

Prince Edward Island Energy Corporation

Electricity Efficiency and Conservation Plan

2022/2023 – 2024/2025

Energy Efficiency and Demand Response Initiatives



ELECTRICITY EFFICIENCY AND CONSERVATION PLAN 2022/23-2024/25

Energy Efficiency and Demand Response Initiatives

PREPARED BY:

Prince Edward Island Energy Corporation and efficiencyPEI

WITH SUPPORT FROM:

Grant Thornton LLP

ELECTRICITY EFFICIENCY AND CONSERVATION PLAN DEVELOPMENT:

The 2022/23-2024/25 Electricity Efficiency and Conservation Plan was developed by Prince Edward Island Energy Corporation and efficiencyPEI with the support of Grant Thornton LLP; a business advisory firm with experience across a variety of power and utility projects. Grant Thornton LLP in Canada is a leading provider of national audit, tax and advisory services who applies technical guidance and breadth of experience. Grant Thornton LLP supports clients in a regulated environment on a variety of matters.

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1 Introduction

2 Prince Edward Island Energy Corporation (“PEIEC”) and efficiencyPEI (“ePEI”) have developed the
3 2022/23 – 2024/25 Electricity Efficiency & Conservation Plan (“proposed EE&C Plan” or “proposed
4 Plan”) with a focus on continuous improvement. PEIEC is the public utility defined in the Electric Power
5 Act (the “Act”)¹ for the purposes of developing a demand-side management plan. The proposed EE&C
6 Plan is PEIEC’s second submission to the Island Regulatory and Appeals Commission (the “Commission”)
7 for this purpose. The objective of this Plan is to review current offerings and adopt new cost-effective
8 energy efficiency and demand response initiatives for the next three years. Pursuant to section 16.1 of
9 the Act this Plan is subject to regulatory approval from the Commission. Throughout this document, the
10 previously approved three-year 2018/19 – 2020/21 Electricity Efficiency & Conservation Plan is referred
11 to as the “current EE&C Plan” or the “current Plan” where this document is being referred to as the
12 “proposed EE&C Plan” or the “proposed Plan.”

13 The proposed EE&C Plan outlines evidence-based programs and strategies to achieve efficiency and
14 demand response savings targets for fiscal 2022/23 to 2024/25. The purpose of the proposed EE&C Plan
15 is to clearly identify targets, objectives, strategies and performance objectives for the three-year period
16 of the proposed EE&C Plan. The proposed EE&C Plan provides detailed descriptions of programs,
17 measures, and strategies to Island electricity stakeholders for transparency and to encourage adoption.
18 For clarity, while the proposed Plan is being submitted to the Commission by PEIEC as the regulated
19 public utility, the responsibility for the execution of the proposed EE&C Plan is functionally delegated to
20 ePEI as the delivery agent of energy and electricity efficiency initiatives.

21 Abbreviations and definitions used throughout the proposed Plan can be found in Appendix A and B,
22 respectively. The tables presented in the proposed Plan are based on the underlying evidence and, as a
23 result, may contain rounding differences due to presentation.

24 Development approach

25 The proposed EE&C Plan was developed with the objective of providing cost-effective electricity
26 efficiency and demand response and reduction initiatives for PEI electricity users. The proposed EE&C
27 Plan incorporates demand response programs and measures including pilot projects that may result in
28 future enhancements to the proposed Plan. The proposed EE&C Plan does not capture other fuels that
29 are addressed in the Province’s efficiency initiatives and path toward net-zero. The proposed Plan is
30 limited to electricity users, as the activities included in the proposed Plan are funded, in part, by
31 electricity rate payers.

32 When developing the proposed Plan, the following guiding principles were central to the overall
33 process:

- 34 • **Customer value:** ratepayers are provided an appropriate level of energy savings.
- 35 • **Customer need:** EE&C considers a balanced portfolio of programs that are responsive to the
36 diverse needs of electricity ratepayers and can adapt with their changing needs.

¹ Electric Power Act – Section 16.1, Page 12

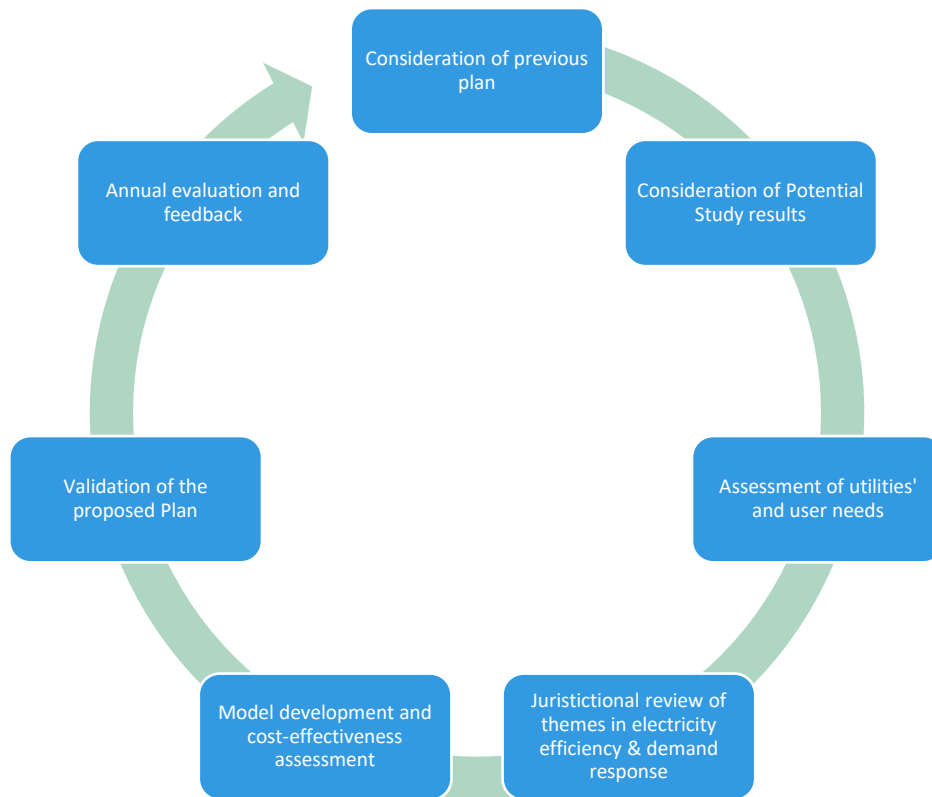
- 1 • **Customer affordability:** considers both the short-term cost and long-term value for electricity
2 ratepayers to ensure the Plan is designed to provide Islanders with the adoption of greater
3 electricity efficiency.

4 Once guiding principles had been defined the development of the proposed Plan followed a staged
5 approach, as follows:

- 6 1. Consideration of the current EE&C Plan’s performance;
7 2. Consideration of the results from the Potential Study prepared by Dunsky;
8 3. Needs assessment from electricity utilities and electricity users;
9 4. Jurisdictional review of themes in electricity efficiency and demand response;
10 5. Model development and cost-effectiveness assessment; and
11 6. Validation of the proposed Plan.

12 Each stage was chosen to ensure any challenges of the current EE&C Plan were addressed and expert
13 reports were incorporated to strengthen the proposed EE&C Plan. This development process enabled
14 PEIEC and ePEI to tailor the proposed EE&C Plan to be relevant, achievable, cost-effective, and balanced.
15 This staged approach has been presented in the figure on the next page.

1 **Figure 1: Proposed EE&C Plan development cycle**



2 **1. Considerations from the current EE&C Plan’s performance**

3 The current EE&C Plan evolved over the course of its term, incorporating recommendations from the
4 Commission’s expert review performed by Synapse Energy Economics, Inc. (“Synapse”) which analyzed
5 the current EE&C Plan as part of the Commission’s approval process. Synapse recommendations from
6 the current Plan have been addressed by ePEI and PEIEC in Appendix C. The current EE&C Plan also
7 considered results from evaluations conducted by the third-party evaluator, Econoler, who provided
8 reporting on the results of the current plan, as well as policy developments, such as net zero discussion
9 papers and sustainable community initiatives, from the Province of Prince Edward Island (the
10 “Province”).

11 **2. Considerations from the Potential Study**

12 In Order UE19-03 the Commission requested PEIEC to undertake a DSM Potential Study prior to
13 submitting the next EE&C Plan. In 2020, ePEI engaged Dunsky Energy Consulting (“Dunsky”) to conduct
14 the PEI Energy Efficiency Potential Study (the “Potential Study”). The purpose of the Potential Study was
15 to provide a comprehensive assessment of energy efficiency and demand response opportunities in PEI
16 over a ten-year period, 2021 to 2030. The Potential Study quantified potential consumption savings and
17 informed province-wide energy efficiency and peak demand reduction targets. The Potential Study was
18 a foundational document to the development of the proposed EE&C Plan.

19 **3. Needs assessment from electricity utilities and electricity users**

20 PEI electricity utilities and users were engaged as important stakeholders in this planning process. That
21 engagement was intended to understand how the current Plan addressed their needs and identify
22 opportunities for improvements. The electricity stakeholders included Maritime Electric, Summerside

1 Electric, the Electricity Efficiency Advisory Group (the “Advisory Group”), the Federation of Agriculture,
2 Abegweit First Nation, and the PEI Seafood Processors Association.

3 The stakeholder consultations provided key insights into the development of the proposed Plan to tailor
4 programs and measures to provide meaningful efficiency and demand response programs to Island
5 electricity ratepayers. The summary of stakeholder engagement is included in Appendix D.

6 **4. Jurisdictional review of themes in electricity efficiency and demand response**

7 Additionally, as part of the planning process, we reviewed electricity efficiency and demand response
8 programs in other jurisdictions. We considered the various programs in all Atlantic Canadian provinces,
9 as well as Vermont, Maine, and Massachusetts to identify industry trends. The summary of programs
10 offered in these jurisdictions are included in Appendices E and F.

11 We also considered industry trends identified in the 2020 State Energy Efficiency Scorecard (“SEE
12 Scorecard”) prepared by the American Council for an Energy-Efficient Economy² and the 2021 Canadian
13 Provincial Energy Efficiency Scorecard prepared by Efficiency Canada.³

14 **5. Model development and cost-effectiveness assessment**

15 Modeling the cost-effectiveness of the proposed EE&C Plan incorporated the current EE&C Plan’s
16 model, with a critical review of the various assumptions in comparison to the results of the Dunskey
17 Potential Study, Econoler program evaluation reports⁴, jurisdictional analysis, and ePEI internal data.

18 Cost-effectiveness testing was performed using two methods, 1) the Program Administrator Cost
19 (“PAC”) test and 2) the Total Resource Cost (“TRC”) test, both of which were conducted at the program
20 and portfolio levels. The PAC test will continue to be used as the primary economic test, analyzed at the
21 portfolio level, with the TRC test applied as a secondary test. This is consistent with the methodologies
22 previously approved by the Commission Order UE-19-03.⁵ Further details regarding the difference
23 between the PAC and TRC tests, as well as analyzing cost-effectiveness at program and portfolio levels,
24 are described further in this document, as well as in Appendix G.

25 **6. Validation of the proposed Plan**

26 Stakeholder engagement throughout the development of the proposed EE&C Plan was vital to ensure
27 the current EE&C plan responded to user feedback. However, stakeholders will also form an important
28 part of the validation process. Focusing on continuous feedback regarding customer value, customer
29 need, and customer affordability and continuously improving the plan.

30 **Program evaluation and continuous improvement**

31 In Order UE19-03, the Commission required PEIEC to develop an evaluation framework with the support
32 of an Advisory Group and engagement of an external evaluation consultant to assist with the
33 development of the evaluation framework. Throughout the current plan Econoler has conducted
34 evaluations of the EE&C portfolio’s performance for filings with the Commission and to facilitate PEIEC

² The 2020 State Energy Efficiency Scorecard Research Report December 2020

³ The 2021 Canadian Provincial Energy Efficiency Scorecard Report

⁴ For a complete list of these reports refer to Appendix H

⁵ Island Regulatory Appeals Commission Order UE19-03, page 20, paragraph 10 and 11

- 1 and ePEI in continuously improving the current Plan.⁶ The proposed EE&C Plan includes the continued
- 2 engagement of the Advisory Group as well as annual program evaluations and a broad focus on
- 3 continuous improvement.

⁶ ePEI Evaluation Framework, pages 1 and 2

1 Current EE&C Plan performance

2 The current EE&C Plan performance provided insights into the development of the proposed EE&C Plan.
3 It provided context regarding what was working well and where there may be room for improvement.
4 Results from the 2018/19 and 2019/20 EE&C Plan years have been evaluated at the overall portfolio,
5 program, and sector level. The 2020/21 results were not available at the time of this filing.

6 Over the course of the current EE&C plan, ePEI achieved the following:

- 7 • 2018/19 and 2019/20 net electricity savings (“NES”) of 4.074 and 7.978 GWh respectively;⁷
- 8 • 2018/19 and 2019/20 net demand savings (“NDS”) of 2.202 and 3.003 MW respectively;⁸ and
- 9 • 2018/19 and 2019/20 lifetime energy savings of 59.960 and 120.169 GWh respectively.⁹

10 The current Plan that was approved by the Commission in Order UE19-03 contemplated an EE&C budget
11 of approximately \$13.3 million. Ratepayers were expected to cover 20% of this spend, approximately
12 \$2.7 million. However, several factors reduced the actual spending that was able to be claimed in the
13 current EE&C Plan:¹⁰

- 14 • Program participation was less than forecast due to a variety of factors;
- 15 • Program costs being overestimated during program design with avoided costs being
16 underestimated;
- 17 • Econoler determined the percentage of each program budget that is attributable to electric
18 savings with some program budgets being reduced due to this; and
- 19 • Delays in the launch of commercial programs.

⁷ 2018/2019-2019/2020 Electricity Efficiency and Conservation (EE&C) Program Evaluation prepared by Econoler, page 2

⁸ 2018/2019-2019/2020 Electricity Efficiency and Conservation (EE&C) Program Evaluation prepared by Econoler, page 3

⁹ 2018/2019-2019/2020 Electricity Efficiency and Conservation (EE&C) Program Evaluation prepared by Econoler, page 2

¹⁰ ePEI Electricity Efficiency & Conservation Annual Progress Report, page 2

1 The following table summarizes the current EE&C Plan’s budget. Due to the factors noted on the previous page, there was an overcollection of
 2 EE&C funds from rate payers of Maritime Electric and Summerside Electric. An estimate of this overcollection has been summarized below:

3 **Table 1: Current EE&C Plan spending by funding source**

Funding Source	Current Plan									
	2018-19		2019-20		2020-21		2021-22		Total	
	\$	%	\$	%	\$	%	\$	%	\$	%
Maritime Electric	540,000	31.6%	873,000	36.2%	1,080,000	46.2%	1,080,000	32.4%	3,573,000	36.5%
Summerside Electric	60,000	3.5%	97,000	4.0%	120,000	5.1%	120,000	3.6%	397,000	4.1%
Federal Government	1,035,397	60.6%	1,148,512	47.6%	831,784	35.6%	873,197	26.2%	3,888,890	39.7%
Provincial Government	74,084	4.3%	293,993	12.2%	307,587	13.1%	1,264,940	37.9%	1,940,604	19.8%
Total	1,709,481	100.0%	2,412,505	100.0%	2,339,371	100.0%	3,338,137	100.0%	9,799,494	100.0%
Total EE&C Actual Spending Atributable to Ratepayers									1,959,899	
Overcollection from Previous Plan									2,010,101	

4 Notes:

5 *Federal funding amounts for 2018-19 and 2019-20 are estimates as the Government of Canada has not yet completed its adjudication of claims for those years.*

6 *The Provincial Government portion of expenditures is equal to the amount not covered by the other funding sources.*

7 *The funding amounts in the 2021-22 year are forecasted.*

8 *The federal funding amount for 2020-21 is a preliminary estimate.*

9 As noted in Table 1, PEI electricity ratepayers funded more than the 20% of the current EE&C Plan that was estimated in UE19-03. To address the
 10 overcollection from electricity ratepayers, the proposed Plan funding allocation has been adjusted to reduce the funding amounts required by
 11 each utility as demonstrated in the following section of this report.

1 **Proposed EE&C Plan summary**

2 **Proposed EE&C Plan budget**

3 The proposed Plan is continuing to allocate spending for EE&C activities by funding source. Approximately 20% of EE&C spending will be covered
 4 by ratepayers and the remaining 80% will be covered by the Provincial government. The Federal government is expected to provide funding in
 5 the first year of the proposed Plan through the Low Carbon Economy Fund. However, new Federal funding has not been committed beyond the
 6 2022/23 fiscal year. In addition, provincial and federal funding for the proposed EE&C Plan is subject to appropriations of funds by the
 7 Legislative Assembly of PEI and the Parliament of Canada, respectively, for each fiscal year of the proposed Plan.

8 **Table 2: Proposed Plan budget by year**

Funding Source	Proposed Plan							
	2022-23		2023-24		2024-25		Total	
	\$	%	\$	%	\$	%	\$	%
Maritime Electric	1,360,203	18.0%	1,321,690	18.0%	1,732,045	18.0%	4,413,939	18.0%
Summerside Electric	151,134	2.0%	146,854	2.0%	192,449	2.0%	490,438	2.0%
Federal Government	377,834	5.0%	-	0.0%	-	0.0%	377,834	1.5%
Provincial Government	5,667,514	75.0%	5,874,178	80.0%	7,697,980	80.0%	19,239,672	78.5%
Total	7,556,685	100.0%	7,342,723	100.0%	9,622,475	100.0%	24,521,883	100.0%

9 The development of the proposed Plan’s budget incorporated the overcollection from electricity ratepayers during the current Plan, resulting in
 10 more than 20% funded by ratepayers as shown in Table 1. Table 3 demonstrates how the overcollection will be adjusted in the proposed Plan.

11 **Table 3: Proposed Plan allocation of ratepayer overcollection from current Plan across the proposed Plan budget**

Proposed Plan Budget	Ratepayer Overcollection Adjustment			
	2022-23	2023-24	2024-25	Total
Maritime Electric	\$ 1,360,203	\$ 1,321,690	\$ 1,732,045	\$ 4,413,939
Summerside Electric	\$ 151,134	\$ 146,854	\$ 192,449	\$ 490,438
Subtotal	\$ 1,511,337	\$ 1,468,545	\$ 1,924,495	\$ 4,904,377
Overcollection from Previous Plan	\$ (546,578)	\$ (503,786)	\$ (959,737)	\$ (2,010,101)
Utility Collections for Proposed Plan				
Maritime Electric	\$ 868,283	\$ 868,283	\$ 868,282	\$ 2,604,848
Summerside Electric	\$ 96,476	\$ 96,476	\$ 96,476	\$ 289,428
Total	\$ 964,759	\$ 964,759	\$ 964,758	\$ 2,894,276

1 **Proposed EE&C Plan targets**

2 The proposed Plan has developed targets for planned spending, energy and demand savings, and cost-effectiveness testing using the PAC and
 3 TRC. The following tables provide targets for each category at a portfolio level and sector level by year:

4 **Table 4 : Annual proposed Plan EE&C targets by portfolio**

Year	Investment (\$ millions)	Total Present Value Avoided Costs (\$ millions)	Incremental Gross Energy Savings at Generator (GWh)	Incremental Gross Demand Savings at Generator (MW)	Incremental Net Energy Savings at Generator (GWh)	Incremental Net Demand Savings at Generator (MW)	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)	Incremental Gross Energy Savings as % of PEI Electricity Sales
2022-2023	\$ 7.56	\$ 30.52	15.27	7.09	12.44	5.71	2.37	4.58	1.00%
2023-2024	\$ 7.34	\$ 29.78	15.51	7.17	10.84	5.52	2.33	4.32	1.00%
2024-2025	\$ 9.62	\$ 30.56	15.89	7.29	11.17	5.62	2.36	4.36	1.00%
Total/Average	\$ 24.52	\$ 90.86	46.67	21.56	34.45	16.85	2.35	4.42	1.00%

Year	Investment (\$ millions)	Total Present Value Avoided Costs (\$ millions)	Incremental Gross Energy Savings at Generator (GWh)	Incremental Gross Demand Savings at Generator (MW)	Incremental Net Energy Savings at Generator (GWh)	Incremental Net Demand Savings at Generator (MW)	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)	Incremental Gross Energy Savings as % of PEI Electricity Sales
2022-2023	\$ 7.56	\$ 24.04	15.27	7.09	12.44	5.71	1.78	3.45	1.00%
2023-2024	\$ 7.34	\$ 23.55	15.51	7.17	10.84	5.52	1.75	3.27	1.00%
2024-2025	\$ 9.62	\$ 24.13	15.89	7.29	11.17	5.62	1.77	3.31	1.00%
Total/Average	\$ 24.52	\$ 71.71	46.67	21.56	34.45	16.85	1.77	3.34	1.00%

5 **Table 5: 2022/23 proposed Plan EE&C targets by sector**

	Investment (\$ millions)	Total Present Value Avoided Costs (\$ millions)	Incremental Gross Energy Savings at Generator (GWh)	Incremental Gross Demand Savings at Generator (MW)	Incremental Net Energy Savings at Generator (GWh)	Incremental Net Demand Savings at Generator (MW)	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)
2022-2023								
Residential Programs								
Energy Efficient Equipment Rebates	\$ 2.18	\$ 15.74	5.09	4.63	3.97	3.64	2.65	7.23
Home Insulation Rebates	\$ 0.20	\$ 1.45	0.80	0.24	0.63	0.19	5.60	7.19
Winter Warming	\$ 0.24	\$ 0.33	0.49	0.05	0.49	0.05	1.37	1.37
Instant Energy Savings	\$ 0.54	\$ 2.09	2.84	0.41	2.84	0.41	0.97	3.89
New Home Construction	\$ 0.50	\$ 2.53	1.38	0.41	0.86	0.25	1.71	5.03
Home Comfort	\$ 0.60	\$ 1.80	0.88	0.26	0.69	0.20	3.58	2.99
Commercial & Industrial Programs								
Business Energy Rebates	\$ 1.16	\$ 5.75	3.48	1.02	2.65	0.89	2.06	4.97
Community Energy Solutions	\$ 0.21	\$ 0.83	0.30	0.07	0.30	0.07	1.02	4.01
Other Investment								
Demand Response	\$ 1.00							
Enabling Strategies	\$ 0.93							
Total/Average	\$ 7.56	\$ 30.52	15.27	7.09	12.44	5.71	2.37	4.58

	Investment (\$ millions)	Total Present Value Avoided Costs (\$ millions)	Incremental Gross Energy Savings at Generator (GWh)	Incremental Gross Demand Savings at Generator (MW)	Incremental Net Energy Savings at Generator (GWh)	Incremental Net Demand Savings at Generator (MW)	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)
2022-2023								
Residential Programs								
Energy Efficient Equipment Rebates	\$ 2.18	\$ 13.14	5.09	4.63	3.97	3.64	2.21	6.04
Home Insulation Rebates	\$ 0.20	\$ 1.08	0.80	0.24	0.63	0.19	4.18	5.37
Winter Warming	\$ 0.24	\$ 0.22	0.49	0.05	0.49	0.05	0.93	0.93
Instant Energy Savings	\$ 0.54	\$ 1.45	2.84	0.41	2.84	0.41	0.67	2.69
New Home Construction	\$ 0.50	\$ 1.88	1.38	0.41	0.86	0.25	1.28	3.75
Home Comfort	\$ 0.60	\$ 1.35	0.88	0.26	0.69	0.20	2.67	2.23
Commercial & Industrial Programs								
Business Energy Rebates	\$ 1.16	\$ 4.30	3.48	1.02	2.65	0.89	1.54	3.72
Community Energy Solutions	\$ 0.21	\$ 0.60	0.30	0.07	0.30	0.07	0.74	2.90
Other Investment								
Demand Response	\$ 1.00							
Enabling Strategies	\$ 0.93							
Total/Average	\$ 7.56	\$ 24.04	15.27	7.09	12.44	5.71	1.78	3.45

1 **Table 6: 2023/24 proposed Plan EE&C targets by sector**

	Investment (\$ millions)	Total Present Value Avoided Costs (\$ millions)	Incremental Gross Energy Savings at Generator (GWh)	Incremental Gross Demand Savings at Generator (MW)	Incremental Net Energy Savings at Generator (GWh)	Incremental Net Demand Savings at Generator (MW)	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)
2023-2024								
Residential Programs								
Energy Efficient Equipment Rebates	\$ 2.19	\$ 15.71	5.07	4.63	3.95	3.64	2.64	7.16
Home Insulation Rebates	\$ 0.22	\$ 1.67	0.92	0.27	0.73	0.21	5.91	7.72
Winter Warming	\$ 0.25	\$ 0.34	0.52	0.05	0.52	0.05	1.38	1.38
Instant Energy Savings	\$ 0.54	\$ 0.78	2.75	0.40	0.97	0.14	0.35	1.44
New Home Construction	\$ 0.52	\$ 2.62	1.44	0.43	0.89	0.26	1.70	5.02
Home Comfort	\$ 0.61	\$ 1.80	0.88	0.26	0.69	0.20	3.55	2.97
Commercial & Industrial Programs								
Business Energy Rebates	\$ 1.21	\$ 6.04	3.65	1.08	2.79	0.94	2.07	4.98
Community Energy Solutions	\$ 0.21	\$ 0.81	0.29	0.06	0.29	0.06	1.01	3.87
Other Investment								
Demand Response	\$ 1.13							
Enabling Strategies	\$ 0.46							
Total/Average	\$ 7.34	\$ 29.78	15.51	7.17	10.84	5.52	2.33	4.32

	Investment (\$ millions)	Total Present Value Avoided Costs (\$ millions)	Incremental Gross Energy Savings at Generator (GWh)	Incremental Gross Demand Savings at Generator (MW)	Incremental Net Energy Savings at Generator (GWh)	Incremental Net Demand Savings at Generator (MW)	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)
2023-2024								
Residential Programs								
Energy Efficient Equipment Rebates	\$ 2.19	\$ 13.12	5.07	4.63	3.95	3.64	2.20	5.98
Home Insulation Rebates	\$ 0.22	\$ 1.25	0.92	0.27	0.73	0.21	4.41	5.76
Winter Warming	\$ 0.25	\$ 0.24	0.52	0.05	0.52	0.05	0.94	0.94
Instant Energy Savings	\$ 0.54	\$ 0.54	2.75	0.40	0.97	0.14	0.24	0.99
New Home Construction	\$ 0.52	\$ 1.96	1.44	0.43	0.89	0.26	1.27	3.75
Home Comfort	\$ 0.61	\$ 1.35	0.88	0.26	0.69	0.20	2.65	2.22
Commercial & Industrial Programs								
Business Energy Rebates	\$ 1.21	\$ 4.52	3.65	1.08	2.79	0.94	1.55	3.73
Community Energy Solutions	\$ 0.21	\$ 0.58	0.29	0.06	0.29	0.06	0.73	2.80
Other Investment								
Demand Response	\$ 1.13							
Enabling Strategies	\$ 0.46							
Total/Average	\$ 7.34	\$ 23.55	15.51	7.17	10.84	5.52	1.75	3.27

1 **Table 7: 2024/25 proposed Plan EE&C targets by sector**

	Investment (\$ millions)	Total Present Value Avoided Costs (\$ millions)	Incremental Gross Energy Savings at Generator (GWh)	Incremental Gross Demand Savings at Generator (MW)	Incremental Net Energy Savings at Generator (GWh)	Incremental Net Demand Savings at Generator (MW)	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)
2024-2025								
Residential Programs								
Energy Efficient Equipment Rebates	\$ 2.22	\$ 15.74	5.09	4.63	3.97	3.64	2.63	7.10
Home Insulation Rebates	\$ 0.23	\$ 1.93	1.06	0.31	0.84	0.25	6.22	8.23
Winter Warming	\$ 0.26	\$ 0.36	0.55	0.06	0.55	0.06	1.39	1.39
Instant Energy Savings	\$ 0.55	\$ 0.77	2.66	0.38	0.96	0.13	0.34	1.41
New Home Construction	\$ 0.56	\$ 2.80	1.53	0.45	0.95	0.28	1.70	5.03
Home Comfort	\$ 0.61	\$ 1.80	0.88	0.26	0.69	0.20	3.53	2.95
Commercial & Industrial Programs								
Business Energy Rebates	\$ 1.27	\$ 6.35	3.84	1.13	2.93	0.99	2.07	4.99
Community Energy Solutions	\$ 0.21	\$ 0.81	0.29	0.06	0.29	0.06	1.01	3.80
Other Investment								
Demand Response	\$ 3.25							
Enabling Strategies	\$ 0.46							
Total/Average	\$ 9.62	\$ 30.56	15.89	7.29	11.17	5.62	2.36	4.36

	Investment (\$ millions)	Total Present Value Avoided Costs (\$ millions)	Incremental Gross Energy Savings at Generator (GWh)	Incremental Gross Demand Savings at Generator (MW)	Incremental Net Energy Savings at Generator (GWh)	Incremental Net Demand Savings at Generator (MW)	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)
2024-2025								
Residential Programs								
Energy Efficient Equipment Rebates	\$ 2.22	\$ 13.15	5.09	4.63	3.97	3.64	2.19	5.93
Home Insulation Rebates	\$ 0.23	\$ 1.44	1.06	0.31	0.84	0.25	4.64	6.14
Winter Warming	\$ 0.26	\$ 0.25	0.55	0.06	0.55	0.06	0.95	0.95
Instant Energy Savings	\$ 0.55	\$ 0.53	2.66	0.38	0.96	0.13	0.24	0.97
New Home Construction	\$ 0.56	\$ 2.09	1.53	0.45	0.95	0.28	1.27	3.76
Home Comfort	\$ 0.61	\$ 1.35	0.88	0.26	0.69	0.20	2.63	2.20
Commercial & Industrial Programs								
Business Energy Rebates	\$ 1.27	\$ 4.75	3.84	1.13	2.93	0.99	1.55	3.74
Community Energy Solutions	\$ 0.21	\$ 0.58	0.29	0.06	0.29	0.06	0.73	2.75
Other Investment								
Demand Response	\$ 3.25							
Enabling Strategies	\$ 0.46							
Total/Average	\$ 9.62	\$ 24.13	15.89	7.29	11.17	5.62	1.77	3.31

1 **Sector strategies**

2 EE&C strategies have been grouped into three categories: 1) residential programs and services, 2)
3 commercial and industrial programs and services, and 3) demand response initiatives. The proposed
4 Plan has been designed to maximize the benefit from Provincial funding, Federal funding, and the 20%
5 program funding collected from electricity ratepayers.

6 **Sector strategies - residential programs and services**

7 **Overview**

8 The residential strategy in the proposed EE&C Plan is meant to build on the momentum from the
9 current EE&C Plan while addressing identified barriers to participation.

10 **Residential programs**

11 The proposed EE&C Plan includes the following programs:

- 12 - Energy Efficient Equipment Rebates (“EEER”)
- 13 - Home Comfort (“HC”)
- 14 - Home Insulation Rebates (“HIR”)
- 15 - Instant Energy Savings (“IES”)
- 16 - New Home Construction (“NHC”)
- 17 - Winter Warming (“WW”)

18 A summary of the existing programs’ proposed enhancements and implementation strategy for each
19 program has been included in the following tables. For a more detailed description of the programs
20 refer to Appendix I.

1 *Energy Efficient Equipment Rebates*

Current program	Target market	Potential Study barrier reductions¹¹	Proposed enhancements /implementation	Other matters
<p>Rebates to residential customers for the installation of qualified high-efficiency products such as heat pumps, biomass systems, HRVs, and hybrid hot water heaters.</p> <p>There are rebates for both regular income and low-income households available under this program.</p>	<p>Residential electricity rate payers including regular income, low-income, and multi-unit residential building owners.</p>	<p>Half step barrier reduction due to subsidized energy audits and availability of financing.</p>	<p>Continued availability of subsidized energy audits.</p> <p>Communication of currently available financing programs to residential participants including programs from organizations such as: FinancePEI, PACE Charlottetown, and PACE Stratford.</p> <p>Pilot a contractor-pay model to streamline the processes and improve applicant experience whereby ePEI pays contractors directly instead of the participant paying the contractor and receiving a rebate after work is complete. The pilot contractor pay program will start with heat pump contractors and once established will expand to other equipment contractors.</p> <p>Removal of program measures including: oil furnace, oil boiler, propane furnace, propane boilers, tankless propane hot water heater.</p>	<p>During the development of the proposed Plan, the Province of PEI launched a free heat pump program for low-income households. It is anticipated the free heat pump program may impact the participant uptake for the heat pumps associated with the low-income rebate stream in the Energy Efficient Equipment Rebates program.</p>

¹¹ Dunsky has classified half step and full step barrier reductions as follows:

- Half step barrier: reflects a notable investment in enabling strategies (e.g. contractor training, direct install measures) to reduce non-economic market barriers to participation.
- Full step barrier: represents an absolute limit of what could be achieved by applying a full range of strategies.

1 *Home Comfort*

Current program	Target market	Potential Study barrier reductions	Proposed enhancements / implementation	Other matters
<p>Provides insulation upgrades to low income residents.</p> <p>The objective of the Home Comfort program is to provide low income residents with insulation that meets ePEI’s efficiency standards and provides residents with high quality and long-lasting insulation.</p> <p>This program is provided at no cost to the program participant.</p>	<p>Low income residential electricity rate payers.</p>	<p>Not analyzed in the Potential Study.</p>	<p>Removal of windows, doors, and heating systems from the program, however, these measures are available through the Home Insulation Rebates program.</p> <p>Continue to cover the full costs of the program.</p> <p>Program accessibility improvements made to internal processes to provide enhanced service to meet the needs of participants.</p>	<p>During the development of the proposed Plan, the Province of PEI launched a free heat pump program for low-income households. It is anticipated the free heat pump program may increase participants to the Home Comfort program.</p>

1 *Home Insulation Rebates*

Current program	Target market	Potential Study barrier reductions	Proposed enhancements / implementation	Other matters
<p>Offers rebates for the installation of insulation, air sealing improvements, and ENERGY STAR windows and doors.</p> <p>This program aims to upgrade the building envelope and can yield significant savings on heating costs, while making homes more comfortable.</p> <p>There are rebates for both regular income and low-income households available under this program.</p>	<p>Residential electricity rate payers including regular income, low-income, and multi-unit residential building owners.¹²</p>	<p>Half step barrier reduction due to subsidized energy audits and the availability of financing.</p>	<p>Continued availability of subsidized energy audits.</p> <p>Communication of currently available financing programs to residential participants including programs from organizations such as: FinancePEI, PACE Charlottetown, and PACE Stratford.</p> <p>Educational campaigns targeted to home insulation contractors will ensure residents follow the pre and post energy audit process and retain program eligibility.</p> <p>Direct install and implementing the contractor pay model could reduce program barriers. The implementation of direct install will be subject to the success of the contractor pay model for energy efficient equipment rebates.</p>	<p>During the development of the proposed Plan, the Province of PEI launched a free heat pump program for low-income households. It is anticipated the free heat pump program may increase participants to the Home Insulation program’s low-income rebates.</p>

¹² Note, multi-unit residential buildings are limited to the following: each dwelling unit must be separate and self-contained (not a room rented out or “in-law suite”), must be three stories or less and have a footprint less than 600m², and must be a long-term rental.

1 *Instant Energy Savings*

Current program	Target market	Potential Study barrier reductions	Proposed enhancements / implementation	Other matters
<p>The objective of the Instant Energy Savings program is to provide instant rebates in-store on select energy efficient products such as light bulbs, thermostats, and smart power bars.</p> <p>The program offers seasonal rebates to customers, in addition to year-round rebates for appliances and smart thermostats, which are applied at the cash register with no application required.</p>	<p>Residential electricity rate payers; however, due to the availability of rebates to the public through retail outlets these measures can be used by any electricity rate payers.</p>	<p>Half step barrier reduction due to in-store promotional materials and customer engagement events.</p>	<p>Addition of weather stripping to this program.</p> <p>Enhancements will be incorporated into the requests for proposals document during the procurement process for the program delivery organization. The updated tender will request key benefits to program delivery:</p> <ul style="list-style-type: none"> - The RFP will seek innovative in-store rebates to address the decrease in cost-effectiveness of LEDs over time as more and more homes are equipped with LEDs. - Consideration of a total electricity savings approach in the RFP process to reduce the administrative burden for ePEI which includes responsibility for improved in-store promotional materials. - Improved data tracking regarding product models and key metrics used in the evaluation process to be provided by the program delivery organization. 	<p>Diversification beyond lighting is a key component of the design of the proposed Plan.</p> <p>Over the current Plan’s term, lighting measures captured a large quantity of units sold under the Instant Energy Savings program. Due to this, and the anticipation that most households will have switched to LEDs over the term of the proposed Plan this program may evolve in the next planning period.</p>

1 *New Home Construction*

Current program	Target market	Potential Study barrier reductions	Proposed enhancements / implementation	Other matters
<p>Purpose is to encourage residential electricity rate payers who are building new homes to choose energy efficient design.</p> <p>The program subsidizes the cost of a comprehensive plan evaluation prior to construction beginning and subsidizes the follow up assessment conducted within 12 months after the new home is built.</p> <p>The follow-up assessment provides new homeowners with an EnerGuide rating that assists ePEI in determining the final subsidy amount.</p>	<p>Home owner or the builder.</p>	<p>Half step barrier reduction due to subsidized energy audits and the availability of financing.</p>	<p>Continued availability of subsidized energy audits.</p> <p>Case studies promoted to the general public including targeting contractors, design firms and other service organizations involved in the initial stages of new home development about this program.</p> <p>Program eligibility will be changed to meet recommendations from Econoler¹³ in two ways:</p> <ol style="list-style-type: none"> 1. Increase from 2 to 5 incentive tiers as follows: <ol style="list-style-type: none"> a. 40%: \$2,000 b. 55%: \$4,000 c. 70%: \$6,000 d. 80%: \$8,000 e. Certified passive house, net zero, or net zero ready: \$1,000 2. EnerGuide and energy audit recommendations are presented clearly and easy to for the resident to understand. Inclusion of estimated costs and applicable rebates (when available) may provide increased adoption of electricity efficient solutions. This will assist with decision making and require less resources over time from the contractor and energy auditor. <p>The adjustment in incentive tiers also includes</p>	<p>N/A</p>

¹³ 2018/2019 and 2019/2020 New Home Construction Program Evaluation prepared by Econoler, page x

Current program	Target market	Potential Study barrier reductions	Proposed enhancements / implementation	Other matters
			<p>removal of base (or plug) loads from the energy savings calculations.¹⁴</p> <p>Social marketing campaigns that are targeted to residents considering building a new home will promote the program’s non-energy benefits. Non-energy benefits demonstrate how the program makes a home more comfortable, requires less heating, improves health, and increases accessibility.</p> <p>Educational campaigns targeted to home contractors will provide an additional barrier reduction to ensure residents follow the comprehensive plans review process and retain program eligibility. These educational campaigns will also incorporate training available to contractors to encourage enhancing electricity efficiency knowledge in the industry.</p> <p>Branded program materials provided to home owner when building permits are approved by relevant municipalities and/or the Province as applicable.</p>	

¹⁴ Base load refers to the portion of electricity consumption that is relatively consistent among households regardless of the home size (e.g. electricity consumption related to large household appliances such as refrigerators, stoves, dishwashers, washing machines, clothes dryers, etc.). Including base loads penalizes clients who build small homes as it is more challenging for them to achieve a high percentage of energy savings compared to larger homes because the majority of small home energy usage is base load, which cannot be changed. Excluding base loads, however, puts the emphasis on discretionary electricity consumption and thus encourages, rather than penalizes, small home construction. Incentive tiers are set to higher targets because of these factors.

1 *Winter Warming*

Current program	Target market	Potential Study barrier reductions	Proposed enhancements / implementation	Other matters
<p>Provides financial assistance for low-to-moderate-income residential rate payers to make their homes more energy efficient. The program offers free-of-charge direct installations of weatherization and energy efficient products.</p> <p>This program is fully subsidized and therefore there is no cost to participants.</p>	<p>Low-to-moderate-income residential electricity rate payers.</p>	<p>Full step barrier reduction as program is direct install.</p>	<p>ePEI is anticipating a shift in the current delivery model for the Winter Warming program to improve the performance of the program. This may include engaging a service delivery organization to enhance the delivery of the program including the direct install approach with program products.</p> <p>Improving education and outreach will improve communication to program participants and clarifying that the program is free of charge. This will address participant confusion on the overlap between the Winter Warming program and the Home Comfort program as reported by Econoler.</p> <p>Addition of measures as needed such as indoor clothes lines or drying racks.</p>	<p>During the development of the proposed Plan, the Province of PEI launched a free heat pump program for low-income households. It is anticipated the free heat pump program may encourage participation in the Winter Warming program.</p>

1 **Residential programs savings and planned spending**

2 The tables below summarize the net energy and net demand savings, planned spending, and cost-
 3 effectiveness for each residential program.

4 **Table 8: Energy Efficient Equipment Rebates savings, spending, and cost-effectiveness**

Energy Efficient Equipment Rebates	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 2.18	\$ 2.19	\$ 2.22	\$ 6.59
Units	1,689	1,687	1,693	5,069
Energy Savings (GWh)	3.97	3.95	3.97	11.89
Demand Savings (MW)	3.64	3.64	3.64	10.93
Total Resource Cost Test (TRC)	2.65	2.64	2.63	2.64
Program Administrator Cost Test (PAC)	7.23	7.16	7.10	7.16

Energy Efficient Equipment Rebates	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 2.18	\$ 2.19	\$ 2.22	\$ 6.59
Units	1,689	1,687	1,693	5,069
Energy Savings (GWh)	3.97	3.95	3.97	11.89
Demand Savings (MW)	3.64	3.64	3.64	10.93
Total Resource Cost Test (TRC)	2.21	2.20	2.19	2.20
Program Administrator Cost Test (PAC)	6.04	5.98	5.93	5.98

5 **Table 9: Home Comfort savings, spending, and cost-effectiveness**

Home Comfort	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 0.60	\$ 0.61	\$ 0.61	\$ 1.82
Units	160	160	160	480
Energy Savings (GWh)	0.69	0.69	0.69	2.08
Demand Savings (MW)	0.20	0.20	0.20	0.61
Total Resource Cost Test (TRC)	3.58	3.55	3.53	3.55
Program Administrator Cost Test (PAC)	2.99	2.97	2.95	2.97

Home Comfort	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 0.60	\$ 0.61	\$ 0.61	\$ 1.82
Units	160	160	160	480
Energy Savings (GWh)	0.69	0.69	0.69	2.08
Demand Savings (MW)	0.20	0.20	0.20	0.61
Total Resource Cost Test (TRC)	2.67	2.65	2.63	2.65
Program Administrator Cost Test (PAC)	2.23	2.22	2.20	2.22

6 **Table 10: Home Insulation Rebates savings, spending, and cost-effectiveness**

Home Insulation Rebates	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 0.20	\$ 0.22	\$ 0.23	\$ 0.65
Units	92	106	122	320
Energy Savings (GWh)	0.63	0.73	0.84	2.19
Demand Savings (MW)	0.19	0.21	0.25	0.65
Total Resource Cost Test (TRC)	5.60	5.91	6.22	5.91
Program Administrator Cost Test (PAC)	7.19	7.72	8.23	7.71

Home Insulation Rebates	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 0.20	\$ 0.22	\$ 0.23	\$ 0.65
Units	92	106	122	320
Energy Savings (GWh)	0.63	0.73	0.84	2.19
Demand Savings (MW)	0.19	0.21	0.25	0.65
Total Resource Cost Test (TRC)	4.18	4.41	4.64	4.41
Program Administrator Cost Test (PAC)	5.37	5.76	6.14	5.75

1 *Table 11: Instant Energy Savings savings, spending, and cost-effectiveness*

Instant Energy Savings	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 0.54	\$ 0.54	\$ 0.55	\$ 1.63
Units	71,581	68,630	65,858	206,069
Energy Savings (GWh)	2.84	0.97	0.96	4.77
Demand Savings (MW)	0.41	0.14	0.13	0.68
Total Resource Cost Test (TRC)	0.97	0.35	0.34	0.55
Program Administrator Cost Test (PAC)	3.89	1.44	1.41	2.25

Instant Energy Savings	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 0.54	\$ 0.54	\$ 0.55	\$ 1.63
Units	71,581	68,630	65,858	206,069
Energy Savings (GWh)	2.84	0.97	0.96	4.77
Demand Savings (MW)	0.41	0.14	0.13	0.68
Total Resource Cost Test (TRC)	0.67	0.24	0.24	0.38
Program Administrator Cost Test (PAC)	2.69	0.99	0.97	1.55

1 **Table 12: New Home Construction savings, spending, and cost-effectiveness**

New Home Construction	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 0.50	\$ 0.52	\$ 0.56	\$ 1.58
Units	103	107	114	324
Energy Savings (GWh)	0.86	0.89	0.95	2.70
Demand Savings (MW)	0.25	0.26	0.28	0.80
Total Resource Cost Test (TRC)	1.71	1.70	1.70	1.70
Program Administrator Cost Test (PAC)	5.03	5.02	5.03	5.03

New Home Construction	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 0.50	\$ 0.52	\$ 0.56	\$ 1.58
Units	103	107	114	324
Energy Savings (GWh)	0.86	0.89	0.95	2.70
Demand Savings (MW)	0.25	0.26	0.28	0.80
Total Resource Cost Test (TRC)	1.28	1.27	1.27	1.27
Program Administrator Cost Test (PAC)	3.75	3.75	3.76	3.75

2 **Table 13: Winter Warming savings, spending, and cost-effectiveness**

Winter Warming	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 0.24	\$ 0.25	\$ 0.26	\$ 0.75
Units	10,307	10,821	11,362	32,490
Energy Savings (GWh)	0.49	0.52	0.55	1.56
Demand Savings (MW)	0.05	0.05	0.06	0.16
Total Resource Cost Test (TRC)	1.37	1.38	1.39	1.38
Program Administrator Cost Test (PAC)	1.37	1.38	1.39	1.38

Winter Warming	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 0.24	\$ 0.25	\$ 0.26	\$ 0.75
Units	10,307	10,821	11,362	32,490
Energy Savings (GWh)	0.49	0.52	0.55	1.56
Demand Savings (MW)	0.05	0.05	0.06	0.16
Total Resource Cost Test (TRC)	0.93	0.94	0.95	0.94
Program Administrator Cost Test (PAC)	0.93	0.94	0.95	0.94

1 Sector strategies - commercial and industrial programs and services

2 **Overview**

3 The commercial and industrial strategy in the proposed Plan focuses on providing energy and electricity
4 savings benefits to PEI businesses and organizations (including non-profits, municipalities, community
5 centres, agricultural operations, and more). The proposed Plan is also designed to educate organizations
6 in PEI with electricity efficiency potential while reducing barriers to participation.

7 Stakeholder engagement identified the commercial sector programming adoption was under-utilized. To
8 improve adoption over the proposed Plan period, specific commercial organizations and community
9 groups were engaged to understand their needs and limitations with current programming, and to
10 understand what opportunities exist. These conversations identified the need for education and
11 awareness of both efficiency programming and potential electricity savings. Enabling strategies in
12 education and awareness are key components of the program enhancements in the proposed Plan.
13 Details on targeted educational strategies for commercial and industrial organizations are described
14 further in the enabling strategies section.

15 **Commercial and industrial programs**

16 The proposed EE&C Plan includes the following programs:

- 17 - Business Energy Rebates (“BER”)
- 18 - Community Energy Solutions (“CES”)

19 A summary of the existing programs, proposed enhancements, and implementation strategy for each
20 program has been included in the following tables. For a more detailed description of the programs
21 refer to Appendix I.

1 *Business Energy Rebates*

Current program	Target market	Potential Study barrier reductions	Proposed enhancements / implementation	Other matters
<p>Supports businesses, non-profits, institutional organizations, and agricultural facilities in choosing high-efficiency product purchases through rebates.</p> <p>Provides incentives to purchase and install approved energy-efficient equipment in non-residential buildings.</p>	<p>Businesses, municipalities, communities, agricultural operations, industrial operations, processing facilities, and non-profits.</p>	<p>No barrier reduction - list of contractors provided but participant derived.</p>	<p>Continuing with the current Plan, measures will be added into the program catalog over the course of the proposed Plan to meet the needs of applicants and capture relevant equipment by sector. In addition, incentive levels have been adjusted.</p> <p>As a program that is participant driven, meaning it is up to businesses to seek and apply for rebates, focus will be tailored enabling strategy solutions to develop relationships with industry associations, communities, and large commercial ratepayers. This could take the form of targeted case studies showcasing local participants by industry.</p> <p>Targeted information will provide various benefits:</p> <ol style="list-style-type: none"> 1. Targeted marketing to educate potential applicants on building or process improvements and the associated cost savings. 2. Relationship building to provide a direct feedback loop to ePEI to support continuous improvement. 3. Identify potential interruptible customers, collaborate with the applicable utility and proactively provide information for the customer on the purpose and commercial terms of the arrangement. 	<p>N/A</p>

1 *Community Energy Solutions*

Current program	Target market	Potential Study barrier reductions	Proposed enhancements / implementation	Other matters
<p>Objective to help communities become more sustainable through energy efficiency advice and rebates.</p> <p>This program can cover up to 50% of the total energy efficiency upgrade cost, up to a maximum of \$25,000. The rebate amount awarded is equal to the lower of: 1 times annual savings, 50% cost of the project, or \$25,000.</p> <p>Further, businesses that use more than 350,000 kWh per year are eligible for up to \$100,000 in subsidies.</p> <p>An energy audit is required before and after upgrades are completed.</p>	<p>Businesses, municipalities, communities, agricultural operations, industrial operations, processing facilities, and non-profits.</p>	<p>No barrier reduction – list of contractors provided but participant driven.</p> <p>Half step barrier reduction due to free energy audit.</p>	<p>Continued availability of subsidized energy audits.</p> <p>Tailored enabling strategy solutions to develop relationships with industry associations, communities, and large commercial ratepayers.</p> <p>Targeted information will provide various benefits:</p> <ol style="list-style-type: none"> 1. Targeted marketing to educate potential applicants on building or process improvements and the associated cost savings. 2. Building to provide a direct feedback loop to ePEI to support continuous improvement. 3. Identify potential interruptible customers, collaborate with the applicable utility and proactively provide information for the customer on the purpose and commercial terms of the arrangement. 	<p>Tiered limits are being re-evaluated for agricultural clients.</p>

1 **Commercial and industrial savings and planned spending**

2 The tables below summarize the net energy and net demand savings, planned spending, and cost-
 3 effectiveness for each commercial and industrial program.

4 **Table 14: Business Energy Rebates savings, spending, and cost-effectiveness**

Business Energy Rebates	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 1.16	\$ 1.21	\$ 1.27	\$ 3.64
Units	8,025	8,427	8,849	25,301
Energy Savings (GWh)	2.65	2.79	2.93	8.37
Demand Savings (MW)	0.89	0.94	0.99	2.82
Total Resource Cost Test (TRC)	2.06	2.07	2.07	2.07
Program Administrator Cost Test (PAC)	4.97	4.98	4.99	4.98

Business Energy Rebates	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 1.16	\$ 1.21	\$ 1.27	\$ 3.64
Units	8,025	8,427	8,849	25,301
Energy Savings (GWh)	2.65	2.79	2.93	8.37
Demand Savings (MW)	0.89	0.94	0.99	2.82
Total Resource Cost Test (TRC)	1.54	1.55	1.55	1.55
Program Administrator Cost Test (PAC)	3.72	3.73	3.74	3.73

5 **Table 15: Community Energy Solutions savings, spending, and cost-effectiveness**

Community Energy Solutions	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 0.21	\$ 0.21	\$ 0.21	\$ 0.63
Units	31	30	30	91
Energy Savings (GWh)	0.30	0.29	0.29	0.88
Demand Savings (MW)	0.07	0.06	0.06	0.20
Total Resource Cost Test (TRC)	1.02	1.01	1.01	1.01
Program Administrator Cost Test (PAC)	4.01	3.87	3.80	3.89

Community Energy Solutions	2022-2023	2023-2024	2024-2025	Total/Average
Budget (\$M)	\$ 0.21	\$ 0.21	\$ 0.21	\$ 0.63
Units	31	30	30	91
Energy Savings (GWh)	0.30	0.29	0.29	0.88
Demand Savings (MW)	0.07	0.06	0.06	0.20
Total Resource Cost Test (TRC)	0.74	0.73	0.73	0.73
Program Administrator Cost Test (PAC)	2.90	2.80	2.75	2.81

6 **Summary of enhancements to current residential, commercial & industrial**
 7 **programming**

8 As the Proposed EE&C Plan developed, enhancements to current programs are focused on
 9 strengthening program delivery. Leaning on the Potential Study, stakeholder engagement, feedback
 10 from contractors, and ePEI program management, the following enhancements are included in the
 11 proposed Plan:

- 12 • Implementation of a contractor-pay model for equipment rebates, initially piloting the delivery
 13 model with heat pump contractors. Once the delivery model is established, the contractor-pay

- 1 model will be implemented across other equipment installation contractors and other relevant
2 EE&C programs.
- 3 • Improvements to current program delivery and structure for the Winter Warming program and
4 the Instant Energy Savings program.
 - 5 • Program accessibility improvements for the Home Comfort program regarding internal
6 processes to provide enhanced service to meet the needs of participants.
 - 7 • Streamlining internal procedures to improve client experience, data management, and program
8 administrator costs prior to the next EE&C term.
 - 9 • Increases to measures for business programs.
 - 10 • Adjustments to residential programs that improve options for residents and removing programs
11 and/or measures which support continued use of fossil fuels.
 - 12 • Strengthening program delivery and participation by enhanced enabling strategy methods.

1 Demand response strategy

2 Overview

3 Demand response initiatives reduce utility peak loads by curtailing electricity usage either through
4 adjusting customer energy use behavior, or by signals from utilities such as centrally controlled
5 electricity using equipment or time of use (“TOU”) rates. Centrally controlled electricity
6 equipment, or demand load control equipment, allows the utility to control when heating or other
7 electricity equipment pulls electricity from the power grid, reducing peak system loads. Utility control of
8 equipment is not intended to change the day-to-day activities of an electricity ratepayer, meaning when
9 the utility turns off a specific piece of equipment the comfort and operations of a ratepayer are
10 unaffected, or minimally affected.

11 Currently, Maritime Electric is not able to provide TOU rates to all electricity ratepayers due to two key
12 technology requirements needed:

- 13 1) Advanced Metering Infrastructure (“AMI”); and
- 14 2) A billing or customer information system (“CIS”) compatible with AMI.¹⁵

15 However, Maritime Electric has previously reported that their billing system was past its effective useful
16 life and they anticipate including AMI investment in a future Capital Budget submission to the
17 Commission.¹⁶ If implemented, the AMI solutions could allow further data analysis on demand response
18 programming offered by ePEI in the future.

19 Prior to the implementation of an AMI system, ePEI will collaborate with Maritime Electric to establish
20 and launch demand response pilot programs in the first year of the proposed Plan. Building on the
21 information gathered from the first year’s pilot programs, ePEI anticipates including demand response
22 programs into the EE&C program portfolio in years two and three.

23 Strategies deployed in other Atlantic Canadian provinces

24 As a starting point in developing a Demand Response strategy for PEI, activity in other jurisdictions was
25 considered. Appendix J includes a summary of demand response programs implemented in other
26 Atlantic Canadian jurisdictions. Some of the most significant trends include rebate incentives for the
27 adoption of demand reducing programs. One of the most common themes present include rebates for
28 purchases of energy efficient products ranging from LED lightbulbs to capital expenditures such as HVAC
29 systems. Additionally, the Potential Study identified residential thermal energy storage and electric
30 storage water heaters are increasing in popularity throughout Atlantic Canada, as provinces such as
31 Nova Scotia and New Brunswick have adopted them for their cost-effective capabilities.

32 Furthermore, some of these initiatives are already implemented on the Island. Summerside Electric’s
33 program Heat for Less Now has adopted electric thermal storage initiatives to harness wind energy
34 being produced during the night. This program uses Electric Thermal Storage (“ETS”) systems such as
35 water heaters, room/space heaters and furnaces along with Smart Grid technologies to store excess
36 wind energy in customers’ home heating and/or hot water systems. A key component of this program,
37 and program adoption among Summerside electricity users, is the discounted, off-peak rate provided

¹⁵ Application for an Order to Approve the Stage 1 Rate Design Changes prepared by Maritime Electric, page 44

¹⁶ Application for an Order to Approve the Stage 1 Rate Design Changes prepared by Maritime Electric, page 44

1 when ETS units restore their energy capacity overnight. The ETS systems that are coupled with Smart
 2 Grid technologies and off-peak rates allow the utility to manually control when an ETS system begins to
 3 replenish its used capacity, with the intention of flattening the demand curve.

4 **Demand response programs**

5 In the proposed Plan demand response programs will include a phased approach. In year one the focus
 6 will be on piloting programs and working with the utilities and the program participants to develop a
 7 program model which will be rolled out further in year two and three of the plan. The areas of focus for
 8 demand response are based on the Potential Study prepared by Dunsky. Year one pilot programs will
 9 include the following:

Program Category	Sector	Description
Energy storage	Residential	<ul style="list-style-type: none"> • Electric thermal storage systems
Interruptible rates and curtailment	Commercial and industrial	<p><u>Curtailment</u> - Agreements whereby the utility requests the company to reduce electricity usage for a specified period and receive a discounted electricity rate during the curtailment timeframe.</p> <p><u>Interruptible</u> - Agreements whereby the company always has a discounted electricity rate, however, the utility can remove the company from the electricity grid without warning or as needed. This generally requires the company to have an independent electricity generator on site.</p>
Dual fuel systems	Residential and Commercial	<p>Dual fuel systems, especially for heating, allow the utility to remove the electricity system from using the electricity grid during peak system loads. The home or business will use their back-up fuel system to minimize the impact of the household or business operations.</p> <p>ePEI will incentivise the electricity systems used in dual fuel systems.</p>
Demand load control systems	Residential	<ul style="list-style-type: none"> • Wi-fi thermostats for central and baseboard heating • Wi-fi thermostats for heat pumps • Storage water heater systems, including smart switch technology
	Commercial	<ul style="list-style-type: none"> • Wi-fi thermostats • Storage water heater systems, including smart switch technology

10 As mentioned above, the first year of the proposed Plan will capture pilot programs incentivizing the
 11 above programs and measures to understand the anticipated participation and program success. Where

1 successful, ePEI will request for demand response programming to be included in the EE&C portfolio to
2 the Commission.

3 Demand response savings and planning spending

4 Given that this is the initial demand response strategy it is difficult to predict customer behaviours and
5 responses. However, the proposed Plan relies on the Potential Study's estimated achievable results as
6 the starting point. For the purposes of the proposed Plan an extended ramp up period was applied to
7 the estimated achievable results forecasted by Dunsky. Dunsky's Potential Study also included an
8 upfront and annual cost estimate if all suggested programs were met and the forecasted achievable
9 results were attained. Given that this proposed Plan contemplates adopting some and not all the
10 proposed program over an extended timeline the suggested budget has also been adjusted on a
11 prorated basis.

12 The demand response savings and planned spending are calculated based on the following assumptions:

- 13 • All measures, excluding large interruptible - the program measures' achievable potentials are
14 based off of Dunsky's year 2025 Customer Incentive Scenario¹⁷ allocations of the forecasted
15 total savings potential. Next, ramp up factors of 50%, 75% and 100% for each of the three years
16 of the Plan are applied using Dunsky's customer incentive and interruptible demand response
17 program achievable savings from 2021 to 2023 respectively.
- 18 • Large interruptible – based off of Dunsky's anticipated potential savings under the Customer
19 Incentive and Interruptible Rate scenario for the year 2025¹⁸, while applying a 50% factor to
20 consider consultations with stakeholders and their uptake on participation is expected to be
21 lower than the Potential Study. Next, ramp up factors of 50%, 75% and 100% for each of the
22 three years of the Plan are applied using Dunsky's customer incentive and interruptible demand
23 response program achievable savings from 2021 to 2023 respectively.
- 24 • Budget – based off of Dunsky's Customer Incentive and Interruptible Demand Response
25 program costs from 2021 to 2023¹⁹, while applying ramp up factors of 50%, 75% and 100% for
26 each of the three years of the Plan respectively.

¹⁷Prince Edward Island Energy Efficiency Potential Study: Comprehensive Assessment of Energy Efficiency and Demand Response Opportunities 2021-2030, page 58, table 3-4

¹⁸Prince Edward Island Energy Efficiency Potential Study: Comprehensive Assessment of Energy Efficiency and Demand Response Opportunities 2021-2030; page 65, table 3-5

¹⁹Prince Edward Island Energy Efficiency Potential Study: Comprehensive Assessment of Energy Efficiency and Demand Response Opportunities 2021-2030, page 58, figure 3-5

1 **Table 16: Demand response savings and planned spending**

Demand Response Total	2022-2023	2023-2024	2024-2025	Total
Energy Storage - MW				
Residential Energy Storage	0.09	0.36	0.97	1.41
C&I Energy Storage	0.07	0.30	0.81	1.18
Subtotal	0.16	0.66	1.77	2.59
Curtailement & interruptible - MW				
Medium & Large C&I Curtailement	0.22	0.93	2.47	3.62
Large Interruptible	0.41	1.71	4.56	6.68
Subtotal	0.63	2.64	7.03	10.30
Load Control - MW				
Residential DLC	0.27	1.15	3.06	4.48
Dual Fuel Program	0.18	0.76	2.04	2.99
Commercial DLC	0.01	0.04	0.10	0.14
Subtotal	0.46	1.95	5.20	7.61
Budget (\$M)	\$ 1.00	\$ 1.13	\$ 3.25	\$ 5.38

1 Cost-effectiveness testing

2 The proposed Plan programs have been screened to test cost-effectiveness to provide transparency into
 3 EE&C programming. Cost-effectiveness testing is an analytical framework used to inform EE&C decision-
 4 making by providing insights into if the ratepayer benefits from the investment exceeding programs
 5 costs. For clarity, cost-effectiveness testing provides regulators with the assessment tools needed to
 6 ensure EE&C initiatives provide value for the investment being made by electricity ratepayers and the
 7 program administrator.

8 PEIEC conducted a review of available information regarding cost-effectiveness testing methods,
 9 Maritime Electric’s response to the proposed cost-effectiveness method during the current Plan’s
 10 regulatory approval process in 2019, and the Commission’s Order UE19-03 approving the use of the PAC
 11 test at the portfolio level. This review supported determining the cost-effectiveness test used in the
 12 proposed Plan. The review can be found in Appendix G.

13 PEIEC utilized the PAC test at the portfolio and program levels as the primary cost-effectiveness test and
 14 the TRC test the portfolio and program levels as the secondary test.

15 Using the programs and measures (described further in Appendix I) the results of the cost-effectiveness
 16 testing is presented in the following table:

17 **Table 17: Proposed EE&C Plan cost-effectiveness testing results**

Programs	2022-2023		2023-2024		2024-2025	
	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)
Residential Programs						
Energy Efficient Equipment Rebates	2.65	7.23	2.64	7.16	2.63	7.10
Home Insulation Rebates	5.60	7.19	5.91	7.72	6.22	8.23
Winter Warming	1.37	1.37	1.38	1.38	1.39	1.39
Instant Energy Savings	0.97	3.89	0.35	1.44	0.34	1.41
New Home Construction	1.71	5.03	1.70	5.02	1.70	5.03
Home Comfort	3.58	2.99	3.55	2.97	3.53	2.95
Commercial & Industrial Programs						
Business Energy Rebates	2.06	4.97	2.07	4.98	2.07	4.99
Community Energy Solutions	1.02	4.01	1.01	3.87	1.01	3.80
Average	2.37	4.58	2.33	4.32	2.36	4.36

Programs	2022-2023		2023-2024		2024-2025	
	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)
Residential Programs						
Energy Efficient Equipment Rebates	2.21	6.04	2.20	5.98	2.19	5.93
Home Insulation Rebates	4.18	5.37	4.41	5.76	4.64	6.14
Winter Warming	0.93	0.93	0.94	0.94	0.95	0.95
Instant Energy Savings	0.67	2.69	0.24	0.99	0.24	0.97
New Home Construction	1.28	3.75	1.27	3.75	1.27	3.76
Home Comfort	2.67	2.23	2.65	2.22	2.63	2.20
Commercial & Industrial Programs						
Business Energy Rebates	1.54	3.72	1.55	3.73	1.55	3.74
Community Energy Solutions	0.74	2.90	0.73	2.80	0.73	2.75
Average	1.78	3.45	1.75	3.27	1.77	3.31

1 | As noted above, ~~there are some programs which do not meet the cost-effectiveness standard~~ only the
2 | ~~Winter Warming has a PAC and TRC test below 1, while~~ Instant Energy Savings does not meet the cost-
3 | effectiveness standard with has a TRC test below 1 in each of the three years and PAC test results just
4 | below 1 in years two and three. For commercial and industrial programs, the Community Energy
5 | Solutions has a TRC test lower than 1. While it is not ideal for cost-effectiveness tests to have a result
6 | lower than 1, the portfolio results surpass the cost-effectiveness testing each year for each test and
7 | therefore we have proposed that ~~both programs~~ the Instant Energy Savings Program continue over the
8 | next three years.

1 Enabling strategies

2 Overview

3 Enabling strategies are a foundational element to encourage adoption of EE&C measures, which leads to
4 behavioural change that improves demand response. Enabling strategies can be defined as programs
5 and services offered to foster innovation, increase public awareness regarding demand side
6 management, and educate youth and the community with the purpose of increased market
7 transformation and participation. Enabling strategies provide the tools Islanders need to incorporate
8 electricity efficiency and cost savings in their every day lives. Enabling strategies outlined in the
9 proposed Plan include outreach programming such as education to the general public and school-age
10 children, home energy reports where homeowners can compare their electricity usage to their peers,
11 and formal engagement and targeted conversations with government departments, industry groups,
12 and Indigenous communities.

13 Key to the success of enabling strategies is the user-friendly, easy to understand availability of
14 information. Other Atlantic Canadian provinces have dedicated websites to energy and electricity
15 efficiency initiatives that are dynamic, branded, engaging, and informative. Currently, ePEI's existing
16 website and social media platforms are limited in terms of enhancing online presence. The proposed
17 Plan includes investment in additional promotional solutions, such as targeted campaigns, to improve
18 online presence. The proposed Plan also incorporates engagement through school educational activities
19 and one on one outreach with industry. Lastly, using recommendations from the Potential Study, ePEI
20 will work with the applicable utility to implement Home Energy Reports as an enabling strategy that has
21 no barriers for adoption, meaning electricity ratepayers automatically receive these reports through
22 their electricity bill.

23 The current EE&C Plan has allocated 6.2% of the portfolio budget as the total EE&C Plan budget for
24 enabling strategies. The proposed Plan includes an over four percent increase to the enabling strategies
25 budget to 10.75% based on a review of enabling strategies in the other Atlantic Canadian provinces as
26 summarized in the below table:

27 **Table 18: Enabling strategies spending in Atlantic Canada**

Atlantic Province	Enabling strategies spending Plan	Total spending budgeted in Plan	Enabling strategies spending as a % of total
Nova Scotia	\$11.6 million ²⁰	\$129.1 million ²¹	8.99%
New Brunswick	\$5.7 million ²²	\$82.3 million ²³	6.93%
Newfoundland and Labrador	\$11.9 million ²⁴	\$73.1 million ²⁵	16.34%
Average			10.75%

²⁰ EfficiencyOne 2020-2022 DSM Resource Plan Supply Agreement – Evidence, page 96-98

²¹ EfficiencyOne 2020-2022 DSM Resource Plan Supply Agreement – Evidence, page 96-98

²² Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 7

²³ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 7

²⁴ 2021 Electrification, Conservation and Demand Management Application, Schedule F, page 27

²⁵ 2021 Electrification, Conservation and Demand Management Application, Schedule F, page 27

1 Using the information above, PEIEC has budgeted an average of the spend in other Atlantic Provinces
 2 (10.75% of their total EE&C budget) for enabling strategies.

3 **Table 19: Enabling strategies budget by sector**

	Enabling Strategies Budget			
	2022-2023	2023-2024	2024-2025	Total
Residential	\$ 696,938	\$ 348,469	\$ 348,469	\$ 1,393,876
Commercial & Industrial	\$ 232,313	\$ 116,156	\$ 116,156	\$ 464,625
Total	\$ 929,251	\$ 464,625	\$ 464,625	\$ 1,858,501

4 Fifty percent of the total enabling strategies budget is captured in year one to reflect the required
 5 upfront spending on the development of various materials (i.e. case studies, etc.) It has been assumed
 6 that 25% of the enabling strategies budget is captured in each of year two and three as the enabling
 7 strategies established in year one will continue with slight modifications in year two and three.

8 **Education and outreach**

9 The objective of education and outreach is to effectively communicate EE&C programming to encourage
 10 increased program participation. To understand successful educational programming, Atlantic Canadian
 11 provinces’ education campaigns were considered.

12 **School-centred education**

13 *Overview*

14 Programming developed for grade school children, as well as post-secondary students, provides
 15 opportunities to identify ways electricity is used and to discover energy-saving actions and products that
 16 students can perform and use both at home and in school. By reaching this larger market of children and
 17 families, this education provides students with the basis of conserving energy efficiency at a young age
 18 with the purpose of promoting growth and understanding that will resonate throughout their lives.

19 *Strategies deployed in other Atlantic Canadian provinces*

20 In Newfoundland, the main goal of electricity and efficiency education is to focus on helping customers
 21 not only understand, but also manage their electricity usage.²⁶ Newfoundland’s approach to education
 22 and outreach includes resources that are targeted towards grade school level education as well as
 23 general public education. For grade schools, educational materials highlight the opportunity to promote
 24 awareness among both children and parents. Through various channels and activities, children are
 25 provided a fun and interactive opportunity to learn about energy efficiency.²⁷ TakeCHARGE,
 26 Newfoundland’s demand side management plan, offers classroom presentations, training to be “energy
 27 efficiency explorers” to children in grades kindergarten to three, training to be “energy efficiency
 28 superheroes” to children in grades four to six, contests that promote peer to peer learning regarding
 29 energy efficiency, energy efficiency quizzes, home inspection checklists, word search puzzles, colouring
 30 sheets, and cartoon characters that entice student learning.²⁸

31 EfficiencyOne in Nova Scotia takes a similar approach to Newfoundland in their objective for their
 32 education and outreach programs, which is to increase program participation by effectively

²⁶ 2021 Electrification, Conservation and Demand Management Application, Schedule C page 50

²⁷ <https://takechargenl.ca/resources/for-kids/>

²⁸ <https://takechargenl.ca/resources/for-kids/>

1 communicating what energy efficiency is and how it positively affects the lives of Nova Scotians.²⁹ Green
2 Schools, which 50% of schools across the province have adopted, facilitates teaching to over 20,000
3 students about the environmental benefits of being energy efficient.³⁰ EfficiencyOne, partnered with
4 Nova Scotia Community College (NSCC), also awards the Bright Student Bursary.³¹ This scholarship is
5 awarded to a student enrolled in the Energy Sustainability Engineering Technology program, who is
6 committed to growing their career in the energy efficiency industry upon graduation.³² Additionally,
7 partnerships with Dalhousie University and Saint Mary's University have allowed EfficiencyOne to design
8 and build a course on energy efficiency and renewable energy.³³

9 *EE&C Plan school-centered education approach*

10 During the current Plan, ePEI has participated on an ad hoc basis regarding school-centered educational
11 activities. School-centered educational activities in the proposed Plan may include:

- 12 • Develop a campaign executed seasonally to educate students on electricity usage and
13 encourage conservation at home. The format of this campaign may range from ePEI conducting
14 presentations to schools or ePEI providing information teachers need to educate students in the
15 classroom; and
- 16 • In consultation with the Department of Education, design assets that can be completed in the
17 classroom and brought home that teach about reducing electricity (quizzes, home inspection
18 checklists, coloring sheets, etc.).

19 By establishing these resources and initial awareness in schools across PEI, ePEI will work towards
20 creating a formal program alongside the Department of Education and Lifelong Learning, the French
21 Language School Board, the Public Schools Branch, private schools, and other associations as applicable
22 to incorporate into classrooms each year.

23 **Public education and outreach**

24 *Overview*

25 Enabling strategies directed as part of education and outreach aim to establish energy efficiency as a
26 standard over time. There are opportunities to educate and inform the public on specific measures they
27 can participate in to reduce their environmental impact.

28 *Strategies deployed in other Atlantic Canadian provinces*

29 The objectives of the education and outreach activities for EfficiencyOne in Nova Scotia is to increase
30 program participation through effective communication regarding energy efficiency and the effect it has
31 on the lives of residents.³⁴ EfficiencyOne's advertising campaigns are developed to increase public
32 awareness and understanding of how energy efficiency positively impacts residents' daily lives.³⁵ In
33 Nova Scotia, residents are engaged through various social media platforms to promote participation
34 while EfficiencyOne utilizes a vertical marketing approach directed to businesses to gain a better

²⁹ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, pages 77-78

³⁰ Growing the next generation of efficiency leaders – Efficiency One

³¹ Growing the next generation of efficiency leaders – Efficiency One

³² Growing the next generation of efficiency leaders – Efficiency One

³³ Growing the next generation of efficiency leaders – Efficiency One

³⁴ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, pages 78

³⁵ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, pages 79

1 understanding of what energy efficiency looks like in their industry.³⁶ EfficiencyOne took an evidence-
2 based and cost-effective approach to education to ensure programs evolve alongside new technology.³⁷

3 In Newfoundland, TakeCHARGE provides energy saving advice while expanding to inform customer
4 decisions regarding electrification.³⁸ TakeCHARGE’s website showcases social media activities and
5 partnerships with stakeholders that are designed to enable customer education, support energy
6 efficiency information sharing, and strengthen conservation outreach efforts.³⁹ There are educational
7 resources providing no-cost ways to save on electricity and assistance with selecting the most energy
8 efficient technologies for a residents’ home or business.⁴⁰

9 New Brunswick recognizes the importance of education and awareness through strategies focused on
10 creating lasting and permanent behavioral change in customers and market participants.⁴¹ Leveraging
11 Energy Smart NB and its multiple communication channels, government communication strategies on
12 climate change is a main awareness adoption strategy to achieve conservation and efficiency goals
13 throughout New Brunswick.⁴² Through these channels, NB Power is working toward accelerating the
14 adoption of energy efficient products and services as a matter of standard practice.⁴³

15 *EE&C Plan public education and outreach approach*

16 To effectively deploy targeted education campaigns, ePEI will engage either an internal or external
17 marketing expert to develop branding assets and support effective outreach campaigns. ePEI will seek
18 recommendations from the marketing expert to establish a voice and tone for marketing collateral
19 including traditional and online advertising, information pamphlets, targeted presentations for industry
20 groups, and Q&A sessions with the general public. The bulk of the asset development will happen within
21 the first year of the proposed Plan to ensure the collateral is available for circulation over the second
22 and third years of the proposed Plan.

23 Assistance from a marketing expert will provide the ePEI team with additional capacity to focus on the
24 execution of the proposed Plan.

25 As mentioned in the Commercial and Industrial Strategy, education and engagement with industry is a
26 focus of this strategy in the proposed Plan. The purpose of this engagement is to encourage commercial
27 and industrial clients to move to the interruptible electricity rate class and to educate on existing
28 programming. This engagement will provide industry with the opportunity for direct feedback and
29 identify programs or measures that have meaningful impacts.

30 **Development and research**

31 **Building the network of excellence contractors**

32 PEI is experiencing a time of growth during the development of the proposed Plan, and with this time of
33 growth comes labour capacity issues. To support building capacity in electricity efficiency related

³⁶ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, pages 79

³⁷ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, pages 80

³⁸ 2021 Electrification, Conservation and Demand Management Application, page 21

³⁹ 2021 Electrification, Conservation and Demand Management Application, Schedule C page 50

⁴⁰ 2021 Electrification, Conservation and Demand Management Application, Schedule C page 50

⁴¹ Energie NB Power DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 10

⁴² Energie NB Power DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 11

⁴³ Energie NB Power DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 10

1 careers, ePEI will collaborate with post-secondary institutions and certification organizations to educate
2 students on the opportunity electricity efficiency generates to their field of study. This form of
3 workplace readiness requires insight into labour market information that informs job seekers on
4 employment opportunities. ePEI will begin collaborations with provincial government departments that
5 categorize this information to assist with developing important insights to provide job seekers and
6 showcase the future potential of careers in efficiency streams.

7 Coordination of developing career pathways requires a strategic and efficient approach to ensure this
8 form of building labour capacity is successful. It will require a focus on educating the energy contracting
9 workforce associated with energy services⁴⁴ including ePEI relationships with member associations.
10 Additionally, ePEI will engage with the Network of Excellence (“NOE”) contractors to identify interested
11 contractors to participate in a job shadowing program relating to installation of electricity efficiency
12 products and methods.

13 Building labour capacity to increase the number of Network of Excellence contractors will be gradual
14 and will progress over the course of the proposed EE&C Plan and continue into the following EE&C Plan.

15 **Strengthening internal processes**

16 Successful enhancements of EE&C programming rely on the internal data collected, cataloged, and
17 analyzed to identify the need for improvements. As an organization with finite resources, efficiency
18 within the organization is critical to ensuring resources can focus on achieving the most electricity
19 efficiency and demand response achievements as possible. During the term of the proposed Plan, ePEI is
20 establishing internal protocols that are more efficient, including enhancements to program delivery
21 models that reduce organizational burden. For the EEERs, heat pump installation contractors will move
22 to a contractor-pay model as opposed to the applicant submitting documents for heat pump rebates.
23 The purpose of this program enhancement is to reduce the amount of individual applications received
24 by ePEI and conduct batch application processing. This program will be piloted with heat pump NOE
25 contractors to effectively understand how to streamline internal processes. If successful, this program
26 enhancement will be adopted for other EEER equipment and other EE&C programs that would benefit
27 from this model.

28 While Econoler noted that the development of an internal data management system was in progress in
29 their June 2020 reports we understand that the development of a data management system has not
30 been completed. We acknowledge that ServicePEI may currently be working on data management for
31 the free heat pump program, potentially impacting ePEI’s data management, but overall ePEI could
32 benefit from improved data management internally. As ePEI’s expert evaluator, Econoler mentioned
33 that improved data tracking and centralization of data will inform on the electricity efficiency and
34 conservation savings by capturing enough information to appropriately perform savings calculations to
35 inform program success.⁴⁵

⁴⁴ 2021 Canadian Provincial Energy Efficiency Scorecard, page 106

⁴⁵ 2018/2019 and 2019/2020 Business Energy Rebates Program Evaluation prepared by Econoler, page 38

1 **Engagement with government, industry groups, and Indigenous communities**

2 Currently, ePEI provides ad hoc consultations with government groups, industry associations, and
3 Indigenous communities to provide advice and recommendations regarding electricity efficiency and
4 conservation strategies and development.

5 Municipalities, Provincial working groups, and Federal organizations use ePEI’s expertise to support
6 electricity efficiency and conservation design. Over the current Plan’s term, ePEI has collaborated with:

- 7 • City of Charlottetown
- 8 • City of Summerside
- 9 • Town of Stratford
- 10 • Government of Canada
- 11 • Lennox Island First Nation
- 12 • Abegweit First Nation

13 For the Indigenous communities listed above, ePEI has provided advice regarding electricity efficient
14 building construction and assisted with the coordination of energy audits for structures in these
15 communities. Currently, ePEI’s ad hoc approach is flexible and allows the community to inform ePEI on
16 the level of assistance needed. This flexibility provided community tradespeople with the opportunity to
17 shadow efficiency experts to develop electricity efficiency and conservation knowledge within the
18 community.

19 In addition, ePEI actively consults with industry associations and groups on planning and development
20 projects to support incorporating electricity efficiency and conservation into building designs. Industry
21 associations ePEI has collaborated with include:

- 22 • Canada Home Builders’ Association
- 23 • Construction Association
- 24 • Canada Green Building Council
- 25 • Efficiency Canada
- 26 • Canadian Solar Institute
- 27 • Canadian Renewable Energy Association
- 28 • DesignLights Consortium
- 29 • Northeast Energy Efficiency Partnerships
- 30 • University of PEI
- 31 • Holland College

32 **Home Energy Reports**

33 **Overview**

34 Enabling strategies help overcome barriers for electricity users with participating in energy efficiency
35 programs.⁴⁶ As noted in the Potential Study, Home Energy Reports (“HER”) were suggested as a proven
36 enabling strategy to implement to encourage energy conservation and demand reduction. Home Energy
37 Reports are reports sent to residential electricity ratepayers which display home energy consumption in

⁴⁶ Prince Edward Island Energy Efficiency Potential Study: Comprehensive Assessment of Energy Efficiency and Demand Response Opportunities 2021-2030, page vii

1 comparison with peers for the purpose of prompting energy conserving behavior.⁴⁷ These reports are
2 behavioral measures with the purpose of generating direct savings through social and behavioral
3 changes while driving acceptance of other enabling strategies.⁴⁸ It provides residents with an
4 anonymous benchmarking tool to compare usage patterns of other homes which are of similar size, age,
5 and heating type.

6 For clarity, HERs are a social marketing tool used to encourage behavioural change by comparing
7 participants' household energy usage with similar neighbouring homes. Home Energy Audits (or
8 assessments) are an evaluation of the current home's energy performance in the form of an EnerGuide
9 rating.

10 **Strategies deployed in other Atlantic Canadian provinces**

11 HERs are used in other jurisdictions targeting residential customers to give them insight into their
12 home's electricity use while enhancing customer knowledge of changes in usage over time.⁴⁹ Nova
13 Scotia's EfficiencyOne issued Home Energy Reports to help residents understand and manage their
14 energy use.⁵⁰ The reports were introduced as a three-year pilot project in 2013, which encouraged
15 homeowners to decrease their energy footprint through comparison of energy use to neighbors and
16 taking action on customized energy savings tips.⁵¹ Although this program ended in July of 2016, Nova
17 Scotians can now understand their energy consumption and use through their Residential Profile.⁵²

18 Similarly, Newfoundland's TakeCHARGE program issues these reports up to six times per year, mostly
19 during the heating season, given that this is the biggest opportunity to save energy.⁵³ Newfoundland
20 uses the HER to compare similar homes in the electricity user's area, while taking the opportunity to
21 further develop customer education through practical tips on how to save energy moving forward.⁵⁴

22 In New Brunswick residential customers of NB Power have access to HERs through their online portal
23 through Opower (a division of Oracle Utilities).⁵⁵

24 **EE&C Plan Home Energy Reports approach**

25 ePEI will work alongside the two PEI utilities to generate home energy reports for PEI residential
26 electricity ratepayers. HERs will provide information to homeowners through their electricity bill which
27 includes seasonal household electricity consumption, household electricity consumption compared to
28 homes of comparable size, and tips and strategies to reduce home electricity consumption. Reports are
29 generated monthly or quarterly and are sent to residential customers directly.

⁴⁷ Prince Edward Island Energy Efficiency Potential Study: Comprehensive Assessment of Energy Efficiency and Demand Response Opportunities 2021-2030, page 33

⁴⁸ Prince Edward Island Energy Efficiency Potential Study: Comprehensive Assessment of Energy Efficiency and Demand Response Opportunities 2021-2030, page 32

⁴⁹ <https://takechargenl.ca/residential/home-energy-reports/>

⁵⁰ <https://www.efficiencyns.ca/residential/home-energy-report/>

⁵¹ <https://www.efficiencyns.ca/residential/home-energy-report/>

⁵² <https://www.efficiencyns.ca/residential/home-energy-report/>

⁵³ <https://newfoundlandpower.com/en/My-Account/Usage/Save-Energy/Usage-Alerts-and-Home-Energy-Reports#:~:text=Newfoundland%20Power%20and%20Newfoundland%20and,biggest%20opportunity%20to%20save%20energy.>

⁵⁴ <https://takechargenl.ca/residential/home-energy-reports/>

⁵⁵ NB Power launches home energy reports for residential customers
https://www2.gnb.ca/content/gnb/en/news/news_release.2017.01.0011.html

1 **Electric utility cost recovery**

2 Cost recovery from electric utilities is essential to provide certainty that EE&C costs will be recouped
3 from electricity ratepayers. Following the same methodology as per the Commission's Order UE19-03,
4 the proposed Plan recommends that EE&C costs continue to be treated as an expense as incurred rather
5 than amortized over the life of the EE&C measures⁵⁶ and that Maritime Electric continue to recover its
6 proportional share of EE&C costs from ratepayers.⁵⁷

7 However, a change is being recommended in how Maritime Electric collects EE&C recoveries and how
8 those recoveries are remitted. Under the current Plan, EE&C recoveries are collected from ratepayers by
9 Maritime Electric through a rate rider and the specific amount collected each month is remitted to
10 efficiencyPEI. The use of a rate rider leads to variability in the amount collected and remitted by the
11 utility as actual kWh sales fluctuate from forecasted amounts. This results in efficiencyPEI receiving a
12 recovery amount that differs from what was ordered by the Commission. To avoid this, consistent with
13 Order UE20-06 for the recovery of Dalhousie & Point Lepreau Debt, the proposed Plan recommends that
14 the amount remitted to efficiencyPEI be based on a fixed monthly amount.⁵⁸ Also consistent with Order
15 UE20-06, the proposed Plan recommends that Maritime Electric, in its next General Rate Application,
16 include EE&C recovery amounts in its revenue requirement for collection through basic rates, or
17 propose an alternative method of collection that avoids any under- or over-collection due to sales
18 fluctuations.⁵⁹

19 Understanding that Summerside Electric is not regulated by the Commission, ePEI and PEIEC intend to
20 obtain a Service Delivery Agreement to formalize their participation and investment, similar to the
21 process taken for the current Plan.

⁵⁶ Island Regulatory Appeals Commission Order UE19-03, page 20, paragraphs 7 and 9

⁵⁷ Island Regulatory Appeals Commission Order UE19-03, page 19, paragraph 6

⁵⁸ Island Regulatory Appeals Commission Order UE20-06, page 26, paragraph 19

⁵⁹ Island Regulatory Appeals Commission Order UE20-06, page 14, paragraph 119