Net Metering Customers**: MECL customers have the ability, through their own generation systems, to supply energy for their own use and send excess energy to the MECL grid.[28] Net Metering customers are primarily solar based.

   These industry participants collectively ensure that PEI's electricity needs are met through a combination of imported and locally generated power, with a growing emphasis on renewable energy sources to enhance sustainability and reduce environmental impact.

5.2. Transmission imports from New Brunswick

PEI heavily relies on electrical transmission imports from New Brunswick to meet its energy needs and capacity requirements. This reliance is facilitated primarily through the Northumberland Strait Submarine Transmission System, which was significantly upgraded with the completion of a $142.5 million project in 2017. The project was a joint investment by the federal and provincial governments, aimed at enhancing the reliability and capacity of the electrical supply to PEI.

The upgraded system includes two new 180-megawatt underwater cables, which increased PEI's total electric power capacity to 560 megawatts. The cables are crucial as they supply the majority of PEI's electricity, ensuring a stable and reliable power supply for residents and businesses alike.[29] [30]

The interconnection not only helps in reducing energy costs and fostering economic growth but also supports the island's efforts towards building a cleaner and more

sustainable energy system. The project is part of broader initiatives to decrease dependence on fossil fuels and promote renewable energy sources across the region.[31]

The open access of the North American grid enables Island utilities to source electricity from any supplier on the system. However, the economics of purchasing electricity from suppliers that are long distances away and cross several transmission jurisdictions are generally not favorable due to excessive line losses and multiple transmission tariffs, respectively. For these reasons, the Island's utilities look closer to home for electricity supply contracts with suppliers in New Brunswick, Nova Scotia, Quebec and New England.

The ability of Island electric utilities to source electricity from off-Island suppliers is first and foremost reliant on the transmission infrastructure that exists between the generation source and the local distribution system that connects individual electricity consumers. Because PEI's cable interconnection runs between Bedeque, Prince Edward Island and Murray Corner, New Brunswick, transmission through the NB Power system cannot be avoided. This gives NB Power a slight advantage over other regional suppliers (e.g. NS Power, Hydro Quebec, etc.) which expose Island utilities to additional transmission costs.

In October 2023, New Brunswick and Nova Scotia announced their intentions to abandon the Atlantic Loop project, aimed at expanding the transmission capacity in Atlantic Canada, due to the project's high cost. MECL is discussing options with NB Power to increase the transmission capacity for electricity imports to PEI, despite the Atlantic loop project being abandoned. Other options exist to increase the transmission capacity that would have similar benefits as the Atlantic Loop project, which the Atlantic Provinces are evaluating.[32]

5.3. Energy and Power Purchase Agreements

MECL acquires the majority share of the Island's electricity supply through energy purchase agreements or power purchase agreements with other utilities and merchant generators. These agreements can be short or long term contracts, but are typically fixed in terms of duration, product and price. Multiple agreements are often in place at any given time, however, MECL usually secures a core agreement with an off-Island utility to provide more than half of its electricity supply. This core EPA typically includes firm and non-firm energy set against MECL's generation capacity, which allows for variability in demand. It is also bundled with any ancillary services that may be required by the purchaser. In the past, some core agreements have been secured through sole sourcing and others through request for proposal processes.[33]

MECL's current core EPA is held with NB Power, a relatively large utility which operates 14 generating stations producing a mix of hydro, coal, oil, and diesel generated electricity. Due to the rising cost of operating its own oil and diesel generators, NB Power has recently been purchasing an increasing amount of its electricity from other suppliers in the region.

The energy (and any related capacity, ancillary services, etc.) that is supplied to MECL through this EPA is not distinguishable in terms of its origin and is simply considered as New Brunswick system energy. The current core EPA, which is a key element of the PEI Energy Accord, is a five-year agreement that expires on December 31, 2026.

Beyond the term of the current EPA, NB Power has indicated that it intends to continue to provide firm-capacity to MECL in the future but is not able to guarantee a specific level of capacity. This is an increasing concern as the current EPA nears expiry and MECL's capacity requirements are growing. Since 2005, PEI's load growth has been over five times the Canadian average and the highest amongst the Atlantic provinces.[34]

Capacity is of paramount interest for MECL as opposed to purely focusing on energy purchased. There are times of day such as 5-6 pm and seasons such as winter when electrical demand is higher and peak demand can spike. PEI's energy generation resources are primarily wind and solar which are intermittent and thus not available on demand.[35] Having dedicated capacity is essential for MECL thus the core capacity provided by NB Power and the capacity from Point Lepreau is critical.

The pending expiry of this EPA and sourcing a new arrangement to secure this energy and capacity is a key issue for MECL.

Electricity supplied through unit participation agreements, other PPAs held with on-Island wind farm operators and Island utilities' generation equipment, is typically used to supplement the core PPAs and also to address emergency situations as required. The on-Island supply sources are discussed later in this section of the report.

5.3.1. Unit Participation Agreements

MECL also secures a portion of its electricity supply through unit participation agreements which go beyond the fixed term of a typical PPA, encompass a degree of financial responsibility for the operation and maintenance of the subject generation facility and are not unlike an ownership agreement. The basis for entering into such participation agreements, as opposed to acquiring all off-Island electricity supply through PPAs, is that the former can provide a degree of long-term security of supply and price stability. However, the potential benefits must be carefully weighed against the risks associated with taking on the proportional share of obligations associated with a facility's capital investment, operating cost and other expenses, regardless of whether or not electricity is produced and delivered.

Currently, MECL is involved in a unit participation agreement with NB Power which provides entitlement to approximately 30 MW of baseload energy (along with the corresponding firm transmission capacity) from the Point Lepreau Nuclear Generating Station (Point Lepreau). Until recently, a similar agreement was also in place to secure approximately 20 MW of baseload energy from Dalhousie Generating Station (Dalhousie). Similar to ownership models, MECL is exposed to loss of this access to this energy and capacity when the specific unit is not operating for any reason.

5.3.2. Other Contracts

In addition to agreements tied to energy supply, MECL can also contract for ancillary services with off-Island utilities, provided that the services are tangible and the reliability requirements of the regional system operator (New Brunswick System Operator or "NBSO") are met. Ancillary services that Island utilities sometimes contract outside of core PPAs include: capacity, load following, balancing energy, operating reserves, etc.

5.4. Wind generation

PEI has established itself as a leader in wind energy, leveraging its strong and consistent winds to generate a significant portion of its electricity. PEI's wind energy capacity is bolstered by both provincially-owned and private developments. This blend of public and private investment has been pivotal in helping the island develop one of the highest levels of wind energy integration in North America.[36] The island's wind energy infrastructure includes several key wind farms that contribute the majority of electricity generated in PEI.[37]

One of the prominent wind farms is the North Cape Wind Farm, which has been operational for 24 years and serves as the location for the Wind Energy Institute of Canada. This institute plays a crucial role in research and development, supporting the

advancement of wind energy technologies. Additionally, the East Point Wind Farm, with its 10 Vestas V-90 turbines, generates approximately 90 gigawatt-hours annually, supplying power exclusively to MECL for local consumption.[38] [39]

The provincial government continues to invest in and promote wind energy as part of its broader energy strategy, which aims to reduce energy use, increase the use of locally produced clean energy, and stabilize future energy prices. This strategy includes expanding the island's renewable energy cluster, fostering sustainable biomass and biofuel initiatives, and exploring new renewable energy technologies.[40] [41]

5.5. Market Demand for Electricity

The amount of energy required by a utility is based on customer load. The highest customer load throughout the year is the system peak which is used to determine the capacity requirement. MECL's system peak has increased substantially in recent years. The primary factors contributing to the load growth on PEI are the province's increase in population and the transition from fossil fuel energy sources to electricity ("electrification").

5.5.1. Population Growth

Over the past 10 years PEI's population growth has outpaced that of other Atlantic Canadian provinces and Canada as a whole. PEI's population grew 23 percent over the past decade whereas Canada's population grew by 16 percent with other Atlantic Canadian provinces showing slower growth than Canada overall. The PEI population growth has translated to an increase in housing and customer load on PEI. Moreover, the increase in housing starts in PEI (391 percent compared to 46 percent in Canada overall since 2015) is coupled with the fact that new homes are predominantly using electric heat pumps and electric resistive backup heaters instead of fossil fuel sources for heating.

5.5.2. Electrification

As noted above with reference to new homes, the electrification of space heating started as a gradual trend since the early 2010s and increased further in 2015 following government incentives. Traditionally, space heating on PEI was either furnace oil or wood based but now much of that has been converted to electric. In 2010, only 5 percent of primary heating systems on PEI were electric while 70 percent were oil based. In 2022 electric heating systems accounted for 38 percent and oil accounted for 36 percent. MECL is forecasting further conversion with electric heating anticipated to be approximately 49 percent in 2024.

Furthermore, electrification of transportation in PEI is expected to impact electricity demand as well. Uptake of electric vehicles has been slower yet conversion to electric vehicles over time to meet PEI's net zero targets will impact demand.

5.5.3. Overall impact on electricity load

PEI's electricity load has grown by 66 percent since 2005. This is over five times the Canadian load growth of 13 percent over the same period. With population increases and electrification expected to continue, MECL will need to deliver more energy supply and capacity to meet load and system peak growth.[42]

5.6. Proposed projects

At the time of this report, the following significant capital projects have been proposed which could impact the overall utility rate base.

5.6.1. Proposed Project: On-Island Capacity for Security of Supply

MECL is proposing a project to install 150 MW of on-Island capacity through a battery energy storage system, combustion turbine, and reciprocating internal combustion engine plant. The cost estimate for the project upon proposal was $427 million. More recent updates from MECL indicate a cost ranging from $452 to 588 million. This project is a response to multiple factors including: PEI's growing capacity requirement spurred on by population growth and electrification, the decrease in on island capacity over the past 10 years, the limitations of the subsea transmission cables and mainland transmission system, and the uncertainty regarding Power NB's ability to meet PEI's capacity demands.

5.6.2. Battery Energy Storage System ("BESS")

MECL is seeking IRAC approval to install a 10 MW BESS with 40 MWh of storage. The BESS will be used to help meet the company's annual ancillary service and capacity requirements, reducing the amount of these products currently purchased from NB Power.

5.6.3. Combustion Turbine

MECL is seeking approval from the IRAC to install a 50 MW CT at the Charlottetown Generating Station. If approved, CT4 will primarily serve as peaking and backup generation to help the company meet its capacity requirements, which will reduce the annual amount of generating capacity purchased from NB Power.

5.6.4. Reciprocating Internal Combustion Engine ("RICE")

MECL is seeking IRAC approval to install a 90 MW RICE plant. The RICE plant will include five 18 MW RICEs, fuel handling and storage infrastructure, associated equipment, a substation and a transmission connection. If approved, the RICE plant will operate primarily as peaking and backup generation to help the company meet its capacity requirements, reducing the amount of annual generating capacity that is currently purchased from NB Power.[43]

6. MECL – Illustrative financial modelling regarding potential price

***Note** – For the analysis included in this report and associated appendices, this communication does not express a conclusion and is not a report as defined by the Practice Standards of The Canadian Institute of Chartered Business Valuators. As such, readers are cautioned that it is only appropriate for the purpose expressly defined in this report.*

Additionally, the financial modelling included below is based on financial information that MECL has released publicly, which includes MECL's own estimated financial information up to fiscal 2025. We have obtained MECL's most recent audited financial statements which are strictly confidential and may not be included in this report. Having reviewed the audited financial results, we have concluded that our recommendations would not be altered due to any differences from estimated to actual results. Thus, the

modelling based on estimates remains relevant. Please see Section 9. Recommendations for further details.

6.1. Historical financial performance and position

Historically, MECL has shown steady growth driven by growth in its rate base allowing the company to grow its returns on a regulated basis. The income statements shown below are actual and estimated results from MECL's 2023 general rate application filed with IRAC.[44] MECL's actual financial results for the 2020 and 2022-2024 fiscal years were unavailable as they were not disclosed to the public. Thus, MECL's estimated results were used for those fiscal years.

Maritime Electric Company Limited - Income Statement

CAD$'000	Estimated 2020	Actual 2021	Estimated 2022	Estimated 2023	Estimated 2024
Revenue					
Revenue requirement from basic rates				233,068	245,356
Other revenue				16,188	16,546
Net Revenue	**228,659**	**225,258**	**234,179**	**249,256**	**261,902**
Operating Expenses (net of ECAM)	162,426	163,852	172,661	179,246	187,995
Amortization - Fixed Assets	28,572	26,359	24,116	28,921	30,596
Amortization - Deferred Charges	3,224	243	93	173	189
Operating income	**34,437**	**34,804**	**37,309**	**40,916**	**43,122**
Financing costs	12,852	12,504	13,517	13,798	14,278
Earnings Before Income Taxes	**21,585**	**22,300**	**23,792**	**27,118**	**28,844**
Income Taxes	6,742	7,120	7,429	8,459	8,994
Net Earnings - Regulated	**14,843**	**15,180**	**16,363**	**18,659**	**19,850**
Fortis Inc Head Office Costs (net of tax)	439	426	463	476	499
Net earnings - Non-regulated	**14,404**	**14,754**	**15,900**	**18,183**	**19,351**
KPI's	**-**	**-**	**-**	**-**	**-**
Revenue growth %	**8.35%**	**-1.49%**	**3.96%**	**6.44%**	**5.07%**
Return on Average Common Equity (%) - Non Reg	**9.05%**	**8.91%**	**9.09%**	**9.71%**	**9.70%**
Return on Average Common Equity (%) - Reg	**9.33%**	**9.16%**	**9.35%**	**9.96%**	**9.95%**

Regarding financial position, the majority of MECLs assets are comprised of fixed assets and working capital. MECL continues to reinvest in the business as demonstrates by annual fixed asset growth of 5-10%. These assets are financed through a 60-40 split of debt and equity that management holds in accordance with IRAC regulation.

As an acquisition target, MECL possesses a stable balance sheet suitable for an acquisition. Working capital is managed appropriately and the entity generates sufficient cash flow to service its debt and reinvest in fixed assets.

The following actual and estimated balance sheet data was sourced from MECL's 2023 general rate application as well.

Maritime Electric Company Limited - Balance Sheet

CAD$'000	Estimated 2020	Actual 2021	Estimated 2022	Estimated 2023	Estimated 2024
Current assets					
Accounts receivable	44,237	29,147	29,426	30,187	32,647
Energy Cost Adjustment Mechanism	-	5,431	6,791	4,482	3,282
Materials and supplies	3,000	3,099	3,000	3,000	3,000
Prepaid expenses	498	723	702	715	725
Total current assets	47,735	38,400	39,919	38,384	39,654
Fixed assets					
Property, plant and equipment	712,216	692,024	731,172	775,864	838,370
Less: Accumulated amortization	269,904	234,037	241,760	249,435	263,752
Total fixed assets	442,312	457,987	489,412	526,429	574,618
Other Long-Term Assets					
Regulatory Asset - CTGS Accumulated Reserve Variance	9,655	10,672	10,672	8,538	6,403
Costs Recoverable from Customers (ECAM & WNRA)	543	-	-	-	-
Weather Normilization Reserve Account	-	1,789	1,789	1,789	1,789
Regulatory Asset - OPEB	2,987	1,896	1,759	1,622	1,485
Intangible assets	4,150	4,053	4,150	4,300	4,450
Deferred charges	1,566	1,982	1,212	1,325	1,137
Total other long-term assets	18,900	20,392	19,582	17,574	15,264
TOTAL ASSETS	**508,948**	**516,779**	**548,913**	**582,387**	**629,536**
SHAREHOLDER'S EQUITY AND LIABILITIES					
Current Liabilities					
Bank indebtedness / (Cash)	1,397	3,583	3,618	303	380
Short-term borrow ings	22,000	-	10,000	30,000	10,000
Rebates Payable to Customers	5,847	615	1,828	413	-
Accounts payable and accrued liabilities	39,175	29,724	30,358	30,883	30,516
Total current liabilities	68,420	33,922	45,804	61,599	40,896
Long term debt	219,053	258,766	258,787	258,809	298,433
Other Long-Term Liabilities					
Employee future benefits	-	6,905	7,064	7,223	7,382
Future income taxes	33,835	25,440	30,121	35,826	42,056
Contributions	24,598	23,493	25,484	26,091	34,578
Total other long-term liabilities	58,433	55,838	62,669	69,140	84,016
Shareholders' equity					
Common shares	31,101	31,101	37,101	38,601	41,101
Retained earnings	131,942	137,152	144,553	154,237	165,090
Total shareholders' equity	163,042	168,253	181,654	192,838	206,191
TOTAL SHAREHOLDER'S EQUITY AND LIABILITIES	**508,948**	**516,779**	**548,914**	**582,386**	**629,536**

6.2. Financial estimate

Financial information was estimated to 2033 using assumptions similar to the estimate prepared up to 2025. The main parameters that guide the projections are as follows:

Return on average rate base – Revenues are based on the amount required to meet the guideline return on the rate base of 6.9%. Effectively, estimated revenues are based on the complete costs to operate MECL plus the specified return on the rate base.[45]

Return on equity – The return on the rate base comprises return on equity and return on debt. The returns on debt or cost of debt specific to MECL as per the company's estimate is 4.92%. The benchmark return on equity is specified by IRAC to be 9.35%. MECL is applying for a premium in excess of the IRAC return on equity of 60bps. This would result in a return on equity for MECL of 9.95%.[46]

Required capital structure – MECL is required to maintain a 60% debt and 40% equity capital structure under IRAC regulation. Given the capital structure is fixed, the return on equity is specified, and assuming the cost of debt remains consistent, the return on the rate base can be determined.

Building off MECL's estimates using a 9.95% return on equity and a 6.9% return on the rate base, required revenue can be determined to build the estimated income statement. It is important to also determine the capital expenditures MECL will undertake as these amounts will increase the rate base which will affect the required revenues.

The table below illustrates the first five years of the estimate for MECL over the period from 2025 to 2029. This estimate serves as the basis for the discounted cash flow (DCF) analysis, discussed further below.

Maritime Electric Company Limited - Income Statement

CAD$'000	Estimated 2025	Estimated 2026	Estimated 2027	Estimated 2028	Estimated 2029
Revenue					
Revenue requirement from basic rates	256,992	266,821	275,493	284,166	292,848
Other revenue	16,877	17,215	17,559	17,910	18,268
Net Revenue	**273,869**	**284,036**	**293,052**	**302,076**	**311,117**
Operating Expenses (net of ECAM)	195,856	200,517	204,527	208,618	212,790
Amortization - Fixed Assets	32,627	33,794	36,150	38,554	41,005
Amortization - Deferred Charges	189	189	189	189	189
Operating income	**45,197**	**49,536**	**52,185**	**54,716**	**57,132**
Financing costs	14,594	16,801	17,675	18,523	19,335
Earnings Before Income Taxes	**30,603**	**32,735**	**34,511**	**36,192**	**37,797**
Income Taxes	9,538	10,202	10,756	11,280	11,780
Net Earnings - Regulated	**21,065**	**22,532**	**23,755**	**24,912**	**26,017**
Fortis Inc Head Office Costs (net of tax)	502	537	566	594	620
Net earnings - Non-regulated	**20,563**	**21,996**	**23,189**	**24,318**	**25,397**
KPI's	-	-	-	-	-
Revenue growth %	**4.57%**	**3.71%**	**3.17%**	**3.08%**	**2.99%**
Return on Average Common Equity (%) - Non Reg	**9.71%**	**9.72%**	**9.71%**	**9.72%**	**9.72%**
Return on Average Common Equity (%) - Reg	**9.95%**	**9.95%**	**9.95%**	**9.95%**	**9.95%**

Maritime Electric Company Limited - Balance Sheet

CAD$'000	Estimated 2025	Estimated 2026	Estimated 2027	Estimated 2028	Estimated 2029
Current assets					
Accounts receivable	34,227	35,536	36,691	37,846	39,002
Energy Cost Adjustment Mechanism	482	-	-	-	-
Materials and supplies	3,000	3,000	3,000	3,000	3,000
Prepaid expenses	730	758	783	807	832
Total current assets	38,439	39,294	40,474	41,653	42,834
Fixed assets					
Property, plant and equipment	899,634	961,126	1,022,872	1,084,900	1,147,236
Less: Accumulated amortization	277,575	291,199	305,801	321,422	338,105
Total fixed assets	622,059	669,927	717,071	763,478	809,132
Other Long-Term Assets					
Regulatory Asset - CTGS Accumulated Reserve Variance	4,269	4,269	4,269	4,269	4,269
Costs Recoverable from Customers (ECAM & WNRA)	-	-	-	-	-
Weather Normilization Reserve Account	1,789	1,789	1,789	1,789	1,789
Regulatory Asset - OPEB	1,347	1,347	1,347	1,347	1,347
Intangible assets	4,600	4,600	4,600	4,600	4,600
Deferred charges	948	759	570	381	192
Total other long-term assets	12,953	12,764	12,575	12,386	12,197
TOTAL ASSETS	**673,451**	**721,985**	**770,119**	**817,517**	**864,163**
SHAREHOLDER'S EQUITY AND LIABILITIES					
Current Liabilities					
Bank indebtedness / (Cash)	3,330	(13,885)	4,076	(12,389)	5,272
Short-term borrow ings	10,000	10,000	10,000	10,000	10,000
Rebates Payable to Customers	-	-	-	-	-
Accounts payable and accrued liabilities	31,980	33,203	34,282	35,362	36,442
Total current liabilities	45,310	29,318	48,358	32,973	51,714
Long term debt	313,163	313,163	313,163	313,163	313,163
New long term debt	-	30,000	35,500	64,500	68,500
Other Long-Term Liabilities					
Employee future benefits	7,541	7,703	7,869	8,039	8,212
Future income taxes	48,828	56,072	63,708	71,717	80,081
Contributions	41,352	50,277	59,381	68,666	78,137
Total other long-term liabilities	97,721	114,052	130,958	148,422	166,431
Shareholders' equity					
Common shares	41,101	41,101	41,101	41,101	41,101
Retained earnings	176,154	194,350	201,038	217,357	223,254
Total shareholders' equity	217,255	235,451	242,139	258,458	264,355
TOTAL SHAREHOLDER'S EQUITY AND LIABILITIES	**673,449**	**721,984**	**770,118**	**817,516**	**864,162**

6.2.1. Rate Base

As discussed above, MECL's rate base is critical to the financial estimate as it drives the company's returns. Therefore, the rate base is crucial to understanding the value of MECL. As the size of the rate base is a driver for the quantum of returns an electrical utility can realize, the rate base is used as a benchmark for value amongst electrical utilities. Most often the enterprise value, the total value of a business including debt and equity, is divided by the rate base to arrive at an enterprise value to rate base multiple (EV / rate base). To understand MECL's value in the market, it is important to understand how the market values other companies in relation to their rate base.

MECL estiamted its rate base to be $502 million by the end of fiscal 2024.[47] From this rate base and MECL's rate base estimate for 2025, the rate base has been projected out further as follows.

Maritime Electric Company Limited - Rate Base

CAD$'000	Estimated 2025	Estimated 2026	Estimated 2027	Estimated 2028	Estimated 2029
Opening fixed assets	556,280	608,664	656,532	703,676	750,083
Additions	81,107	81,661	83,294	84,960	86,660
Depreciation expense	(32,468)	(33,794)	(36,150)	(38,554)	(41,005)
Retirement expense	3,745	-	-	-	-
Net fixed assets	608,664	656,532	703,676	750,083	795,737
Less: Contributions - net	(41,352)	(50,277)	(59,381)	(68,666)	(78,137)
Less: Future income taxes	(48,828)	(56,072)	(63,708)	(71,717)	(80,081)
Less: Employee future benefits liability	(7,541)	(7,703)	(7,869)	(8,039)	(8,212)
Add: ECAM costs due from customers	482	-	-	-	-
Add: Deferred financing costs	1,837	1,874	1,911	1,949	1,988
Add: Regulatory assets - other	3,136	3,136	3,136	3,136	3,136
Add: CTGS unrecovered depreciation	4,269	4,269	4,269	4,269	4,269
Add: Intangible assets	4,600	4,600	4,600	4,600	4,600
Add: Deferred charge	948	759	570	381	192
Working Capital					
Inventory	3,000	3,000	3,000	3,000	3,000
Gross operating expenses * 3.6%	7,077	7,219	7,363	7,510	7,660
Income taxes paid	90	90	90	90	90
Total rate base	536,382	567,426	597,657	626,596	654,242
Average rate base	519,376	551,904	582,541	612,126	640,419

6.2.2. Discounted Cash Flow

A discounted cash flow (DCF) is a method of valuing a company intrinsically based on the present value of the expected future cash flows that the company will generate. It is relevant as it represents the value of future cash flows an owner can realize as a result of owning the company. The result of an unlevered DCF valuation is the computation of its enterprise value. The valuation multiples implied by DCF valuation may differ from precedent transactions and public company comparables as precedent transactions and public company comparables can be influenced by peaks and troughs in the market. Additionally, buyer specific synergies, purchase price competition, and operational differences between the comparable companies and the subject company can lead to differences in valuation multiples.

To perform a DCF analysis on MECL, the estimated earnings before interest, taxes, depreciation, and amortization (EBITDA) were calculated for fiscal years 2024 – 2033 based on the estimated income statements shown above. The estimated EBITDA is used as it removes noncash costs and costs of debt. Income tax, working capital requirements, and capital expenditures (net of tax shield) were then deducted to arrive at discretionary after-tax cash flow. An estimate is then made of the value of the discretionary cash flows beyond the discrete estimated period, which is referred to as the terminal value. The terminal value is determined by applying a capitalization rate to the expected annual discretionary cash flows to be generated beyond the estimated period. Once discretionary cash flows available to debt and equity holders have been determined, they can be discounted back to their present-day value using a discount rate. The discount rate used was based on the rate regulated weighted average cost of capital specific to MECL subject to market factors. Once discounted, the sum of the cash flows less the tax shield on existing assets represents the enterprise value of the company. Finally, the value of redundant assets and debt were removed to arrive at the fair market value of the equity in MECL as shown below. The full DCF analysis is included in Appendix A of this report.

Maritime Electric Company Limited - Fair Market Value (DCF)

Fair Market Value (CAD$'000)	Low	Mid	High
Sum of present value of cash flows	771,650	801,112	830,573
Add: Tax shield on existing UCC balance	70,215	70,215	70,215
Enterprise value	**841,865**	**871,326**	**900,788**
Add: Redundant assets	10,160	10,160	10,160
Less: Interest-bearing debt and debt equivalents	(296,335)	(296,335)	(296,335)
En bloc FMV of MECL	**555,690**	**585,151**	**614,613**
Rounded	**555,690**	**585,150**	**614,610**

As a result of the DCF analysis, the enterprise value of MECL ranges from $842 million to $901 million and the en bloc fair market value of MECL's equity ranges from $556 million to $615 million.

This valuation yielded the following valuation multiples:

Maritime Electric Company Limited - DCF Valuation Multiples

CAD$'000	Metric	Low	Mid	High
Enterprise value to:				
2023 Rate Base	482,143	1.75x	1.81x	1.87x
2024 Rate Base	502,370	1.68x	1.73x	1.79x
2025 Rate Base	536,382	1.57x	1.62x	1.68x
LTM Revenue (2023)	249,256	2.78x	2.87x	2.95x
EBITDA	70,010	9.90x	10.20x	10.51x

6.2.3. Goodwill

Goodwill is the amount by which a company's enterprise value exceeds the tangible asset backing (operating net assets). To calculate goodwill, the tangible asset backing (fair market value of operating net assets) is subtracted from an entity's enterprise value. A calculation of MECL's implied goodwill is shown below detailing a goodwill ranging from $327 million to $386 million.

Maritime Electric Company Limited - Implied Goodwill

CAD$'000	Low	Mid	High
Enterprise Value	841,865	871,326	900,788
Less: Tangible Asset Backing (operating net assets)	(514,840)	(514,840)	(514,840)
Implied fair market value of goodwill	**327,025**	**356,486**	**385,948**

6.2.4. Precedent Transactions

To understand a company's value, it is best to also employ a market approach to understand how market conditions, sentiments, and recent prices affect the value of the company in question. Two approaches to arrive at a market value for a given company are the public company comparables approach and the precedent transactions approach.

The precedent transactions approach uses the valuation multiples from recent market transactions of similar companies to impute a value for the subject company. Two

sources of transactions have been identified as suitable precedents for MECL. Doane GT internally tracks transactions involving Ontario local distribution companies. These transactions have been summarized in the table below.

Maritime Electric Company Limited - Comparable Market Transactions (Ontario LDCs)

Target	Buyer	Year	Implied Enterprise Value	Rate Base	Implied EV / Rate Base
Peterborough Distribution Inc.	Hydro One Inc.	2020	105	81	1.30x
Orillia Power Distribution Corporation	Hydro One Inc.	2020	41	35	1.17x
Whitby Hydro	Veridian	2019	111	76	1.46x
Espanola Regional Hydro Distribution Co.	North Bay Hydro Distribution Ltd.	2019	8	6	1.33x
Collus PowerStream Corp	EPCOR Utilities Inc.	2018	39	24	1.63x
Midland Power Utility Corporation	Newmarket-Tay Power Distribution	2018	27	16	1.69x
Brant County Power Inc.	Cambridge and North Dumfries Hydro	2016	40	28	1.43x
Haldimand County Utilities Inc.	Hydro One Inc.	2015	77	50	1.54x
Woodstock Power Utilty Corporation	Hydro One Inc.	2015	46	33	1.39x
Norfolk Power Inc.	Hydro One Inc.	2014	93	60	1.55x
Minimum			**8**	**6**	**1.17x**
Median			**44**	**34**	**1.44x**
Average			**59**	**41**	**1.45x**
Maximum			**111**	**81**	**1.69x**

Additionally, a list of US precedent transactions has been compiled to illustrate valuation ranges for larger transactions in the utilities sector. These transactions are detailed in the following table.

Maritime Electric Company Limited - Comparable Market Transactions (US)

In CAD Millions			Implied		Implied
			Enterprise	Rate	EV /
Target	Buyer	Year	Value	Base	Rate Base
Sprague Resources LP	Hartree Partners, LP	2022	1,535	717	2.14x
Corning Natural Gas Holding Corporation	Argo Infrastructure Partners LP	2022	219	115	1.90x
FirstEnergy Transmission, LLC	Brookfield Infrastructure Partners L.P.	2022	22,517	9,075	2.48x
Southwest Gas Holdings, Inc.	Icahn Enterprises L.P.	2022	14,743	8,177	1.80x
RGC Resources, Inc.	-	2022	403	211	1.91x
Oasis Midstream Partners LP	Crestwood Equity Partners LP	2022	2,238	964	2.32x
Sprague Resources LP	Hartree Partners, LP	2021	1,421	717	1.98x
El Paso Electric Company	J.P. Morgan Asset Management, Inc.; JF	2020	5,827	3,060	1.90x
EQM Midstream Partners, LP	Equitrans Midstream Corporation	2020	16,609	7,859	2.11x
Emera Maine (nka:Versant Power)	ENMAX Corporation	2020	2,000	1,270	1.58x
Western Gas Partners, LP (nka:Western M	Western Gas Equity Partners, LP (nka:V	2019	21,241	8,886	2.39x
Vectren Corporation (nka:Vectren, LLC)	CenterPoint Energy, Inc.	2019	10,434	5,018	2.08x
Gulf Power Company	700 Universe, LLC	2019	7,421	3,905	1.90x
SCANA Corporation	Dominion Energy, Inc.	2019	18,071	10,933	1.65x
RM Partners LP	EQT Midstream Partners, LP (nka:EQM	2018	3,528	1,127	3.13x
WGL Holdings, Inc.	AltaGas Ltd.	2018	8,684	4,913	1.77x
Tallgrass Energy Partners, LP	Tallgrass Equity, LLC	2018	5,382	2,637	2.04x
Great Plains Energy Incorporated	Westar Energy, Inc. (nka:Evergy, Inc.)	2018	14,571	9,059	1.61x
The Empire District Electric Company	Liberty Utilities (Central) Co.	2017	3,317	2,052	1.62x
Piedmont Natural Gas Company	Duke Energy	2016	6,552	4,616	1.42x
Minimum			**219**	**115**	**1.42x**
Median			**6,189**	**3,482**	**1.91x**
Average			**8,336**	**4,266**	**1.99x**
Maximum			**22,517**	**10,933**	**3.13x**
Median multiple by Industry					
Electric			**8,927**	**4,462**	**1.90x**
Gas			**3,528**	**1,127**	**1.91x**
Multi			**5,382**	**2,637**	**2.11x**

Of the target companies above, Emera Maine has been identified for its similarity to MECL. Emera Maine is an electrical distribution company delivering to customers in eastern and northern Maine. The company's rate base was $1.27 billion at the time and the transaction. The purchase of Emera Maine by ENMAX Corporation implied an enterprise value of $2.0 billion or 1.58x Rate Base.

Notably, the average EV/rate base of the Ontario LDC transactions was 1.45x compared to 1.99x for the US transactions. Its important to note that the size of the Ontario target companies are much smaller relative to the majority of US target companies. Also, it was noted that a higher multiple was being paid for companies in both gas and electric. Thus, it is observable that higher multiples are being paid for companies of a larger scale and companies which are diversified.

Given MECL's rate base of $502 million is on the smaller side compared to the US transactions but still much larger than the Ontario LDCs, MECL's EV/rate base multiple could be expected to be between 1.45x and 1.99x. MECL is not diversified in both electric and gas so no premium for diversification would be expected. As outlined in the DCF valuation above, MECL's EV/rate base multiple ranged from 1.68x to 1.79x based on the 2024 rate base and 1.57x to 1.68x based on the 2025 rate base. The precedent transactions method supports that this is a reasonable range for MECL.

6.2.5. Public Company Comparables

Public company comparables can be useful to help impute the value of a subject company as market values and detailed financial information for the public companies are always readily available. A set of suitable comparables can assist in determining the value of a private company such as MECL. Emphasis is placed on ensuring the companies are primarily involved in the same industry and geographical region. In this case, electrical utilities from both Canada and the United States were used as comparable companies.

The Canadian public companies selected as comparables are included in the table below. Fortis is the largest company of the set with a rate base of $48.5 billion. The smallest company and most comparable to MECL based on size is the Caribbean Utilities Company, Ltd. which has a rate base of $765 million. MECL's EBITDA margin in 2024 was 28.2% which is lower than the public company comparable average of 35%. The valuation multiples of the comparable companies averaged 1.46x rate base, 4.72x revenue, and 13.63x EBITDA.

Maritime Electric Company Limited - Comparable Public Companies (CAN)

As of April 21, 2025 - In CAD Millions				Implied	Implied	Implied
	Enterprise	Rate	EBITDA	EV /	EV /	EV /
Company Name	Value	Base	Margin %	Rate Base	Rvenue	EBITDA
Algonquin Power & Utilities Corp.	17,657	9,522	36%	1.85x	5.29x	14.76x
AltaGas Ltd.	22,974	15,450	13%	1.49x	1.85x	13.71x
ATCO Ltd.	20,986	22,042	39%	0.95x	4.25x	10.82x
Canadian Utilities Limited	22,724	20,756	45%	1.09x	6.07x	13.62x
Caribbean Utilities Company, Ltd.	1,307	765	29%	1.71x	3.09x	10.57x
Emera Incorporated	39,251	25,779	35%	1.52x	5.45x	15.67x
Fortis Inc.	70,572	48,536	46%	1.45x	6.13x	13.34x
Hydro One Limited	47,567	29,352	34%	1.62x	5.61x	16.54x
Minimum	**1,307**	**765**	**13%**	**0.95x**	**1.85x**	**10.57x**
Median	**22,849**	**21,399**	**35%**	**1.50x**	**5.37x**	**13.67x**
Average	**30,380**	**21,525**	**35%**	**1.46x**	**4.72x**	**13.63x**
Maximum	**70,572**	**48,536**	**46%**	**1.85x**	**6.13x**	**16.54x**

When interpreting these multiples, it is important to remain cognizant of how MECL measures up to the comparable companies. As discussed above, MECL is smaller in size and has a slightly lower margin which would indicate MECL should fall closer to the lower end of the valuation range. MECL's closest comparable by size, Caribbean Utilities Company does fall near the lower end of the range with an EV/revenue multiple of 3.09x and an EV/EBITDA multiple of 10.57x. However, its 1.71x rate base is on the higher end of the comparables.

In relation to Fortis, it is expected that MECL would be valued at a smaller multiple than its parent company. Fortis is a much larger entity and a higher EBITDA margin at 46%. Fortis is currently trading at 1.45x rate base, 6.13x revenue, and 13.34x EBITDA.

Moving to the American public companies, the average EBITDA margin is slightly higher at 38% possibly reflecting economies of scale available to larger entities. The average EV multiples of the comparative set are 1.75x rate base, 4.75x revenues, and 12.42x EBITDA.

Maritime Electric Company Limited - Comparable Public Companies (US)

As of April 21, 2025 - In CAD Millions				Implied	Implied	Implied
	Enterprise	Rate	EBITDA	EV /	EV /	EV /
Company Name	Value	Base	Margin %	Rate Base	Rvenue	EBITDA
ALLETE, Inc.	8,385	5,261	29%	1.59x	3.81x	13.04x
Ameren Corporation	62,105	36,480	44%	1.70x	5.89x	13.48x
American Electric Power Company, Inc.	140,621	82,957	40%	1.70x	4.96x	12.49x
Avista Corporation	8,873	6,211	30%	1.43x	3.18x	10.60x
Black Hills Corporation	12,085	7,672	36%	1.58x	3.95x	10.92x
CenterPoint Energy, Inc.	61,029	32,285	39%	1.89x	4.91x	12.74x
CMS Energy Corporation	53,564	27,517	36%	1.95x	4.95x	13.78x
Consolidated Edison, Inc.	91,778	53,155	36%	1.73x	4.18x	11.73x
Duke Energy Corporation	249,354	124,299	48%	2.01x	5.79x	12.07x
Edison International	86,812	60,924	36%	1.42x	3.43x	9.43x
Entergy Corporation	87,609	48,034	42%	1.82x	5.13x	12.06x
Evergy, Inc.	40,906	24,946	45%	1.64x	4.86x	10.84x
Eversource Energy	69,122	42,158	36%	1.64x	4.04x	11.29x
Exelon Corporation	128,559	78,940	31%	1.63x	3.88x	12.43x
FirstEnergy Corp.	68,405	41,546	31%	1.65x	3.58x	11.45x
MDU Resources Group, Inc.	7,752	5,519	27%	1.40x	3.06x	11.46x
MGE Energy, Inc.	5,595	2,301	39%	2.43x	5.89x	15.30x
NextEra Energy, Inc.	311,872	138,484	53%	2.25x	8.76x	16.52x
NiSource Inc.	46,598	25,481	44%	1.83x	5.94x	13.54x
NorthWestern Energy Group, Inc.	9,192	6,441	37%	1.43x	4.22x	11.53x
OGE Energy Corp.	19,928	11,853	42%	1.68x	4.64x	11.08x
PG&E Corporation	132,786	89,286	38%	1.49x	3.78x	9.91x
Pinnacle West Capital Corporation	30,739	20,253	39%	1.52x	4.17x	10.59x
Portland General Electric Company	13,539	10,405	30%	1.30x	2.74x	9.26x
PPL Corporation	59,031	33,387	37%	1.77x	4.85x	12.98x
Public Service Enterprise Group Incorpor	86,669	40,586	37%	2.14x	5.85x	15.83x
Sempra	123,040	62,163	40%	1.98x	6.49x	16.14x
The AES Corporation	56,228	33,716	27%	1.67x	3.18x	11.91x
The Southern Company	231,455	106,405	48%	2.18x	6.02x	12.43x
WEC Energy Group, Inc.	75,794	34,254	40%	2.21x	6.13x	15.33x
Xcel Energy Inc.	96,382	57,777	39%	1.67x	4.98x	12.68x
Minimum	**5,595**	**2,301**	**27%**	**1.30x**	**2.74x**	**9.26x**
Median	**62,105**	**34,254**	**38%**	**1.68x**	**4.85x**	**12.07x**
Average	**79,865**	**43,571**	**38%**	**1.75x**	**4.75x**	**12.42x**
Maximum	**311,872**	**138,484**	**53%**	**2.43x**	**8.76x**	**16.52x**

It should also be understood that while public company comparables are useful, there are fundamental differences between public companies and private companies that affect the price a buyer is willing to pay. Most importantly, shares in a public company are generally considered to be liquid. An investor may buy or sell these shares at any time which reduces the risk for the investor and leads to higher prices. Private company shares are not liquid and transactions to buy or sell can take several months to complete. The lack of liquidity of private company shares means a private company such as MECL may be valued at a discount compared to a public company.

On the other hand, private company interests tend to be bought in large shares to obtain control. Investors that desire a level of control over a company are potentially willing to pay more for a company they can control. Generally, shareholders of public companies have a lack of control over the entity itself. As such, there is no control premium priced into public company valuations.

Regarding the valuation of MECL, PEI would likely operate MECL in a similar fashion to the way it is already being operated therefore control of the company is not significant to PEI. Additionally, the government exerts a level of control over MECL already through legislation and regulation from IRAC. Given a control premium is not significant enough to counteract liquidity differences, the effect of illiquidity in comparison to public company shares should be considered.

6.2.6. Estimated value and pricing

In determining MECL's value, a discounted cash flow analysis, precedent transactions, and public company comparables were considered. The results of the DCF yielded multiples of 1.68x to 1.79x rate base, 2.78x to 2.95x revenue, and 9.90x to 10.51x EBITDA. The precedent transactions confirmed 1.68x to 1.79x rate base is a reasonable range for MECL given transactions for smaller entities averaged 1.45x rate base, the transaction involving Emera Maine occurred at 1.58x rate base, and other precedent transactions in the U.S. averaged 1.99x rate base.

Relative to public company comparables, it was determined that MECL's value would be on the lower end of the comparable set given its size and relative margins. The low end of the Canadian multiples was 0.95x rate base, 1.85x revenue and 10.57x EBITDA with the average being 1.46x rate base, 4.72x revenue and 13.63x EBITDA. American public companies averaged 1.75x rate base, 4.75x revenue, and 12.42x EBITDA. Fortis is valued at 1.45x rate base, 6.13x revenue and 13.34x EBITDA which is expected to be higher than MECL. MECL's closest comparable by size of the set was valued at 1.71x rate base, 3.09x revenue and 10.57x EBITDA.

With these metrics in mind, MECL's midpoint value from the DCF analysis of 1.73x rate base, 2.87x revenue, 10.20x EBITDA appears reasonable when factoring in the lack of liquidity of MECL's shares compared to public companies.

The resulting enterprise value and implied goodwill of MECL from the above analyses are as follows.

Maritime Electric Company Limited - Enterprise Value & Implied Goodwill

CAD$'000	Low	Mid	High
Enterprise Value	841,865	871,326	900,788
Less: Tangible Asset Backing (operating net assets)	(514,840)	(514,840)	(514,840)
Implied fair market value of goodwill	**327,025**	**356,486**	**385,948**

Given the market analyses conducted, this is a reasonable price range for MECL on a cash-free debt-free basis as of the current report date.

7. Merits & Concerns for PEI's potential acquisition of MECL

7.1. Merits

Acquiring MECL could offer several significant advantages for PEI, including the following:

1. **Precedents for Public Sector Ownership**: There are numerous precedents for public sector ownership in the utility industry across Canada. Provinces like Quebec (Hydro-Québec), Manitoba (Manitoba Hydro), New Brunswick (NB Power), British Columbia (BC Hydro), Saskatchewan (SaskPower), and Ontario (Ontario Power

Generation) have successfully operated their own utilities. These examples demonstrate that public ownership there is precedent for public ownership of utilities.

2. **Greater Control Over Utility Operations:** By acquiring MECL, PEI would gain greater control over the utility, allowing it to prioritize provincial electricity issues directly. This would provide the Government with direct control over investment in critical infrastructure upgrades, renewable energy integration, and initiatives that enhance energy efficiency and sustainability. Public ownership aligns the utility's operations with broader provincial objectives, such as reducing greenhouse gas emissions and transitioning to a cleaner energy future, which may not always align with a private company's profit-driven motives.
3. **Potential Tax Advantages**: Public ownership of MECL could potentially reduce income tax costs. As a government owned utility, MECL may benefit from tax exemptions or reduced tax liabilities compared to a privately-owned entity. This reduction in tax expenses could lower cost of service, potentially resulting in lower electricity rates for consumers and freeing up funds for reinvestment in infrastructure and renewable energy projects.
4. **Improved Cost of Capital:** Provincial government ownership could improve the cost of capital for MECL. Firstly, as a government owned entity, MECL may be able to improve the cost of debt by leveraging the provincial cost of borrowing. Additionally, as a government owned entity rather than investor-owned utility, MECL may opt to target a lower return on equity and / or reduce the level of equity in the capital structure. This could help lower customer rates but would likely cause increased pressure on the provincial treasury and credit rating.

7.2. Concerns

Acquiring MECL presents several concerns that need careful consideration. Here are the key concerns:

1. **Cost of Acquisition:** The cost of acquiring MECL would be substantial, potentially requiring the Government to pay a premium over the market value to cover goodwill. Goodwill represents the value of MECL's brand, customer base, and other intangible assets. Based on our analysis above, we've estimated that this premium would range from $327 million to $386 million. This premium could significantly increase the total acquisition cost, making it a heavy financial burden for PEI. These funds would be received by Fortis if MECL was acquired by the Government, rather than being used in the province for investment in electrical infrastructure or other government priorities.
2. **Transaction Costs:** Beyond the purchase price, the Government would incur significant transaction costs. These include legal fees, advisory fees, costs for due diligence, and expenses related to financing the acquisition. Such costs can add up quickly and must be factored into the overall financial planning for the acquisition.
3. **Unwilling Seller:** Fortis may not be a willing seller, especially as MECL is a profitable business and may be a strategically important asset to Fortis. As a publicly traded company, Fortis has an obligation to maximize shareholder value, and selling MECL might not align with their strategic interests. If Fortis resists the sale, it could lead to a protracted and costly negotiation and / or legal process.
4. **Loss of Broader Fortis Capabilities:** MECL benefits from being part of the larger Fortis group, which provides access to extensive resources, expertise, and economies of scale. These capabilities include advanced technology, economies of scale, talent attraction / retention, management expertise, and financial strength. Losing access

to these broader Fortis capabilities could impact MECL's operational efficiency and innovation capacity, potentially affecting service quality and reliability.

5. **Absorption of Provincial Capital:** The acquisition would absorb a significant amount of provincial capital that could otherwise be deployed or invested elsewhere. This opportunity cost means that funds used for acquiring MECL would not be available for other critical areas such as other electrical infrastructure investment, healthcare, education, other types of infrastructure, or other public services. The diversion of capital might lead to a reevaluation of PEI's budget priorities and may increase pressure on the Provincial credit rating.
6. **Future Power Rate Increases:** Post-acquisition, any necessary power rate increases could cause public backlash. As the owner of MECL, the Government would be directly responsible for rate decisions. If rates need to be increased to cover operational costs or capital investments, the public may direct their concerns at the Government, leading to political and reputational risks. This could create pressure on the Government to subsidize rates, potentially impacting the province's financial health. The Government already does provide some rate subsidization for low-income customers or other customer groups in need.

8. Process for making an offer to acquire MECL

8.1. Impact of making an unsolicited offer to a public company

Making an unsolicited offer by the Government for MECL is complex as MECL is the subsidiary of a publicly traded company and a regulated utility. Both securities and regulatory legal advice should be consulted extensively.

We would note the following strategic considerations and procedural steps. As this is an initial assessment, please note that these are preliminary considerations only and that significant planning would be required to execute such a transaction.

8.1.1. Strategic Considerations

1. **Shareholder Value Obligation**: As a publicly traded company, Fortis has a fiduciary duty to maximize shareholder value. Any offer made by PEI must therefore present a compelling financial proposition that demonstrates clear benefits to Fortis shareholders. This could include a premium on the current market value of MECL, assurances of smooth operational transitions, or strategic advantages that align with Fortis's broader business objectives.
2. **Non-Obligatory Sale:** Fortis is not obligated to sell MECL, especially if it does not perceive the offer to be in the best interests of its shareholders. Therefore, the Government would need to demonstrate that they were committed to the proposed transaction and that the proposed transaction was at market value to compel Fortis to consider it on behalf of its shareholders. The Government may have other legal alternatives to force a transaction to occur but would need to engage with legal counsel to understand the viability, cost and timing of such alternatives.

8.1.2. Procedural Steps

1. **Due Diligence**: If Fortis engages with the Government on a potential transaction, a comprehensive due diligence process would be essential given the magnitude of the proposed investment. This involves a thorough examination of MECL's financial health, age and quality of infrastructure, operational efficiency, regulatory compliance, environmental and safety concerns, and potential liabilities.

2. **Definitive Legal Agreements**: Preparing definitive legal agreements is a critical step in any transaction. These documents would detail the terms of the transaction, including purchase price, payment terms, representations and warranties, covenants, conditions precedent to closing, etc. Legal counsel covering a multiple of disciplines will be required.
3. **Financing Arrangements**: PEI would need to secure committed financing for the acquisition. The existing indebtedness would need to be considered as well to determine if it can be assumed as part of the transaction or if it would also need to be re-financed.
4. **Leadership and Governance**: Determining the go-forward leadership and governance model for MECL post-acquisition is crucial. PEI would need to outline how the utility will be managed, including leadership appointments, governance structure, and integration plans. This step ensures continuity and efficiency in MECL's operations.
5. **Regulatory Approvals**: The acquisition would require regulatory approvals from bodies such as IRAC and possibly other federal and provincial agencies. PEI must prepare to navigate the regulatory landscape, ensuring compliance with all relevant laws and regulations. This includes presenting the transaction's benefits to regulators and addressing any potential concerns about customer impact.
6. **Securities Law Compliance**: As Fortis is a publicly traded company, the Government will need to ensure it complies with all applicable securities laws relative to acquiring the subsidiary of a publicly traded company.

9. Recommendations

The potential acquisition of MECL by PEI offers multiple merits, including leveraging established precedents of successful public sector ownership, gaining greater control over utility operations to address provincial energy issues, potentially reducing income tax costs, and benefiting from an improved cost of capital.

While there are strategic benefits to acquiring MECL, the concerns outlined above highlight the complexity and risks involved.

The Government must weigh these concerns carefully, considering the high costs of acquisition and transaction, potential unwillingness from Fortis, loss of access to broader Fortis capabilities, absorption of provincial capital, and the political risks associated with future power rate increases.

In particular, we have estimated that the acquisition premium that would likely be required would range between $327 million and $386 million. The Government may find that there is strong demand for these funds to be invested in other critical electrical infrastructure or other Provincial priorities.

Revisiting the Government's objectives for the provincial electrical system outlined at the start of the report, we conclude that these objectives can be met within the current ownership structure. Customer protection and rate minimization are addressed through IRAC regulation. Rates could be further reduced under public ownership, however, regulating MECL's returns has ensured rates are reasonable relative to other jurisdictions. Under Fortis, MECL is working to expand electrical capacity to ensure reliability of power supply. The expertise of Fortis is additive in this respect. The resilience of the electrical grid has come into question in recent years; however, upgrades are being proposed by MECL and additional grid infrastructure may be provincially funded through PEI Energy. Environmental sustainability has been and can continue to be led by investment in renewable resources under PEI Energy.

Invariably, the Government could improve results on some of its core objectives through public ownership. Yet, the contributions Fortis makes through its management, expertise, and support would be lost. Given the Government's objectives can be met within the current ownership model, the acquisition premium to acquire MECL does not appear to be the best course of action.

Based on the above, we believe that while there are merits to acquiring MECL, this capital could be better deployed elsewhere to achieve the province's objectives.

Engaging in thorough financial, legal, and strategic planning will be essential to address these concerns effectively.

Acknowledgment: *Receipt of confidential information*

We have obtained MECL's most recent audited financial statements. These financial statements are confidential and were not disclosed to the public. As such, we are not permitted to include these financial results in our report.

Based on our review of the audited financial statements in comparison to publicly disclosed estimates, MECL's actual financial results were stronger than estimated. The figures presented in the audited financial statements indicate that the goodwill tied to a potential transaction may in fact be higher than what we have quantified in our assessment based on estimated results. As our recommendation above concludes that the Province should not acquire MECL as the funds to finance the goodwill in a potential purchase could be put to better use elsewhere, any increase in goodwill based on stronger than estimated actual results further supports our recommendation.

Appendix A – Discounted Cash Flow Analysis

Maritime Electric Company Limited
Estimate Valuation of Maritime Electric Company Limited as at December 31, 2023

DISCOUNTED CASH FLOW ANALYSIS - MECL

In CAD

		Notes & Reference	For the Years Ended December 31, 2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	Terminal value Low	Terminal value High
1	*Discount period*		*0.50*	*1.50*	*2.50*	*3.50*	*4.50*	*5.50*	*6.50*	*7.50*	*8.50*	*8.50*	*8.50*
2	**Revenue**		261,902	273,869	284,036	293,052	302,076	311,117	320,171	329,105	338,218	344,982	344,982
3	**Forecast normalized EBITDA**		73,907	78,013	83,519	88,525	93,458	98,327	103,125	107,718	112,404	117,030	117,030
	EBITDA margin		*28.2%*	*28.5%*	*29.4%*	*30.2%*	*30.9%*	*31.6%*	*32.2%*	*32.7%*	*33.2%*	*33.9%*	*33.9%*
4	Less: Income taxes	*[2]*	(23,035)	(24,314)	(26,030)	(27,590)	(29,128)	(30,645)	(32,141)	(33,572)	(35,033)	(36,474)	(36,474)
5	Cash flow from operations		50,872	53,699	57,489	60,934	64,330	67,681	70,984	74,146	77,371	80,555	80,555
6	Less: Net working capital required	*[3]*	(298)	(174)	(142)	(144)	(147)	(150)	(153)	(156)	(159)	(163)	(163)
7	Less: Capital expenditures, net of tax shield	*[4]*	(56,575)	(59,057)	(60,238)	(61,442)	(63,009)	(64,269)	(65,554)	(66,866)	(68,203)	(36,808)	(36,808)
8	Net after-tax debt free cash flow		(6,001)	(5,532)	(2,891)	(653)	1,174	3,262	5,276	7,124	9,009	43,584	43,584
9	Multiplied by: Partial period adjustment factor		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
10	Adjusted net after-tax debt free cash flow		(6,001)	(5,532)	(2,891)	(653)	1,174	3,262	5,276	7,124	9,009	43,584	43,584
11	Multiplied by: Terminal capitalization multiple											27.96x	29.61x
12	Terminal value											1,218,497	1,290,664
	Present value of cash flows - Low												
13	Multiplied by: Discount factor at 5.6%		0.9732	0.9217	0.8731	0.8270	0.7833	0.7419	0.7027	0.6656	0.6304	0.6304	
14	**Present value of cash flows - Low**		(5,840)	(5,099)	(2,524)	(540)	920	2,420	3,708	4,742	5,679	768,184	
	Present value of cash flows - High												
15	Multiplied by: Discount factor at 5.4%		0.9741	0.9244	0.8772	0.8325	0.7900	0.7497	0.7114	0.6752	0.6407		0.6407
16	**Present value of cash flows - High**		(5,845)	(5,113)	(2,536)	(543)	928	2,445	3,754	4,810	5,772		826,903

	Fair Market Value (CAD$'000)	Low	Mid	High
17	Sum of present value of cash flows	771,650	801,112	830,573
18	Add: Tax shield on existing UCC balance	70,215	70,215	70,215
19	**Enterprise value**	841,865	871,326	900,788
20	Add: Redundant assets	10,160	10,160	10,160
21	Less: Interest-bearing debt and debt equivalents	(296,335)	(296,335)	(296,335)
22	**En bloc FMV of MECL**	**555,690**	**585,151**	**614,613**
23	**Rounded**	**555,690**	**585,150**	**614,610**

Valuation metrics	Rate Base	Low	Mid	High
Enterprise value to:				
2023 Rate Base	482,143	1.75x	1.81x	1.87x
2024 Rate Base	502,370	1.68x	1.73x	1.79x
2025 Rate Base	536,382	1.57x	1.62x	1.68x

Valuation metrics	LTM Revenue (2023)	Low	Mid	High
LTM Revenue	249,256	2.78x	2.87x	2.95x

Valuation metrics	EBITDA (2023)	Low	Mid	High
EBITDA	70,010	9.90x	10.20x	10.51x

Maritime Electric Company Limited

Estimate Valuation of Maritime Electric Company Limited as at December 31, 2023

DISCOUNTED CASH FLOW ANALYSIS - MECL

In CAD

Notes

1. This schedule forms a part of, and must be read in conjunction with, the accompanying Grant Thornton LLP DRAFT report, dated MMMM DD, YYYY.

2. Combined federal and provincial tax rates in Prince Edward Island.

3. Incremental net working capital requirements:

Inventory		3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000		
Gross operating expenses * 3.6%		6,903	7,077	7,219	7,363	7,510	7,660	7,814	7,970	8,129		
Income taxes paid		90	90	90	90	90	90	90	90	90		
Required working capital		9,993	10,167	10,309	10,453	10,600	10,750	10,904	11,060	11,219	11,444	11,444
Opening working capital (normalized)		9,695	9,993	10,167	10,309	10,453	10,600	10,750	10,904	11,060	11,281	11,281
Incremental net working capital required		298	174	142	144	147	150	153	156	159	163	163

4. Sustaining capital expenditures, net of tax shield per Management

Gross capital additions		78,564	80,060	81,661	83,294	84,960	86,660	88,393	90,161	91,964	49,632	49,632
Less: capital contributions		10,250	8,750	8,925	9,104	9,286	9,471	9,661	9,854	10,051	5,424	5,424
PPE additions net of capital contributions		68,314	71,310	72,736	74,191	75,675	77,188	78,732	80,307	81,913	44,207	44,207
Tax shield on sustaining capital expenditures	*[5]*	(11,739)	(12,253)	(12,498)	(12,748)	(12,666)	(12,919)	(13,178)	(13,441)	(13,710)	(7,399)	(7,399)
Sustaining capital expenditures, net of tax shield	*[6]*	56,575	59,057	60,238	61,442	63,009	64,269	65,554	66,866	68,203	36,808	36,808

5. Tax shield rate on tax amortization related to sustaining capital expenditures is calculated using the following formula:

*(Tax Amortization Rate * Tax Rate) / (Discount Rate + Tax Amortization Rate) * (1 + Tax Deduction in First Year * Discount Rate) / (1 + Discount Rate)*

Where:

Tax Amortization Rate is the Company's weighted average CCA rate of 6.8%
Tax Deduction in First Year is 100% in 2024-2028 and 50% thereafter.
Tax rate of 26.5%.
Discount Rate is 5.5%

6. Capital expenditures in the terminal year was assumed to approximate a maintainable level of capital expenditures into perpetuity.

Appendix B – Glossary of terms

Abbreviation	Term
BESS	Battery Energy Storage System
Doane GT, we, us, our	Doane Grant Thornton LLP
Electrification	The transition from fossil fuel energy sources to electricity
EPA	Energy Purchase Agreement
Fortis	Fortis Inc.
IRAC	Island Regulatory and Appeals Commission
NB Power	New Brunswick Power Inc.
MECL	Maritime Electric Company Limited
MW	Megawatts
NBSO	New Brunswick System Operator
PEI Energy	PEI Energy Corporation
PEI	Prince Edward Island
PNM	Public Service Company of New Mexico
PPA	Power Purchase Agreement
RICE	Reciprocating Internal Combustion Engine
ROE	Return on Equity
The Government, PEI, or PEI Government	Government of Prince Edward Island
TNMP	Texas-New Mexico Power Company
UPA	Unit Participation Agreement

Appendix C – Documents relied upon

[1] MECL 2023 General Rate Application Filed June 20, 2022
[2] MECL 2023 General Rate Application Filed June 20, 2022
[3] MECL 2023 General Rate Application Filed June 20, 2022
[4] IRAC Order UE23-04 - Docket UE20946 - 2023 General Rate Application - April 24, 2023
[5] Maritime Electric - Corporate Profile
[6] Maritime Electric - Net Metering
[7] MECL request for the on island capacity for security of supply project - December 18, 2024.pdf
[8] MECL request for the on island capacity for security of supply project - December 18, 2024.pdf
[9] MECL request for the on island capacity for security of supply project - December 18, 2024.pdf
[10] Fortis Inc. - Our Companies
[11] FortisAlberta - Our Company
[12] GlobalData - Fortis Inc.
[13] Fortis Inc. Financial Performance - 2023 Year In Review
[14] S&P Global - Fortis Inc. (TSX:FTS) Public Company Profile
[15] Fortis Inc. Fourth Quarter and Annual 2023 Results
[16] Fortis Inc. - Community
[17] MECL - History of MECL
[18] Fortis Inc. Fourth Quarter and Annual 2023 Results
[19] FortisBC - Local FortisBC crews help with Hurricane Fiona clean-up
[20] Fortis Inc. Fourth Quarter and Annual 2023 Results
[21] Fortis Inc. Fourth Quarter and Annual 2023 Results
[22] MECL - New Electricity Rates
[23] MECL - Rates and General Rules and Regulations
[24] Electrical Industry Newsweek - PEI Begins Interconnection Upgrade Project
[25] CBC News - Summerside council to decide whether to increase electric rates
[26] Electrical Industry Newsweek - PEI Begins Interconnection Upgrade Project
[27] Electrical Industry Newsweek - PEI Begins Interconnection Upgrade Project
[28] Maritime Electric - Net Metering
[29] MECL - Interconnection Upgrade Project
[30] Prince Edward Island Government - Electric Cable Completion Powers PEI Communities
[31] Prince Edward Island Government - Electric Cable Completion Powers PEI Communities
[32] MECL - 2025 Capital Budget filed August 2, 2024
[33] MECL request for the on island capacity for security of supply project - December 18, 2024.pdf
[34] MECL request for the on island capacity for security of supply project - December 18, 2024.pdf
[35] MECL request for the on island capacity for security of supply project - December 18, 2024.pdf
[36] Prince Edward Island Government - Renewable Energy
[37] Candian Energy Regulator – Provincial and Territorial Energy Profiles – Prince Edward Island
[38] Prince Edward Island Government - Wind Energy
[39] MECL - Renewable Energy
[40] Prince Edward Island Government - Wind Energy
[41] Prince Edward Island Government - Renewable Energy
[42] MECL request for the on island capacity for security of supply project - December 18, 2024.pdf
[43] MECL request for the on island capacity for security of supply project - December 18, 2024.pdf
[44] MECL 2023 General Rate Application Filed June 20, 2022
[45] MECL 2023 General Rate Application Filed June 20, 2022
[46] MECL 2023 General Rate Application Filed June 20, 2022
[47] MECL 2023 General Rate Application Filed June 20, 2022

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