

Appendix E – efficiencyPEI and PEI Energy Corporation Quarterly and Annual Reports

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Electricity Efficiency & Conservation Plan

Q1 & Q2 Report

**Submitted to: The Island Regulatory and Appeals
Commission**

Submitted by: The PEI Energy Corporation

Introduction

In May of 2019, the Prince Edward Island Energy Corporation (PEIEC) received approval for a three-year electricity efficiency and conservation (EE&C) plan from the Island Regulatory and Appeals Commission. As per Order UE19-03, PEIEC is to provide Quarterly Reporting, as outlined in Appendix “A”. The quarterly reports will provide qualitative program updates, as well as planned vs. actual program participation. This report is for Q1 and Q2 of the 2019/20 fiscal year.

Program Updates

To determine demand side management savings, only applications where the primary heating source is electricity can be claimed. The PEI Home Energy Survey determined the primary heating source for 20 percent of homes on Prince Edward Island is electricity. For Energy Efficient Equipment, Home Insulation, and Business Energy Rebates Programs, this percentage is applied to determine a more accurate representation of eligible program participants. Primary heating source data is not currently collected on efficiencyPEI application forms. While data can be collected in Home Energy Audit files, application forms will be updated to collect this information.

Energy Efficient Equipment

The Energy Efficient Equipment program offers rebates for the installation of ENERGY STAR® certified heating equipment including heat pumps, water saving devices, biomass-heating devices, and other energy saving products.

Participation in the Energy Efficient Equipment Rebate Program increased dramatically in the 2018/19 fiscal year, with the increasing trend continuing in 2019/20. This increase can be contributed in part to higher grant amounts (April 1, 2018.) In Q1, 846 applications were received, while 705 applications were approved. In Q2, 1067 applications were received, and 931 were approved. Of the approved applications, 80% were for mini split air source heat pumps. With the 20 percent factor applied, there were 383 eligible program participants.

Home Insulation Rebates

The Home Insulation Program offers grants for the installation of insulation, air sealing improvements as well as ENERGY STAR® windows and doors.

The Home Insulation program received 71 applications in Q1, and approved 69 applications. There were 100 received in Q2, and 88 approved. For this program, clients must receive an energy audit before work is completed, and another audit post work. The average Home Insulation rebate was \$1700 during these quarters.

With the 20 percent factor applied, there were 34 eligible program participants.

Winter Warming

Winter Warming provides free air sealing and energy efficient upgrades to qualified low to moderate income Islanders.

In Q1, there were 142 program participants, and 163 in Q2. The number of program participants is expected to increase over the fall and winter months.

New Home Construction

The New Home Construction program incentivizes homeowners to build to ENERGY STAR® (20 percent better than code) or R2000 standard (50 percent better than code), offering two tiers of rebates depending on the efficiency standard achieved.

The New Home Construction Program had 25 applications received and 24 approved in Q1. In Q2 there were 18 applications received and 15 approved. Uptake in this program is forecasted to exceed initial estimates for the fiscal year. This can be contributed to a substantial increase in new builds on Prince Edward Island in 2019. Of the New Home Construction applications approved, 17 were for being 50 percent better than code, while the remaining 22 were 20 percent better than code.

Instant Energy Savings

The Instant Savings Program provides instant rebates in-store on select energy efficient products such as light bulbs and thermostats. Rebates are applied at the cash register, with no application required, and consist of a spring and fall campaign. Year-round rebates are also available in-store for larger appliances, including toilets, refrigerators, and washers.

During the Spring campaign, which took place during the month of April, 35,794 energy efficient units were sold. Eligible units include Energy Star® LED lamps, dimmer switches, low flow shower heads, programmable thermostats, outdoor clotheslines, and more. An additional 868 products from the year-round program were rebated. The fall campaign will take place between September 27th and November 3rd.

Home Energy Audits

This program offers subsidized home energy audits, which are designed to help homeowners increase the energy efficiency and comfort of their homes. The evaluation provides useful information about a home's energy performance that can help make informed decisions when operating, renovating or purchasing a home.

There are two service organizations contracted to complete residential home energy audits for efficiencyPEI. In Q1, 470 home energy audits were completed, and 311 in Q2. Of this, 611 were initial "D" audits, and 170 were final "E" audits. Participation in the Home Energy Audit Program displays keen interest in energy efficiency by Islanders.

Business Energy Rebates

The Business Energy Rebates program offers support to businesses, non-profits and institutional organizations, as well as industrial/agricultural facilities for choosing high-efficiency products.

This program was launched in July of, 2018 with a phased in approach. The original list of eligible products included 11 lighting products, 2 occupancy sensor products, and small capacity heat pumps. On April 1, 2019, the list of eligible rebate products expanded to include additional lighting types, occupancy sensors, additional heating systems, and Electronically Commutated Motors (ECM's). The Business Energy Rebates program received 60 applications (2208 units) in Q1, and approved 61 (2148 units.) There were more approvals than applications due to the fact the program carried over 9 applications from the previous fiscal year, which were ongoing at year-end. In Q2 there were 71 applications received (492 units), and 54 applications approved (347 units.) The most common rebate was for mini split air source heat pumps, accounting for 58% of approved applications.

Upcoming Programs

Business Energy Solutions


A Request for Proposals was issued for Small Business Energy Auditors (SBEA), with two successful proponents being selected. This program is expected to launch before the end of the 2019/20 fiscal year.








Custom Energy Solutions

The Custom Energy Solutions program will launch once two Onsite Energy Managers have been hired. At this time, the hiring process is ongoing and the program is expected to launch before the end of the 2019/20 fiscal year.

Participation

This section displays quarterly participation with the 20% factor applied where applicable.



Program	20% Applied	Q1	Q2	Total	EE&C Goal	Goal Achieved	% of Goal achieved
Energy Efficient Equipment	✓	169	213	383	815	<input type="checkbox"/>	47% 
Home Insulation	✓	14	20	34	213	<input type="checkbox"/>	16% 
New Home Construction		24	15	39	41	<input type="checkbox"/>	95% 
Winter Warming		142	163	305	350	<input type="checkbox"/>	87% 
Home Energy 'E' Audits		81	89	170	100	<input checked="" type="checkbox"/>	170% 
Instant Savings		36,662	477	37,139	95,901	<input type="checkbox"/>	39% 
Business Energy Rebates	✓	2,148	347	2,495	5,272	<input type="checkbox"/>	47% 
Business Energy Solutions		-			10,958	<input type="checkbox"/>	
Custom Energy Solutions		-			5	<input type="checkbox"/>	

Administrative Updates

As per section 13 of the Order, PEIEC established a Demand Side Management Advisory Group within 90 days of the Order date. This group is titled the Electricity Efficiency & Conservation Advisory Group and has 13 representatives across business and industry, community organizations, government, and the public. The first meeting was held September 10th, with another to take place in early November.

As per section 17 of the order, PEIEC has hired an external consultant (Econoler) to provide evaluation services of DSM programming. This includes the creation of an Evaluation plan, with input from the EE&C Advisory Group.



Q3 Electricity Efficiency & Conservation Report

2019 Quarter Three

Activity for the period October 1 to December 31, 2019

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Introduction

In May of 2019, the Prince Edward Island Energy Corporation (PEIEC) received approval for a three-year electricity efficiency and conservation (EE&C) plan from the Island Regulatory and Appeals Commission. As per Order UE19-03, PEIEC is to provide Quarterly Reporting, as outlined in Appendix “A”. The quarterly reports will provide qualitative program updates, as well as planned vs. actual program participation. This report is for Q3 of the 2019/20 fiscal year.

Program Updates

To determine demand side management savings, only applications where the primary heating source is electricity can be claimed. The PEI Home Energy Survey determined the primary heating source for 20 percent of homes on Prince Edward Island is electricity. For Energy Efficient Equipment, Home Insulation, and Business Energy Rebates Programs, this percentage is applied to determine a more accurate representation of eligible program participants. Primary heating source data is not currently collected on efficiencyPEI application forms. While data can be collected in Home Energy Audit files, application forms will be updated to collect this information.

Energy Efficient Equipment

The Energy Efficient Equipment program offers rebates for the installation of ENERGY STAR® certified heating equipment including heat pumps, water saving devices, biomass-heating devices, and other energy saving products.

In Q3, the Energy Efficient Equipment program received 1474 applications, and approved 1058. This is a 38% increase over Q2, bringing the three quarter total to 3393 received, and 2745 approved. Of the approved applications, 80% were for mini split air source heat pumps. With the 20 percent factor applied, there were 679 eligible program participants.

Home Insulation Rebates

The Home Insulation Program offers grants for the installation of insulation, air sealing improvements as well as ENERGY STAR® windows and doors.

The Home Insulation program received 91 applications in Q3, and approved 77. This brings total program applications to 263, with 234 approved to date. For this program, clients must receive an energy audit before work is completed, and another audit post work. The average Home Insulation rebate remained \$1700 during this quarter.

With the 20 percent factor applied, there are 53 eligible program participants this fiscal year.

Winter Warming

Winter Warming provides free air sealing and energy efficient upgrades to qualified low to moderate income Islanders.

In Q3, there were 195 program participants, bringing the three quarter total to 514.

New Home Construction

The New Home Construction program incentivizes homeowners to build to ENERGY STAR® (20 percent better than code) or R2000 standard (50 percent better than code), offering two tiers of rebates depending on the efficiency standard achieved.

The New Home Construction Program received 25 applications and approved 23 in Q3. This brings the total to 68 applications received, and 55 approved during the first three quarters. Uptake in this program has exceeded initial estimates for the fiscal year. Of the New Home Construction applications approved, 29 were for being 20 percent better than code, while the remaining 26 were 50 percent better than code.

Instant Energy Savings

The Instant Savings Program provides instant rebates in-store on select energy efficient products such as Energy Star® LED lamps, dimmer switches, low flow shower heads, programmable thermostats, outdoor clotheslines, and more. Rebates are applied at the cash register, with no application required, and consist of a spring and fall campaign. Year-round rebates are also available in-store for larger appliances, including toilets, refrigerators, and washers.

During the Spring campaign, which took place during the month of April, 35,794 energy efficient units were sold. An additional 868 products from the year-round program were rebated. During the fall campaign, which took place in November, there were 38,999 energy efficient units sold, with an additional 1300 units rebated from the year-round program. There was an increase of 9% in units sold during the fall campaign over the spring campaign. In November, the year-round rebate program added smart thermostats to the eligible product list.

Home Energy Audits

This program offers subsidized home energy audits, which are designed to help homeowners increase the energy efficiency and comfort of their homes. The evaluation provides useful information about a home's energy performance that can help make informed decisions when operating, renovating or purchasing a home.

There are two service organizations contracted to complete residential home energy audits for efficiencyPEI. In Q3, 320 home energy audits were completed, bringing the total to 1101 audits this fiscal year. Of this, 812 were initial "D" audits, and 289 were final "E" audits.

Business Energy Rebates

The Business Energy Rebates program offers support to businesses, non-profits and institutional organizations, as well as industrial/agricultural facilities for choosing high-efficiency products.

This program was launched in July of, 2018 with a phased in approach. The original list of eligible products included 11 lighting products, 2 occupancy sensor products, and small capacity heat pumps. On April 1, 2019, the list of eligible rebate products expanded to include additional lighting types, occupancy sensors, additional heating systems, and Electronically Commutated Motors (ECM's). The Business Energy Rebates program received 70 applications in Q3, and approved 54 (1093 units.)

Upcoming Programs

Business Energy Solutions


A Request for Proposals was issued for Small Business Energy Auditors (SBEA), with two successful proponents being selected. This program is expected to launch before the end of the 2019/20 fiscal year.

Custom Energy Solutions

The Custom Energy Solutions program will launch once two Onsite Energy Managers have been hired. At this time, the hiring process is ongoing and the program is expected to launch before the end of the 2019/20 fiscal year.

Participation

This section displays quarterly participation with the 20% factor applied where applicable.



Program	20% Applied	Q1	Q2	Q3	Total	EE&C Goal	Goal Achieved	% of Goal achieved
Energy Efficient Equipment	✓	170	214	295	679	815	<input type="checkbox"/>	83%
Home Insulation	✓	14	20	18	53	213	<input type="checkbox"/>	25%
New Home Construction		20	12	23	55	41	<input checked="" type="checkbox"/>	134%
Winter Warming		134	185	195	514	350	<input checked="" type="checkbox"/>	147%
Home Energy 'E' Audits		81	89	119	289	100	<input checked="" type="checkbox"/>	289%
Instant Savings		36,662	477	40,299	77,438	95,901	<input type="checkbox"/>	81%
Business Energy Rebates	✓	2,209	415	1,093	3,717	5,272	<input type="checkbox"/>	71%
Business Energy Solutions						10,958	<input type="checkbox"/>	
Custom Energy Solutions						5	<input type="checkbox"/>	

Administrative Updates

As per section 13 of the Order, PEIEC established a Demand Side Management Advisory Group within 90 days of the Order date. This group is titled the Electricity Efficiency &

Conservation Advisory Group and has 13 representatives across business and industry, community organizations, government, and the public. Two meetings have taken place since September 2019, with a third scheduled for February 2020.

As per section 17 of the order, PEIEC has hired an external consultant (Econoler) to provide evaluation services of DSM programming. Evaluation activities during Q3 included Instant Savings Program in-store surveys, and review of efficiencyPEI Program databases and materials.

As per section 22 of the order, PEIEC has begun the process of undertaking a Demand Side Management Potential Study. A Request for Proposals (RFP) was issued December 13, 2019, with a closing date of January 16, 2020. Prior to posting, the RFP was distributed to the Electricity Efficiency & Conservation Advisory group for review.



Q1 Electricity Efficiency & Conservation Report

2020 Quarter One

Activity for the period April 1 to June 31, 2020

Date Filed: August 18, 2020

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Introduction

In May of 2019, the Prince Edward Island Energy Corporation (PEIEC) received approval for a three-year electricity efficiency and conservation (EE&C) plan from the Island Regulatory and Appeals Commission. As per Order UE19-03, PEIEC is to provide Quarterly Reporting, as outlined in Appendix "A". The quarterly reports will provide qualitative program updates, as well as planned vs. actual program participation. This report is for Q1 of the 2020/21 fiscal year.

Covid-19 Update

As a result of Covid-19, efficiencyPEI halted all site visits on March 16th, 2020. This included energy audits completed by our two Service Organizations. On March 17th, the office was closed to the public. A minimal number of staff worked in the office to ensure phones were answered, while the remainder of staff worked from home. Uptake in programs slowed significantly, and time was used to catch up on any processing backlogs. The office re-opened to the public on May 11th with enhanced cleaning protocols, plexiglass barriers, and new administrative processes. While we are accepting paper applications, we continue to encourage the public to engage remotely. With new inspection protocols, inspections of exterior systems began May 18th, as did residential and commercial energy audits. Interior inspections began on June 22nd.

Program Updates

To determine demand side management savings, only applications where the primary heating source is electricity can be claimed. The PEI Home Energy Survey determined the primary heating source for 20 percent of homes on Prince Edward Island is electricity. During the 2019/20 evaluation, new percentages were determined for each program. These percentages are applied to determine a more accurate representation of eligible program participants and savings.

Energy Efficient Equipment

The Energy Efficient Equipment program offers rebates for the installation of ENERGY STAR® certified heating equipment including heat pumps, water saving devices, biomass-heating devices, and other energy saving products.

In Q1, the Energy Efficient Equipment program received 466 applications, and approved 406. This is a decrease of 49% in received applications compared to Q1 of 2019/20. Of the approved applications, 77% were for mini split air source heat pumps. The evaluation determined the 20% factor was applicable, and when applied, there were 93 eligible program participants.

Home Insulation Rebates

The Home Insulation Program offers grants for the installation of insulation, air sealing improvements as well as ENERGY STAR® windows and doors.

The Home Insulation program received 24 applications in Q1, and approved 41. Program approvals are greater than applications received as there are files carried over from the previous fiscal year. This is a decrease of 30% in received application compared to Q1 of 2019/20. The average Home Insulation rebate was \$1571 during this quarter.

The evaluation updated the 20% factor to 26% and when applied, there are 6 eligible program participants this quarter.

Winter Warming

Winter Warming provides free air sealing and energy efficient upgrades to qualified low to moderate income Islanders.

Due to Covid-19, there were no program participants in Q1 as this program requires a tradesperson to enter the home.

Currently, an RFP is being worked on to move to a Service Organization (SO) model for Direct Install (DI) delivery of this program. This will streamline program administration, including inventory control and reporting.

New Home Construction

The New Home Construction program incentivizes homeowners to build to ENERGY STAR® (20% better than code) or R2000 standard (50% better than code), offering two tiers of rebates depending on the efficiency standard achieved.

The New Home Construction Program received 35 applications and approved 45 in Q1. This is an increase of 75% compared to Q1 of 2019/20. Due to the nature of this program, Covid-19 had a more limited impact on participation. Of the New Home Construction applications approved, 32 were 20% better than code, while the remaining 3 were 50% better than code.

Instant Energy Savings

The Instant Savings Program provides instant rebates in-store on select energy efficient products such as Energy Star® LED lamps, dimmer switches, low flow shower heads, programmable thermostats, outdoor clotheslines, and more. Rebates are applied at the cash register, with no application required, and consist of a spring and fall campaign. Year-round rebates are also available in-store for larger appliances, including toilets, refrigerators, and washers.

Due to Covid-19, the spring campaign scheduled for the month of April was cancelled. As a result, the fall campaign will be extended to make up for this time. During Q1, there were 926 products from the year-round program rebated.

Home Energy Audits

This program offers subsidized home energy audits, which are designed to help homeowners increase the energy efficiency and comfort of their homes. The evaluation provides useful information about a home's energy performance that can help make informed decisions when operating, renovating or purchasing a home.

As was mentioned during in the Covid-19 update, all in-home activities were halted March 17th, and resumed May 18th. This included home energy audits. The two Service Organizations were required to provide Covid-19 operational plans before returning to work in client homes. In total, there were 65 initial "D" audits completed in Q1.

Business Energy Rebates

The Business Energy Rebates program offers support to businesses, non-profits and institutional organizations, as well as industrial/agricultural facilities for choosing high-efficiency products.

This program was launched in July of, 2018 with a phased in approach. The original list of eligible products included 11 lighting products, 2 occupancy sensor products, and small capacity heat pumps. The list was expanded on April 1, 2019 and again on April 1, 2020. The final expansion of products include 5 additional lighting types. The Business Energy Rebates program received 21 applications in Q1, and approved 30 (1182 units.)

Upcoming Programs

Business/Custom Energy Solutions

The Business Energy Solutions program and Custom Energy Solutions program are in the process of being combined into a renamed Community Energy Solutions Program. Due to the similarities in the programs, it was determined combining them would create a more seamless experience for clients. One Onsite Energy Manager has been hired to date, and began work in June. This program is expected to launch later this summer.⁹

Participation

This section displays quarterly participation, with eligibility percentages applied where applicable. As noted above, 20% was previously used from PEI Home Energy Survey data. In 2019/20, new percentages were determined during program evaluation.



Program	Q1	EE&C Goal	Goal Achieved	% of Goal achieved
Energy Efficient Equipment	93	980	<input type="checkbox"/>	10%
Home Insulation	6	313	<input type="checkbox"/>	2%
New Home Construction	45	40	<input checked="" type="checkbox"/>	113%
Winter Warming	7	350	<input type="checkbox"/>	2%
Home Energy 'E' Audits	65	100	<input type="checkbox"/>	65%
Instant Savings	926	48,334	<input type="checkbox"/>	2%
Business Energy Rebates	1,182	7,100	<input type="checkbox"/>	17%
Business Energy Solutions	-	30	<input type="checkbox"/>	0%
Custom Energy Solutions	-	20	<input type="checkbox"/>	0%

Administrative Updates

As per section 13 of the Order, PEIEC established a Demand Side Management Advisory Group. This group is titled the Electricity Efficiency & Conservation Advisory Group and has 13

representatives across business and industry, community organizations, government, and the public. To date, 1 meeting has taken place this fiscal year, and 2 meetings occurred in 2019/20.

As per section 17 of the order, PEIEC hired an external consultant (Econoler) to provide evaluation services of DSM programming. Program evaluations were provided to the regulator June 30th.

As per section 22 of the order, PEIEC hired a third party (Dunsky Energy Consulting) to complete a Demand Side Management Potential Study. The Potential Study is currently in the data collection and analysis stage.



Q2 Electricity Efficiency & Conservation Report

2020 Quarter Two

Activity for the period July 1 to September 30, 2020

Date Filed: November 5, 2020

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Introduction

In May of 2019, the Prince Edward Island Energy Corporation (PEIEC) received approval for a three-year electricity efficiency and conservation (EE&C) plan from the Island Regulatory and Appeals Commission. As per Order UE19-03, PEIEC is to provide Quarterly Reporting, as outlined in Appendix "A". The quarterly reports will provide qualitative program updates, as well as planned vs. actual program participation. This report is for Q2 of the 2020/21 fiscal year.

Covid-19 Update

To ensure proper social distancing, efficiencyPEI staff continue to work staggered schedules in both the office and at home. The implementation of enhanced cleaning protocols continues in the office, in addition to employee health screening.

Program Update

To determine demand side management savings, only applications where the primary heating source is electricity can be claimed. The PEI Home Energy Survey determined the primary heating source for 20 percent of homes on Prince Edward Island is electricity. During the 2019/20 evaluation, new percentages were determined for each program. These percentages are applied to determine a more accurate representation of eligible program participants and savings.

Energy Efficient Equipment

The Energy Efficient Equipment program offers rebates for the installation of energy efficient equipment, including heat pumps, water saving devices, biomass-heating devices, and other energy saving products.

In Q2, the Energy Efficient Equipment program received 990 applications, and approved 621. This is an increase of 112% in received applications compared to Q1. As Covid-19 restrictions were lifted in late Q1, application numbers were expected to normalize to pre-pandemic levels. Of the approved applications, 81% were for mini split air source heat pumps. The evaluation determined the 20% factor was applicable, and when applied, there were 198 eligible program participants and 291 total this fiscal year.

Home Insulation Rebates

The Home Insulation Program offers grants for the installation of insulation, air sealing improvements as well as ENERGY STAR® windows and doors.

The Home Insulation program received 100 applications in Q2, and approved 66. To date there have been 123 received, and 107 approved applications. The most common upgrade types are windows/doors, attic insulation, and basement insulation. The average Home Insulation rebate was \$1638 during this quarter.

The evaluation updated the 20% factor to 26% and when applied, there are 17 eligible program participants this quarter, and 28 to date.

Winter Warming

Winter Warming provides free air sealing and energy efficient upgrades to qualified low to moderate income Islanders.

Due to Covid-19, there were no program participants in Q1 as this program requires a tradesperson to enter the home. The contracted tradespeople were required to submit Covid-19 operational plans before work was continued in August. Online applications were launched in Q2, in addition to traditional paper applications. There were 182 participants this quarter.

Currently, an RFP is being worked on to move to a Service Organization (SO) model for Direct Install (DI) delivery of this program. This will streamline program administration, including inventory control and reporting.

New Home Construction

The New Home Construction program incentivizes homeowners to build to ENERGY STAR® (20% better than code) or R2000 standard (50% better than code), offering two tiers of rebates depending on the efficiency standard achieved.

The New Home Construction Program received 23 applications and approved 16 in Q2. Due to the nature of this program, Covid-19 had a more limited impact on participation. Of the New Home Construction applications approved, 10 were 20% better than code, while the remaining 6 were 50% better than code.

Instant Energy Savings

The Instant Savings Program provides instant rebates in-store on select energy efficient products such as Energy Star® LED lamps, dimmer switches, low flow shower heads, programmable thermostats, outdoor clotheslines, and more. Rebates are applied at the cash register, with no application required, and consist of a spring and fall campaign. Year-round rebates are also available in-store for larger appliances, including toilets, refrigerators, and washers.

As a result of the cancelled spring campaign, there will be an extended fall campaign which will run from September 11th to December 6th.

During Q2, there were 1410 products from the year-round program rebated. Fall campaign numbers will be available in Q3.

Home Energy Audits

This program offers subsidized home energy audits, which are designed to help homeowners increase the energy efficiency and comfort of their homes. The evaluation provides useful information about a home's energy performance that can help make informed decisions when operating, renovating or purchasing a home.

After a Q1 decrease in energy audits as a result of Covid-19, Q2 saw numbers return to pre-pandemic levels with 235 "D" audits completed. This is a 6% increase over Q2 results in 2019/20.

Business Energy Rebates

The Business Energy Rebates program offers support to businesses, non-profits and institutional organizations, as well as industrial/agricultural facilities for choosing high-efficiency products.

This program was launched in July of, 2018 with a phased in approach. The original list of eligible products included 11 lighting products, 2 occupancy sensor products, and small capacity heat pumps. The list was expanded on April 1, 2019 and again on April 1, 2020. The final expansion of products include 5 additional lighting types. The Business Energy Rebates program received 43 applications in Q2, and approved 25 (562 units.)

Community Energy Solutions

In August, the Business Energy Solutions program and Custom Energy Solutions program were combined into the Community Energy Solutions Program. This program is aimed at helping larger operations including farms, institutions, businesses, and community facilities increase energy efficiency through upgrade rebates. Initial energy audits are free, with incentives available for scoping and feasibility studies for more specialized projects. The program may cover up to 50 percent of total energy efficient upgrade costs, up to \$50,000. The program officially launched on August 25, and there are 5 clients who have received pre-approval for energy efficiency upgrades.

Participation

This section displays quarterly participation, with eligibility percentages applied where applicable. As noted above, 20% was previously used from PEI Home Energy Survey data. In 2019/20, new percentages were determined during program evaluation.



Program	Q1	Q2	Total	EE&C Goal	Goal Achieved	% of Goal achieved
Energy Efficient Equipment	93	198	291	980	<input type="checkbox"/>	30%
Home Insulation	6	26	32	313	<input type="checkbox"/>	10%
New Home Construction	45	16	61	40	<input checked="" type="checkbox"/>	153%
Winter Warming		182	182	350	<input type="checkbox"/>	52%
Home Energy 'E' Audits	54	86	140	100	<input checked="" type="checkbox"/>	140%
Instant Savings	926	1,410	2,336	48,334	<input type="checkbox"/>	5%
Business Energy Rebates	1,207	562	1,769	7,100	<input type="checkbox"/>	25%
Community Energy Solutions	-		-	50	<input type="checkbox"/>	0%

Administrative Updates

As per section 13 of the Order, PEIEC established a Demand Side Management Advisory Group. This group is titled the Electricity Efficiency & Conservation Advisory Group and has 13 representatives across business and industry, community organizations, government, and the public.

To date, 1 meeting has taken place this fiscal year, and 2 meetings occurred in 2019/20. The next meeting will be in Q3.

As per section 22 of the order, PEIEC hired a third party (Dunsky Energy Consulting) to complete a 10 Year Electricity Only Potential Study. The original timeframe had the draft final report date as December 1, 2020, with the final report submitted by Jan 1, 2021. Utility data is an important part of the potential study, and while the utilities have worked to provide requested data, there have been delays in receiving information. In addition to this, the contractor has had to create workarounds when requested data was unavailable. As a result, the deliverable dates have been delayed, with the draft final report date now Jan 1, 2021, and the final report Feb 12, 2021.



Q3 Electricity Efficiency & Conservation Report

2020 Quarter Three

Activity for the period October 1 to December 31, 2020

Date Filed: February 2, 2021

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Introduction

In May of 2019, the Prince Edward Island Energy Corporation (PEIEC) received approval for a three-year electricity efficiency and conservation (EE&C) plan from the Island Regulatory and Appeals Commission. As per Order UE19-03, PEIEC is to provide Quarterly Reporting, as outlined in Appendix "A". The quarterly reports will provide qualitative program updates, as well as planned vs. actual program participation. This report is for Q3 of the 2020/21 fiscal year.

Covid-19 Update

As a result of the December Circuit Breaker, as announced by the Province of PEI, any efficiencyPEI staff who were able to work from home were encouraged to do so for a two week period. Inspections and Winter Warming services were temporarily suspended, but returned near the end of the quarter once restrictions were lifted. efficiencyPEI staff continue to work staggered schedules in both the office and at home to ensure proper social distancing occurs.

Program Update

To determine demand side management savings, only applications where the primary heating source is electricity can be claimed. The PEI Home Energy Survey determined the primary heating source for 20 percent of homes on Prince Edward Island is electricity. During the 2019/20 evaluation, new percentages were determined for each program. These percentages are applied to determine a more accurate representation of eligible program participants and savings.

efficiencyPEI experienced a processing backlog of program applications during Q3 resulting in increased processing times for clients. This could be attributed to equipment installations that were delayed in the spring as a result of Covid-19, that were pushed to the summer months. In addition, we believe a warmer than average summer resulted in increased mini split air source heat pump installations, and efficiencyPEI also experienced issues filling staff positions during this time. Additional resources were brought in from other areas of the department to assist with the backlog, and it was cleared by the end of Q3.

Energy Efficient Equipment

The Energy Efficient Equipment program offers rebates for the installation of energy efficient equipment, including heat pumps, water saving devices, biomass-heating devices, and other energy saving products.

As was mentioned in Program Updates, efficiencyPEI received an influx of program applications during Q3, particularly with the Energy Efficient Equipment program. During this time the program received 1993 applications, and approved 2007. Of the approved applications, 89% were for mini split air source heat pumps, which is an increase of 8% over Q2 installations. The evaluation determined the 20% factor was applicable, and when applied, there were 399 eligible program participants and 689 total this fiscal year.

Home Insulation Rebates

The Home Insulation Program offers grants for the installation of insulation, air sealing improvements as well as ENERGY STAR® windows and doors.

The Home Insulation program received 102 applications in Q3, and approved 92. To date there have been 227 received, and 198 approved applications. The most common upgrade types are windows/doors, attic insulation, and basement insulation. The average Home Insulation rebate was \$1878 during this quarter.

The evaluation updated the 20% factor to 26% and when applied, there are 27 eligible program participants this quarter, and 59 to date.

Winter Warming

Winter Warming provides free air sealing and energy efficient upgrades to qualified low to moderate income Islanders.

Winter Warming services were temporarily suspended for a two week period during December as a result of the Covid-19 Circuit Breaker. In total, there were 218 participants during this quarter.

Currently, an RFP is being worked on to move to a Service Organization (SO) model for Direct Install (DI) delivery of this program. This will streamline program administration, including inventory control and reporting.

New Home Construction

The New Home Construction program incentivizes homeowners to build to ENERGY STAR® (20% better than code) or R2000 standard (50% better than code), offering two tiers of rebates depending on the efficiency standard achieved.

The New Home Construction Program received 30 applications and approved 19 in Q2. Due to the nature of this program, Covid-19 had a more limited impact on participation. Of the New Home Construction applications approved, 15 were 20% better than code, while the remaining 4 were 50% better than code.

Instant Energy Savings

The Instant Savings Program provides instant rebates in-store on select energy efficient products such as Energy Star® LED lamps, dimmer switches, low flow shower heads, programmable thermostats, outdoor clotheslines, and more. Rebates are applied at the cash register, with no application required, and consist of a spring and fall campaign. Year-round rebates are also available in-store for larger appliances, including toilets, refrigerators, and washers.

During Q3, there were 1307 products from the year-round program rebated. The extended in-store fall campaign took place from September 11th to December 6th, and resulted in 68,727 units being rebated. Lighting remains the most popular product during the in-store campaign, consisting of 94% of the rebated units. The fall campaign was very successful and preliminary data suggests that we may have already reached our 3 year program target one campaign early.

Home Energy Audits

This program offers subsidized home energy audits, which are designed to help homeowners increase the energy efficiency and comfort of their homes. The evaluation provides useful information about a home's energy performance that can help make informed decisions when operating, renovating or purchasing a home.

There were initial 308 "D" audits completed during Q3, which is an increase of 53% over Q3 in 2019/20. In addition, there were 177 "E" audits completed during this timeframe.

Business Energy Rebates

The Business Energy Rebates program offers support to businesses, non-profits and institutional organizations, as well as industrial/agricultural facilities for choosing high-efficiency products.

This program was launched in July of, 2018 with a phased in approach. The original list of eligible products included 11 lighting products, 2 occupancy sensor products, and small capacity heat pumps. The list was expanded on April 1, 2019 and again on April 1, 2020. The final expansion of products include 5 additional lighting types.

The Business Energy Rebates program received 90 applications in Q3, and approved 74 (1499 units.)

Community Energy Solutions

In August, the Business Energy Solutions program and Custom Energy Solutions program were combined into the Community Energy Solutions Program. This program is aimed at helping larger operations including farms, institutions, businesses, and community facilities increase energy efficiency through upgrade rebates. Initial energy audits are free, with incentives available for scoping and feasibility studies for more specialized projects. The program may cover up to 50 percent of total energy efficient upgrade costs, up to \$50,000.

During Q3, there were 24 applications received, and 16 audits completed. There have been no projects completed under this program to date.

Participation

This section displays quarterly participation, with eligibility percentages applied where applicable. As noted above, 20% was previously used from PEI Home Energy Survey data. In 2019/20, new percentages were determined during program evaluation.

Program Participation



Program	Q1	Q2	Q3	Total	EE&C Goal	Goal Achieved	% of Goal achieved
Energy Efficient Equipment	93	198	399	689	980	<input type="checkbox"/>	70%
Home Insulation	6	27	27	59	313	<input type="checkbox"/>	19%
New Home Construction	45	16	19	80	40	<input checked="" type="checkbox"/>	200%
Winter Warming		254	218	472	350	<input checked="" type="checkbox"/>	135%
Home Energy 'E' Audits	54	87	177	318	100	<input checked="" type="checkbox"/>	318%
Instant Savings	926	1,410	70,034	72,370	48,334	<input checked="" type="checkbox"/>	150%
Business Energy Rebates	1,207	562	1,499	3,268	7,100	<input type="checkbox"/>	46%
Community Energy Solutions	-			-	50	<input type="checkbox"/>	0%

Administrative Updates

As per section 13 of the Order, PEIEC established a Demand Side Management Advisory Group. This group is titled the Electricity Efficiency & Conservation Advisory Group and has 13 representatives across business and industry, community organizations, government, and the public. Two meetings have taken place during the 2020/21 fiscal year, one during Q1, and another during Q3. The Advisory Group were presented preliminary results of the Demand Response section of the upcoming Potential Study, and will be given an opportunity to provide input on the final draft results before the report is completed.

As per section 22 of the order, PEIEC hired a third party (Dunskey Energy Consulting) to complete a 10 Year Electricity Only Potential Study. As was mentioned during the Q2 report, the report deliverable dates were delayed, with the draft final report date now late January, 2021, and the final report mid-February, 2021. The results of this study will be used in the creation of the next Electricity Efficiency and Conservation Plan.

An RFP has been submitted for approval for the development of the next three year Electricity Efficiency and Conservation Plan. The RFP is expected to be posted in early Q4, with an anticipated start date of the successful proponent in February of 2021.



Electricity Efficiency & Conservation Annual Progress Report

Activity for the period April 1, 2019 to March 31, 2020

ACRONYMS

BER	Business Energy Rebates (program)
DLC	DesignLights Consortium
DSM	Demand-side management
EE&C	Electricity efficiency and conservation
ePEI	efficiencyPEI
EUL	Effective useful life
IPC	Incremental product cost
IRAC	Island Regulatory and Appeals Commission
LED	Light-emitting diode
MSHP	Mini-split heat pump
PAC	Program Administrator Cost (test)
PEI	Prince Edward Island
TRC	Total Resource Cost (test)

DEFINITIONS

Effective useful life	The period a measure is expected to be in service and provide both energy and peak demand savings. This value combines the equipment life and the measure persistence, which includes factors such as business turnover or early retirement.
Evaluated savings	Gross and net savings calculated by the Evaluator using parameters (installation rates, interactive effects, net-to-gross ratio, etc.) validated or measured during the evaluation process.
Net savings	Energy or peak demand savings that can be reliably attributed to a program. This includes effects, such as free-ridership and spillover, that negatively or positively affect the savings attributable to a program.
Peak demand savings	The demand savings that coincide in time with the peak demand of the electricity system.
Program Administrator Cost test	This test compares program administrator costs to utility resource savings.
Total Resource Cost test	This test compares program administrator and participant costs to utility resource savings and in some cases, other resource savings and program benefits accrued by participants, such as non-energy benefits.
Tracked savings	Gross and net savings calculated by the utility in its internal tracking, based on various parameters such as number of participants, installation rates, interactive effects, and net-to-gross ratio.
Unitary savings	Energy or peak demand savings established on a unitary basis. This unit can either be a product (e.g., an 8 W LED lamp), a capacity (e.g., one-ton capacity of an air-source heat pump) or a participant (e.g., one participant taking part in a behaviour-based program).

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Executive Summary

In its Order dated May 17, 2019, the Island Regulatory and Appeals Commission (IRAC) approved the 2018-21 Electricity Efficiency and Conservation (EE&C) Plan. The IRAC Order approved a 2019/20 investment of \$4,660,785 with corresponding net savings of 10.8 GWh of energy and 2.6 MW of peak demand.

Savings

In the 2019/20 fiscal year, efficiencyPEI achieved total net energy savings of 8.1 GWh, and total peak demand savings of 3.1 MW.

Table 1: Net Energy Savings (GWh) and Net Demand Savings (MW) by Portfolio

Portfolio	Planned (GWh)	Actual (GWh)	Actual as a % of Planned	Planned (MW)	Actual (MW)	Actual as a % of Planned
2019/20	10.8	8.1	75%	2.6	3.1	120%

While several programs exceeded savings targets, Home Insulation, and Instant Savings programs reached 53%, and 78% of their respective targets. For Energy Efficient Equipment, the evaluator reduced the unitary savings value for mini split heat pumps by 32% compared to what was used in EE&C Plan development. This reduction had a significant impact on savings. Participation numbers resulted in lower Home Insulation savings and Instant Savings program savings.

Additionally, Small Business Energy Rebates and Custom Energy Solutions programs have not been launched to date. These programs had combined targeted savings of 1.2GWh.

Participation

Program Participation was strong during the fiscal year, with all but two programs exceeding their targets. The New Home Construction program had 95 participants, compared to the targeted amount of 20. The Home Insulation Program reached 48% of its targeted amount. Due to the maturity of building envelope upgrade programs in Nova Scotia, whose assumptions were used in the EE&C Plan development, program participation targets for Prince Edward Island were set quite high. The program uptake was not what was projected.

Cost-Effectiveness

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

Budget

The Order approved a 2019/20 investment of \$4,660,785, including Enabling Strategies and Evaluation. A total of \$2,630,281 was spent during this fiscal year. Several factors resulted in this reduced budget. Two of the three commercial programs were not launched, and participation in two programs were lower than targeted. In addition, during the evaluation, the Evaluator determined the percentage of each program budget that is attributed to electric savings. This percentage ranges by program, and in some programs reduced the budget amount.

2019/20 EE&C Results

Savings

In the 2019/20 fiscal year, efficiencyPEI achieved total net energy savings for all EE&C programs of 8.1 GWh, compared to the EE&C Target of 10.8 GWh. Total peak demand savings were 3.1 MW compared to 2.6 MW. Small Business Energy Rebates and Custom Energy Solutions did not launch during the fiscal year, had a combined savings target of 1.2GWh

Table 2: Net Energy Savings (GWh) and Net Demand Savings (MW) by Program

Program	Planned (GWh)	Actual (GWh)	Actual as a % of Planned	Planned (MW)	Actual (MW)	Actual as a % of Planned
Energy Efficient Equipment	2.8	2.1	74%	0.99	1.77	179%
Home Insulation	1.3	0.7	53%	0.40	0.21	51%
New Home Construction	0.2	0.8	483%	0.05	0.23	468%
Winter Warming	0.3	0.5	133%	0.08	0.06	73%
Instant Savings	3.7	2.9	78%	0.81	0.42	52%
Business Energy Rebates	1.1	1.1	99%	0.15	0.43	287%
Small Business Energy Rebates	0.5			0.07		
Custom Energy Solutions	0.7			0.08		

Table 3: Net Energy Savings (GWh) and Net Demand Savings (MW) by Sector

Sector	Planned (GWh)	Actual (GWh)	Actual as a % of Planned	Planned (MW)	Actual (MW)	Actual as a % of Planned
Residential	8.4	7.0	83%	2.3	2.7	116%
Commercial	2.4	1.1	46%	0.3	0.4	143%

Table 4: Net Energy Savings (GWh) and Net Demand Savings (MW) by Portfolio

Portfolio	Planned (GWh)	Actual (GWh)	Actual as a % of Planned	Planned (MW)	Actual (MW)	Actual as a % of Planned
2019/20	10.8	8.1	75%	2.6	3.1	120%

Variations in Savings

Energy Efficient Equipment

Net energy savings were 26% below target. During the evaluation process, the evaluator updated the unitary savings value for mini split heat pumps to 2031 kWh, compared to approximately 3000 kWh used in EE&C Plan development. This change had a significant impact on savings, as mini split heat pumps represent the vast majority of program participation.

Home Insulation

Program participation was half of the targeted amount, and as a result, program savings were 51% less than target. The initial targets projected in the EE&C Plan were based on Nova Scotia uptake rates, resulting in an overly optimistic participation rate.

New Home Construction

Program participation greatly exceeded initial estimates. This uptake resulted in almost 5 times the targeted savings amount.

Winter Warming

Program participation exceeded initial targets by twofold. This resulted in greater energy savings.

Instant Savings

Two of the in-store campaigns took place during federal and provincial elections. As a result, limited advertising could be completed during those times. The number of units rebated was less than targeted, which resulted in decreased savings. The program reached 78% of its target.

Participation

New Home Construction, Winter Warming, and Business Energy Rebates saw higher program participation than their respective targets. Energy Efficient Equipment and Instant Savings were within 25% of target, while Home Insulation was just shy of 50%. The Small Business Energy Rebates Program and Custom Energy Solutions Program were not launched during the fiscal year as planned.

Table 5: Participation by Program

Program	Planned (#)	Actual (#)	Actual as a % of Planned
Energy Efficient Equipment	820	876 ¹	107%
Home Insulation	210	101	48%
New Home Construction	20	95	475%
Winter Warming	350	699	151%
Instant Savings (Units)	95901	74621	78%
Business Energy Rebates (Products)	5272	5460	104%

¹ In the initial EE&C Plan, the target for Energy Efficient Equipment Program was the number of participants. Since clients can install more than one unit, it was recommended by the evaluator to change participation to “units”.

Small Business Energy Rebates	30	0	0
Custom Energy Solutions	5	0	0

Cost-Effectiveness

As per the Order, the Program Administrator Cost (PAC) test was used as the primary tool to determine cost-effectiveness. The Total Resource Cost (TRC) test was used as the secondary test. These tests were completed at the program and portfolio level. In 2019/20, programs were determined to be very cost-effective.

Table 6: Cost-Effectiveness by Program

Program	PAC Planned	PAC Actual	TRC Planned	TRC Actual
Energy Efficient Equipment	5.5	10.46	3	3.15
Home Insulation	5.1	7.22	0.8	4.11
New Home Construction	3.2	7.56	1.2	4
Winter Warming	2	4.56	2.1	5.65
Instant Savings	8.6	3.94	3.1	6.84
Business Energy Rebates	2.8	11.71	1.2	17.98
Small Business Energy Rebates	1.6	-	1.5	-
Custom Energy Solutions	3.3	-	2.3	-

Table 7: Cost-Effectiveness by Portfolio

Portfolio	PAC Planned	PAC Actual	TRC Planned	TRC Actual
2019/20	4.5	7.36	1.7	3.69

Variations in Cost-Effectiveness

Energy Efficiency Equipment

The difference comes from the cost items for both ratios. The program administration costs targeted were higher than the final number (which affects both ratios), the incentive costs targeted were higher (PAC) and the Incremental Product Cost (IPC) targeted was higher (TRC) than the results obtained during the evaluation.

Home Insulation

The unitary IPC used per participant is higher in the targets than what was found during the evaluation.

New Home Construction

In 2019/20, there was a greater number of participants versus the targets (95 versus 20). This generates higher benefits. More projects translated into more incentive costs, which can result in the higher PAC.

Regarding the TRC, the additional lifetime benefits from the 30-year Effective Useful Life (EUL) and the higher number of participants are major contributors to the difference. In addition, the unitary IPC used in the targets is higher than what was found during the evaluation. The lower evaluated unitary IPC reduced the costs and increased the TRC ratio.

Winter Warming

Like the Energy Efficient Equipment program, the difference comes from the cost items for both ratios. The program administration costs targeted were higher than the final number (which affects both ratios), the incentive costs targeted were higher (PAC) and the Incremental Product Cost (IPC) targeted was higher (TRC) than the results obtained during the evaluation.

Instant Savings

Looking at the benefits, the evaluated results use a lower kW per product and a lower EUL (average of 7 years versus 14 for targets). This has a large impact on the lifetime benefits used in calculating the PAC and TRC ratios. The difference for the PAC ratio is due to the lifetime benefits being higher in the targets versus the evaluation results. For the TRC, even with the lifetime benefits being lower in the evaluation results, the fact that the evaluated IPC is nearly 10 times lower than the targets resulted in the evaluated TRC being higher.

Business Energy Rebates

The PAC test results from evaluation are much higher than the targets set, despite the savings being below targets. This is a result of program costs being overestimated during program design, and avoided costs being underestimated.

Benefits

During this fiscal year, actual benefit results were 94% of the targeted amount. While several programs significantly exceeded their target, Instant Savings and Home Insulation fell short by 42%, and 56% respectively. For the Instant Savings program, the evaluated results used a lower kW per product and a lower EUL (average of 7 years versus 14 for targets). For Home Insulation, participation was half of the targeted amount, which effected the amount of benefits obtained.

Table 8: Benefits by Program

Program	Planned (\$)	Actual (\$)	Actual as a % of Planned
Energy Efficient Equipment	\$6,710,000	\$8,962,391	134%
Home Insulation	\$3,630,000	\$2,017,088	56%
New Home Construction	\$540,000	\$2,893,466	536%
Winter Warming	\$570,000	\$424,961	75%
Instant Savings	\$6,620,000	\$2,748,518	42%
Business Energy Rebates	\$1,330,000	\$2,806,067	211%
Small Business Energy Rebates	\$670,000		
Custom Energy Solutions	\$960,000		

Table 9: Benefits by Sector

Sector	Planned (\$)	Actual (\$)	Actual as a % of Planned
Residential	\$18,070,000	\$17,046,424	94%
Commercial	\$2,960,000	\$2,806,067	95%

Table 10: Benefits by Portfolio

Portfolio	Planned (\$)	Actual (\$)	Actual as a % of Planned
2019/20	\$21,030,000	\$19,852,491	94%

Budget

The Order approved a 2019/20 investment of \$4,660,785, including Enabling Strategies and Evaluation. A total of \$2,630,281 was spent during this fiscal year. Details on these budget variations will be found in the next section.

Table 11: Budget by Program

Program	Planned (\$)	Actual (\$)	Actual as a % of Planned
Energy Efficient Equipment	\$1,186,150	\$846,395	71%
Home Insulation	\$687,903	\$268,291	39%
New Home Construction	\$142,588	\$343,736	241%
Winter Warming	\$257,356	\$74,409	29%
Instant Savings	\$732,353	\$511,251	70%
Business Energy Rebates	\$441,941	\$204,436	46%
Small Business Energy Rebates	\$392,493	\$0	0%
Custom Energy Solutions	\$260,882	\$0	0%
Enabling Strategies	\$334,946	\$114,432	34%
Evaluation	\$224,173	\$267,331	119%

Table 12: Budget by Sector

Sector	Planned (\$)	Actual (\$)	Actual as a % of Planned
Residential	\$3,006,350	\$2,044,082	68%
Commercial	\$1,095,316	\$204,436	19%
Enabling Strategies	\$334,946	\$114,432	34%
Evaluation	\$224,173	\$267,331	119%

Table 13: Budget by Portfolio

Portfolio	Planned (\$)	Actual (\$)	Actual as a % of Planned
2019/20	\$4,660,785	\$2,630,281	56%

Variations in Budget

Energy Efficient Equipment

While 20% of the mini split heat pump units generate electricity savings, the cost-effectiveness results were calculated using the proportion of electrical savings in relation to non-electrical savings, based on the electrical and non-electrical unitary savings values established by the evaluator, which was 15%. This 5% difference reduced the budget compared to target.

Home Insulation

Program participation was significantly less than targeted, which resulted in a reduced budget.

New Home Construction

The increased budget amount can be attributed to the significant increase in program participation.

Winter Warming

The separation of cost between electric and non-electric can explain the decreased budget. The total reported costs are close to the targeted costs, but are considerably lower once the % of electric savings is applied.

Instant Savings

Program participation was less than targeted, which resulted in a reduced budget.

Business Energy Rebates

The budget was significantly lower than target. This is a result of program costs being overestimated during program design, and avoided costs being underestimated.

Funding

The majority of funding for the EE&C plan comes from Provincial and Federal government, with ratepayers contributing approximately 21%. Using 2019/20 plan expenditures, the following table presents 2019/20 funding sources.

Table 14: Funding Sources

Funding Source	Planned (\$)	Actual (\$)
Maritime Electric	\$873,000	\$499,753
Summerside Electric	\$97,000	\$52,606
Federal Government	\$1,774,000	\$999,507
Provincial Government	\$1,916,000	\$1,078,415
Total Funding	\$4,660,000	\$2,630,281

Program Summary

The following section of the report outlines successes, challenges, and lesson learned for each program.

Program Successes

Energy Efficient Equipment

Participation in this program is strong. While mini split heat pumps remain the most popular equipment upgrade, heat/energy recovery ventilator installations increased over twofold during the 2019/20 fiscal year. The average client rebate was \$1378.

Home Insulation Program

While client numbers are still below the planned targets, participation has tripled in this program over the previous year.

New Home Construction

Participation in the New Home Construction Program was significantly greater than what was targeted in 2019/20. This program has been extremely popular since it launched in 2018. More clients are achieving the 50% better than code threshold and building more efficient homes compared to the previous year.

Winter Warming

High participation numbers in this program. efficiencyPEI started offering the Home Comfort Program in 2017. This program offers free energy efficient upgrades for low-income homeowners, including basement and attic insulation, windows and doors, and heating system upgrades where necessary. While this program is not part of the EE&C plan, all Home Comfort clients receive the Winter Warming package as part of the service offering. This is the primary reason for the high participation rates in the Winter Warming program.

Instant Savings

Savings are close to targets outlined in the EE&C Plan. As stated previously, two Instant Savings campaigns were held during provincial and federal election campaigns, which limited the amount of marketing we were allowed to undertake.

Business Energy Rebates

Clients have informed us their electrician recommended the Business Energy Rebates Program. Increased program awareness in electrical contractors is something efficiencyPEI has worked towards through marketing and engagement with our Network of Excellence.

Program Challenges

Energy Efficient Equipment

On April 1st, 2019 the program added a requirement that all heat pumps must be supplied and installed by an approved Network of Excellence contractor. This change was made to protect clients from improper/illegal installations, as well as to ensure they have adequate equipment and labor warranties. While extensive efforts were made to communicate this change, a small number of clients submitted ineligible applications due to this requirement.

Home Insulation Program

Clients have communicated they have difficulty understanding the audit report. ePEI has reached out to our two service organizations requesting more follow-up with clients to ensure they understand the audit report and to answer any specific questions they may have.

New Home Construction

There are issues with clients/builders understanding the process. The building plan review must take place before construction starts. Clients have tried to access the program during construction, when it would be difficult to implement any recommended efficiency improvements. In addition, there are opportunities to increase program awareness with local builders.

Winter Warming

Measure tracking and savings quantification including installation verification to cross reference inventory. Duplication issues with multiple possible entry points into the program (WW application, Low-Income rebate, Home Comfort client). Clear and consistent identification of heating sources: both primary and to a lesser extent secondary.

Instant Savings

Campaign timings have occurred during both provincial and federal elections, when advertising is halted during that time. This significantly impacted our marketing and outreach efforts. Compounding the problem further, the spring campaign for 2020/21 was cancelled due to Covid-19. We are planning a longer campaign in the fall, but we may ultimately fall short of our overall plan target.

Additionally, as LED lights become the new standard, Instant Savings programs are going to have to rely on other product types to reach savings targets.

Business Energy Rebates

For the Business Energy Rebates program, upgrades must fall under pre-determined product categories. Clients have installed items that are not eligible. Contractors may not be familiar with category types used in the Design Lights Consortium (DLC) database, as they may be different from terminology used in the industry. There are opportunities to educate the industry through our contractor's network around what the DLC categories mean.

Lessons Learned

Energy Efficient Equipment

With the development of the Network of Excellence, there remains opportunities to support local industries through educational and awareness initiatives.

Home Insulation Program

efficiencyPEI is working with Service Organizations to update the audit report, and ensure clients are given time for a more extensive review of the report with energy auditors.

New Home Construction

Having two program tiers may limit the upgrades clients complete during construction. If a client meets the 20% better than code requirement, they may not be motivated to implement upgrades to reach 50%

better than code. Having more tiers would provide more incentive for clients to add more efficiency upgrades.

Winter Warming

The proposed solution to issues with the current delivery model is to move to a Service Organization (SO) model for Direct Install (DI) delivery. This will improve consistency and streamline program administration, including inventory control and reporting. Developing additional requirements around the latter will allow for the development of performance targets (i.e. bonus structure for air leakage mitigation etc.) and opportunities for SO's to identify innovative options and or measure/product expansion.

Instant Savings

Opportunities to create a new model with the service organizations to deliver on savings targets without specifying program models.

Business Energy Rebates

Document collection with applications has been improved. All lighting worksheets and utility bills must be provided for each application on a go forward basis.

Measurement & Evaluation

As per the Order, efficiencyPEI hired an external evaluator (Econoler) in the fall of 2019. The Evaluator completed Impact Evaluations for all residential programs, as well as the Business Energy Rebates Program for the 2019/20 fiscal year. The Evaluator then used the results to conduct a Savings Verification review for 2018/19.

Due to the fact the Small Business Energy Solutions and Custom Energy Solutions Programs have not been officially launched to date, the Evaluator completed a Process Evaluation on data collection methods and provided recommendations.

2018/19 Results

As per the Order, the Evaluator used methods and assumptions determined in the 2019/20 impact evaluations to determine evaluated results for 2018/19.

Savings

Table 15: FY 18/19 Net Energy Savings (GWh) and Net Demand Savings (MW) by Program

Program	Planned (GWh)	Actual (GWh)	Actual as a % of Planned	Planned (MW)	Actual (MW)	Actual as a % of Planned
Energy Efficient Equipment	2.1	2.0	96%	0.7	1.744	249%
Home Insulation	0.5	0.1	25%	0.2	0.038	19%
New Home Construction	0.1	0.2	178%	0.04	0.074	185%
Winter Warming	0.4	0.3	100%	0.1	0.044	44%
Instant Savings	1.1	1.2	107%	0.2	0.168	84%
Business Energy Rebates	0.9	0.2	24%	0.1	0.187	187%

Table 16: FY 18/19 Net Energy Savings (GWh) and Net Demand Savings (MW) by Sector

Sector	Planned (GWh)	Actual (GWh)	Actual as a % of Planned	Planned (MW)	Actual (MW)	Actual as a % of Planned
Residential	4.16	3.9	93%	1.2	2.1	93%
Commercial	2.4	0.2	9%	0.1	0.2	9%

Table 17: FY 18/19 Net Energy Savings (GWh) and Net Demand Savings (MW) by Portfolio

Portfolio	Planned (GWh)	Actual (GWh)	Actual as a % of Planned	Planned (MW)	Actual (MW)	Actual as a % of Planned
2018/19	6.6	4.1	62%	1.3	2.3	168%

Participation

Table 18: FY 18/19 Participation by Program

Program	Planned (#)	Actual (#)	Actual as a % of Planned
Energy Efficient Equipment	550	709	129%
Home Insulation	80	16	20%
New Home Construction	20	36	180%
Winter Warming	350	528	200%
Instant Savings (Units)	28291	29774	105%
Business Energy Rebates (Products)	4135	1727	42%
Small Business Energy Rebates	8370	0	
Custom Energy Solutions	0	0	

Cost-Effectiveness

Table 19: FY 18/19 Cost-Effectiveness by Program

Program	PAC Planned	PAC Actual	TRC Planned	TRC Actual
Energy Efficient Equipment	5.8	9.98	3	3.19
Home Insulation	4.5	3.35	0.8	3.48
New Home Construction	3.1	4.51	1.2	3.27
Winter Warming	2.1	4.47	2.2	5.45
Instant Savings	4.9	2.15	2.4	4.67
Business Energy Rebates	2.6	17.22	1.1	16.43

Table 20: FY 18/19 Cost-Effectiveness by Portfolio

Portfolio	PAC Planned	PAC Actual	TRC Planned	TRC Actual
2018/19	3.9	7.36	1.8	3.69

Benefits

Table 21: FY 18/19 Benefits by Program

Program	Planned (\$)	Actual (\$)	Actual as a % of Planned
Energy Efficient Equipment	\$4,830,000	\$8,703,473	180%
Home Insulation	\$1,460,000	\$372,056	25%
New Home Construction	\$460,000	\$909,121	198%
Winter Warming	\$570,000	\$321,164	56%
Instant Savings	\$1,950,000	\$1,206,622	62%
Business Energy Rebates	\$1,050,000	\$733,818	70%
Small Business Energy Rebates	\$490,000		
Custom Energy Solutions	\$0		

Table 22: FY 18/19 Benefits by Sector

Sector	Planned (\$)	Actual (\$)	Actual as a % of Planned
Residential	\$9,270,000	\$11,512,436	124%
Commercial	\$1,540,000	\$733,818	48%

Table 23: FY 18/19 Benefits by Sector

Portfolio	Planned (\$)	Actual (\$)	Actual as a % of Planned
2018/19	\$10,810,000	\$12,246,254	113%

Budget

Table 24: FY 18/19 Budget by Program

Program	Planned (\$)	Actual (\$)	Actual as a % of Planned
Energy Efficient Equipment	\$803,150	\$869,270	108%
Home Insulation	\$302,254	\$105,070	35%
New Home Construction	\$129,529	\$183,320	142%
Winter Warming	\$257,356	\$66,193	26%
Instant Savings	\$373,014	\$393,641	106%
Business Energy Rebates	\$381,326	\$38,493	10%
Small Business Energy Rebates	\$267,568	\$0	0%
Custom Energy Solutions	\$30,000	\$0	0%
Enabling Strategies	\$75,000	\$130,183	174%
Evaluation	\$150,000	\$12,350	8%

Table 25: FY 18/19 Budget by Sector

Sector	Planned (\$)	Actual (\$)	Actual as a % of Planned
Residential	\$1,865,303	\$1,617,494	87%
Commercial	\$678,894	\$38,493	6%
Enabling Strategies	\$75,000	\$130,183	174%
Evaluation	\$150,000	\$12,350	8%

Table 26: FY 18/19 Budget by Portfolio

Portfolio	Planned (\$)	Actual (\$)	Actual as a % of Planned
2018/19	\$2,769,197	\$1,798,520	65%

2018-19 EE&C Plan Results – Portfolio Level

The following table provides an overall summary of the 2018-2020 EE&C Plan period's cumulative results, at the portfolio level.

Table 27: Cumulative Results

	Year	Investment (\$ million)	Annual Net Energy Savings (GWh)	Annual Net Demand Savings (MW)	Total Resource Cost Test (TRC)	Program Administrator Cost Test (PAC)
Approved	2018/19	2.77	5.44	1.39	1.8	3.9
	2019/20	4.66	10.77	2.61	1.7	4.5
	Total	7.43	16.21	4.0		
Results	2018/19	1.66	4.1	2.3	3.12	6.47
	2019/20	2.63	8.1	3.1	3.69	7.36
	Total	4.29	12.2	5.4		

Key Assumptions

The following key assumptions used during the evaluation process were provided by Maritime Electric:

- Discount Rate
- Avoided Costs
- Annual Average Marginal Line Losses
- On-Peak Marginal Line Losses

While Maritime Electric were cooperative during the evaluation process, they were not required to share the methodologies used to determine the key assumptions. Econoler used engineering calculations and research to determine the following weighted average measure life by program.

Table 28: 2018-20 Weighted Average Measure Life

Weighted Average Measure Life	Years
Energy Efficient Equipment	18
Home Insulation	22.7
New Home Construction	30
Winter Warming	4 - 25
Instant Savings	6.4 - 14
Business Energy Rebates	8 - 22.7
Small Business Energy Rebates	-
Custom Energy Solutions	-