April 1, 2021

Board of Commissioners
of Public Utilities
P.O. Box 21040
120 Torbay Road
St. John's, NL A1A 5B2

Attention: G. Cheryl Blundon
Director of Corporate Services
and Board Secretary

Ladies & Gentlemen:

In accordance with the Board's February 12, 2021 notice regarding the activation of its Business Continuity Plan to address the COVID-19 pandemic, Newfoundland Power is providing its *2020 Conservation and Demand Management Report* in electronic format only.

In Order No. P.U. 7 (1996-97), the Board ordered, in effect, that Newfoundland Power file annual progress reports on its demand side management activities, including conservation. This report is filed in compliance with Order No. P.U. 7 (1996-97).

If you have any questions, please do not hesitate to call me at the number listed below.

Yours very truly,

Dominic Foley
Legal Counsel

Enclosures

ec. Shirley Walsh
Newfoundland and Labrador Hydro

Dennis Browne, QC
Browne Fitzgerald Morgan & Avis

Newfoundland Power Inc.
55 Kenmount Road • P.O. Box 8910 • St. John's, NL A1B 3P6
PHONE (709) 693-3206 • FAX (709) 737-2974 • **dfoley@newfoundlandpower.com**

2020 Conservation and Demand Management Report

April 1, 2021

Table of Contents

1.0 Introduction

In Order No. P.U. 7 (1996-97), the Newfoundland and Labrador Board of Commissioners of Public Utilities (the "Board") ordered, in effect, that Newfoundland Power Inc. ("Newfoundland Power" or the "Company") file annual progress reports on its demand side management activities, including conservation.

The report provides an update on the Company's ongoing conservation and demand management ("CDM") activities, and addresses the process for review of those activities.

Newfoundland Power and Newfoundland and Labrador Hydro ("Hydro") offer a variety of information and financial supports to customers to help them manage their energy usage. Since 2009, the Company and Hydro (the "Utilities") have offered customer energy conservation programs on a joint and coordinated basis under the takeCHARGE brand.

In 2015, the Utilities finalized the joint *Five-Year Conservation Plan: 2016-2020* (the "2016 Plan"), which built on the Utilities' experience and continued to reflect the principles underlying previous joint conservation plans.

In 2020, the Utilities continued to implement the 2016 Plan while adjusting to COVID-19 related restrictions. Activities completed in 2020 included: (i) continuing delivery of the Instant Rebates Program; (ii) continuing delivery of the Home Energy Report Program; (iii) expanding product rebate categories for the Business Efficiency Program ("BEP"); and (iv) establishing new resources to make energy efficiency education more accessible.

The Utilities also filed the *Electrification, Conservation and Demand Management Plan: 2021-2025* ("the 2021 Plan") with the Board in 2020.[1] The 2021 Plan, which will be delivered jointly with Hydro, focuses on electrification, conservation and demand management activities for the next five years, and features capital investment, program expansion and continued education efforts.

While joint utility conservation initiatives under the takeCHARGE brand are available throughout the province, this report focuses on Newfoundland Power's programs and activities.

2.0 CDM Programs

Newfoundland Power's CDM program portfolio provides residential and commercial customers with incentives that result in quantifiable energy and demand savings. In 2020, the Company's customer energy conservation programs achieved 37.2 GWh in energy savings.

Appendix A provides a detailed description of the individual residential and commercial takeCHARGE programs.

[1] The 2021 Plan was filed with the Board on December 16, 2020.

2.1 Conservation Programs

Programs Offered

In 2020, Newfoundland Power offered five residential customer energy conservation programs. The residential customer energy conservation programs promote: (i) insulation; (ii) high performance thermostats; (iii) heat recovery ventilators ("HRVs"); (iv) various small technologies; and (v) low-cost behavioural changes through the Benchmarking Program.[2] While these programs focus on reducing electrical energy consumption, they also provide reductions in peak demand.

The Company continues to offer the BEP for commercial customers. There are three components of the BEP: (i) prescriptive rebates; (ii) custom energy rebates; and (iii) custom demand rebates. Prescriptive rebates provide money back when customers purchase and install eligible products. This component operates similarly to some of the residential takeCHARGE programs. Custom energy rebates involve takeCHARGE consulting with the customer on an energy saving project that is customized to individual customer circumstances. Incentives are provided on an individualized basis for projects that are cost-effective from both the customer and utility perspectives. Rebates are paid on the energy savings the customer achieves in the first year of the project. The custom demand rebate operates similarly to the custom energy rebate component, except the rebate is determined based on the peak demand reduction the customer achieves after completing the project.

[2] Also referred to as the Home Energy Report program, Benchmarking involves using social norms to encourage friendly competition to reduce electricity consumption by comparing customers' energy usage with homes having similar attributes.

Program Results

Table 1 shows customer participation in the takeCHARGE programs for 2020, as well as the estimated energy and peak demand savings achieved by new participants.[3]

Table 1
takeCHARGE Program Participation and Savings
(2020)

	Customer Participation	Estimated Annual Energy Savings (MWh)	Estimated Peak Demand Savings (kW)
Residential Programs			
Insulation Rebate Program	1,801	5,088	2,177
Thermostat Rebate Program	2,188	2,154	62
HRV Rebate Program	398	190	62
Instant Rebates Program	N/A[4]	7,629	1,392
Benchmarking Program	79,150	15,850	1,886
Commercial Programs			
Business Efficiency Program	305	6,263	1,909
Total All Programs	**83,842**	**37,174**	**7,488**

The Benchmarking Program resulted in the highest contribution to energy savings in 2020, representing approximately 43% of total energy savings.[5]

Appendix A provides the details of customer participation, and energy and demand savings results for each of the takeCHARGE programs for 2020 and over the life of the programs.

2.2 Demand Management

Newfoundland Power's continued focus on demand management is reflected in the Curtailable Service Option (the "CSO") and the custom demand rebates offered as part of the BEP.

[3] Unless otherwise noted, estimated savings indicated in this report are provided on an annualized basis. Actual savings during the year of participation will be less, since this depends on the actual timing of installation. Due to the nature of customer behavioural changes, benchmarking savings are assumed for one year only.

[4] The Instant Rebates Program resulted in 254,885 units purchased in 2020; however, the number of participants is not available.

[5] 15,850 / 37,174 = 0.43 or 43%.

Curtailable Service Option

Twenty-four General Service customers participated in the CSO during the 2019-2020 winter season, providing average aggregate load reduction of approximately 11.8 MW. This load reduction is exercised to reduce demand on the electrical system when generation reserves fall below normal operating levels.[6]

Business Efficiency Program

A demand incentive is available to commercial customers who implement individualized demand reduction measures that are economically viable and provide measurable demand reduction during peak times.[7]

2.3 Program Development, Evaluation and Planning

Program Development

takeCHARGE continuously reviews its programs to ensure they provide relevant energy conservation initiatives for customers. Upon review, the Instant Rebates and Benchmarking Programs were extended into 2020, and new technologies were added to the prescriptive rebate component of the BEP.

Instant Rebates Program

The Instant Rebates Program was originally scheduled to conclude in 2018. However, a market research study commissioned in 2019 showed significant room for growth in the residential LED market. A repeat of this study in 2020 showed that while adoption of LED bulbs continues to grow, there are still at least 2.3 million sockets that could be converted to more energy-efficient lighting.[8] Due to the conversion potential that still exists, the Instant Rebates Program was extended into 2020 to continue incentivizing the sale of LED bulbs and other small technologies in the province.

Benchmarking Program

The Benchmarking Program was originally scheduled to conclude in 2019 as electricity system marginal costs were anticipated to change significantly and result in the program no longer being cost-effective.

Based on an updated marginal cost forecast and anticipated program energy and demand savings, it was determined in 2019 that the program could still be offered cost effectively. As a result, the

---

6 Detailed results for the 2019-2020 winter season were submitted to the Board in the 2020 Curtailable Service Option Report dated April 28, 2020.

7 Under the BEP, customers can receive incentives for demand reduction based on the amount of demand they are able to reduce during peak times. Incentives are based on project demand savings at $100 per kW per month over the December to March period. Demand savings projects require a minimum of 50 kW savings and must be sustainable over 5 years.

8 2020 Socket Saturation Survey by MQO.

program was extended to Newfoundland Power customers in 2020, with plans filed to continue offering this program throughout the 2021-2025 period.

Business Efficiency Program

Three new technologies were added to the prescriptive rebate component of the BEP in 2020: (i) LED pole mounted lights; (ii) LED T5 tubes; and (iii) LED panels. These technologies were identified in the 2019 Conservation Potential Study ("CPS") as viable in terms of being cost-effective from both the customer and utility perspectives.[9] Additionally, these technologies were becoming more prevalent among participants of the BEP custom rebate program.

Other Initiatives

takeCHARGE implemented several changes to program delivery to adapt to COVID-19 related safety protocols. While rebate applications were processed throughout the year, some challenges existed. For example, the Instant Rebates campaign usually employs retail coordinators to have an in-store presence to promote programs to customers. This was not possible in 2020 due to the COVID-19 pandemic. Consequently, takeCHARGE relied on point-of-purchase advertisement material to promote in-store rebates. For the same reason, the annual thermostat sale event at Costco was also modified. Rather than having an in-store presence, informative signage boards with application forms were stationed around Costco to promote the rebate program. Rebate applications were also accepted in a new way, through text message.

takeCHARGE utilized technologies such as web conferences and video calls to perform virtual walk-throughs of business customers' facilities in order to identify energy efficiency opportunities, while adhering to COVID-19 related safety protocols. The use of DocuSign, an electronic signature application, was also incorporated for approval of BEP custom projects.

Program Evaluation

In 2020, several components of the takeCHARGE programs were evaluated. This included evaluation of the process and effectiveness of program delivery and an evaluation of energy savings.

Benchmarking Program

This program promotes customer behavioural changes to improve energy efficiency. Benchmarking involves the use of social norms to encourage friendly competition to reduce electricity consumption. The 2020 evaluation results showed high levels of participant engagement with the program. Approximately 95% of users reported that they reviewed their home energy reports and found the most value in the comparison to similar homes and the year-over-year comparison of their own energy usage.

[9] The 2019 CPS was conducted by Dunsky Energy Consulting. Dunsky Energy Consulting is a Canadian based consultancy with extensive experience conducting conservation potential studies in Canada.

Research

A 2020 takeCHARGE marketing survey was conducted by MQO Research. This independent research continues to show high levels of takeCHARGE program awareness amongst customers. In 2020, 87% of households surveyed had heard of takeCHARGE programs, consistent with results from similar years.

Respondents to the 2020 takeCHARGE marketing survey were also asked about their interest in buying an electric vehicle ("EV"). Survey results identified high purchase costs and the lack of access to charging infrastructure among the main barriers to EV ownership.

Program Economic Evaluation

As part of program planning and monitoring, Newfoundland Power regularly performs economic and energy savings evaluations of its programs.[10] Inputs to the economic evaluation include information provided by program participants on rebate applications. This information includes technical data, such as the R-value of installed insulation, the efficiency rating of an HRV, and customer heating source. Analysis of this data allows the Company to estimate a program's energy and peak demand savings results, which are required for industry standard cost-benefit tests.

The Island Interconnected System continues to undergo significant change. The province is now connected to the North American grid through the Maritime Link. Although the schedule is not yet confirmed, the Labrador Island Link and Muskrat Falls generating station are forecast to be in service in the near term. These changes will impact the marginal cost of electricity supply.

The Company measures the Total Resource Cost ("TRC") and Program Administrator Cost ("PAC") of its programs based upon available information on the marginal cost of energy and capacity. These tests were conducted using the latest marginal cost information provided by Hydro in March 2021.[11] The outcomes include a TRC result of 3.0 and a PAC result of 5.2.[12]

Appendix A provides the levelized utility cost for each of the takeCHARGE programs for 2020 and over the life of the program to date, as well as the 2020 TRC and PAC results for each program.[13]

[10] The costs and benefits of the takeCHARGE programs are analyzed from the perspective of participants, the utility, non-participants and total resources.

[11] Basis for 2020 marginal energy cost is weighted Holyrood fuel cost and marginal energy imports, provided by Hydro in March 2021.

[12] A test result greater than 1.0 represents overall program benefits. For example, a TRC result of 3.0 indicates the program benefits are 3 times the costs.

[13] The levelized utility cost considers only utility program costs (i.e. administrative costs, marketing and incentives), not customer costs. It only includes energy (kWh) savings, and not demand (kW) savings.

Program Planning

Electrification, Conservation and Demand Management Plan: 2021-2025

Building off of the 2019 CPS, the Utilities' *Electrification, Conservation and Demand Management Plan: 2021-2025* was filed with the Board on December 16, 2020. The 2021 Plan introduces customer electrification programs such as incentives for EV and charging station purchases and utility investment in fast charging infrastructure. The 2021 Plan will also continue long-standing CDM programs, including all programs referenced in Table 1 of this report and propose new programs, such as one for customers with low incomes. Electrification programs will provide rate mitigation benefits to customers post Muskrat Falls. CDM programs support electrification through mitigating the effect of electrification during periods of peak demand.

3.0 Energy Conservation Promotion and Education

Newfoundland Power continued its customer education and conservation awareness activities in 2020. These activities primarily consisted of promotion of takeCHARGE customer rebate programs and energy efficiency education through mass media marketing, community outreach, school programming, trade ally development and partnerships. Newfoundland Power maintained strong connections with customers and trade allies through the use of technology.

3.1 Media

Throughout 2020, broadcast, print, online and social media advertising created awareness for the takeCHARGE residential and business customer rebate programs.

Eleven takeCHARGE newsletters were included with electricity bills throughout the year. These newsletters included energy-saving tips for homeowners and promoted participation in the rebate programs. From April to July, newsletter content also included advice for customers to save energy while working from home.

takeCHARGE highlighted local businesses during *Business Efficiency Week*.[14] The Utilities shared videos of businesses that participated in the BEP, and held a contest on takeCHARGE's social media platforms encouraging customers to tag a local business. The purpose was to bring awareness to *Business Efficiency Week* while also providing exposure to local businesses. In just one week, over 23,000 video views were generated through social media, and over 80,000 impressions were served with a click rate that was above industry average.[15]

In 2020, takeCHARGE made energy efficiency advice more accessible. The Company partnered with Inclusion NL to make educational materials easier to read for the visually impaired. Alternate format versions of reading material are available through takeCHARGE upon request. Energy efficiency video content was also created to help customers with literacy barriers. Video topics included: (i) no-cost ways to save energy; (ii) a quiz to assess how energy efficient you are; and (iii) eligibility requirements for rebate programs.

[14] The 2020 *Business Efficiency Week* was held between November 30 and December 6, 2020.
[15] Impressions represent the number of times a digital ad displays on a user's screen.

Customers continued to visit TakeChargeNL.ca for a range of energy efficiency advice and rebate program details. The website received over 393,000 visits in 2020. Customer interest in insulation rebates and heat pumps remained high, with these webpages being the most visited in 2020.

New website content was created to provide residential customers with energy saving advice while spending more time at home and winter maintenance tips for heat pumps. An article titled *Understanding Your Electrical Demand* was also published to help business customers better understand the meaning, calculation and causes of demand charges.

In March 2020, takeCHARGE launched a number of EV educational resources on its website with the aid of $50,000 in funding from Natural Resources Canada. The educational resources provide customers with information and tools to help determine whether an electric vehicle would be compatible with their lifestyle. Fuel savings and commute calculators, along with vehicle comparison tools allow customers to discover the benefits of EVs. The website also features a carbon reduction calculator which allows customers to compute the positive environmental impact of switching from an internal combustion engine vehicle to an EV.

During its 12th annual *Energy Efficiency Week*, takeCHARGE provided customers with the opportunity to connect with energy experts virtually during two free energy efficiency webinars.[16] Local media covered the week's activities promoting takeCHARGE's customer programs and online resources. Municipalities such as the City of St. John's, the Town of Burin, the Town of St. Bernard's-Jacques Fontaine and the Town of Grand Falls-Windsor also signed proclamations for Energy Efficiency Week.

3.2 Community Outreach

The takeCHARGE team raises awareness of energy conservation and customer rebate programs through a variety of community and outreach activities.

In 2020, takeCHARGE expanded its *Make the Switch* initiative. Through community-based groups, takeCHARGE distributed over 19,000 LED bulbs to customers with low income who often face barriers to adopting energy efficient technologies. LED bulbs were distributed during "Senior's Day" at Coleman's locations across the Province; during "Shopping Hour for Seniors and Persons with Disabilities" on October 1[17]; and via partnerships with the Community Food Sharing Association, Association for New Canadians, Habitat for Humanity, Newfoundland and Labrador Housing Corporation and various other organizations. Research shows that customers with lower incomes are less likely to have LED bulbs in their household. Only 51% of sockets in households with annual incomes of less than $40,000 have an LED bulb.[18]

---

16 *Energy Efficiency Week 2020* was held between September 28 and October 4, 2020.

17 Effective March 17, 2020, Colemans stores across the province opened their doors solely to seniors, those with disabilities and the immunocompromised for the first hour of operation. The temporary dedicated shopping hour is designed to help ensure these customers are able to shop in less crowded aisles in the midst of the COVID-19 pandemic.

18 This compares to 58% for the income range of $40,000 to $80,000 and 63% for the income range $80,000 and higher. These results are from the *2020 Socket Saturation Survey* completed by MQO research.

The 2020 *takeCHARGE of Your Town Challenge* received 24 proposals from municipalities for energy-efficient upgrades within their communities. The Town of Logy Bay-Middle Cove-Outer Cove was awarded $7,500 to install heat pumps in their community center. The facility is typically utilized for recreational, residential and community activities year-round.

Newfoundland Power educated students on energy conservation through the *takeCHARGE K-I-C (Kids in Charge) Start* school program. The program offers presentations and contests for Kindergarten to Grade 6 students that promote energy-efficient behaviors for primary, elementary and high school students. In 2020, over 500 students in 9 schools received presentations on energy efficiency.[19]

3.3 Trade Allies and Partners

Professional installers, contractors, electricians and associations provide professional services and knowledge to customers that are interested in energy efficient products. takeCHARGE works with these trade allies to influence purchase decisions and drive participation, especially in the retrofit market. Retail partners are also an integral trade ally. Throughout the COVID-19 pandemic, takeCHARGE continued to support trade allies and partners by communicating virtually, providing supporting materials and offering webinars on new BEP programs.

In 2020, takeCHARGE also presented to realtors; participated in the virtual Municipalities Newfoundland and Labrador Conference; sponsored the St. John's Board of Trade business awards; and presented at the virtual Newfoundland and Labrador Environmental Industry Association ("NEIA") conference.

In addition to circulating installer newsletters, which keep trade allies and partners updated on programs, takeCHARGE reached out directly to its network of HRV, insulation and heat pump installers to ensure they have the most up-to-date information to best serve their customers.

The Government of Canada's *Low Carbon Economy Leadership Fund* ("LCELF"*)* aims to reduce greenhouse gas emissions. Through the LCELF and provincial funding, takeCHARGE continues to offer its Insulation Rebate Program and Thermostat Rebate Program to customers with oil heating.

In 2020, takeCHARGE was the recipient of two ENERGY STAR® Canada Awards. The awards recognized the takeCHARGE Instant Rebate Program as "utility program of the year" and recognized takeCHARGE's ENERGY STAR® awareness efforts as "promotional campaign of the year".

4.0 CDM Costs

Table 2 summarizes Newfoundland Power's costs associated with CDM from 2016 to 2020.

[19] Closures of schools due to COVID-19 reduced the number of school presentations delivered in 2020. takeCHARGE performed 18 presentations to 474 students at 6 schools prior to COVID shutdowns. After COVID shutdowns, takeCHARGE performed 3 virtual presentations to 60 students at 3 schools.

Table 2
Conservation and Demand Management Costs
($000s)

	2016	2017	2018	2019	2020
General Conservation Costs					
Customer Education and Support[20]	332	516	488	421	429
Planning[21]	102	104	282	1,082	429
Total General Conservation Costs	434	620	770	1,503	858
Conservation Program Costs[22]					
Residential					
Insulation Rebate Program	771	1,082	1,152	1,379	1,393
Thermostat Rebate Program	415	538	412	421	324
HRV Rebate Program	132	125	209	145	157
Benchmarking Program	474	837	813	793	770
Small Technologies Rebate Program[23]	4,110	2,133	1,742	1,448	973
Commercial					
Business Efficiency Program	1,303	2,044	1,716	1,687	1,344
Total Conservation Program Costs	7,205	6,759	6,044	5,873	4,961[24]
CDM Capital Expenditures[25]	39	51	50	21	57
Demand Management Program Costs					
Curtailable Service Option	361	436	388	375	398
Total	**8,039**	**7,866**	**7,252[26]**	**7,772[27]**	**6,274[28]**

[20] Cost increases for Customer Education and Support in 2017 are a result of support activities, school program and heat pump education initiatives.

[21] Planning costs in 2018 reflect a Commercial End Use Survey and start of the 2019 CPS. Costs for 2019 reflect completion of the 2019 CPS, development of the 2021 Plan, and the first year of heat pump load research. Costs in 2020 reflect completion of the 2021 Plan.

[22] Variations in program costs primarily reflect variations in levels of participation, with the exception of the 2017 Insulation increase due to program evaluation, and 2017 Benchmarking to reflect the first full year of the program.

[23] As the saturation of LED bulbs increases, the number of bulbs purchased and the total incentive paid to customers decreases, causing reductions in the program costs and energy savings. In 2020, other program cost savings were achieved by reducing the number of campaigns from two to one.

[24] 2020 program costs reflect a reduction in participation in the Small Technologies Rebate Program, Thermostat Rebate Program and Business Efficiency Program from prior years.

[25] Capital expenditures are associated with improvements to the takeCHARGE website and the Company's tracking systems. Capital work in 2019 was deferred due to the focus on CDM and electrification planning. Additionally, in 2019, there were limited updates to programs requiring capital expenditure.

[26] The decrease in overall CDM spending in 2018 primarily reflects variations in program participation that resulted in higher energy savings, but lower incentive payouts.

[27] The increase in overall CDM spending in 2019 primarily reflects the costs associated with heat pump load research.

[28] The decrease in overall CDM spending in 2020 primarily reflects a decrease in Planning costs, Small Technologies Rebate Program costs and BEP costs.

5.0 Outlook

The *Electrification, Conservation and Demand Management Plan: 2021-2025* has been filed with the Board. The 2021 Plan will introduce customer electrification initiatives and continue long-standing CDM programs.[29] Electrification initiatives will provide rate mitigation benefits to customers post Muskrat Falls. CDM programs support electrification through mitigating the effect of electrification during periods of peak demand. The 2021 Plan is consistent with sound public utility practice and is designed to be flexible to respond to shifts in customer expectations, market trends and access to government funding.

A key initiative to promote electric vehicle adoption in the province in 2021 will be the installation of a network of 10 Direct Current Fast Chargers and 10 Level 2 chargers by Newfoundland Power. This network will help bridge existing gaps in charging infrastructure in the province and help reduce customer range anxiety; one of the main barriers to customer EV adoption as identified in the 2020 takeCHARGE marketing survey.

Other initiatives Newfoundland Power plans to launch in 2021 include: (i) the residential EV and charging infrastructure program; (ii) the commercial EV and charging infrastructure program; (iii) the custom electrification program; (iv) the make-ready charging infrastructure program; and (v) a medium-duty vehicle, heavy-duty vehicle and bus pilot program.

Newfoundland Power will also further expand on its EV education initiatives in 2021 with the aid of $50,000 in funding from Natural Resources Canada.[30] A planned advertising campaign, video testimonials and presentations with key stakeholders such as the NEIA, Canadian Homebuilders' Association, Newfoundland and Labrador Construction Association and Hospitality Newfoundland and Labrador will provide the key message that electric vehicles are a viable option for drivers and businesses in the province.

CDM initiatives will remain an essential part of takeCHARGE. In 2021, takeCHARGE will begin work to expand CDM program offerings for 2022. This includes a low-income kit program, expansion of the insulation program to include air sealing and duct insulation and a pilot program for small business customers.

Community outreach and customer education will also remain a top priority for Newfoundland Power. In 2021, the Company will continue to adapt its education and outreach efforts to increase accessibility, in accordance with COVID-19 related safety protocols, in order to ensure important information about energy conservation reaches its customers.

[29] The implementation of electrification initiatives outlined in the 2021 Plan are subject to Board approval.
[30] This funding is in addition to the funding mentioned on page 8 of this report.

Appendix A
takeCHARGE Program Descriptions, Participation and Savings Results

1.0 takeCHARGE Program Descriptions, Participation and Savings Results

The following tables provide details of customer participation levels, savings results achieved and the levelized utility cost ("LUC") for each of the existing programs for 2020 and since implementation.[31] Results of the TRC and PAC for 2020 for each program based upon estimated future marginal costs of energy and capacity are also included.[32]

The estimated annual energy and peak demand savings in each year represent the savings resulting from participants in that year. The estimated life to date energy and peak demand savings reflect the energy savings measures installed by all participants in the program. These savings will continue to occur each year for the life of the installed measures.

2.0 Residential takeCHARGE Programs

With the exception of the Instant Rebates and Benchmarking Programs, residential program incentives are processed primarily through customer applications. The programs are promoted in partnership with trade allies in retail, home building and renovation industries.

2.1 Insulation Rebate Program

The objective of this program is to provide incentives to increase the insulation R-value in residential basements, crawl spaces and attics, thereby increasing the efficiency of the homes' building envelope. Eligibility for the program is limited to electrically heated homes, determined on the basis of annual energy usage. Home retrofit projects are eligible. Customers can receive an incentive of 75% of basement wall or ceiling insulation material costs up to $1,000, and 50% of attic insulation material costs up to $1,000.

[31] The levelized utility cost represents the economic cost to the utility (per kWh) to save energy considering only utility program costs (i.e. program development, marketing, incentives and administration costs), not customer costs.

[32] The TRC accounts for customer costs and benefits, whereas the PAC accounts for costs and benefits incurred by the utility only.

Table A-1 shows the customer participation levels, savings results achieved, and the LUC for the Insulation Program for 2020 and since implementation.

Table A-1
Insulation Rebate Program
Program Participation, Savings and Levelized Utility Cost

	Participation	Energy Savings (MWh)	Peak Demand Savings (kW)	LUC (¢/kWh)
2020	1,801	5,088	2,177	2.7
Life to Date[33]	16,000	45,565	16,238	2.8

2020 TRC Result: 5.7
2020 PAC Result: 8.3

2.2 Thermostat Rebate Program

This program encourages installation of programmable and electronic thermostats to allow customers better control of the temperature in their home and to save energy. High performance programmable thermostats allow customers to set back the temperature during the night or when they are away. Eligibility for the program is limited to electrically heated homes, determined on the basis of annual energy usage. Home retrofit projects and new home developments are eligible. Incentives of $10 per programmable thermostat and $5 per electronic high-performance thermostat are offered.

Table A-2 shows the customer participation levels, savings results achieved, and the LUC for the Thermostat Program for 2020 and since implementation.

Table A-2
Thermostat Rebate Program
Program Participation, Savings and Levelized Utility Cost

	Participation	Energy Savings (MWh)	Peak Demand Savings (kW)	LUC (¢/kWh)
2020	2,188	2,154	62	1.3
Life to Date	25,988	23,807	2,980	1.8

2020 TRC Result: 2.0
2020 PAC Result: 3.2

[33] "Life to Date" represents the program results since the launch of the program.

2.3 HRV Rebate Program

This program encourages customers to purchase a high efficiency HRV to improve the energy efficiency of their home. Eligible measures in this program include HRV models that have a Sensible Recovery Efficiency of 70% of more. Customers who purchase a high efficiency HRV can receive a rebate of $175. All customers are eligible for this program regardless of age of home or heat source.

Table A-3 shows the customer participation levels, savings results achieved, and the LUC for the HRV Program for 2020 and since implementation.

Table A-3
HRV Rebate Program
Program Participation, Savings and Levelized Utility Cost

	Participation	Energy Savings (MWh)	Peak Demand Savings (kW)	LUC (¢/kWh)
2020	398	190	62	8.9
Life to Date	2,764	1,518	476	7.4

2020 TRC Result: 1.8
2020 PAC Result: 1.8

2.4 Benchmarking Program

This program encourages customers to adopt energy efficient behavioural changes. Participants receive home energy reports that provide insight into their home's electricity use. The reports help customers understand changes in their usage over time, as well as how they compare to similar homes. Reports also include practical tips on how to save energy moving forward. The program includes an online portal component that allows customers to engage even further through weekly challenges and personalized savings plans.

Customers were randomly selected as participants in this program. Program participants broadly reflect the composition of Newfoundland Power's customer base in heating type and geographic distribution. No financial incentive is offered for this program.

Table A-4 shows the customer participation levels, savings results achieved, and the LUC for the Benchmarking Program for 2020 and since implementation. Due to the nature of customer behavioural changes, benchmarking savings are assumed for one year only.

Table A-4
Benchmarking Program
Program Participation, Savings and Levelized Utility Cost

	Participation	Energy Savings (MWh)	Peak Demand Savings (kW)	LUC (¢/kWh)
2020	79,150	15,850	1,886	4.9
Life to Date	79,150	15,850	1,886	6.4[34]

2020 TRC Result: 3.2
2020 PAC Result: 3.2

2.5 Small Technologies Program

This program promotes a variety of smaller technologies, such as LED lighting, and smart power bars, through instant rebates available at the cash register of participating retailers. All customers are eligible for this program regardless of age of home or heat source.

Table A-5 shows the customer participation levels, savings results achieved, and the LUC for the Small Technologies Program for 2020 and since implementation.

Table A-5
Small Technologies Rebate Program
Program Participation, Savings and Levelized Utility Cost

	Participation [35]	At-the-Cash Rebates (units)	Energy Savings (MWh)	Peak Demand Savings (kW)	LUC (¢/kWh)
2020	0	254,885	7,629	1,392	2.4
Life to Date	7,288	3,487,824	69,241	16,349	3.0

2020 TRC Result: 1.5
2020 PAC Result: 3.7

[34] Benchmarking savings are claimed for one year, however LUC for life of program is derived considering the sum of savings and program costs in all years the program has been offered.

[35] Bill credit rebates were for the Appliance and Electronics rebate component of the Small Technologies Program which ended in 2017. Since its discontinuation, there have been zero participants.

3.0 Commercial takeCHARGE Programs

3.1 Business Efficiency Program

The objective of this program is to improve electrical energy efficiency in a variety of commercial facilities and equipment types. The program components include financial incentives based on energy savings, and other financial and educational supports to enable commercial facility owners to identify and implement energy efficiency and demand reduction projects. This program is available for existing commercial facilities that can save energy or reduce demand by installing more efficient equipment and systems. The program includes custom project incentives and rebates for specific measures on a per unit basis.

Table A-6 shows the customer participation levels, savings results achieved, and the LUC for the Business Efficiency Program for 2020 and since implementation.

Table A-6
Business Efficiency Program
Program Participation, Savings and Levelized Utility Cost

	Participation	Energy Savings (MWh)	Peak Demand Savings (kW)	LUC (¢/kWh)
2020	305	6,263	1,909	2.5
Life to Date	2,785	41,145	7,792	2.8

2020 TRC Result: 2.6
2020 PAC Result: 5.4

4.0 Total Results of takeCHARGE Programs

Table A-7 shows the participation levels, savings results achieved, and the LUC for all of the programs for 2020 and since implementation.

Table A-7
takeCHARGE Programs
Program Participation, Savings and Levelized Utility Cost

	Participation	At-the-Cash Rebates (units)	Energy Savings (MWh)	Peak Demand Savings (kW)	LUC (¢/kWh)	Provincial LUC (¢/kWh)[36]
2020	83,842[37]	254,885	37,174	7,488	2.6	2.8
Life to Date	133,975[38]	3,487,824	197,126	45,721	3.1	3.4

Table A-8 shows the TRC and PAC results for Newfoundland Power's residential and commercial portfolios, along with the provincial portfolio, which includes Hydro's Island Interconnected System costs and energy savings.

Table A-8
takeCHARGE Programs
2020 TRC and PAC Results

	2020 TRC	2020 PAC
Residential Portfolio	3.2	5.2
Commercial Portfolio	2.6	5.4
Provincial Portfolio	2.9	5.0

[36] "Provincial LUC" represents the combined cost and energy savings of Newfoundland Power and Newfoundland and Labrador Hydro's Island Interconnected conservation program offerings.

[37] Figure consists of 79,150 participants in the 2020 Benchmarking program, and 4,692 participants in bill credit rebate programs.

[38] Prior years participants in Benchmarking program not included in this number.