

Appendix A - 2022-23 to 2024-25 Electricity Efficiency and Conservation Plan

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

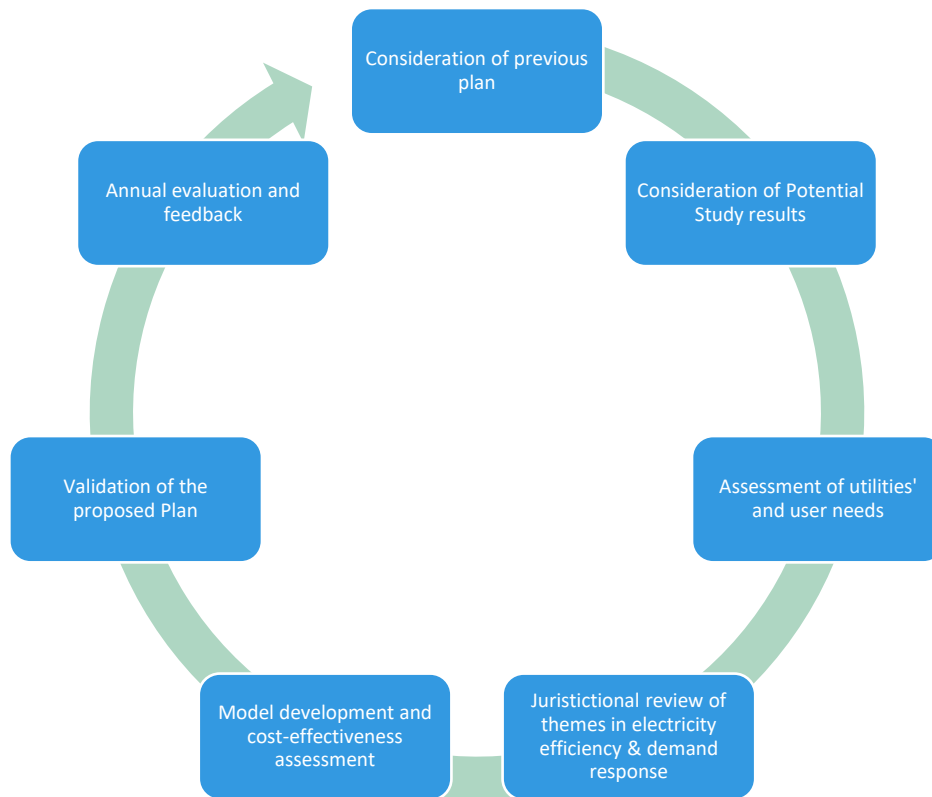
- 1 • **Customer affordability:** considers both the short-term cost and long-term value for electricity
2 ratepayers to ensure the Plan is designed to provide Islanders with the adoption of greater
3 electricity efficiency.

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
35 and ePEI in continuously improving the current Plan.⁶ The proposed EE&C Plan includes the continued

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

⁶ ePEI Evaluation Framework, pages 1 and 2

- 1 engagement of the Advisory Group as well as annual program evaluations and a broad focus on
- 2 continuous improvement.

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	\$ 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	\$ 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
Commerical & 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	\$ 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
Commerical & 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	\$ 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
Commerical & 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>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>The adjustment in incentive tiers also includes 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)	2.21	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)	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)	4.18	4.41	4.64	4.41
Program Administrator Cost Test (PAC)	5.37	5.76	6.14	5.75

7 **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)	0.67	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)	1.28	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)	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)	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)	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
 14 model will be implemented across other equipment installation contractors and other relevant
 15 EE&C programs.
- 16 • Improvements to current program delivery and structure for the Winter Warming program and
 17 the Instant Energy Savings program.
- 18 • Program accessibility improvements for the Home Comfort program regarding internal
 19 processes to provide enhanced service to meet the needs of participants.
- 20 • Streamlining internal procedures to improve client experience, data management, and program
 21 administrator costs prior to the next EE&C term.
- 22 • Increases to measures for business programs.
- 23 • Adjustments to residential programs that improve options for residents and removing programs
 24 and/or measures which support continued use of fossil fuels.
- 25 • 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
38 when ETS units restore their energy capacity overnight. The ETS systems that are coupled with Smart

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 Grid technologies and off-peak rates allow the utility to manually control when an ETS system begins to
 2 replenish its used capacity, with the intention of flattening the demand curve.

3 **Demand response programs**

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

9 As mentioned above, the first year of the proposed Plan will capture pilot programs incentivizing the
 10 above programs and measures to understand the anticipated participation and program success. Where
 11 successful, ePEI will request for demand response programming to be included in the EE&C portfolio to
 12 the Commission.

1 **Demand response savings and planning spending**

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

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

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

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

¹⁹ Prince 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	2.21	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

18 As noted above, there are some programs which do not meet the cost-effectiveness standard. Winter
 19 Warming has a PAC and TRC test below 1, while Instant Energy Savings has a TRC test below 1 and PAC
 20 test results just below 1 in years two and three. For commercial and industrial programs, the Community
 21 Energy Solutions has a TRC test lower than 1. While it is not ideal for cost-effectiveness tests to have a
 22 result lower than 1, the portfolio results surpass the cost-effectiveness testing each year for each test
 23 and therefore we have proposed that both programs continue over the 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
34 careers, ePEI will collaborate with post-secondary institutions and certification organizations to educate

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

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

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

14 **Strengthening internal processes**

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

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

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

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

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

- 3 • City of Charlottetown
- 4 • City of Summerside
- 5 • Town of Stratford
- 6 • Government of Canada
- 7 • Lennox Island First Nation
- 8 • Abegweit First Nation

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

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

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

28 Home Energy Reports

29 Overview

30 Enabling strategies help overcome barriers for electricity users with participating in energy efficiency
31 programs.⁴⁶ As noted in the Potential Study, Home Energy Reports (“HER”) were suggested as a proven
32 enabling strategy to implement to encourage energy conservation and demand reduction. Home Energy
33 Reports are reports sent to residential electricity ratepayers which display home energy consumption in
34 comparison with peers for the purpose of prompting energy conserving behavior.⁴⁷ These reports are
35 behavioral measures with the purpose of generating direct savings through social and behavioral

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

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

1 changes while driving acceptance of other enabling strategies.⁴⁸ It provides residents with an
2 anonymous benchmarking tool to compare usage patterns of other homes which are of similar size, age,
3 and heating type.

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

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

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

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

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

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

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

28 **Electric utility cost recovery**

29 Cost recovery from electric utilities is essential to provide certainty that EE&C costs will be recouped
30 from electricity ratepayers. Following the same methodology as per the Commission's Order UE19-03,
31 the proposed Plan recommends that EE&C costs continue to be treated as an expense as incurred rather

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 than amortized over the life of the EE&C measures⁵⁶ and that Maritime Electric continue to recover its
2 proportional share of EE&C costs from ratepayers.⁵⁷

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

15 Understanding that Summerside Electric is not regulated by the Commission, ePEI and PEIEC intend to
16 obtain a Service Delivery Agreement to formalize their participation and investment, similar to the
17 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

1 **Appendix A – Abbreviations and Acronyms**

Abbreviation/Acronym	Definition
CDM	Conservation and Demand Management
current Plan	Electricity Efficiency and Conservation Plan 2018/19 – 2020/21
DSM	Demand Side Management
DR	Demand response
EECAG / the Advisory Group	Electricity Efficiency & Conservation Advisory Group
ePEI	efficiencyPEI
HVAC	Heating, ventilation, and air conditioning
IRAC / the Commission	Island Regulatory and Appeal Commission
LED	Light Emitting Diode
LES	Lifetime energy savings
MECL / Maritime Electric	Maritime Electric Company Limited
MSHP	Minisplit heat pump
MW	Megawatt
NDS	Net demand savings
NEB	Non-energy Benefit
NES	Net Electricity Savings
PA	Program Administrator
PAC	Program Administrator Cost
PCT	Participant Cost Test
PEI	Prince Edward Island
PEIEC	PEI Energy Corporation
proposed Plan	Electricity Efficiency and Conservation Plan 2022/23 – 2024/25
RIM	Ratepayer Impact Measure
RVF	Resource Evaluation Framework
SCT	Societal Cost Test
SEES Report	2020 State Energy Efficiency Scorecard Research Report
SE	Summerside Electric
TRC	Total Resource Cost
UCT	Utility Cost Test

1 Appendix B - Definitions

Term	Definition
Achievable potential	The savings from cost-effective opportunities once market barriers have been applied, resulting in an estimate of savings that can be achieved through demand-side management programs. For each module, three achievable potential scenarios are modeled to examine how varying factors such as incentive levels and market barrier reductions impact uptake.
Annual peak	The annual peak demand refers to the hour in each year that exhibits the highest system demand in MW, on a system-wide basis not accounting for local constraints.
Coincident demand	Consumer electricity demand that occurs at the time of the utility's peak system demand.
Cost effectiveness testing	A tool for the Commission to satisfy itself that EE&C is providing value for the investment being made by electricity consumers and the Program Administrator.
Cumulative savings	A rolling sum of all new savings that will affect energy sales, cumulative savings exclude measure re-participation (i.e., savings toward a measure are counted only once, even if customers can participate again after the measure has reached the end of its useful life) and provide total expected grid-level savings.
Demand Side Management	The use of programs that offer financial incentives, education, and other support to encourage the efficient use of energy both in terms of the amount and timing of the energy used.
Economic potential	The savings opportunities available should customers adopt all cost-effective savings, as established by screening measures against the Total Resource Cost Test (TRC), without consideration of market barriers or adoption limitations.
Eligible measures	Measures that entail the requirements for potential applicants as well as the equipment requirements necessary to be qualified for a particular program.
Enabling activities/strategies	Enabling activities or strategies help participants overcome barriers to participating in efficiency programs and include but are not limited to direct install programs, contractor training and support, upstream programs, targeted marketing, building and home energy labeling requirements, and financing programs.
Energy end-use	In this study, energy end-uses refer to grouping of energy saving measures related to specific building component (i.e., water heating, HVAC, lighting etc.).
Incremental annual savings	Savings from measures incentivized through programs in a given year expressed in terms of savings in the first year of each measure's life. Incremental annual savings include savings attributable to measure re-participation (i.e., when a customer is incentivized to participate in a program again after the original measure has reached the end of its useful life).

Term	Definition
Incremental lifetime savings	Savings from measures incentivized through programs in a given year expressed in terms of savings expected over the lifetime of each measure. Incremental lifetime savings include savings attributable to measure re-participation (i.e., when a customer is incentivized to participate in a program again after the original measure has reached the end of its useful life).
Market sector	The market of energy using customers on Prince Edward Island is broken down into four sectors based on the primary occupants in the building: residential (including single family and multi-family buildings), low-income residential, commercial, and industrial.
Market segment	Within each sector, market segments are defined to capture key differences in energy use and savings opportunities that are governed by building use and configuration.
Measure re-participation	The re-participation of a customer in a program after the original incentivized measure has reached the end of its useful life. Re-participation is counted in program savings (i.e. incremental lifetime savings and incremental annual savings), but it does not impact cumulative savings since the customer’s net consumption is not impacted by replacing an efficient technology with an equally efficient technology.
Program savings	Savings from measures incentivized through programs in a given year. Program savings include measure re-participation and are generally expressed in terms of incremental lifetime savings or incremental annual savings.
Target market	A specific group of customers that a product or service is intended towards.

Appendix C – Status of Synapse Energy Economics, Inc. findings and recommendations

Synapse Energy Economics, Inc.’s (“Synapse”) identified findings and recommendations in their report titled “An Assessment of Prince Edward Island Energy Corporations’ 2018-2021 Energy Efficiency and Conservation Plan.” The purpose of this appendix is to demonstrate how each finding and recommendation has been addressed by efficiencyPEI (“ePEI”) over the course of the 2018-2021 Electricity Efficiency and Conservation (“EE&C”) Plan.

Topic	Synapse Findings	Synapse Recommendations	ePEI Status
<p>Consistency of term with industry standards</p>	<ul style="list-style-type: none"> The term of the filed EE&C Plan, three years, is reasonably consistent with industry standards. 	<ul style="list-style-type: none"> PEIEC should proceed with the three-year plan term. However, as discussed below, we recommend that PEIEC should make modifications to the second and third plan-years. The types and formats of information to be reported should be discussed with stakeholders and established early on, so that consistently defined results can be monitored over time. 	<p>Achieved</p> <ul style="list-style-type: none"> 2022-2025 DSM filing is a 3-year plan – consistent with Synapse observation that 3-year terms are in accordance with industry practice. Types and formats of information to be reported has been addressed through various discussions with stakeholders and the establishment of the Advisory Group. <p>In Progress</p> <ul style="list-style-type: none"> Modifications were made to the second and third years of the current Plan for the Business Equipment Rebates scope, which increased each year. Additionally, modifications were made to the administrative processes as per Econoler’s recommendations which are still ongoing <p>Not Achieved</p> <ul style="list-style-type: none"> Modifications were not made to the current Plan to capture non-electricity fuels due to electricity ratepayers funding EE&C. Non-electricity fuels are captured by ePEI outside of EE&C.

Topic	Synapse Findings	Synapse Recommendations	ePEI Status
Reasonableness of Projected Savings and Participation	<ul style="list-style-type: none"> Information on the load forecasts for both companies has not been provided or is not available. Relative to sales, savings under the Plan are expected to increase substantially in the first year but level out by the third year. Some program details (e.g., operational procedures for tracking costs and savings) have yet to be determined. While comprehensive evaluations may prove difficult for a new program administrator to manage as programs are newly launched, it is important to (a) set up processes and practices early on to shed light on what is working well and what is not, (b) implement data systems that will support future evaluation, and (c) lay the foundation for the next EE&C plan. 	<ul style="list-style-type: none"> PEIEC should consider increasing savings as a percent of sales in the third year. PEIEC should put in place processes and data collection mechanisms to measure, track, and analyze participation. An ongoing advisory group should be established to address issues with implementation. PEIEC should provide a time table for establishing this stakeholder group. Evaluation processes and practices should be established early on. Where applicable, PEIEC should consider ways to obtain and examine program performance on a frequent schedule (e.g., quarterly or monthly) in order to identify areas for improvement in mid-course. PEIEC should consider ways to reduce the burden of evaluation and present options to the stakeholder group. These options should include conducting a high-level impact evaluation study for all of the programs annually or taking a staged approach to implementing impact evaluation studies by first focusing on the programs with the most projected savings. Process evaluation should be done over the three-year term. The DSM Potential Study should be conducted in the near future to lay the foundation for the next EE&C Plan. 	<p>Achieved</p> <ul style="list-style-type: none"> Both PEI Electricity Utilities have provided information pertaining to load forecasts for the development of cost effectiveness testing for the 2022-2025 EE&C Plan. An Advisory Group was established and assisted ePEI with the development of the evaluation framework which was submitted to the Commission. An evaluation framework has been used over the course of the current EE&C Plan. Program performance is tracked on a quarterly and annual basis and reports are submitted to the Commission. The annual reporting includes a high-level impact evaluation. The DSM Potential Study (known as the PEI Energy Efficiency Potential Study) was conducted by Dunsky Energy Consulting and submitted to the Commission in March of 2021. Process evaluation at ePEI has been implemented over the course of the current Plan and is ongoing to continuously improve program delivery and streamline services. <p>In Progress</p> <ul style="list-style-type: none"> Included in the evaluation framework, operational procedures for tracking costs and savings have been incorporated. However, it has been recommended by ePEI’s contracted third-party evaluator, Econoler, for ePEI to implement a data management system to improve program tracking. The data management system development is in progress.

Topic	Synapse Findings	Synapse Recommendations	ePEI Status
<p>Estimate of Financial Costs and Benefits to Customers</p>	<ul style="list-style-type: none"> The total proposed EE&C budget as a percent of electric revenue is in line with average spending in the United States. Because of the financial support from the provincial and federal governments, total MECL and Summerside ratepayer contributions as a percent of revenue (0.3 to 0.4 percent) is much lower than utility spending in other jurisdictions. Information on the methodology for developing MECL's avoided costs has not been provided, and no avoided costs are available for Summerside. If we assume that the MECL avoided costs are reasonable and that it is reasonable to apply them to Summerside, the proposal is cost-effective at the portfolio level. The insulation program is not cost-effective based on the TRC test. But given that this type of program tends to have a substantial non-energy benefits, it is reasonable to approve the program. All programs are cost-effective based on the PAC, which PEIEC recommends as the primary cost-effectiveness test. 	<ul style="list-style-type: none"> PEIEC should consider increasing its goal for the third year to be more in line with higher achieving jurisdictions elsewhere. Summerside should provide avoided costs, and MECL should provide a description of its avoided cost data, assumptions, and methodologies. Summerside should develop a revenue forecast, preferably by rate class. 	<p>Achieved</p> <ul style="list-style-type: none"> As per Commission Order UE19-03, the Program Administrator Cost test (PAC) has been applied to the 2022-2025 EE&C Plan programs and overall portfolio. Summerside Electric provided revenue forecasts which include breakdowns by rate class for the development of the 2022-2025 EE&C Plan. The methodology for developing avoided costs were provided by both PEI electric utilities. The avoided costs provided are reasonable. The proposed EE&C Plan's portfolio is cost effective utilizing the Program Administrator Cost ("PAC"). However, not all programs pass the PAC test. Most programs pass the PAC test, except for the Winter Warming program (all three years) and the Instant Energy Savings program (year two and three). <p>Not Achieved</p> <ul style="list-style-type: none"> The goal for the third year of the current EE&C Plan was not increased to be more in line with other jurisdictions. External influences (i.e. COVID-19 and elections) limited marketing capabilities for EE&C, resulting in not enough momentum to increase the third-year target.

Appendix C – Status of Synapse Energy Economic, Inc. Findings and Recommendations

Topic	Synapse Findings	Synapse Recommendations	ePEI Status
<p>Plan for Apportioning Costs and Benefits</p>	<ul style="list-style-type: none"> Separate tracking of EE&C expenditures and savings by rate class would be cumbersome but would provide transparency. Ratepayer contribution and rate impacts are relatively small over the term of the Plan, while government sources provide a large share of the funds. An abrupt shift to a greater percentage of expenses being recovered from ratepayers after the end of the current Plan could lead to a noticeable increase in rates. 	<ul style="list-style-type: none"> We do not recommend recovering the ratepayer portion of EE&C costs through a separate line item on electricity bills. We recommend expensing EE&C costs as incurred as proposed by PEIEC, rather than amortizing them, considering the relatively small ratepayer contribution and rate impacts. A plan for tracking costs and benefits by utility and sector should be developed. 	<p>Achieved</p> <ul style="list-style-type: none"> The evaluation framework has captured net energy savings and net demand savings by the residential and commercial sectors. As per Commission Order UE19-03, EE&C costs are not included as a separate line item on utility bills. As per Commission Order UE19-03, EE&C costs are incurred as an expense by Maritime Electric and not amortized over the EE&C term. The government funding sources for the 2022-2025 EE&C Plan continues to provide a large share of the Plan’s funding. There is no abrupt shift in expenses being covered by electricity ratepayers compared to the current EE&C Plan. However, the 2018-2021 EE&C Plan funding from ratepayers was greater than the estimated 20% funding allocation. This has been addressed in the proposed 2022-2025 EE&C Plan. The evaluation framework tracks costs and benefits by sector and by utility.

Topic	Synapse Findings	Synapse Recommendations	ePEI Status
Other findings	<ul style="list-style-type: none"> The proposed Plan provides more savings from residential programs than business programs, especially in the first year. This contrasts to sales, which are evenly split between the residential and business sectors. The portfolio was not designed to target peak load, even though peak is projected to grow. Non-electric fuels are not included in the EE&C Plan, despite the province’s goal for non-electric fuel savings. Without annual reconciliation of forecast revenues to actual, the proposed treatment of forecast savings in MECL’s ratemaking would disincentivize the utility to support EE&C. 	<ul style="list-style-type: none"> The portfolio should place a much higher priority on programs targeting measures that reduce peak load growth, and PEIEC should consider offering programs that target more than one fuel. PEIEC should revise the EE&C plan for the second and third years to better incorporate peak load and other fuel considerations. The energy efficiency budgets should be allocated proportionately across residential and business sectors based on sales from each sector, as soon as possible over the term of the Plan. We recommend reconciling MECL’s forecast revenues with actual revenues on an annual basis. 	<p>Achieved</p> <ul style="list-style-type: none"> The 2022-2025 DSM Plan takes a balanced approach to the portfolio savings ensuring both residential and business programs are provided equitable opportunity to receive efficiency services. In the absence of time of use rates for Maritime Electric customers, demand response and demand reduction measures have been incorporated into the 2022-2025 EE&C Plan to target peak load reduction where possible. As per Commission Order UE19-03, PEIEC shall reconcile MECL’s forecast revenues with actual revenues on an annual basis and to file the reconciliation with the Commission as part of its annual report. This has been done with each annual report submitted to the Commission to date. <p>Not Achieved</p> <ul style="list-style-type: none"> Non electric fuels are not included in the 2022-2025 Plan as it is funded by electricity ratepayers, however, ePEI does capture non-electric fuel savings through other programs outside of this Plan. The second and third years of the EE&C Plan were not revised to incorporate peak load and other fuel considerations. As mentioned, external influences limited ePEI’s ability to launch pilot programs relating to peak load. However, existing programs and measures do impact demand and assist with peak load reduction in certain areas.

1 **Appendix D - Stakeholder engagement summary**

2 Stakeholders were engaged during EE&C program planning to create a collaborative approach for
 3 developing effective programs for PEI electricity ratepayers. Surveys were conducted within the
 4 Potential Study prepared by Dunsky which provided the foundations used in the proposed Plan.
 5 Additionally, feedback from contractors was cataloged by ePEI which informed the development of the
 6 proposed Plan. Various stakeholder sessions were conducted to ensure that the proposed Plan is
 7 relevant, meaningful, and impactful to PEI electricity ratepayers.

2022-2025 EE&C Plan Stakeholder List	
Contractor feedback	Information was gathered by ePEI to inform on streamlining rebate processes which impacted the development of the proposed Plan.
Government and utilities	<ul style="list-style-type: none"> • PEI electricity utilities were engaged to understand limitations in each utilities’ abilities for specific programming, with a focus on demand response programming, to ensure identified limitations are addressed in the proposed Plan. • Electricity Efficiency and Conservation Advisory Group was engaged to provide insight pertaining to the impact of the current plan as well as opportunities for improvement to incorporate into the proposed Plan. Members of this group represent government, industry, nonprofits, indigenous communities, and residential electricity ratepayers.
Industry and indigenous communities	<ul style="list-style-type: none"> • Abegweit First Nation and Lennox Island First Nation were contacted to obtain feedback on the support they have received through community programs as well their energy efficiency goals and opportunities. This communication was in the form of a questionnaire. At the time of the regulatory filing, Abegweit First Nation provided responses while Lennox Island First Nation had not. • Federation of Agriculture was engaged to provide a deeper understanding of how to ensure current programming is relevant to the agriculture industry and next steps to be taken to address the needs of the industry over the 2022-2025 period. • PEI Seafood Processors Association was engaged to understand their electricity needs and opportunities for electricity efficiency.

1 **Appendix E - Jurisdictional Scan of Demand Side Management Plans**

2 As a best practice, a jurisdictional scan of the programs other Demand Side Management Plans have developed was conducted to support ePEI
 3 in strengthening their own demand side management plan. The purpose of the jurisdictional scan is to provide additional awareness of what
 4 other Atlantic Canadian provinces and Northeastern States are doing, along with the market barriers and how each jurisdiction addresses these
 5 barriers. The Atlantic Canadian provinces were chosen due to their similar climates and proximity, as well as their similar electricity programs.
 6 Maine, Massachusetts and Vermont were chosen due to their best in class rankings in the United States regarding energy and electricity
 7 efficiency and conservation.

8 **Newfoundland and Labrador - Electrification, Conservation and Demand Management Plan: 2021 – 2025**

Energy Efficiency Programs	Demand Response Activities/Programs	# of Programs	Marketing Barriers	Addressing Market Barriers
Residential Programs ¹ <ul style="list-style-type: none"> • Residential EV & Charging Infrastructure Program • Insulation and Air Sealing Program • Thermostat Program • Instant Rebates program • HRV Program (Heat recovery ventilators) • Benchmarking Program • Low Income Kit Program • Isolated Systems Community Program Commercial Programs ²	DR Programs ⁴ <ul style="list-style-type: none"> • Industrial Curtailment • Commercial Curtailment 	Energy Efficiency Programs = 13 Demand Response Programs = 2	Jurisdiction examples: ⁵ <ul style="list-style-type: none"> • Consumers accustomed many options for vehicles; • Upfront costs; • Lack of charging technology; • Technical know-how; • Customer time constraints; • Awareness of benefits; • Difficulties renovating living space; • Decreasing number of eligible participants; 	Enabling activities, such as: ⁶ <ul style="list-style-type: none"> • Consumer education; • Contractor training and support; • Market research; • Program design and enhancements; • Marketing strategies; • Program evaluation; and • Others. Delivery strategies include, but not limited to: ⁷ <ul style="list-style-type: none"> • Individual customer interactions;

¹ Newfoundland Power Inc. – 2021 Electrification, Conservation and Demand Management Application, Schedule F

² Newfoundland Power Inc. – 2021 Electrification, Conservation and Demand Management Application, Schedule F

⁴ Newfoundland Power Inc. – 2021 Electrification, Conservation and Demand Management Application, Schedule C

⁵ Electrification, Conservation and Demand Management Plan 2021-2025: Schedule F – Market Considerations

⁶ Electrification, Conservation and Demand Management Plan 2021-2025: Schedule C – page 51 of 325

⁷ Electrification, Conservation and Demand Management Plan 2021-2025: Schedule F – Delivery Strategy

Appendix E – Jurisdictional Scan of Demand Side Management Plans

Energy Efficiency Programs	Demand Response Activities/Programs	# of Programs	Marketing Barriers	Addressing Market Barriers
<ul style="list-style-type: none"> • Commercial EV & Charging Infrastructure Program • Custom Electrification Program • Business Efficiency Program • Isolated Systems Community Program • Isolated Business Efficiency Program <p>Industrial Programs³</p> <ul style="list-style-type: none"> • Industrial Energy Efficiency Program 			<ul style="list-style-type: none"> • Difficulty understanding how to use technology; and • Awareness of products. 	<ul style="list-style-type: none"> • Partnering with third parties; • Outreach programs; • In-store promotions; and takeCHARGE marketing efforts.

³ Newfoundland Power Inc. – 2021 Electrification, Conservation and Demand Management Application, Schedule F

1 Nova Scotia - 2020-2022 DSM Programs

Energy Efficiency Programs	Demand Response Activities/Programs	# of Programs	Marketing Barriers	Addressing Market Barriers
<p>Residential programs⁸</p> <ul style="list-style-type: none"> Efficient Product Rebates - Appliance retirement & Instant savings. Existing Residential – Affordable Multi-Family Housing and Non-Profit Organizations Project, Efficient product installation, First Nations Home Energy Efficiency, Green heat, and Home energy assessment New Residential - New home construction <p>BNI Programs (Business program, Non-profit program & Institutional programs)⁹</p> <ul style="list-style-type: none"> Custom Incentives – Custom, Energy Management Information Systems, and Strategic Energy Management. 	<p>Demand reduction activities – primary objective of reducing system coincident demand through the installation of passive measures (proactive). This differs from demand response activities which have the primary objective of reducing system coincident peak demand via utility signals to customers and/or associated equipment (reactive).¹⁰</p> <p>Residential – focuses on installing electrical thermal storage (ETS) units and electric domestic water heater timers in the Green Heat and Home Energy Assessment program components.¹¹</p> <p>BNI – includes rebates for a wide range of ETS units suitable to business customers in the Efficiency Product Rebates and Direct Installation programs and incentives for projects that focus exclusively on system, peak demand</p>	<p>Energy Efficiency Programs = 11</p> <p>Demand Response Programs = 0</p> <p>Demand Reduction Activities = included in energy efficiency programs</p>	<p>Residential Programs¹³</p> <ul style="list-style-type: none"> Affordability; Awareness; Short decision period; Lack of trust; Lack of information; Resources; and Competing interests. <p>BNI Programs¹⁴</p> <ul style="list-style-type: none"> Upfront costs; Project return; Lack of knowledge; Lack of internal capacity; Time and internal capacity constraints; 	<p>Residential Programs¹⁵</p> <ul style="list-style-type: none"> Enhancing customer’s quality of life through non-energy benefits with the rebate promoted as a secondary message; Increase awareness and drive customers to retail locations to realize benefits; Integrated marketing campaigns; Reach markets (i.e. contractor education and training, community outreach, etc.); <p>BNI Programs¹⁶</p> <ul style="list-style-type: none"> Enhancing relationships with

⁸ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, page 25 -table 6

⁹ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, page 28 -table 7

¹⁰ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, page 31, lines 1 to 6

¹¹ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, page 32, lines 11 to 13

¹³ EfficiencyOne 2020-2022 DSM Resource Plan Supply Agreement - Appendix A, Section 4: Market Barriers

¹⁴ EfficiencyOne 2020-2022 DSM Resource Plan Supply Agreement - Appendix A, Section 5: Market Barriers

¹⁵ EfficiencyOne 2020-2022 DSM Resource Plan Supply Agreement - Appendix A, Section 4: Marketing Considerations

¹⁶ EfficiencyOne 2020-2022 DSM Resource Plan Supply Agreement - Appendix A, Section 5: Marketing Considerations

Appendix E – Jurisdictional Scan of Demand Side Management Plans

Energy Efficiency Programs	Demand Response Activities/Programs	# of Programs	Marketing Barriers	Addressing Market Barriers
<ul style="list-style-type: none"> • Direct Installation – Small Business Energy Solutions • Efficient Product Rebates – Business Energy Rebates 	<p>savings in the Custom incentives program.¹²</p>		<ul style="list-style-type: none"> • Lack of internal commitment to energy management; • Lack of technical expertise; • Affordability; • Awareness; and Resources. 	<p>the distributor network;</p> <ul style="list-style-type: none"> • Reach markets (i.e. business development engagement, presentations to relevant industry associations, etc.); and • Segment, profile, and launch integrated marketing campaigns.

¹² Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, page 33, lines 3 to 6

1 **New Brunswick – DSM Plan 2018/19 – 2020/21**

Energy Efficiency Programs	Demand Response Activities/Programs	# of Programs	Marketing Barriers	Addressing Market Barriers
<p>Residential Initiatives:¹⁷</p> <ul style="list-style-type: none"> • Energy efficient product rebates • Residential home retrofit & direct install • Home energy report • Low income energy savings program • Residential new construction program <p>Commercial Initiatives:¹⁸</p> <ul style="list-style-type: none"> • Commercial building retrofit program • Small business lighting program • Commercial new construction program <p>Industrial Initiatives:¹⁹</p> <ul style="list-style-type: none"> • Small/Medium industrial program • Large industrial program 	<p>DR Programs²⁰</p> <ul style="list-style-type: none"> • Residential demand response • Commercial demand response • Industrial demand response 	<p>Energy Efficiency Programs = 10</p> <p>Demand Response Programs = 2</p>	<p>None specifically stated.</p> <p>By expanding its current portfolio of DSM programs to non-electric fuels, NB Power can quickly provide a robust, efficient gateway to energy efficiency for all New Brunswick households and businesses, thus reducing barriers to participation and providing greater value to customers.²¹</p>	

¹⁷ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 8
¹⁸ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 8
¹⁹ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 8
²⁰ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 8
²¹ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 11

1 **Maine – Triennial Plan for Fiscal Years 2020-2022**

Energy Efficiency Programs	Demand Response Activities/Programs	# of Programs	Marketing Barriers	Addressing Market Barriers	Energy Efficiency Programs	Demand Response Activities/Programs
Residential programs: ²² <ul style="list-style-type: none"> • Distributor Initiatives • Retail Initiatives • Home Energy Savings Program • Low-Income Initiatives Commercial programs: ²³ <ul style="list-style-type: none"> • Commercial and Industrial Custom Program • Commercial and Industrial Prescriptive Program • Small Business Initiative • Distributor Initiatives • Retail Initiatives • Industrial programs: ²⁴	None discussed within DSM plan.	Energy Efficiency Programs = 10 Demand Response Programs = 0	<ul style="list-style-type: none"> • Upfront costs and long payback periods²⁶ • Lack of in-hours capacity/expertise. • Unfamiliarity with new technology or processes. • Competing priorities. • Lack of information. • Paperwork • Diversity of choices. • No contractor relationships. • Split incentives; and • Small project size. 	<ul style="list-style-type: none"> • Incentives for up-front costs²⁷ • Marketing campaigns focusing on bottom line and savings • Free site assessments that details costs and benefits • Digital advertising • In-store information and signage • Online tools to help homeowners calculate estimated impact of 	<ul style="list-style-type: none"> • Hydro • Biomass • Natural gas • Oil • Coal 	<ul style="list-style-type: none"> • Program: Agricultural fair assistance program – establishes and administers an agricultural fair assistance program to help agricultural fairs reduce electricity costs through the most cost-effective opportunities available²⁸

²² Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, pages 5-1 to 5-48

²³ Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, pages 5-1 to 5-48

²⁴ Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, pages 5-1 to 5-48

²⁶ Efficiency Maine – Triennial Plan For Fiscal Years 2020 – 2022 – Section 5 Program Descriptions: Market Barriers

²⁷ Efficiency Maine – Triennial Plan For Fiscal Years 2020 – 2022 – Section 5 Program Descriptions: Program Design – Addressing Market Barriers

²⁸ Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, page 5-44

Appendix E – Jurisdictional Scan of Demand Side Management Plans

Energy Efficiency Programs	Demand Response Activities/Programs	# of Programs	Marketing Barriers	Addressing Market Barriers	Energy Efficiency Programs	Demand Response Activities/Programs
<ul style="list-style-type: none"> • Commercial and Industrial Custom Program • Commercial and Industrial Prescriptive Program • Small Business Initiative • Distributor Initiatives <p>Other programs:²⁵</p> <ul style="list-style-type: none"> • Renewables • Agricultural Fair Assistance Program • Electric Vehicle Initiatives 				<p>efficiency programs</p> <ul style="list-style-type: none"> • Outreach to landlords; and • Direct-install and direct-mail initiatives 		

²⁵ Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, pages 5-1 to 5-48

1 Vermont – Triennial Plan 2021-2023

Energy Efficiency Programs	Demand Response Activities/Programs	# of Programs		Market Barriers	Addressing Market Barriers
<p>Business Existing Facilities: ²⁹</p> <ul style="list-style-type: none"> • Includes commercial, industrial, institutional and municipal facilities <ul style="list-style-type: none"> ○ Electric and thermal energy and process fuels prescriptive rebates ○ Customized efficiency incentive and financing to purchase and install energy-saving equipment as well as technical support ○ Services are tailored for businesses of all sizes and market sectors <p>Business New Construction³⁰</p> <ul style="list-style-type: none"> • Working with customers and design teams to increase the number of net-zero, net-zero-ready, and grid-integrated efficient buildings in the state <ul style="list-style-type: none"> ○ Technical assistance throughout the design, construction, and post-construction phases. ○ Analysis of efficiency options. ○ Comprehensive services aimed at meeting different building performance levels, including net zero. ○ Financial incentives for efficient approaches, equipment, and building operation systems. 	<p>Energy Efficiency Programs = 17</p> <p>Demand Response Programs = 0</p>	<ul style="list-style-type: none"> • Financial barriers to investing in cost-effective efficiency for their buildings and equipment³³ 	<p>Financial³⁴</p> <ul style="list-style-type: none"> • Product and service price reductions • Financing for energy efficiency projects • Financing education and analysis 	<ul style="list-style-type: none"> • Hydro • Biomass • Wind • Solar 	<ul style="list-style-type: none"> • To promote the use of best practices and best-in-class CHP systems, Efficiency Vermont will continue to engage with customers on lost-opportunity, customer-initiated, or vendor-initiated projects where CHP and distributed renewable generation technologies are being considered. These

²⁹ Efficiency Vermont – Triennial Plan 2021-2023, page 13
³⁰ Efficiency Vermont – Triennial Plan 2021-2023, pages 14-15
³³ Efficiency Vermont – Triennial Plan 2021-2023, page 30-31
³⁴ Efficiency Vermont – Triennial Plan 2021-2023, page 30-31

Appendix E – Jurisdictional Scan of Demand Side Management Plans

Energy Efficiency Programs	Demand Response Activities/Programs	# of Programs		Market Barriers	Addressing Market Barriers
<ul style="list-style-type: none"> ○ Post-occupancy energy performance tracking and engagement with building owners to identify ongoing and future savings opportunities, including energy use management. ○ Training and information provision to a range of key parties involved in new construction projects. ○ Application of flexible load management strategies to increase building grid optimization <p>Largest Energy Users³¹</p> <ul style="list-style-type: none"> ● Energy savings account (ESA) ● Account management ● Return-on-investment engagement ● Continuous energy improvement ● Peak electricity use management ● Targeted equipment initiatives ● System optimization ● Peer-to-peer exchange <p>Small and Medium Sized-Businesses³²</p> <ul style="list-style-type: none"> ● Technical guidance and education ● On-site services ● Thermal efficiency services ● Phone consultations 					<p>customers are often agricultural³⁵</p> <ul style="list-style-type: none"> ● Business Energy Loan: Increasing opportunities for businesses, including agricultural operations, to finance efficiency projects by factoring energy savings into loan qualification calculations³⁶

³¹ Efficiency Vermont – Triennial Plan 2021-2023, pages 15-17

³² Efficiency Vermont – Triennial Plan 2021-2023, page 17

³⁵ Efficiency Vermont – Triennial Plan 2021-2023, page 19

³⁶ Efficiency Vermont – Triennial Plan 2021-2023, page 30

Appendix E – Jurisdictional Scan of Demand Side Management Plans

Energy Efficiency Programs	Demand Response Activities/Programs	# of Programs		Market Barriers	Addressing Market Barriers
<ul style="list-style-type: none"> • Seamless delivery across efficiency Vermont services • Third party financing 					

1 Massachusetts - Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan

Energy Efficiency Programs	Demand Response Activities/Programs	# of Programs	Marketing Barriers	Addressing Market Barriers
<p>Residential Programs³⁷</p> <ul style="list-style-type: none"> Residential new homes & renovations initiative Residential coordinated delivery initiative Residential retail initiative Residential Behavior initiative <p>Income Eligible Programs³⁸</p> <ul style="list-style-type: none"> Income Eligible Coordinated Delivery Initiative <p>C&I Programs (Commercial & Industrial)³⁹</p> <ul style="list-style-type: none"> Midstream pathway – POS approach with direct collaboration with distributors of high-efficiency lighting, HVAC, water heating and food service equipment Downstream (Prescriptive) pathway – employs a prescriptive equipment-based approach with direct work with customers to identify, 	<p>Curtailement⁴⁰</p> <ul style="list-style-type: none"> Winter demand response – customers curtail load during events and are paid out incentives accordingly Natural gas demand response - 	<p>Energy Efficiency Programs = 8</p> <p>Demand Response Programs = 2</p>	<p>Challenges⁴¹</p> <ul style="list-style-type: none"> Trust Gap Perceived relevance Customer Bandwidth and priorities Program complexity Sequencing energy efficiency improvements Customer finances Language support Renter participation options Recruiting landlords Workforce availability and diversity 	<p>Strategic Intervention⁴²</p> <ul style="list-style-type: none"> The PAs are committed to pursuing the more equitable distribution of their programs’ benefits to all customers, making equity one of the key strategic priorities efforts to increase equity and program participation of HTR customers over the next three years will be to strengthen and expand on partnerships with municipalities and CBOs, including educational institutions to address customer participation barriers together and achieve shared goals efforts to increase equity and program participation of HTR customers over the next three years will be to implement a statewide strategic workforce development plan. To help reach more customers and achieve increasing energy savings targets, the PAs want to ensure that their investments in workforce

³⁷ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, pages 52-55
³⁸ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 55
³⁹ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, pages 118-120
⁴⁰ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, pages 28-
⁴¹ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, pages 55-57
⁴² Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, pages 57-67

Appendix E – Jurisdictional Scan of Demand Side Management Plans

Energy Efficiency Programs	Demand Response Activities/Programs	# of Programs	Marketing Barriers	Addressing Market Barriers
<p>promote and incentivize investments in energy-efficient products and equipment</p> <ul style="list-style-type: none"> • Custom pathway – employs a project-based approach with work directly with customers to identify, promote, analyze and incentivize investments in customers and/or site specific investments in energy efficiency across all energy end uses and equipment and system types 			<ul style="list-style-type: none"> • Loss of claimable lighting • Cost-effectiveness • Lower commodity prices • More challenging weatherization opportunities 	<p>development are both growing and diversifying the workforce supporting energy efficiency programs</p>

1 **Appendix F - Jurisdiction Scan of Demand Side Management Plans Enabling Strategies**

2 Building on the existing jurisdiction scan, enabling strategies of other plans were summarized to support ePEI with strengthening their own
 3 strategies.

4 **Newfoundland and Labrador - Electrification, Conservation and Demand Management Plan: 2021 – 2025**

Enabling Strategies	Descriptions	Goals/Outcomes
Consumer education ¹	Focus on helping customers understand and manage their electricity use. Education delivered virtually due to COVID-19 until it is safe to resume in-person outreach. ²	Aid homeowners and businesses make informed decisions when considering EVs and other fuel switching opportunities. Online resources will outline the benefits and address the barriers to adopting these technologies. EVs will also become a focus of customer outreach activities, including trade shows and employee engagement. ³
Consumer training and support ⁴	Educate and assist consumers on electrical efficiency programs ⁵	To optimize achievable potential savings ⁶

¹ 2021 Electrification, Conservation and Demand Management Application, Schedule C pages 50

² 2021 Electrification, Conservation and Demand Management Application, page 21

³ 2021 Electrification, Conservation and Demand Management Application, page 21

⁴ 2021 Electrification, Conservation and Demand Management Application, Schedule C page 50

⁵ 2021 Electrification, Conservation and Demand Management Application, Schedule C page 50

⁶ 2021 Electrification, Conservation and Demand Management Application, Schedule C page 50

Enabling Strategies	Descriptions	Goals/Outcomes
Market research ⁷	The Utilities will undertake a number of research projects regarding electricity end-use trends and the state of the local market for efficient technologies. For example, efficiency standard changes and increased adoption of lighting, mini-split heat pumps (“MSHP”), and EVs are expected to occur in the coming years. ⁸	The research will help the Utilities understand the market dynamics of these changes and other emerging technologies ⁹
Program design and enhancements ¹⁰	The Utilities continuously review customer energy conservation programs to ensure they provide relevant energy conservation initiatives for customers and are responsive to evolving customer needs and expectations. Programs are evaluated on their energy savings, market impacts and delivery effectiveness. ¹¹	Programs are evaluated and results are used to make necessary adjustments such as energy savings claims and to refine program design and implementation ¹²
Marketing strategies ¹³	Educate, assist, inform and evaluate programs while presenting customer incentives to ensure energy efficiency throughout the province. Each strategy is different for each program and external services are used where required (i.e. a third-party program evaluation will be completed every three years). ¹⁴	To optimize achievable potential savings and address barriers to customer participation. ¹⁵

⁷ 2021 Electrification, Conservation and Demand Management Application, Schedule C pages 50
⁸ 2021 Electrification, Conservation and Demand Management Application, page 22
⁹ 2021 Electrification, Conservation and Demand Management Application, page 22
¹⁰ 2021 Electrification, Conservation and Demand Management Application, Schedule C pages 50
¹¹ 2021 Electrification, Conservation and Demand Management Application, Schedule A page 2 and 3
¹² 2021 Electrification, Conservation and Demand Management Application, Schedule A page 3
¹³ 2021 Electrification, Conservation and Demand Management Application, Schedule C pages 50
¹⁴ 2021 Electrification, Conservation and Demand Management Application, Schedule F
¹⁵ 2021 Electrification, Conservation and Demand Management Application, Schedule C pages 51 of 325

Appendix F – Jurisdiction Scan of Demand Side Management Plans Enabling Strategies

Enabling Strategies	Descriptions	Goals/Outcomes	
Midstream initiatives ¹⁶	Offer incentives to both contractors or suppliers, rather than customers. ¹⁷	To lower barriers to adoption with further investments of energy efficiencies. ¹⁸	
Direct install program ¹⁹		Installation for units associated with residential and small business programs. The customer receives the technology installed in their home or business at little to no cost. ²⁰	Addresses the specific challenges of the remote communities, such as the extremely high avoided costs of generation and subsidized rate for customers in these isolated systems. ²¹
Program evaluation ²²		Programs are evaluated and a report called “programs evaluation report” is issued. ²³ For instance, Newfoundland Power Inc. files annual progress reports on its demand side management activities, including conservation. ²⁴	Derives current program savings ²⁵

¹⁶ 2021 Electrification, Conservation and Demand Management Application, Schedule C pages 50

¹⁷ 2021 Electrification, Conservation and Demand Management Application, Schedule C pages 50, footnote 16

¹⁸ 2021 Electrification, Conservation and Demand Management Application, Schedule C pages 50

¹⁹ 2021 Electrification, Conservation and Demand Management Application, Schedule C pages 50

²⁰ 2021 Electrification, Conservation and Demand Management Application, Schedule K page 2 and Schedule F

²¹ 2021 Electrification, Conservation and Demand Management Application, Schedule C page 72

²² 2021 Electrification, Conservation and Demand Management Application, Schedule C pages 50

²³ 2021 Electrification, Conservation and Demand Management Application, Schedule C page 41

²⁴ 2020 Conservation and Demand Management Report, April 1, 2021, page 1

²⁵ 2021 Electrification, Conservation and Demand Management Application, Schedule C page 75

1 Nova Scotia - 2020-2022 DSM Programs

Enabling Strategies	Descriptions	Goals/Outcomes
Education and Outreach ²⁶	Communicate with consumers what energy efficiency is and how it positively affects their lives ²⁷	The objective of Education and Outreach activities is to increase program participation by effectively communicating what energy efficiency is and how it positively affects the lives of Nova Scotians ²⁸
Development and research ²⁹	Investments in R&D using an evidence-based approach to achieve cost effective energy and system-peak demand savings. Continuing to invest in R&D will ensure that programs evolve with changing technology and the market landscape. ³⁰	To evolve DSM programs and services through innovation and improving delivery of these services. ³¹
Efficiency Trade Network ³²	Recruitment of over 200 members since 2016 to engage trade allies to build industry capacity and meet savings targets. Connects businesses and homeowners with trusted professionals to allow Nova Scotia residents to complete their efficiency projects ³³	Effectively engage trade allies to build industry capacity in Nova Scotia and meet DSM savings targets ³⁴
Codes and Standard ³⁵	Promote and advance development of evidence-based changes to energy efficiency in collaboration with the provincial and federal government as well as stakeholders with participation in the Canadian Standards Association’s Steering Committee. ³⁶	To encourage and develop changes to energy efficiency codes and standards. ³⁷

²⁶ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, page 77
²⁷ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, pages 77-78
²⁸ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, pages 77-78
²⁹ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, page 77
³⁰ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, pages 80
³¹ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, pages 77
³² Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, page 77
³³ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, pages 82-84
³⁴ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, pages 82-84
³⁵ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, page 77
³⁶ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, page 84
³⁷ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, page 84

Appendix F – Jurisdiction Scan of Demand Side Management Plans Enabling Strategies

Enabling Strategies	Descriptions	Goals/Outcomes
Regulatory Affairs ³⁸	NSUARB processes, DSM Advisory Group initiatives and stakeholder consultation work, industry research and legal work related to regulatory initiatives. ³⁹	To facilitate efforts and pursue commitments arising from DSM Resource Plan regulatory processes. ⁴⁰

³⁸ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, page 77

³⁹ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, pages 84-85

⁴⁰ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, Appendix A, pages 84-85

1 **New Brunswick – DSM Plan 2018/19 – 2020/21**

Enabling Strategies	Descriptions	Goals/Outcomes
Planning ⁴¹	Assessing potential savings opportunities, developing the plan and design of associated programs and policy positions to the DSM Plan as well as supporting the regulatory process ⁴²	To provide detailed, measure- and program-level estimates in the short-term (e.g. 5 years) in order to inform the next DSM plan and program designs, as well as higher-level, total potential estimates over a 25 year period to aid in longer-term power and greenhouse gas emissions reduction planning. ⁴³
Evaluation, Measurement & Verification (EM&V) ⁴⁴	Evaluation, measurement, and verification of programs and their impacts. ⁴⁵	Bulk of financial resources will be directed towards impact and process evaluations, as well as to the market assessment of existing energy efficiency programs. To ensure transparency and independence in program evaluation, many evaluation activities will be conducted by third-party evaluators. ⁴⁶
Market Transformation ⁴⁷	Cross-cutting enabling activities that provide broad support to programs while enhancing market transformation ⁴⁸	To provide support to energy efficiency programs and activities through education and awareness, information and tips, partnerships and enabling tool and strategies. ⁴⁹

⁴¹ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 31

⁴² Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 32

⁴³ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 32

⁴⁴ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 31

⁴⁵ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 31

⁴⁶ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 32

⁴⁷ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 31

⁴⁸ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 33

⁴⁹ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 33

1 **Maine – Triennial Plan for Fiscal Years 2020-2022**

Enabling Strategies	Descriptions	Goals/Outcomes
Evaluation, Measurement and Verification ⁵⁰	Encompass systematic data collection and analysis related to programs within the plan by producing key data to inform the short and long-term program planning and delivery decisions ⁵¹	<ul style="list-style-type: none"> • To provide data-driven research, analysis, and reports to inform program design and delivery strategies, verify program results, and ensure ongoing program and organizational improvement. • To meet statutory requirements for independent evaluations. • To satisfy the ISO-NE market rules for the sale of capacity resources; and • To continuously improve the Trust’s capacity to accurately track the status of efficiency projects, measure energy savings, generate reports, and maintain confidential treatment of customer information in a timely manner ⁵²
Innovation ⁵³	Provides funding to conduct pilot projects that demonstrate new types of energy efficiency, conservation, or alternative energy measures, or new strategies for promoting such measures. The program focuses on measures that show significant potential to be cost-effective and to provide energy savings or GHG savings but are not yet well understood or established in the marketplace. ⁵⁴	<ul style="list-style-type: none"> • Conduct pilot projects testing new technologies or strategies to determine their potential for advancing the Trust’s purpose and goals. • Increase consumer awareness of cost-effective options for conserving energy or reducing GHG emissions; and • Create more favorable market conditions for the increased use of energy-efficient products and services. ⁵⁵

⁵⁰ Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, page 6-49

⁵¹ Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, page 6-49

⁵² Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, page 6-49

⁵³ Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, page 6-53

⁵⁴ Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, page 6-53

⁵⁵ Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, page 6-54

Enabling Strategies	Descriptions	Goals/Outcomes
Public Information & Outreach ⁵⁶	Reaches potential customers through tailored marketing and outreach campaigns across its various programs. Providing general energy information and education through its website, events, and other activities to help consumers considering the installation of energy conservation measures. ⁵⁷	<ul style="list-style-type: none"> • Increase consumer awareness of cost-effective options for conserving energy, using energy more efficiently, or using more alternative or renewable energy, as well as for financing related projects. • Create more favorable market conditions for the increased use of energy-efficient products and services, focused on educating potential customers about specific energy-efficient technology or energy-saving solution promoted through a specific program. • Provide general information about the benefits of energy conservation and distributed renewable or alternative energy. • Provide tools and resources to support decision making related to energy conservation, including best practices, usage tips, calculators, purchasing guides, and vendor locators; and • Promote access to technical training on best practices in marketing, installing, and maintaining energy upgrades to maximize energy savings, cost-effectiveness, and customer satisfaction.⁵⁸

⁵⁶ Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, page 6-55

⁵⁷ Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, pages 6-55 and 6-56

⁵⁸ Efficiency Maine – Triennial Plan for Fiscal Years 2020-2022, pages 6-56 and 6-58

1 Vermont – Triennial Plan 2021-2023

Enabling Strategies	Descriptions	Goals/Outcomes
Codes and standards support ⁵⁹	Provide a range of services, including key training and education for Vermonters involved in the design, construction, renovation, sale, and ownership of new and existing homes and commercial buildings ⁶⁰	To help Vermonters comply with, or surpass, State energy codes for new construction and renovation projects ⁶¹
Energy literacy project ⁶²	In collaboration with Vermont’s K–12 associations in every county of the state, nonprofit organizations, government agencies, and utility providers, Efficiency Vermont will continue to deliver the Energy Literacy Project through its implementation contractor ⁶³	Provide information about energy, its use, and the impact of energy consumption to students, educators, and staff of Vermont’s K–12 schools ⁶⁴
General public education ⁶⁵	Provide general information to the public in the form of print and electronic materials, content for Efficiency Vermont’s residential newsletter via email, participation in and sponsorship of mission-aligned events throughout the state, proactive efforts with media, and relationships with strategic partners whose missions align with the overall objectives of Efficiency Vermont. ⁶⁶	To increase customer awareness and understanding of the benefits of reducing energy use, and of the best technologies available to the public. ⁶⁷
Better buildings by design conference ⁶⁸	This two-day gathering is the region’s premier design and construction conference, serving as a key resource to approximately 1,000 construction and design professionals, as well as equipment installation and service contractors ⁶⁹	Inform the public on building durability, superior performance, energy efficiency, and value for both residential and business new construction and retrofit projects. ⁷⁰

⁵⁹ Efficiency Vermont 2021-2023 Triennial Plan, page 39

⁶⁰ Efficiency Vermont 2021-2023 Triennial Plan, page 39

⁶¹ Efficiency Vermont 2021-2023 Triennial Plan, page 39

⁶² Efficiency Vermont 2021-2023 Triennial Plan, pages 39-40

⁶³ Efficiency Vermont 2021-2023 Triennial Plan, pages 39-40

⁶⁴ Efficiency Vermont 2021-2023 Triennial Plan, pages 39-40

⁶⁵ Efficiency Vermont 2021-2023 Triennial Plan, page 40

⁶⁶ Efficiency Vermont 2021-2023 Triennial Plan, page 40

⁶⁷ Efficiency Vermont 2021-2023 Triennial Plan, page 40

⁶⁸ Efficiency Vermont 2021-2023 Triennial Plan, page 41

⁶⁹ Efficiency Vermont 2021-2023 Triennial Plan, page 41

⁷⁰ Efficiency Vermont 2021-2023 Triennial Plan, page 41

Appendix F – Jurisdiction Scan of Demand Side Management Plans Enabling Strategies

Enabling Strategies	Descriptions	Goals/Outcomes
Customer support ⁷¹	Responds to general questions and requests for information, training, and/or event staffing as required to meet or exceed the quantitative performance indicators for the Service, Quality, and Reliability Plan. ⁷²	Provide easy access to expert energy efficiency information and guidance through Efficiency Vermont’s multichannel Contact Center ⁷³
Building labeling and benchmarking ⁷⁴	<ul style="list-style-type: none"> • Coordination with partners and stakeholders to support statewide labeling and benchmarking activity • Outreach and education for real estate industry stakeholders including real estate professionals, appraisers, and home inspectors • Marketing and promotion of home energy labels • Support and training for creating home energy labels • Coordination with entities supporting IT systems and tools for labeling and benchmarking buildings • Work with labeling partners to evaluate labeling activities and impacts⁷⁵ 	Support activities that increase the visibility and valuation of energy efficiency improvements in the market, including the issuance of certificates, energy labeling, and benchmarking of commercial buildings. ⁷⁶

⁷¹ Efficiency Vermont 2021-2023 Triennial Plan, page 41

⁷² Efficiency Vermont 2021-2023 Triennial Plan, page 41

⁷³ Efficiency Vermont 2021-2023 Triennial Plan, page 41

⁷⁴ Efficiency Vermont 2021-2023 Triennial Plan, page 42

⁷⁵ Efficiency Vermont 2021-2023 Triennial Plan, page 42

⁷⁶ Efficiency Vermont 2021-2023 Triennial Plan, page 42

1 **Massachusetts - Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan**

Enabling Strategies	Descriptions	Goals/Outcomes
Train new and diverse candidates ⁷⁷	Including the Clean Energy Pathways Internship program, targeting multilingual 18- to 24-year-olds from backgrounds underrepresented in the energy efficiency workforce for extended internships in partnership with workforce CBOs and with vendors in high-growth industries. ⁷⁸	Provide training to educate candidates ⁷⁹
Grow and diversify the pool of business partner ⁸⁰	Putting goals and strategies in place to increase the number of certified Minority-owned Enterprises (MBEs), Women-owned enterprises (WBEs), and Veteran-owned businesses (VBEs) contracting and subcontracting in PA programs, as well as providing a path for firms working in the delivered fuels industry to transition into work on electrification in buildings. ⁸¹	Grow and diversify the pool of business partners ⁸²
Increase coordination with vocational, technical, and other public high schools ⁸³	To offer energy efficiency career education curriculum and pathways into internships and the workforce. ⁸⁴	To educate interns and employees on energy efficiency ⁸⁵

⁷⁷ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

⁷⁸ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

⁷⁹ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

⁸⁰ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

⁸¹ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

⁸² Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

⁸³ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

⁸⁴ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

⁸⁵ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

Appendix F – Jurisdiction Scan of Demand Side Management Plans Enabling Strategies

Enabling Strategies	Descriptions	Goals/Outcomes
Grow and upskill contractors, existing workers, and new entrants ⁸⁶	Establishing an online vendor network and more training and education to recruit new contracting companies to work in energy efficiency. In addition, the PAs will continue to upskill the workforce in new technologies such as Passive House certification, Building Operator Certification, automated controls, building codes and standards, and HVAC equipment. ⁸⁷	To recruit new companies to work in energy efficiency. ⁸⁸
Engage stakeholders to achieve more success through collaboration ⁸⁹	With state agencies, CBOs, and educational institutions that specialize in workforce development. ⁹⁰	To improve collaboration by engaging stakeholders for improved output of efficiency programs. ⁹¹

⁸⁶ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

⁸⁷ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

⁸⁸ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

⁸⁹ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

⁹⁰ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

⁹¹ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 22

1 Appendix G – Cost-effectiveness testing

2 Overview

3 The proposed Plan programs have been screened to test cost-effectiveness to provide transparency into
 4 Electricity Efficiency & Conservation (“EE&C”) programming. Generally, promoting and incentivizing
 5 electricity efficiency is more affordable than increasing electricity supply, transmission and distribution
 6 to customers. Cost-effectiveness testing is an analytical framework used to inform EE&C decision-
 7 making by providing insights into if the ratepayer benefits from the investment exceeding programs
 8 costs. For clarity, cost-effectiveness testing provides regulators with the assessment tools needed to
 9 ensure EE&C initiatives provide value for the investment being made by electricity ratepayers and the
 10 program administrator.

11 There are five common ways to complete cost-effectiveness testing, including:

- 12 • Total Resource Cost test (“TRC”);
- 13 • Ratepayer Impact Measure (“RIM”);
- 14 • Participant Cost Test (“PCT”);
- 15 • Societal Cost Test (“SCT”); and
- 16 • Program Administrator Cost test (“PAC”), also referred to as the Utility Cost Test (“UCT”).

17 Total Resource Cost Test (“TRC”)

18 The TRC evaluates programs from the perspective of the customer and the utility. It includes the costs
 19 and benefits experienced by the utility system, plus costs and benefits to program participants.¹ The
 20 following is the formula for the TRC test method:

$$21 \quad \text{TRC} = (\text{Avoided Costs} + \text{Customer Benefits}) / (\text{Net Tech. Costs} + \text{Gross Program Administer Non-Incentive} \\ 22 \quad \text{Costs})$$

23 While it is relatively straight-forward for the TRC to account for all costs, it is difficult to account for all
 24 benefits as this requires quantifying non-energy benefits (“NEB”) for participants and the electric utility.
 25 Some of these NEBs include increased comfort and health for building occupants, improved worker
 26 productivity, decreased maintenance, improved electricity system planning and reliability, the utility’s
 27 ability to match demand to available capacity, and increased productivity. Accounting for NEBs can be
 28 challenging because quantifying NEBs is location-specific. Not including NEBs in the equation leads to
 29 inaccurate results by counting all costs, but only a portion of the benefits. With all the TRCs calculated in
 30 this Application, the non-energy benefits have been assigned zero value which is consistent with the
 31 methodology applied in the current Plan.

¹ Newfoundland Power Inc. – 2021 Electrification, Conservation and Demand Management Application, Schedule I, Page 1 of 3

1 **Ratepayer Impact Measure (“RIM”)**

2 The RIM test evaluates programs to provide an indication of their impact on rates. This test includes all
3 costs and benefits included in the PAC, plus estimates of the utility lost revenues created by programs.²
4 The following is the formula for the RIM test method:

5
$$RIM = \text{Avoided Costs} / (\text{Total Gross Program Administer Costs} + \text{Bill savings})^3$$

6 The RIM test examines the impact of energy efficiency programs on utility rates. Unlike typical supply-
7 side investments, energy efficiency programs reduce energy sales. Reduced energy sales can lower
8 revenues and place upward pressure on retail rates as the remaining fixed costs are spread over fewer
9 kWh. The costs included in the RIM test are program overhead and incentive payments and the cost of
10 lost revenues due to reduced sales. The benefits included in the RIM test are the avoided costs of energy
11 saved through the efficiency measure.⁴

12 **Participant Cost Test (“PCT”)**

13 The PCT evaluates programs from the perspective of the participant. This test includes all impacts on
14 program participants, but no other impacts.⁵ The following is the formula for the PCT test method:

15
$$PCT = (\text{Program Incentives} + \text{Bill Savings}) / \text{Measure Costs}^6$$

16 The PCT examines the costs and benefits from the customer’s perspective of installing the energy
17 efficiency measure. Costs include the incremental costs of purchasing and installing the efficient
18 equipment, above the cost of standard equipment, that are borne by the customer. The benefits include
19 bill savings realized to the customer through reduced energy consumption and the incentives received
20 by the customer, including any applicable tax credits.⁷

21 **Societal Cost Test (“SCT”)**

22 The SCT evaluates programs from the perspective of society. This test includes the costs and benefits
23 experienced by society such as health benefits and Green House Gas (GHG) emission reductions.⁸ The
24 following is the formula for the SCT test method:

25
$$SCT = (\text{Avoided Costs} + \text{Customer Benefits} + \text{Societal Benefits}) / (\text{Net Tech. Costs} + \text{Gross Program}$$

26
$$\text{Administer Non-Incentive Costs})$$

27 While the SCT is balanced with consideration of both all costs and all benefits, it encounters
28 measurement challenges such as the TRC; accounting for societal benefits can be difficult to quantify.

² Newfoundland Power Inc. – 2021 Electrification, Conservation and Demand Management Application, Schedule I, Page 1 of 3

³ Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers – November 2008

⁴ Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers – November 2008, page 6-4

⁵ Newfoundland Power Inc. – 2021 Electrification, Conservation and Demand Management Application, Schedule I, Page 1 of 3

⁶ Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers – November 2008, page 6-1

⁷ Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers – November 2008

⁸ Newfoundland Power Inc. – 2021 Electrification, Conservation and Demand Management Application, Schedule I, Page 1 of 3

1 **Program Administrator Cost Test (“PAC”)**

2 The PAC test (also referred to as the Utility Cost Test, UCT) evaluates programs from the perspective of
 3 the utility. It includes the costs and benefits experienced by the utility system.⁹ The following is the
 4 formula for the PAC test method:

5
$$PAC = \text{Avoided Costs} / \text{Total Gross Program Administer Costs}$$

6 This cost effectiveness test is fully symmetrical, comparing only the program administrator’s costs to its
 7 benefits, with all the costs and benefits identified monetarily.

8 **Cost-effectiveness in other jurisdictions**

9 In considering the appropriateness of the cost-effectiveness testing methodology, ePEI conducted a
 10 review of cost-effectiveness testing in other jurisdictions. The table below provides a summary of the
 11 cost-effectiveness tests used as the primary assessment tool in these jurisdictions.

12 **1. Current primary cost-effectiveness test implemented in other jurisdictions¹⁰**

Jurisdiction	Primary cost-effective test				
	TRC	PAC	RIM	PCT	SCT
British Columbia	X ¹¹				
Ontario	X ¹²				
Nova Scotia	X ¹³				
Manitoba		X ¹⁴			
Quebec	X				
New Brunswick		X ¹⁵			
Newfoundland and Labrador	X ¹⁶				
Vermont					X ¹⁷
Massachusetts	X ¹⁸				
Prince Edward Island		X ¹⁹			
Total	5	3	0	0	1

13 **Current EE&C Plan cost-effectiveness testing approach**

14 In the current plan ePEI adopted a two-test philosophy, using the PAC test as the primary assessment
 15 tool and the TRC test as the secondary assessment tool for screening at both the portfolio and program
 16 levels. The approach was developed based on good utility practices in other jurisdictions, and Maritime
 17 Electric’s past practice as they are the largest electricity utility in PEI.

⁹ Newfoundland Power Inc. – 2021 Electrification, Conservation and Demand Management Application, Schedule I, Page 1 of 3

¹⁰ Newfoundland Power Inc. – 2021 Electrification, Conservation and Demand Management Application, Schedule I, Page 1 of 3

¹¹ FEI 2020 DSM Expenditures - Budget Transfer Application, page 2

¹² 2017 Union DSM Annual Report, page 21

¹³ EfficiencyOne 2020-2022 DSM Resource Plan, page 21

¹⁴Efficiency Manitoba 2020-2023 Efficiency Plan, Friesen Evidence PDF p.6, 40; Efficiency Plan p.513 of 591, PUB/MIPUG-1, page 16

¹⁵ NB Power DSM Plan 2018/19-2020/21, page 9

¹⁶ Newfoundland Power Inc. – 2021 Electrification, Conservation and Demand Management Application, page 13

¹⁷ Efficiency Vermont Technical Reference User Manual (TRM) Measure Savings Algorithms and Cost Assumptions, page 2

¹⁸ Massachusetts Joint State Wide Electric and Gas Three-Year Energy Efficiency Plan 2022-2024, page 185 and 187

¹⁹ Order of The Island Regulatory and Appeals Commission, Order UE19-03, page 20

1 When the current EE&C Plan was originally filed with the Commission, Maritime Electric noted the
2 following:

3 *efficiencyPEI is seeking approval to use the Program Administrator Cost (“PAC”) test as the*
4 *determinant of cost effectiveness. Maritime Electric’s approach differs from the methodology of*
5 *this request because the PAC test does not include all costs.²⁰*

6 Further, Maritime Electric provided rationale and analysis to the difference in their preferred cost-
7 effectiveness approach:

8 *The five cost effectiveness tests shown in the above table were developed in California in the*
9 *mid-1980s. Up until recently, the TRC and the Societal Cost (“SC”) tests were generally used to*
10 *determine cost effectiveness of potential energy efficiency and DSM initiatives. The shift in recent*
11 *years to the PAC test represents a lowering of the bar for what is deemed to be cost effective. In*
12 *terms of energy policy goals, such as the proposed 2% incremental annual energy saving as*
13 *recommended in the 2017 PEI Energy Strategy, the shift to the PAC test is a way of having more*
14 *energy efficiency deemed to be cost effective so as to be able to achieve the policy goal.²¹*

15 Maritime Electric also requested that cost-effectiveness testing be conducted at the measure level with
16 the following reasoning:

17 *efficiencyPEI is seeking approval to do cost effectiveness testing at the portfolio level for future*
18 *Plans. Maritime Electric’s approach differs from the methodology of this request in that cost*
19 *effectiveness testing is done at the individual measure level. In energy efficiency industry*
20 *terminology, a program is made up of a group of measures, and a portfolio is made up of a*
21 *group of programs. If testing is done at the portfolio level, with all the proposed measures*
22 *bundled together, then the likely outcome is there will be measures approved for*
23 *implementation that are not cost effective on their own.²²*

24 Maritime Electric concluded the TRC test to be the most appropriate assessment tool for efficiency
25 programming:

26 *Maritime Electric views the Total Resource Cost test, applied at the individual program level, as*
27 *the most appropriate basis upon which to assess the cost-benefit of any planned DSM or energy*
28 *efficiency programs. The Company considers the target spending level proposed in efficiencyPEI’s*
29 *three year plan to be appropriate and fully supports the focus on LED lighting as the most*
30 *effective means to achieve the program goals.²³*

²⁰ Maritime Electric Company, Limited UE41400 - Comments on efficiencyPEI’s initial three year DSM Plan as filed by the PEI Energy Corporation, page 1

²¹ Maritime Electric Company, Limited UE41400 - Comments on efficiencyPEI’s initial three year DSM Plan as filed by the PEI Energy Corporation, page 3

²² Maritime Electric Company, Limited UE41400 - Comments on efficiencyPEI’s initial three year DSM Plan as filed by the PEI Energy Corporation, page 4

²³ Maritime Electric Company, Limited UE41400 - Comments on efficiencyPEI’s initial three year DSM Plan as filed by the PEI Energy Corporation, page 6

1 In Commission Order UE19-03, the determined the PAC test was reasonable:

2 *Assuming the avoided costs are reasonable, Synapse concludes that the proposed EE&C Plan is*
3 *cost-effective at the portfolio level. All programs and cost-effective based on the Program*
4 *Administrator Cost Test (PAC), which PEIEC recommends as their primary cost-effectiveness*
5 *test.*²⁴

6 To conclude on their findings, the Commission ordered:

7 *PEIEC shall use the Program Administrator Cost test to determine the cost-effectiveness of the*
8 *EE&C Plan.*²⁵

9 *The Program Administrator Costs test shall be applied at the portfolio level.*²⁶

10 Over the term of the current Plan, ePEI has applied both the PAC and TRC testing methods at the
11 program and portfolio levels as stated in their 2019-2020 Annual Progress Report:

12 *As per the Order, to determine cost-effectiveness the Program Administrator Cost (PAC) and*
13 *Total Resource Cost (TRC) tests were used. When performing these tests, ratios greater than 1*
14 *indicate that program benefits outweigh costs. These tests were completed at the program and*
15 *portfolio level. In 2019/20, programs were determined to be very cost-effective. At the portfolio*
16 *level, the PAC result was 7.36 and the TRC was 3.69.*²⁷

17 In addition to the evidence noted above, cost-effectiveness test screening at the program or portfolio
18 level allows the inclusion of measures that might otherwise marginally fail on a stand-alone basis.
19 However, programs that don't meet the cost-effectiveness testing may provide strategic or long-term
20 benefits and pass when delivered in conjunction with other complementary measures.

21 A group of organizations and individuals have worked together (National Efficiency Screening Project –
22 NESP) to develop the Resource Evaluation Framework (RVF)²⁸ in order to improve the way that electricity
23 and natural gas energy efficiency resources are screened for cost-effectiveness. The RVF is a tool to
24 assess the consistency of a given cost-effectiveness approach against the following principles: public
25 interest, energy policy goals, symmetry (inclusion of both relevant costs and benefits), hard-to-quantify
26 benefits, and transparency. In the current circumstances for PEI energy efficiency, use of the PAC test
27 best satisfies these objectives.

28 **Concluded approach to cost-effectiveness testing**

29 With the above considerations, ePEI has decided to continue to assess the cost-effectiveness of the
30 proposed Plan using the PAC test, incorporating all applicable program administrator costs at the
31 portfolio level. ePEI continues to implement the TRC test as the secondary assessment tool at the
32 portfolio level, with both the PAC and TRC tests being applied at the program level.

²⁴ Order of The Island Regulatory and Appeals Commission, Order UE19-03, page 14

²⁵ Order of The Island Regulatory and Appeals Commission, Order UE19-03, page 20, line 10

²⁶ Order of The Island Regulatory and Appeals Commission, Order UE19-03, page 20, line 11

²⁷ efficiencyPEI Electricity Efficiency & Conservation Annual Progress Report: Activity for the period April 1, 2019 to March 31, 2020, page 4

²⁸ <https://nsuarb.novascotia.ca/Matter/06733-E-1-2016-2018-EECA-Supply-Agreement-Application-Evidence-and-Appendices>, Appendix I, DSM Screening in Nova Scotia - Toward a balanced Cost-Effectiveness Framework, page 26

1 **Appendix H – 2022/23-2024/25 EE&C Plan List of Reports**

2 The following reports were used in the development of the 2022-2025 EE&C Plan:

- 3 • 2018/2019-2019/2020 Electricity Efficiency and Conservation (EE&C) Program Evaluation
4 prepared by Econoler
- 5 • 2018/2019 and 2019/2020 Business Energy Rebates Program Evaluation prepared by
6 Econoler
- 7 • 2018/2019 and 2019/2020 Energy Efficient Equipment Rebates Program Evaluation
8 prepared by Econoler
- 9 • 2018/2019 and 2019/2020 Home Insulation Rebates Program Evaluation prepared by
10 Econoler
- 11 • 2018/2019 and 2019/2020 Instant Energy Savings Program Evaluation prepared by Econoler
- 12 • 2018/2019 and 2019/2020 New Home Construction Program Evaluation prepared by
13 Econoler
- 14 • 2018/2019 and 2019/2020 Winter Warming Program Evaluation prepared by Econoler
- 15 • ePEI Electricity Efficiency & Conservation Annual Progress Report
- 16 • ePEI – Evaluation Framework
- 17 • Prince Edward Island Energy Efficiency Potential Study: Comprehensive Assessment of
18 Energy Efficiency and Demand Response Opportunities 2021-2030 Volume I & II

1 Appendix I - 2022-2025 EE&C Plan Program Descriptions

2 Energy Efficient Equipment Rebates

3 Program description

4 The objective of the Energy Efficient Equipment Rebates program is to provide rebates for the
5 installation of qualified high-efficiency products such as lighting, controls and heat pumps. This
6 includes Northeast Energy Efficiency Partnerships Cold Climate Air-Source Heat Pump Specification
7 air source heat pumps, ENERGY STAR® certified heating equipment including geothermal heat
8 pumps, water saving devices, biomass heating devices and other energy savings products. The
9 program offers cash rebates, with additional rebates for lower income households. There is also
10 financing available through the Government of Prince Edward Island to assist with the up-front costs
11 of energy efficient equipment.

12 Eligible measures

13 Eligibility requirements for applicants include residents who have lived in their home for more than
14 six months. Residents who access the Canada Greener Homes Grant remain eligible for ePEI
15 equipment rebates. Contrary to the requirements for the Canada Greener Homes Grant, an energy
16 audit is not required to receive a residential energy efficient equipment rebates through ePEI.

17 Eligible measures involve equipment related energy efficient such as:

- 18 • mini split (ductless) air source heat pumps
- 19 • central (ducted or air-to-water) air source heat pumps
- 20 • ground source (geothermal) heat pumps
- 21 • electric thermal storage furnaces
- 22 • electric thermal storage space heaters
- 23 • electric thermal storage hot water heaters
- 24 • solar thermal hot water heaters
- 25 • Air-source heat pump (hybrid) hot water heaters
- 26 • heat/energy recovery ventilators
- 27 • biomass stoves

28 Winter Warming

29 Program description

30 The objective of the Winter Warming program to provide financial assistance for low-to-moderate-
31 income Islanders to make their homes more energy efficient in the winter. This encompasses free-
32 of-charge direct installations of weatherization as well as energy efficient products. The program
33 offers simple measures that can have a big impact on the amount of heat lost in residential homes,
34 which can result in savings from \$250 to \$650 per year.

1 Eligible measures

2 Eligibility requirements for applicants include residents of PEI with a total household income of
3 \$50,000 or less. Applicants must live in the residence and pay the total heating costs, whether they
4 own or rent the property. The property must be either the primary residence, or a year-round rental
5 property. Additionally, the resident must have not utilized this program in the last five years for this
6 property, and the applicant must comply to the efficiencyPEI Winter Warming Rebate terms and
7 conditions.

8 Eligible equipment and measures include weatherization products, energy efficient products, and a
9 voucher for a free heating system cleaning.

10 Eligible weatherization products may include:

- 11 • Caulking
- 12 • Spray foam
- 13 • Weather stripping (v-strip or foam strip)
- 14 • Electrical outlet gaskets
- 15 • Door sweeps and bumpers
- 16 • Attic hatch insulation
- 17 • Window insulation film
- 18 • Plug covers

19 Eligible energy efficient products include:

- 20 • Light-emitting diode (LED) lamps
- 21 • Low-flow showerheads (usually only one per home)
- 22 • Programmable thermostats (only one per home)
- 23 • Smart power bars (only one per home)

24 Home Insulation Rebates

25 Program description

26 The objective of the Home Insulation Rebates program is to offer rebates for the installation of
27 insulation, air sealing improvements as well as ENERGY STAR® windows and doors. This program
28 aims to upgrade the shell of a house, which protects it from the elements and can yield big savings
29 on heating costs, while making homes more comfortable and environmentally friendly.

30 The program offers rebates to customers, as well as financing through the Government of Prince
31 Edward Island to assist with the up-front costs of insulation upgrades.

32 Eligible measures

33 Eligibility requirements for applicants include Island home owners, with additional savings provided
34 to low income households of \$35,000 or less. An energy audit is required before commencing any
35 home insulation upgrades. A follow-up energy audit is conducted once the work is completed to
36 calculate the total rebate amount.

37 Eligible measures and equipment include:

- 38 • attic insulation

- 1 • above grade walls (with new interior/exterior finish)
- 2 • above grade walls (blown in insulation)
- 3 • exposed floors and headers
- 4 • below grade
- 5 • windows and doors
- 6 • air sealing

7 Instant Energy Savings

8 Program description

9 The objective of the Instant Energy Savings program is to provide instant rebates in-store on select
10 energy efficient products such as light bulbs, thermostats, and smart power bars. The program offers
11 seasonal rebates to customers, in addition to year-round rebates, which are applied at the cash
12 register with no application required.

13 Eligible measures

14 ePEI provides a list of retailers offering this program. The list is updated each season or as needed
15 and includes both seasonal campaigns and year-round rebates.

16 For seasonal campaigns, eligible measures and equipment can vary from campaign to campaign or as
17 new products are launched, but generally include:

- 18 • ENERGY STAR LED lighting and fixtures
- 19 • lighting controls
- 20 • power controls (heavy duty timers, power bars with timer and smart power bars)
- 21 • programmable thermostats
- 22 • clothesline kits and drying racks
- 23 • water measures (Water Sense certified shower heads and select faucet aerators)
- 24 • Weather stripping

25 For year round instant energy savings, measure and equipment generally include:

- 26 • energy efficient appliances
- 27 • ENERGY STAR smart thermostats
- 28 • ENERGY STAR dehumidifiers
- 29 • Water Sense certified toilets

30 New Home Construction

31 Program description

32 The objective of the New Home Construction program is to make Islanders building a new home as
33 energy efficient as possible. This program will help Islanders build new homes that cost less to
34 operate and are more comfortable while reducing the environmental impact through a
35 comprehensive plan evaluation.

1 The program subsidizes the cost of the comprehensive plan evaluation prior to construction
2 beginning and subsidizes the follow up assessment conducted within 12 months after the new home
3 is built. The follow-up assessment provides new home owners with an EnerGuide rating that assists
4 ePEI in determining the final subsidy amount.

5 **Eligible measures**

6 Eligibility requirements for applicants begin with contacting ePEI to have an energy partner conduct
7 a comprehensive plan evaluation. Once completed, the plans evaluation must be submitted before
8 or within 30 days of receiving the building permit. Alternatively, if the building permit is over 30 days
9 but construction hasn't begun, ePEI will work with the applicant to determine program eligibility.
10 The applicant must have their plans evaluated before the footings are poured. Further, ENERGY
11 STAR® certified homes must meet certain thresholds for airtightness in order to be eligible for
12 rebates.

13 Each plan is compared to a modelled base house to determine standards. If a resident's home does
14 not meet the minimum tier (40%), ePEI will assist the homeowner in order to get them to the
15 required rating.

16 The New Home Construction tiers better than the modelled base house and rebates associated are:

- 17 1. 40%: \$2,000
- 18 2. 55%: \$4,000
- 19 3. 70%: \$6,000
- 20 4. 80%: \$8,000
- 21 5. Certified passive house, net zero, or net zero ready: an additional \$1,000

22 Rebates are subject to the efficiency performance of the home once the final energy audit is
23 complete. Base (or plug) loads are not included in the energy assessment calculation. Base load
24 refers to the portion of electricity consumption that is relatively consistent among households
25 regardless of the home size (e.g. electricity consumption related to large household appliances such
26 as refrigerators, stoves, dishwashers, washing machines, clothes dryers, etc.). Including base loads
27 penalizes clients who build small homes as it is more challenging for them to achieve a high
28 percentage of energy savings compared to larger homes because the majority of small home energy
29 usage is base load, which cannot be changed. Excluding base loads, however, puts the emphasis on
30 discretionary electricity consumption and thus encourages, rather than penalizes, small home
31 construction. Incentive tiers are set to higher targets because of these factors.

32 **Home Comfort**

33 **Program description**

34 The Home Comfort program provides insulation upgrades to low income residents. The objective of
35 the Home Comfort program is to provide low income residents with envelop upgrades that meet
36 ePEI's efficiency standards and provides residents with high quality and long-lasting insulation.

37 This program is covered by ePEI, meaning there is no cost to participants.

38 **Eligible measures**

39 Eligibility requirements for applicants include low-income residents.

40 Eligible measures and equipment include:

- 1 • attic insulation
- 2 • above grade walls (with new interior/exterior finish)
- 3 • above grade walls (blown in insulation)
- 4 • exposed floors and headers
- 5 • below grade

6 Business Energy Rebates

7 Program description

8 The objective of the Business Energy Rebates program is to support businesses, non-profits,
9 institutional organizations, and agricultural facilities in choosing high-efficiency product purchases
10 through rebates. For rebates that equate to more than \$5,000, pre-approval with ePEI is required
11 prior to the purchase and installation of equipment. Depending on the products, additional rebates
12 may be available for larger upgrades through Community Energy Solutions.

13 Eligible measures

14 Eligibility requirements for applicants include buildings owned and operated by businesses,
15 institutions, municipalities or non-profits.

16 New construction is not eligible for this program, the building must have been occupied for at least
17 six months.

18 Eligible measures and equipment include a variety of energy efficient products such as various
19 lighting fixtures, lighting controls, heat pumps, door frame heater controls and electronically
20 communicated motors (ECM) for retail coolers.

21 Community Energy Solutions

22 Program description

23 The objective of the Community Energy Solutions program is to help communities become more
24 sustainable. This is achieved through energy efficiency advice and rebates, which enables
25 organizations to be efficiency leaders within the community. This program can cover up to 50% of
26 the total energy efficiency upgrade cost, up to a maximum of \$25,000. The rebate amount awarded
27 is equal to the lower of: 1 times annual savings, 50% cost of the project, or \$25,000. Further,
28 businesses that use more than 350,000 kWh per year are eligible for up to \$100,000 in subsidies.

29 Eligible measures

30 Eligibility requirements for applicants involve the completion of an energy audit for buildings that
31 are owned and operated by businesses, institutions, municipalities or non-profits, and have signed
32 the agreement with efficiencyPEI. Upon completion of the audit, recommendations will be provided
33 along with estimated savings and the cost of upgrades to reduce energy consumption. The cost of
34 the audit is covered by the Community Energy Solutions program. All projects must be approved
35 prior to purchase or installation.

36 Eligible measures and equipment typically include upgrades to heating systems, optimizing
37 ventilation, thermostats, controls and improving processes. In addition to upgrades, companies who
38 use more than 350,000 kWh per year, or who have a portfolio of buildings, may be eligible to receive
39 the services of onsite energy managers (OEM). OEMs work with the client from the beginning: when
40 the energy audit is conducted to when the upgrades are complete. They provide energy

- 1 management consulting throughout this process, which on average takes about a year, by informing
- 2 clients on impacts of their energy and electricity upgrades, track energy usage and savings, and steps
- 3 clients can take to reduce demand charges.

Appendix J - Demand response programs jurisdictional scan

The Prince Edward Island Energy Efficiency Potential Study (the “Potential Study”) prepared by Dunsky Energy Consulting (“Dunsky”) for efficiencyPEI (“ePEI”) revealed that Prince Edward Island’s (“PEI”) demand response (“DR”) potential is in-line with other winter peaking jurisdictions such as Newfoundland & Labrador, Nova Scotia, and New Brunswick. As such, many programs successfully implemented by these jurisdictions can be considered valid options for PEI. These include DR programs such as residential thermal energy storage and electric storage water heaters, smart thermostats, and load reducing measures such as curtailment.

Newfoundland and Labrador

Residential

Through its 2021-2025 Electrification, Conservation, and Demand Management Plan, the province of Newfoundland and Labrador has implemented various energy efficiency programs for residents. This includes the Thermostat program which is implemented by the province to encourage installation of programmable and high-performance electronic thermostats through rebates, financing and customer education.¹ Promotional and marketing campaigns for this program are found throughout the province of Newfoundland in a variety of retail locations as well as through partnerships with electrical contractors, homebuilders and real estate professionals. The goal of the program is to educate residents on energy savings through the use of programmable thermostats.² This program implemented by the province of Newfoundland and Labrador is also in line with recommendations found in the Potential Study for load reducing measures.

Additionally, since 2014, the province has implemented an Instant Rebates Program. The program offers at-the-cash rebates on a variety of low-cost energy efficient products including LED lighting, weather stripping, dehumidifiers, dimmer switches, showerheads, and smart power strips.³ The goal of this program is to incentivize customers to decrease their overall energy usage. Eligible products include but are not limited to dimmer switches, ENERGY STAR light fixtures, ceiling fans with lights and LED lightbulbs, smart plugs, motion sensors, and window insulation film.⁴

Other residential DR programs implemented by the province include The Heat Recovery Ventilators (“HRV”) program which provides residents with rebates for the installation of HRVs. HRVs provide ventilation while minimizing heat loss by moving airborne heat energy to reduce the workload of heating systems.⁵ The Low-Income Kit Program is another residential program that provides access to energy efficient products by providing low-income residents with kits that include LED lightbulbs, high performance shower heads, faucet aerators and other items depending on program partners.⁶ As well, in 2016 the province began implementing the Benchmarking program which randomly selects residents across Newfoundland Power’s service district for benchmarking and analyzing the energy consumption and compares it to similar homes, similar to the Potential Study’s

¹ 2021 Electrification, Conservation and Demand Management Application, Schedule F, page 12

² 2021 Electrification, Conservation and Demand Management Application, Schedule F, page 12

³ 2021 Electrification, Conservation and Demand Management Application, Schedule C, page 262

⁴ 2021 Electrification, Conservation and Demand Management Application, Schedule F, page 14

⁵ 2021 Electrification, Conservation and Demand Management Application, Schedule F, page 17

⁶ 2021 Electrification, Conservation and Demand Management Application, Schedule F, page 21

1 recommendation of the Home Energy Reports enabling strategy. Results are available to the
2 residents as well as insights on how to reduce consumption.

3 **Commercial and industrial**

4 There are also a variety of commercial and industrial programs implemented in Newfoundland &
5 Labrador. One of the most notable programs currently implemented is the Business Efficiency
6 Program. This program is designed to increase the energy efficiency of commercial customers and
7 reduce peak demand. The program has three components; 1) prescriptive rebates that provide
8 money back to customers when they purchase and install eligible products such as LED lighting and
9 occupancy sensors, 2) Custom energy rebates in which takeCHARGE consulting develops a custom
10 energy saving plan with the customer as well as incentives for implementing the plan, 3) Custom
11 demand rebates that provides rebates to customers based on peak demand reduction the customer
12 achieves after completing the project. This project is aimed to help customers implement DR
13 mechanisms.⁷

14 In addition to the Business Efficiency Program, the province has also proposed a Custom
15 Electrification Program to incentivize commercial customers to replace fossil-fueled technologies
16 with more efficient electric technologies. The program aims to focus on demand management
17 system peaks as more commercial customers electrify their processes.⁸

18 With regards to industrial customers, Newfoundland & Labrador has implemented an industrial
19 Energy Efficiency Program. This program is designed to improve electrical energy efficiency in
20 industrial processes. Financial incentives on energy savings and other supports are provided to aid in
21 energy efficiency and conservation projects. This project is unique for industrial customers as it is
22 tailored for their unique needs as opposed to a more prescriptive approach.⁹

23 The province also has two DR programs in place; the Industrial Curtailment Program and the
24 Commercial Curtailment Program. Currently, the Commercial Curtailment Program implemented by
25 Newfoundland Power has 11MW of potentially currently enrolled. This program is made up primarily
26 of back-up generators. There is significant potential as a recent survey has revealed that 10% of
27 commercial customers likely have backup generators which could be used to supply approximately
28 47% of their building load, increasing the potential savings to 15MW.¹⁰ The Industrial Curtailment
29 Program provides a similar curtailment method for industrial customers. Based on the 2021
30 Electrification, Conservation and Demand Management Application prepared for the province by
31 Dunsky, maintaining a focus on industrial and commercial curtailment is the best option for
32 optimizing the provinces potential for DR.¹¹ The province has also assessed various Residential
33 Demand Response Measures in the Newfoundland and Labrador Conservation Potential Study
34 (2020-2024). The study explored over 25 specific demand reducing measures based on trends across
35 North America.¹² For residential customers, resistance storage water heaters passed the
36 assessment.¹³

⁷ 2021 Electrification, Conservation and Demand Management Application, Schedule F, page 23

⁸ 2021 Electrification, Conservation and Demand Management Application, page 17

⁹ 2021 Electrification, Conservation and Demand Management Application, Schedule F, page 33

¹⁰ 2021 Electrification, Conservation and Demand Management Application, Schedule C, page 102

¹¹ 2021 Electrification, Conservation and Demand Management Application, Schedule C, page 81

¹² 2021 Electrification, Conservation and Demand Management Application, Schedule C, page 258

¹³ 2021 Electrification, Conservation and Demand Management Application, Schedule C, page 259

1 Nova Scotia

2 Residential

3 The province of Nova Scotia details its energy efficiency and demand response programs in the
4 EfficiencyOne 2020-2022 DSM Resource Planning Filing. In the residential sector, the majority of
5 demand reduction initiatives focus on installing electric thermal storage units and electric storage
6 domestic water heater timers.¹⁴ These were primarily chosen for the residential sector based on
7 three main considerations. Most notably, space and water heating are the two largest electricity
8 end-uses and are active loads during system peaks. As such, employing these initiatives allows for
9 large peak demand savings on a per home basis. Additionally, these measures also have the ability to
10 capture existing storage capabilities in homes or add storage capabilities to the homes. Ultimately, it
11 was found that these are demand reduction technologies that enable significant energy storage
12 while having limited customer inconvenience.¹⁵ Some of Nova Scotia's most notable residential
13 programs include the efficient product rebates, and efficient product installation for existing and
14 new residential structures. Similar to that imposed by Newfoundland & Labrador, the residential
15 efficient product rebates program provides financial incentives for energy efficient consumer
16 products. The program offers rebates through old appliance retirement and instant savings in
17 store.¹⁶ The existing residential programs provides residents with financial and technical assistance
18 to identify and implement system-peak demand reduction upgrades, including ETS units and electric
19 storage hot water heater timers. These programs are focused on efficient product installation, home
20 energy assessments, and green heat. These programs also have an affordable multi-family housing
21 and non-profit organizations component, which aims to improve energy efficiency through reduced
22 utility bills for low-income renters and non-profits. Additionally, these programs provide First
23 Nations home energy efficiency through free energy assessments, as well as a final energy
24 assessment once identified upgrades are completed.¹⁷ Similarly, the new residential programs
25 provide financial and technical expertise for the installation of energy efficient upgrades during the
26 construction phase of new home developments.¹⁸

27 Commercial and industrial

28 Nova Scotia also has various programs for non-residential customers, referred to as BNI Programs
29 (Business, Non-profit, and Institutional programs). Included in these programs is the Custom
30 Incentives program. This program provides financial incentives and technical assistance to BNI
31 customers to help reduce electrical energy consumption and system-peak demand. This is a broad
32 program that accommodates customers with a wide range of projects. The three main components
33 of the program include custom projects, Energy Management Information Systems projects, and
34 Strategic Energy Management projects.¹⁹ Additionally, the Direct Installation Program is another BNI
35 program. This program is targeted towards small businesses and provides these customers with
36 assistance and incentives for installing energy efficient equipment and system-peak demand
37 reduction equipment. The program participants can avail of this program in both a self-directed or
38 facilitated manner depending on their proposed efficiency opportunities.²⁰ Supports available in this

¹⁴ 2021 Electrification, Conservation and Demand Management Application, Schedule C, page 259

¹⁵ 2021 Electrification, Conservation and Demand Management Application, Schedule C, page 259

¹⁶ EfficiencyOne 2020-2022 DSM Resource Plan Supply Agreement – Evidence, page 32

¹⁷ EfficiencyOne 2020-2022 DSM Resource Plan Supply Agreement - Appendix A, page 31

¹⁸ EfficiencyOne 2020-2022 DSM Resource Plan Supply Agreement - Appendix A, page 46

¹⁹ EfficiencyOne 2020-2022 DSM Resource Plan Supply Agreement - Appendix A, page 60

²⁰ EfficiencyOne 2020-2022 DSM Resource Plan Supply Agreement - Appendix A, page 68

1 program include energy audits, customized measure incentives for energy efficient upgrades, and
2 rebates through the self-serve path for energy-efficient upgrades for lighting and heating, ventilation
3 and air conditioning, and system-peak demand reduction upgrades through ETS units.²¹ Similar to
4 the program provided for residents, there is also an Efficient Products Rebate Program offered to
5 BNI customers. This program aims to target demand reduction by encouraging BNI customers to use
6 high efficiency equipment and products. Rebates are provided for some products in store, while
7 other rebates are available through a pre-approval and mail-in process.²²

8 It is important to note that while the province of Nova Scotia implements various demand reduction
9 programs, we have not been able to identify any demand response activities that are reactive
10 approaches to reduce system coincident peak demand via utility signals to customer and associated
11 equipment.²³ However, it is important to note that demand reduction initiatives are continuing to be
12 introduced in the province through the Direct Installation program as identified above.

13 New Brunswick

14 Residential

15 The Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response
16 Initiatives identifies various programs implemented in the province for residential customers. New
17 Brunswick Power includes initiatives to promote renewable fuel heating systems and energy storage,
18 while also offering a renewable portion to new construction programs.²⁴

19 The Energy Efficient Product Rebate program is similar to those implemented in other provinces and
20 provides point-of-sale discounts for various energy efficient residential products.²⁵ In addition, the
21 Residential Home Retrofit and Direct Install program provides financial support to homeowners to
22 evaluate, plan, and execute energy efficient retrofit projects.²⁶ The Home Energy Report is another
23 Program in place. This program provides a select group of customers with energy consumption
24 reports to help inform them of their consumption habits and encourage energy-conserving
25 behaviors.²⁷ This program is comparable to the Benchmarking Program implemented in
26 Newfoundland and Labrador. The Low Income Energy Savings Program is another program that
27 operates in partnership with the provincial government to offer fully-funded retrofits for low-income
28 homeowners.²⁸ Similar to the New Residential program implemented in Nova Scotia, the Residential
29 New Construction program is designed to encourage new home builders to construct energy
30 efficient homes.²⁹

31 Commercial and industrial

32 Commercial initiatives in New Brunswick include the Commercial Building Retrofit Program. This
33 program provides funding up to \$3,300 for an audit to identify potential energy efficient upgrades as
34 well as up to \$75,000 towards implementing the identified upgrades and measures. Another
35 important feature of this program includes the auditor's ability to identify customers with potential

²¹ EfficiencyOne 2020-2022 DSM Resource Plan Supply Agreement - Appendix A, page 72

²² EfficiencyOne 2020-2022 DSM Resource Plan Supply Agreement - Appendix A, page 54

²³ Application of EfficiencyOne as Holder of the Efficiency Nova Scotia Franchise, page 31, lines 1 to 6

²⁴ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, page 12

²⁵ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, pages 18

²⁶ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, pages 19

²⁷ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, pages 21

²⁸ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, pages 22

²⁹ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, pages 20

1 for demand reductions or demand response programs.³⁰ The Small Business Lighting Program is
2 another commercial program implemented by the province. This program aims to help small
3 business owners reduce electricity consumption through the implementation of low-cost energy
4 efficient lighting retrofit projects.³¹ Additionally, the Commercial New Construction Program is
5 similar to the Residential New Construction Program, however it aims to assist the owners, designers
6 and contractors in the construction of sustainable, high efficiency commercial buildings. Under this
7 program, building owners who exceed the energy efficiency standards of the National Energy Code
8 of Canada for Buildings are able to receive design assistance and financial incentives for their
9 initiatives.³²

10 It is important to note that with regards to industrial incentives, the province currently has both a
11 Small/Medium Industrial program, and a Large Industrial Program. The goal of these programs is to
12 encourage the overall energy efficiency and environmental consciousness for industrial customers.³³
13 The Small/Medium program is offered to industrial customers with a rate schedule lower than
14 750kW of contracted demand, while those who exceed 750 kW are offered the Large Industrial
15 Program. Both programs advocate training and awareness of energy efficiency and offer a tailored
16 approach for measuring and tracking energy saving strategies.³⁴

17 Additionally, the province of New Brunswick has been developing individual demand response
18 programs for residential, commercial, and industrial customers. NB Power implemented a series of
19 pilot projects for demand response technology for residential use between 2015 to 2017. As detailed
20 in the Énergie NB Power – DSM Plan for 2018-2021, the utility will continue to develop a Residential
21 Demand Response program that aims to monitor new control technologies and controllable devices
22 that could potentially be implemented. The program also aims to test multiple load strategies to
23 identify the benefits of shifting winter peak, daily economics, optimization, and ancillary services.³⁵
24 Similar to the findings of the Potential Study, this demand response program boasts significant
25 potential. As detailed in the Énergie NB Power – DSM Plan for 2018-2021, annual cumulative peak
26 winter savings have reached as high as 15.0 MW in fiscal 2020-2021. Similar to the residential
27 program, the Commercial and Industrial demand response programs have been developed in
28 response of successful pilot projects completed from 2015 to 2017. These programs will also test
29 multiple loads of curtailing winter peak demand.³⁶

³⁰ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, pages 25

³¹ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, pages 27

³² Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, pages 26

³³ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, pages 28

³⁴ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, pages 29

³⁵ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, pages 23

³⁶ Énergie NB Power – DSM Plan 2018/19 – 2020/21 Energy Efficiency and Demand Response Initiatives, pages 30