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March 27, 2024

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC
V6Z 2N3

Attention: Patrick Wruck, Commission Secretary

Dear Patrick Wruck:

Re: FortisBC Inc. (FBC)
Electricity Demand Side Management (DSM) – 2023 Annual Report

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Attached please find the Electricity DSM Program 2023 Annual Report for FBC.

If further information is required, please contact Sarah Commander, Regulatory Projects Manager at (250) 469-6081.

Sincerely,

FORTISBC INC.

Original signed:

Sarah Walsh

Attachment

FortisBC Inc.

Electricity
Demand-Side Management Programs
2023 Annual Report

March 27, 2024

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1. REPORT OVERVIEW

This Demand-Side Management (DSM) Annual Report (the Report) provides highlights of FortisBC Inc.'s (FBC or the Company) DSM programs for the year ended December 31, 2023 and provides a summary of results achieved in 2023. The Report reviews the progress of FBC's DSM programs in meeting the approved 2023-2027 DSM Plan[1] (Plan) by educating and incenting FBC's customers to conserve energy and improve the energy efficiency of their homes, buildings, and businesses.

Section 1.1 contains a statement of financial results (Table 1-1), including the Total Resource Cost (TRC) benefit/cost ratio cost-effectiveness test results by Program Area for 2023. Sections 1.1 and 1.2 set out how FBC's DSM programs met the requirements of the British Columbia Demand-Side Measures Regulation (DSM Regulation) enacted under the Utilities Commission Act (UCA). Sections 2 through 10 of the Report provide an overview of DSM program activities in 2023 by Program Area, including program-level comparisons of actual energy savings and costs to Plan.

Consistent with previous DSM annual reports, additional details on 2023 program results, cost-effectiveness test results and levelized costs, as well as historical DSM program costs and energy savings are included in Appendix A-1 and Appendix A-2, respectively.

Throughout the Report, any difference in the totals between the DSM Portfolio Overview and Program Area tables are due to rounding. Where "zero" values occur, they may reflect rounding to the nearest $000s expenditure level when expenditures were under $500.

1.1 PORTFOLIO LEVEL RESULTS

Table 1-1 provides an overview of FBC's 2023 energy savings, expenditures and TRC cost-effectiveness test results for all DSM programs, by Program Area, and at the portfolio level.

In addition to annual energy savings, the 2023 DSM Report now also incorporates annual demand savings. Demand savings signify the decrease in peak electricity demand achieved through energy savings measures and load management strategies. It's noteworthy that 2023 marked FBC's first year with the Demand Response program area in the current DSM Plan. This addition to the reporting framework provides a more comprehensive view of FBC's efforts in promoting grid reliability.

FBC achieved an overall portfolio TRC of 1.6 on DSM expenditures of $11.7 million. Electricity savings totalled 31.3 GWh and demand savings totalled 8.0 MW. All FBC DSM programs passed the TRC test at the Program Area-level.

[1] The FortisBC Inc. 2023-2027 DSM Plan expenditures were accepted by the Commission pursuant to Order G-371-22.

Table 1-1: DSM Portfolio Summary Results for 2023

	Annual Energy Savings (GWh)		Annual Demand Savings (MW)		Expenditures ($000s)		Benefit/ Cost
Program Area	**Plan**	**Actual**	**Plan**	**Actual**	**Plan**	**Actual**	**TRC**
Residential	5.7	3.6	1.7	3.3	2,946	2,753	1.3
Commercial	10.8	16.2	1.7	3.6	3,129	3,346	2.1
Industrial	8.4	9.8	1.4	0.5	2,119	925	3.9
Low Income	1.6	1.7	0.2	0.4	1,743	1,707	1.4
Conservation Education and Outreach	-	-	-	-	897	534	-
Enabling Activities	-	0.1	-	-	1,550	1,192	-
Innovative Technologies	-	-	-	-	485	96	-
Demand Response	-	-	1.0	0.2	773	522	-
Portfolio Level Activities	-	-	-	-	813	602	-
Total	**26.4**	**31.4**	**5.9**	**8.0**	**14,455**	**11,677**	**1.6**

FBC's actual 2023 DSM expenditures were 81 percent of Plan and the DSM energy savings were 119 percent of Plan. Actual savings exceeded Plan in the Commercial and Industrial program areas, however savings were lower than expected in the Residential and Low Income program areas.

1.2 MEETING ADEQUACY REQUIREMENTS

The 2023-2027 DSM Plan complies with the adequacy requirements of the DSM Regulation that were in effect at the time of Application filing, which includes amendments up to March 24, 2017. The DSM Regulation adequacy requirements are as follows:

> A public utility's plan portfolio is adequate for the purposes of Section 44.1 (8) c of the Act only if the plan portfolio includes all the following:
>
> a) a demand-side measure intended specifically to either (i) assist residents of low-income households to reduce their energy consumption, or (ii) reduce energy consumption in housing owned or operated by a local government, specified societies and associations, or a governing body of a first nation, if the benefits of the reduction primarily accrue to low-income households occupying the housing, the prescribed housing providers or the first nation governing body if the households in its housing are primarily low-income;
>
> b) a demand-side measure intended specifically to improve the energy efficiency of rental accommodations;
>
> c) an education program for students enrolled in schools in the public utility's service area;

d) an education program for students enrolled in post-secondary institutions in the public utility's service area;

e) one or more demand-side measures to provide resources as set out in paragraph (e) of the definition of "specified demand-side measure", representing no less than

(i) an average of 1% of the public utility's plan portfolio's expenditures per year over the portfolio's period of expenditures; and

f) one or more demand-side measures intended to result in the adoption by local governments and first nations of a step code or more stringent requirements within a step code.

In later sections of the Report, FBC provides further details on how its 2023 DSM activities meet these adequacy requirements. Section 3 of the Report discusses programs and incentives for low-income customers, including Direct Install Program, the Self Install Program and the Social Housing Support Program. With regards to rental apartment buildings, FBC's offers include the Rental Apartment Efficiency Program (RAP), detailed in Section 4.4. Tenants can also access the Direct Install and Self Install offers available to qualifying rental properties.

In 2023, FBC and FEI updated the K-12 curriculum connected educational programming with Energy Champions and Live-It Earth programs. Additionally, FEI and FBC funded post-secondary education initiatives, including the UBC Okanagan Smart Energy Chair and the UBC Okanagan and Okanagan College Green Construction Research and Training Centre's Wilden Living Lab 2 project.

FBC provided resources indicated by clause (e) for Codes and Standards (Section 7.3), which are fulfilled through third party funding arrangements. A total of $283 thousand was invested, which represents more than 1 percent of the overall Plan for 2023.

FBC supported BC Energy Step Code (the "Step Code") adoption through its New Homes Program (Section 2.3), new construction offers in the Commercial Performance Program (Section 4.3) and provided progressive rebates to align with the Step Code. It also provided funding for Community Energy Specialists to support energy conservation behaviour campaigns (organizational and community-based) and to promote the Step Code to municipal building inspection staff and local builders and developers (Section 7.7).

1.3 FUNDING TRANSFERS AND CARRYOVER

The BCUC Decision and Order G-371-22 (the Decision) on FBC's 2023-2027 DSM Plan filing accepted the amended funding transfer rules between Program Areas where only transfers that exceed 25 percent of a program area's budget *out* of a program area require approval from the BCUC to proceed. The Decision further accepted amendments to the carryover rules that allow unspent *and overspent* Plan amounts to the subsequent fiscal year.

The Decision requires FBC to continue filing Annual Reports as before but to include clear information on funding transfers between Program Areas and rollover amounts for each. Table 1-2 shows the 2023 Approved Plan Expenditures and 2023 funding transfers between Program Areas. In 2023, no transfers were made between programs areas, as shown in the Funding Transfer column in the below table.

Table 1-2: 2023 DSM Funding Transfers and Carryover Amounts ($000s)

Program Area (Sector)	2023 Approved Plan Expenditures	2023 Actual Expenditures	2023 Actual Less Plan Expenditures	Funding Transfer Amount in (out)	Plan Amount Carried over to 2024
Residential	2,946	2,753	(193)	-	193
Commercial	3,129	3,346	217	-	(217)
Industrial	2,119	925	(1,194)	-	1,194
Low Income	1,743	1,707	(36)	-	36
Conservation Education and Outreach	897	534	(363)	-	363
Enabling Activities	1,550	1,192	(358)	-	358
Innovative Technologies	485	96	(389)	-	389
Demand Response	773	522	(251)	-	251
Portfolio Level Activities	813	602	(211)	-	211
Total	**14,455**	**11,677**	**(2,778)**	**-**	**2,778**

Table 1-3: 2024 DSM Budget Including Carryover Amounts ($000s)

Program Area (Sector)	2024 Plan	2023 Carryover	2024 Budget including Carryover
Residential	3,258	193	3,451
Commercial	3,416	(217)	3,198
Industrial	2,130	1,194	3,324
Low Income	1,730	36	1,766
Conservation Education and Outreach	978	363	1,341
Enabling Activities	1,600	358	1,957
Innovative Technologies	685	389	1,075
Demand Response	803	251	1,055
Portfolio	836	211	1,047
Total	**15,436**	**2,778**	**18,214**

1.4 COLLABORATION & INTEGRATION

FBC continues to collaborate and integrate DSM programming among BC's large energy utilities, as well as with other entities such as governments and industry associations. The Company recognizes that doing so will maximize program efficiency and effectiveness.

FBC, FortisBC Energy Inc. (FEI), and British Columbia Hydro and Power Authority (BC Hydro) (collectively, the BC Utilities) continued to collaborate on various programs and projects to develop enhanced utility integration in support of government legislation, policy, and direction.

The BC Utilities also continue to experience cost efficiencies from their collaboration efforts, including streamlined application processes for customers, extended program reach and consistent and unified messaging intended to improve energy literacy.

FBC, FEI and the British Columbia Ministry of Energy, Mines and Low Carbon Innovation (EMLI), continued to collaborate in 2023. FBC's collaboration with EMLI on CleanBC initiatives included administering incentives and enabling applications for CleanBC rebates through FBC's application processes to provide a streamlined customer experience.

Although collaborative activities are captured in Program Area sections, the tables contained throughout the Report include only expenditure and savings information for FBC's expenditure portfolio.

1.5 PORTFOLIO SUMMARY

FBC's DSM portfolio met the goal of cost effectiveness, with a portfolio level TRC Benefit/Cost ratio of 1.6 in 2023. FBC believes that both energy savings accounted for in the portfolio and the resulting TRC are conservative, thus likely understated.

In addition to the direct energy benefits accounted for in the TRC, benefits from additional activities, such as Conservation Education and Outreach (CEO), Supporting Initiatives and Demand Response, play an important role in supporting the development and delivery of programs, while helping facilitate market transformation in British Columbia.

2. RESIDENTIAL PROGRAM AREA

2.1 OVERVIEW

The Residential Program Area achieved aggregate electricity savings of 3.6 GWh and an overall TRC of 1.3. Approximately $2.8 million was invested in Residential energy efficiency programs in 2023, compared to $2.5 million in 2022, and 81 percent of those expenditures were incentives to customers. The energy savings achieved from Residential programs were 63 percent of Plan.

The Residential Program Area predominantly includes residential customers living in detached dwellings, townhomes, mobile homes, and rental apartments. Program offers include both retrofit and new home offers. Residential programs, in combination with education and outreach activities, play an important role in driving the culture of conservation in British Columbia.

Table 2-1 summarizes the actual expenditures for the Residential Program Area in 2023 compared to Plan, including incentive and non-incentive spending, and annual electric savings.

Table 2-1: 2023 Residential Program Area Results Summary

	Annual Energy Savings (GWh)		Annual Demand Savings (MW)		Expenditures ($000s)			
Program	**Plan**	**Actual**	**Plan**	**Actual**	**Plan Total**	**Actual Total**	**Actual Incentive**	**Actual Non-Incentive**
Home Renovation	5.2	2.7	1.46	2.5	1,940	947	912	35
New Home	0.5	0.9	0.24	0.8	435	1,365	1,307	58
Labour	-	-	-	-	536	441	-	441
Non-Program Specific Expenses	-	-	-	-	36	1	-	1
Total	**5.7**	**3.6**	**1.71**	**3.3**	**2,946**	**2,753**	**2,219**	**535**

2.2 HOME RENOVATION

The Home Renovation Rebate (HRR) program encourages customers to take a whole home approach to their energy efficiency upgrades by consolidating space heating, water heating, and building envelope measures into an overarching program.

In 2023, the HRR program was a collaboration between the BC Utilities and EMLI's CleanBC Better Homes program.

Notable highlights for the year include the following:

- FBC and program partners continued to support the evolving Home Performance Industry through trades outreach, training and quality installation initiatives and through partnerships such as with the Home Performance Contactor Network (HPCN);

- FBC saw lower than anticipated participation in heat pump and insulation incentives, and an overall decrease from 2022. This is likely due to increasing costs within the home renovation and HVAC industries, as well as increasing financial strains on residential customers. FBC ran a direct mail campaign in promotion of the heat pump tune up offer and saw a 50% increase in participation over 2022.

- Point-of-sale retail rebates were also captured under the HRR Program Area. This includes a comprehensive suite of measures including weatherization, water savers, communicating thermostats, and bathroom fans. In 2023, two retail campaigns ran in the Spring and Fall. In the fall campaign, Air Purifiers were added to the suite of retail rebates. Rebates for qualifying lighting controls were also included in the Spring and Fall retail campaigns. This included controls such as sensors, timers and high-efficiency fixtures. Incentives for LED lightbulb rebates were phased after the Spring 2022 campaign due to increased minimum efficiency requirements for directional and general service lamps (GSL) sold in British Columbia that made high-efficiency bulbs the baseline. Given this change, overall participation decreased in 2023. In 2024, FBC will seek to explore new ways to increase awareness of lighting control incentives.

2.3 NEW HOME

FBC's new home incentives align with the five tiers of the BC Energy Step Code for Part 9 Buildings, as directed in the 2017 Amendment to the DSM Regulation. The Amendment supports the BC Utilities' ability to provide incentives for builders who adopt and comply with the Energy Step Code in municipalities across BC.

The New Home Program saw participants advancing to Step 3 and Step 4 of the BC Energy Step Code and further uptake of appliance incentives. Additionally, FBC collaborated with FEI, BC Hydro, EMLI, and BC Housing to provide education to builders and energy advisors, and to support policy regarding the construction of High Performance Homes in BC.

Enhanced incentives of $2,000 per Step Code level were maintained in 2023, allowing builders to plan for the incorporation of energy efficient measures and execute plans over the life of the project. The improved incentives continued to drive market adoption of building high-performance homes, and overall Step Code participation in 2023 exceeded 2022 performance.

2.4 SELECTED HIGHLIGHTS

The Residential Program Area achieved 93 percent of Plan expenditures and 63 percent of Plan savings, generating a TRC of 1.3. FBC invested $2.7 million providing multiple avenues for residential customers to access energy efficiency programs including larger home renovations, point-of-sale retail incentives, and through driving the adoption of high-performance homes in the residential new construction industry. While the Home Renovation Rebate program achieved lower than anticipated results, the New Home program saw steady growth and achieved 180 percent of Plan savings. In 2024, FBC will seek to work with program partners to find solutions to increase program participation and awareness of residential retrofit rebates.

3. LOW INCOME PROGRAM AREA

3.1 OVERVIEW

FBC collaborates with FEI and BC Hydro to deliver programs under the Low Income Program Area. This Program Area serves low income customers, Indigenous housing, co-operative housing, non-profit housing, and charities that aid low income customers. In 2023, FBC invested $1.7 million, an increase from the $0.9 million invested in 2022, and achieved 1.7 GWh in energy savings. The TRC achieved for 2023 was 1.4.

Table 3-1 summarizes the actual expenditures for the Low Income Program Area in 2023 compared to Plan, including incentive and non-incentive spending, and annual electric savings.

Table 3-1: 2023 Low Income Program Results Summary

	Annual Energy Savings (GWh)		Annual Demand Savings (MW)		Expenditures ($000s)			
Program	**Plan**	**Actual**	**Plan**	**Actual**	**Plan Total**	**Actual Total**	**Actual Incentive**	**Actual Non-Incentive**
Self Install (ESK)	0.3	0.2	-	-	61	113	45	68
Direct Install (ECAP)	0.4	0.5	-	0.17	680	1,099	783	316
Prescriptive	0.7	1.0	0.13	0.22	594	308	308	-
Performance	0.1	-[2]	0.04	-[3]	165	27	27	-
Labour	-	-	-	-	233	156	-	156
Non-Program Specific Expenses	-	-	-	-	10[4]	4	-	4
Total	**1.5**	**1.7**	**0.17**	**0.39**	**1,743**	**1,708**	**1,163**	**545**

3.2 SELF INSTALL

The Self Install Program provides energy savings to low income participants through the provision of an Energy Saving Kit (ESK). The ESK includes energy saving measures, a manual with step-by-step installation instructions, as well as access to online "How-To" videos for easy installation. This program makes energy efficient measures accessible and easy to install for the participants.

The Self Install Program achieved 185 percent of Plan expenditures and 67 percent of Plan savings. The incentive expenditures were in line with Plan targets, however, larger investments were made in non-incentive expenditures, such as communications, to support meeting participation targets given participation was lower than expected in the prior year. The Self Install Program, as well as the Direct Install Program, was promoted as part of a comprehensive communications campaign which included social media, direct mail and email marketing, website

[2] Energy savings are below 0.1 GWh, therefore are not included in the table due to rounding.
[3] Demand savings are below 0.01 MW and are not included in the table due to rounding.
[4] An error was identified in Exhibit 12 of Appendix A to FBC's 2023-2027 DSM Expenditure Plan Application. Expenditures for the Low Income Program Area were incorrectly identified as 50 and have been corrected in Table 3-1 above.

promotion, events, and paid media. Further, FBC partnered with the Ministry of Social Development and Poverty Reduction to promote the programs to British Columbians who utilize the Ministry's support services.

3.3 DIRECT INSTALL

The Direct Install Program provides low income participants with an in-home visit from a contractor to assess their home's energy efficiency and install basic measures (e.g., LED lighting, high efficiency showerheads, etc.) as well as offer energy efficiency coaching. Additionally, some participants may qualify to receive more comprehensive upgrades, like refrigerators and insulation.

The Direct Install Program achieved 161 percent of Plan expenditures and 125 percent of Plan savings. In 2023, the Program shifted to focus on increasing individual participation. This strategy was supported by the comprehensive communications campaign mentioned above, as well as dedicated community outreach efforts, including specific in-community initiatives and partnerships with community social service organizations. Further, in late 2023, FBC deployed an initiative to distribute energy efficient refrigerators to low income customers and within Indigenous communities. By partnering with community social service organizations such as the Kaslo Community Services Society and Indigenous housing teams, FBC delivered over 200 energy efficient refrigerators in communities throughout its service territory, including the Osoyoos Indian Band and the Lower Similkameen Indian Band.

3.4 PRESCRIPTIVE

The Prescriptive Rebate Program provides rebates, implementation support, funding for energy studies, and training for housing providers. It also includes rebates for individual low income customers and Indigenous communities' residential buildings. Prescriptive rebates are available for commercial and residential measures such as lighting, heat pumps, insulation and more.

The Prescriptive Program achieved 52 percent of Plan expenditures and 143 percent of Plan savings. While expenditures were below the Plan target, due to limited opportunities to provide support funding such as for energy studies and health and safety measures, energy savings were higher due to rebates for lighting and heat pumps. Despite promotion through various outreach initiatives, the Program achieved lower than anticipated participation by low income customers, non-profit housing providers, and Indigenous communities. Lagging participation by low income customers could be partly attributed to the economy, with low income individuals being particularly impacted by inflation, or competing offers in the market. Further, capacity constraints have been an ongoing issue in Indigenous communities.

3.5 PERFORMANCE

The Performance Program provides incentives to support charities, non-profit housing providers, co-ops, and Indigenous communities to construct high-performance homes and commercial

buildings. Participants access incentives by meeting the BC Energy Step Code standards for Part 3 and Part 9 buildings.

The Performance Program achieved 16 percent of Plan expenditures and insignificant savings. Despite ongoing marketing and outreach efforts, capacity constraints in Indigenous communities have impacted participation in this program. While some new construction projects were completed in 2023, the corresponding applications for these projects were not received by FBC by year end. These delayed applications are expected in 2024.

3.6 SELECTED HIGHLIGHTS

The Low Income Program Area achieved 98 percent of Plan expenditures and 113 percent of Plan savings, generating a TRC of 1.4. FBC invested $1.7 million, the highest annual investment to date, benefitting low income customers, Indigenous housing, co-operative housing, non-profit housing, and charities pursuing energy efficiency. This investment was primarily attributed to the performance of the Self Install and Direct Install Programs. Although the Prescriptive and Performance Programs achieved less than anticipated results this year, these programs are expected to grow in the future.

4. COMMERCIAL PROGRAM AREA

4.1 OVERVIEW

Commercial DSM programs have successfully encouraged commercial customers, including institutions and government, to reduce their electricity consumption and associated energy costs. The Commercial programs have achieved an overall TRC of 2.1 in 2023 and produced aggregate electricity savings of 16 GWh. Expenditures for the Commercial programs totalled more than $3.3 million, of which 86 percent was in the form of incentives.

Table 4-1 summarizes the actual expenditures for the Commercial Program Area in 2023 compared to Plan, including incentive and non-incentive spending, and annual electric savings.

Table 4-1: 2023 Commercial Program Results Summary

	Annual Energy Savings (GWh)		Annual Demand Savings (MW)		Expenditures ($000s)			
Program	**Plan**	**Actual**	**Plan**	**Actual**	**Plan Total**	**Actual Total**	**Actual Incentive**	**Actual Non-Incentive**
Commercial Prescriptive	5.9	15.7	1.35	3.58	1,131	2,552	2,538	13
Commercial Performance	4.7	0.5	0.29	0.01	1,170	341	332	10
Rental Apartment	0.2	-	0.04	-	45	18	1	17
Labour	-	-	-	-	683	436	-	436
Non-Program Specific Expenses	-	-	-	-	100	-	-	-
Total	**10.8**	**16.2**	**1.68**	**3.59**	**3,129**	**3,346**	**2,871**	**476**

4.2 PRESCRIPTIVE PROGRAM

This program provides rebates for the installation of high-efficiency electric equipment in various commercial applications including lighting, space heating, commercial kitchen, commercial laundry, and refrigeration. The commercial program performed better than expected due to the popularity of the newly revamped electric heat pump program and the continued success of commercial lighting programs.

4.3 PERFORMANCE PROGRAM

FBC and FEI provide incentives to encourage participants to pursue a performance-based approach to achieve energy savings in new and existing buildings. The Custom Efficiency Program encourages detailed analysis of integrated energy savings measures to help identify all technically feasible and cost-effective energy savings and provides support for the implementation of those measures. For new buildings, FBC and FEI offered custom program pathways for support of both BC Energy Step Code-aligned buildings and non-aligned buildings. FBC, FEI, and BC Hydro also jointly operate the Continuous Optimization recommissioning offer, which identifies

building operational improvements. The commercial performance was below expectations due to customer project delays and inflationary pressures. FBC expects program activity will increase in the coming years.

4.4 RENTAL APARTMENT PROGRAM

There are three components to the Rental Apartment program (RAP):

1. To provide direct install in-suite energy efficiency measures for occupants (renters) in multi-family rental properties;

2. To provide rental building owners and/or property management companies with energy assessments recommending building level energy efficiency upgrades, such as common area lighting upgrades; and

3. To provide support in implementing the recommended upgrades and applying for rebates.

The RAP is offered jointly by FEI and FBC in the shared service territory (SST) and by FEI outside the SST. Participation in 2023 was lower than anticipated mainly due to a decreasing number of qualifying buildings. The company believes this is due to market saturation. To address lower than anticipated participation in the RAP, FEI and FBC have begun a program redesign process in 2023 to potentially include more direct install measures.

4.5 SELECTED HIGHLIGHTS

The Commercial Program Area enabled commercial and institutional customers to conduct both simple and comprehensive energy efficiency upgrades at their buildings in 2023, resulting in over 16 GWh of energy savings, generating a TRC of 2.1.

The Commercial Program Area achieved nearly 86 percent of Plan expenditures and surpassed Plan savings by 50 percent. This can be attributed to the launch of the revamped electric heat pump prescriptive offer and the continued success of the commercial lighting program.

5. INDUSTRIAL PROGRAM AREA

5.1 OVERVIEW

Industrial DSM programs successfully encouraged industrial customers to consume electricity more efficiently. The DSM program in the industrial sector proved highly effective, resulting in 9.8 GWh of electricity saved. The 2023 expenditures totalled approximately $0.92 million of which 75 percent was offered as incentives, leading to a TRC of 3.9.

Table 5-1 summarizes the actual expenditures for the Industrial Program Area in 2023 compared to Plan, including incentive and non-incentive spending, and annual electric savings.

Table 5-1: 2023 Industrial Program Results Summary

	Annual Energy Savings (GWh)		Annual Demand Savings (MW)		Expenditures ($000s)			
Program	**Plan**	**Actual**	**Plan**	**Actual**	**Plan Total**	**Actual Total**	**Actual Incentive**	**Actual Non-Incentive**
Industrial Prescriptive	5.5	1.2	1.03	0.49	797	430	429	1
Industrial Performance	2.0	0.2	0.18	0.04	810	117	98	19
Strategic Energy Management	0.8	8.5	0.22	-	235	168	168	-
Labour	-	-	-	-	278	209	-	209
Total	**8.4**	**9.8**	**1.43**	**0.53**	**2,119**	**925**	**696**	**229**

The Industrial Program Area is characterized by large intermittent projects that occur less frequently and take much longer to complete, so the realization of energy savings may shift to the following year(s).

5.2 PRESCRIPTIVE PROGRAM

This program provides rebates for the installation of high efficiency electric equipment in various applications including lighting, space heating, irrigation, variable speed drives and certain compressed air equipment. Simple rebates are provided for equipment that meets specific performance standards, as opposed to the Performance Program, which requires more detailed analysis of measures as installed. The program makes use of midstream and downstream rebate delivery approaches, as warranted by the specifics of each appliance type and the market it is intended to serve. However, market saturation, ongoing inflation and increased interest rates led the industrial prescriptive rebate program participation to be lower than Plan.

5.3 PERFORMANCE PROGRAM

The Industrial performance program operates similar to the Commercial Performance Program. This Industrial performance program was below plan due to project delays. FBC expects program activity will increase in the coming years.

5.4 STRATEGIC ENERGY MANAGEMENT PROGRAM

In 2023, FBC continued its Strategic Energy Management (SEM) program that extended the FEI SEM cohort offer to FBC customers in the SST. The SEM cohort provided industrial participants with consultant support in energy modelling, energy efficiency coaching, and strategic planning to pursue a performance-based approach to electricity savings in existing industrial facilities. The adjustment of SEM measure life in 2023 from five years to one year led to significant energy savings that exceeded planned energy savings. This adjustment to measure life was made to ensure program alignment with BC Hydro.

5.5 SELECTED HIGHLIGHTS

The Industrial Program Area activity in 2023 enabled industrial customers to conduct both simple and complex energy efficiency upgrades at their buildings, resulting in 9.8 GWh of annual energy savings, generating a TRC of 3.9.

Expenditures for the Industrial Program Area were below Plan due to project delays and inflationary pressures that customers were facing; however, the Strategic Energy Management delivered approximately 8.5 GWh of energy savings, leading to a 93 percent increase in total Industrial program area savings compared to Plan savings.

6. CONSERVATION EDUCATION AND OUTREACH

6.1 OVERVIEW

The Conservation Education and Outreach (CEO) Program Area continued to support the DSM Portfolio energy conservation goals through various initiatives and campaigns to foster a culture of conservation. FBC ensured these initiatives provided timely and relevant information about behaviour change and customer attitudes on efficiency while also prioritizing the education of all types of customers and students (who are future customers). In 2023, FBC and FEI collaborated to maximize efficiencies across both utilities, while costs were shared on school, residential, and commercial outreach, as applicable.

Actual expenditures were 60 percent of Plan and are summarized below in Table 6-1.

Table 6-1: 2023 Conservation and Outreach Results Summary

	Expenditures ($000s)	
Program	**Plan**	**Actual**
Residential Customer Engagement Tool	282	87
Residential Education Program	105	120
Commercial Education Program	86	47
School Education and Post-Secondary Program	51	81
Labour	373	199
Total	**897**	**534**

6.2 RESIDENTIAL CUSTOMER ENGAGEMENT TOOL

My Energy Use is an enhancement to Account Online which provides customers a better understanding of their home's energy use. The tool launched in June 2021. Through the My Energy Use portal (the Portal), customers can receive personalized insights into their individual home's energy use and earn rewards in the form of a bill credit for completing actions to become more energy efficient. Through the Portal, FBC can use the data collected to enhance program recruitment and participation in its programs. In addition to the Portal, FBC sends six home energy reports during the year to approximately 12,000 customers. The reports help customers understand their energy use in comparison to energy used by similar homes and encourages customers to reduce their energy through actionable advice. Lower than planned expenditures are due to expansion of the tool not proceeding as a result of an unexpected program overlap with an energy rating tool being developed externally for BC residential homeowners, and FBC reconsidering a proposed Virtual Energy Audit program, after further customer research.

6.3 RESIDENTIAL EDUCATION PROGRAM

FBC leveraged its "We've got rebates" campaign to raise awareness of rebate programs throughout the year. Higher than anticipated expenditures are attributed to an increase in

communications resources and paid media to ensure a sustained presence in market. Additionally, FBC participated in organized events to further engage residential customers, including home shows, community fairs and festivals, outdoor movies, and farmer's markets.

6.4 COMMERCIAL EDUCATION PROGRAM

In collaboration with FEI, FBC funded 151 small to medium-sized business energy assessments in BC Interior communities serviced by FBC, providing customers with advice on saving energy and informing them of rebates on high-efficiency upgrades. The program also continued to offer information on electricity conservation and energy literacy to customers and the public. To ensure continued support to the business community, FBC worked with its vendor to deliver the program both virtually and in-person. Customers were enrolled in the program through the customer contact centre and by outbound calling by the vendor.

In addition, FEI and BC Hydro's continuation of their partnership with FBC's commercial education program in 2022 saw increased expenditures to drive program participation and to promote awareness of Commercial rebate programs, particularly for small to medium-sized businesses. This was achieved through collaboration on the Energy Wise Network Program, which helps engage workplaces to save energy through training, peer networking, campaign toolkits, and energy coaching.

6.5 SCHOOL EDUCATION AND POST-SECONDARY PROGRAM

FBC's sponsored curriculum-connected programs for grades K-12 focus on energy literacy, conservation and efficiency. Activities during the year supported FBC's school initiatives, including "Live It Earth", which is a curriculum-connected online learning platform. The assembly-style Energy Champions presentation also continued in partnership with the BC Lions.

For students enrolled in post-secondary institutions, FBC, in collaboration with FEI, delivered virtual presentations about the benefits of demand side management and available energy efficiency programs in British Columbia, as well as highlighting the growth and complexity of the energy management sector. It also co-sponsored resilient and green infrastructure, including the Wilden Living Lab 2 project sponsorship.

6.6 CONSERVATION EDUCATION AND OUTREACH HIGHLIGHTS

In 2023, FBC and FEI furthered their collaboration with the purpose of maximizing efficiencies across both utilities. They shared costs for school, residential and commercial outreach, as applicable. The Commercial, Residential, and School Education Programs are not incentive based and therefore, FBC does not attribute direct savings to them. Program expenditures are part of the overall DSM Portfolio cost-effectiveness results. These initiatives were created to encourage a culture of energy conservation through activities and messaging that promote conservation awareness, support energy efficiency literacy, and help increase program participation.

7. ENABLING INITIATIVES

7.1 OVERVIEW

The Enabling Activities Program Area supports FBC's conservation and energy management program development and delivery by providing resources common to all program area activities as well as co-funding Energy Specialist positions in communities and other organizations to support their energy conservation objectives. The Enabling Activities initiatives are not individually subjected to DSM cost-effectiveness tests. Costs from this area are included in the overall portfolio cost-effectiveness results.

Table 7-1 summarizes the actual expenditures for the Supporting Initiatives Program Area in 2023 compared to Plan.

Table 7-1: 2023 Supporting Initiatives Results Summary

	Annual Energy Savings (GWh)		Expenditures ($000s)			
Program	**Plan**	**Actual**	**Plan Total**	**Actual Total**	**Incentive**	**Non-Incentive**
Trade Ally Network	-	-	166	146	-	146
Codes and Standards	-	-	422	283	230	53
Reporting Tool & Customer Application Portal	-	-	95	121	-	121
Commercial Energy Specialist Program	-	0.1	248	263	263	-
Community Energy Specialist Program	-	-	363	237	236	1
Customer Research	-	-	8	19	-	19
Labour and Expenses	-	-	249	123	-	123
Total	**-**	**0.1**	**1,550**	**1,192**	**729**	**463**

7.2 TRADE ALLY NETWORK

FBC recognizes the important role that contractors, electricians, distributors, and Point of Sale partners play in influencing residential and commercial customers when making energy efficiency decisions. To support and supplement DSM program development and delivery, the Trade Ally Network (TAN) provides FBC with a direct communication channel with these industry stakeholders. TAN also offers co-op funding for advertising and targeted messaging about energy efficiency and FBC's DSM rebate programs, as well as funding for eligible training courses related to energy efficient measures. Through TAN, FBC is advancing energy efficiency messaging and promoting its DSM programs.

FBC is dedicated to providing training on the best practices for installing high-efficiency electric appliances and educating TAN members to ensure they remain competitive and flexible. Additionally, FBC continues to partner with BC Hydro and EMLI to support a contractor accreditation initiative led by the Home Performance Stakeholder Council. This includes contractors participating in best practices training and quality assurance checks.

7.3 CODES AND STANDARDS

Funding from this budget supports the development of standards and technical guidance documents associated with both the Canadian Standards Association (CSA), and the DesignLights Consortium. This includes commercial/agricultural lighting, Heat Recovery Ventilators (HRVs), power consumption for low and idle power of commercial and industrial equipment, Hybrid Heating Systems, and measuring and monitoring industrial and commercial pumping system energy performance.

7.4 CUSTOMER RESEARCH

In 2023, research activities encompassed conducting a segmentation analysis for FBC's low income customers, investigating hard-to-reach customer segments, ongoing monitoring of the impact of general Conservation and Energy Management communications, and conducting communications testing.

7.5 REPORTING TOOL AND CUSTOMER APPLICATION PORTAL

The reporting tool and customer application portal launched in 2020 and, as of 2023, all DSM programs are now being tracked in the portal.

The integrations for the tool were previously outsourced while the programs were being built within the tool. In 2023, those integrations were brought in-house to be fully self-sufficient in supporting the portal resulting in reduced costs for ongoing support.

7.6 COMMERCIAL ENERGY SPECIALIST PROGRAM

The Commercial Energy Specialist Program is a successful joint venture between FBC and FEI that funds Energy Specialist, Energy Analyst and Thermal Energy Manager positions in large commercial organizations, including institutional and local government customers. FBC and FEI both contribute up to $40,000 per year on an annual contract for these positions, with the purpose of finding and implementing energy-efficiency opportunities for their organizations through FBC's and FEI's DSM programs, as well as other non-program specific initiatives. Eight participants took part in the SST in 2023, and FBC classified this program as an energy management program and a specified demand-side measure, as outlined in the DSM Regulation. This program is funded to encourage activities that result in energy savings and program participation in the Commercial Program Area. An evaluation was conducted in 2023 to quantify savings that were not already captured in the Commercial Program Area. The evaluation study identified an additional 133,089 kWh of energy savings not previously captured in the Commercial Program Area.

7.7 COMMUNITY ENERGY SPECIALIST PROGRAM

The Community Energy Specialist Program funded seven positions in local municipal governments and regional districts for 2023, including a participant from the Okanagan Nation Alliance, to facilitate energy efficiency planning activities. These activities include coordinating

development of community energy plans, developing and promoting community-level energy policies, marketing initiatives to promote conservation and efficiency at the community level, and adopting energy efficient design practices and policies in government and regional district buildings.

8. INNOVATIVE TECHNOLOGIES

8.1 OVERVIEW

A primary objective of the Innovative Technologies Program Area is to identify technologies that are not yet widely adopted in British Columbia, and that are suitable for inclusion in the Portfolio of ongoing DSM programs in other Program Areas. FBC uses innovative technology funding to support feasibility studies, technology pilots, and field studies to assess the potential for these technologies.

Innovative Technologies expenditures were below Plan due to several project delays. The main Deep Energy Retrofit project, which includes both incentive and non-incentive costs, was postponed to 2024 because of an extended contract creation period and finalization of project terms and conditions. Furthermore, additional non-incentive costs were deferred to 2024 due to a delayed project start date. The shortage of labor expenditures is partly a result of these delays in project execution. Despite these setbacks, FBC remains optimistic about the potential impact and efficiency gains once these projects are fully realized.

Table 8-1: 2023 Innovative Technologies Expenditures Results Summary

	Expenditures ($000s)	
Program	**Plan**	**Actual**
Incentive Costs	175	-
Non-Incentive Costs	225	80
Labour	85	15
Total	**485**	**96**

8.2 INNOVATIVE TECHNOLOGIES

The below list details the projects undertaken throughout the year, along with their current status.

- Hybrid Heating: Funds were allocated for the Hybrid Heating Pilot Project in 2023 for measurement and verification equipment. The installation and commissioning of the equipment occurred late in 2023, and the measurement and verification period is anticipated to continue until spring 2025.

- Deep Energy Retrofits: The Yaqan Nukiy Deep Energy Retrofit project development began in 2023. This involves selecting up to four homes within the Lower Kootenay Band and completing a comprehensive energy upgrade for each home, including window replacements, heating system upgrades and providing additional wall/roof insulation. Final agreements were signed in December 2023. Detailed design and construction is expected to be completed in 2024 with measurement and verification expected to be completed in 2025.

- Hydronic Additive Pilot: The hydronic additive pilot, which aimed to enhance system efficiencies by trialing a new additive, was conducted in collaboration with a consultant and a customer. However, due to limited consultant availability and low market interest, the project was concluded in the first half of 2023.

- Battery Storage Study: A prefeasibility study assessed the viability of battery storage systems in the electric service territory. The study included an examination of market adoption barriers, interviews with customers, installers, and manufacturers, and recommendations for the technology's future steps. A consultant was chosen to conduct the study, and the final report is anticipated in 2024.

9. DEMAND RESPONSE

9.1 OVERVIEW

Demand Response programs and pilots encourage customers to connect eligible devices to a demand response platform, that FBC can then manage to reduce the amount of electricity consumption during peak hours of the winter and summer seasons.

Demand savings and expenditures were lower than forecast in 2023 due to unexpected technical challenges when launching the Residential Demand Response Program. As a result, the program was delayed from Q3 2023 until Q4. Now that the program has launched, FBC anticipates that participation numbers will grow and trend towards expected participation numbers in 2024.

In Appendix A to the 2023-2027 DSM Expenditures Application, Exhibits 4 and 18 incorrectly indicated a "Total" demand savings for the program area of 30.6 MW, however, demand savings for the program area in one year do not carry over to future years due to the one-year lifespan of demand response measures. Despite this error, the net forecast annual demand savings for each year and the program area's TRC remain accurate. FBC continues to pursue the annual demand savings targets for each year outlined in Exhibit 18 of the 2023-2027 DSM Expenditures Application.

Table 9-1: 2023 Demand Response Expenditures Results Summary

	Annual Demand Savings (MW)		Expenditures ($000s)			
Program	**Plan**	**Actual**	**Plan Total**	**Actual Total**	**Incentive**	**Non-Incentive**
Residential Demand Response	0.96	0.20	413	333	14	319
Commercial and Industrial Demand Response	-	-	31	-	-	-
Labour	-	-	330	189	-	189
Total	**0.96**	**0.20**	**773**	**522**	**14**	**508**

9.2 RESIDENTIAL DEMAND RESPONSE

In March 2023, FBC completed the Kelowna Residential "Peak Saver" Demand Response pilot. Over the subsequent months, FBC undertook a third-party evaluation of the pilot results, which was then used as input into a permanent residential demand response program. In Q4 2023, FortisBC launched the Power Hours Rewards Program, a residential demand response program targeting connected thermostats and electric vehicles via telematics, the onboard software within the vehicles. This program is currently available to all of FBC's residential electric customers.

9.3 COMMERCIAL AND INDUSTRIAL DEMAND RESPONSE

In 2023, FBC began preparation work for commercial and industrial automated demand response pilot that would launch in 2024. The pilot is currently on track to launch in the 2024 calendar year.

10. PORTFOLIO LEVEL ACTIVITIES

10.1 OVERVIEW

A total of $602 thousand was invested in Portfolio Level Activities, representing 74 percent of Plan. Portfolio expenditures are comprised largely of planning and evaluation activities, as well as staffing costs and consultant fees for the numerous studies.

Table 10-1: 2023 Portfolio Expenditures Results Summary

	Expenditures ($000s)	
Program	**Plan**	**Actual**
Evaluation	325	361
Portfolio Level Activities[5]	487	241
Total	**813**	**602**

10.2 PROGRAM EVALUATION ACTIVITIES

In alignment with FBC's Evaluation, Measurement and Verification (EM&V) Framework and industry standard practice, program evaluation activities are assessed at different stages of each program's lifecycle. Based on this ongoing assessment, all programs are evaluated when appropriate.

Primary types of Evaluation, Measurement and Verification (EM&V) activities include the following:

- Process evaluations, where surveys and interviews of participants and trade allies are used to assess customer satisfaction and program success;
- Impact evaluations, to measure the achieved energy savings attributable from the program, including free-ridership and spill-over[6] impacts; and
- Measurement & Verification (M&V) activities, to confirm project specific energy savings associated with measures undertaken by customers.

In 2023, approximately $361 thousand was invested in Evaluation activities, 11 percent more than Plan due to an increased number and magnitude of evaluation projects. Table 10-2 illustrates the

[5] Portfolio Level Activities are those activities for which the costs cannot be assigned to individual DSM programs. These activities are distinct from Enabling Activities. These distinct Portfolio Level Activities include expenditure such as DSM support and portfolio level staff labour, some staff training and conferences, facilities and equipment, some industry association memberships, regulatory work and EECAG activities.

[6] Free-ridership refers to participants who would have participated in the absence of the program and spillover refers to additional reductions in energy consumption or demand that are due to program influence.
Reference: National Renewable Energy Laboratory, https://www.nrel.gov/docs/fy17osti/68578.pdf

2023 DSM Program evaluation and research activities conducted by FBC in collaboration with utility partners FEI and BC Hydro. The table contains a comprehensive list of the evaluation activities, their respective program areas, the general types of evaluation activities, and the status updates for each activity.

Table 10-2: Inventory of DSM Program Evaluation and Research Activities[7]

Program Name / Evaluation Name	Program Area	Type of Evaluation	Evaluation Partners	Evaluation Description and Status
Residential End Use Study	Enabling Activities	Communications	FortisBC Energy Inc. & FortisBC Inc.	Survey conducted with residential customers of FBC and FEI in the Shared Service Territory (SST). The survey gathered detailed dwelling, occupant, and energy end-use information including renovations and activities directly or indirectly influencing residential consumption of natural gas and electric usage. Results for natural gas and electric customers are published separately. **Completed April 2023 by Sampson Research Inc.**
Energy Audit 2022 Update	Enabling Activities	Impact	FortisBC Energy Inc. & FortisBC Inc.	The study is an update to an energy savings audit to verify energy savings from projects completed in 2022. **Completed April 2023 by Prism Engineering** **Preliminary results reported in the 2022 Annual Report**
Home Renovation Program Evaluation	Residential	Process & Impact	FortisBC Energy Inc. & FortisBC Inc.	Evaluation of the program from design to delivery, including assessment of free-ridership, and identifying opportunities and areas for improvement. **To be completed Q2 2024**
New Home Program Evaluation	Residential	Process & Impact	FortisBC Energy Inc. & FortisBC Inc.	An expanded impact analysis of the 2022 Program evaluation of the New Home rebate program utilizing additional program data set. **Completed November 2023 by Mazzi Consulting**
Direct Install Quality Assurance	Low Income	Evaluation Study	FortisBC Energy Inc., FortisBC Inc. & BC Hydro	Ongoing quality assurance to ensure direct install measures are installed according to program policies and procedures.

[7] Table 10-2 does not include Prefeasibility Studies. Please refer to the Innovative Technologies section (Section 8.4) for details.

Program Name / Evaluation Name	Program Area	Type of Evaluation	Evaluation Partners	Evaluation Description and Status
Ongoing Customer Feedback Surveys	Low Income	Process	FortisBC Energy Inc., FortisBC Inc. & BC Hydro	Ongoing surveys with Direct Install program participants to gather feedback on their customer experience, satisfaction with the program and the program representatives. **To be completed Q1 2024**
Participant and Building Owner Surveys	Commercial	Process	FortisBC Energy Inc. & FortisBC Inc.	Surveys conducted with building owners and tenants to assess customer satisfaction, program awareness, and gather feedback for future program design. **2022 results: Completed April 2023 by Cohesium Research** **2023 results: To be completed Q2 2024**
Performance Testing	Commercial	Process	FortisBC Energy Inc. & FortisBC Inc.	Ongoing performance testing for RAP participants.
Commercial Energy Assessment Program (CEAP) Evaluation	Commercial	Process	FortisBC Energy Inc. & FortisBC Inc.	Surveys conducted with program participants, and key stakeholders to assess the delivery and implementation of the Commercial Energy Assessment Program measures. **To be completed Q2 2024**
Customer Engagement Tool Service Quality Research	CEO	Process	FortisBC Energy Inc. & FortisBC Inc.	Customer experience and satisfaction with the Home Energy Report. **Q1 though Q3 reports were completed in 2023** **Q4 report to be completed Q1 2024**
Customer Engagement Tool Evaluation - Year 2	CEO	Impact	FortisBC Energy Inc. & FortisBC Inc.	Evaluation of the overall program, validation of the treatment and selection of the control group, and net savings attributed to the distribution of the Home Energy Reports. **Completed March 2023 by Econoler** **Preliminary results provided in the 2022 Annual Report**

Program Name / Evaluation Name	Program Area	Type of Evaluation	Evaluation Partners	Evaluation Description and Status
Customer Engagement Tool Evaluation - Year 3	CEO	Process & Impact	FortisBC Energy Inc. & FortisBC Inc.	Evaluation of the overall program, including a jurisdictional scan to better understand motivations for energy savings, validation of the treatment and control group selection of a new self-compare cohort, and calculation of net savings attributed to the distribution of the Home Energy Reports. **To be completed Q2 2024**
Measure Library Review	Portfolio	Process	FortisBC Energy Inc. & FortisBC Inc.	Comprehensive review and update of the Measure Library workbook, including ongoing maintenance of the measure library inputs.
FortisBC EM&V Framework Review	Portfolio	Process	FortisBC Energy Inc. & FortisBC Inc.	A comprehensive research study including literature review and interviews with key stakeholders to identify key findings and prioritize recommendations to update the EM&V Framework. **Completed April 2023 by Tetra Tech**

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11. SUMMARY

In 2023, FBC successfully achieved 81 percent of its approved DSM expenditures and 119 percent of its annual energy savings target, as outlined in FortisBC's 2023-2027 DSM Plan. This result was achieved through a combination of technological advances and energy-saving incentives, resulting in a total energy savings of 31.4 GWh, driven by Industrial savings of 9.8 GWh, Commercial savings of 16.2 GWh, and Residential savings of 3.6 GWh. Customer incentives comprised the largest cost component of expenditures, making up 66 percent of the overall portfolio.

This 2023 Annual Report details how FBC delivered its energy conservation programs in a cost effective manner, achieving an overall portfolio TRC Benefit/Cost ratio of 1.6 while exceeding planned energy savings targets

FBC continues to offer a robust portfolio of DSM programming accessible to all customer rate classes, while meeting the adequacy requirements of the DSM Regulation and operating according to the Company's DSM Guiding Principles.

Appendix A-1

DSM PROGRAMS COST AND SAVINGS SUMMARY REPORT FOR 2023

APPENDIX A-1

DSM Programs Cost and Savings Summary Report For 2023

	Utility Expenditures ($000s)				Annual Electricity Savings (GWh)		Annual Demand Savings (MW)		Cost Effectiveness Tests (Benefit/Cost Ratio)			
Program Area	Plan	Actual Total	Actual Incentive	Actual Non-Incentive	Plan	Actual	Plan	Actual	TRC	UCT	RIM	Levelized cost (¢/kWh)
Residential												
Home Renovation	1,940	947	912	35	5.2	2.7	1.5	2.5	1.6	4.0	0.6	8.6
New Home	435	1,365	1,307	58	0.5	0.9	0.2	0.8	1.3	1.2	0.5	10.4
Labour	536	441	-	441	-	-	-	-	-	-	-	-
Non-Program Specific Expenses	36	1	-	1	-	-	-	-	-	-	-	-
Residential Total	**2,946**	**2,753**	**2,219**	**535**	**5.7**	**3.6**	**1.7**	**3.3**	**1.3**	**2.0**	**0.5**	**10.3**
Low Income	-				-							
Self Install (ESK)	61	113	45	68	0.3	0.2	-	-	6.4	1.8	0.5	5.0
Direct Install (ECAP)	680	1,099	783	316	0.4	0.5	-	0.2	0.7	0.4	0.3	29.1
Prescriptive	594	308	308	0	0.7	1.0	0.1	0.2	6.5	3.4	0.6	2.1
Performance	165	27	27	-	0.1	0.0	-	0.0	1.3	0.9	0.4	10.8
Labour	233	156	-	156	-	-	-	-	-	-	-	-
Non-Program Specific Expenses	10	4	-	4	-	-	-	-	-	-	-	-
Low Income Total	**1,743**	**1,707**	**1,163**	**545**	**1.6**	**1.7**	**0.2**	**0.4**	**1.4**	**1.0**	**0.4**	**9.7**
Commercial	-				-		-					
Commercial Prescriptive	1,131	2,552	2,538	13	5.9	15.7	1.3	3.6	2.3	6.0	0.7	4.4
Commercial Performance	1,170	341	332	10	4.7	0.5	0.3	0.0	1.6	1.2	0.4	6.0
Rental Apartment	45	18	1	17	0.2	-	-	-	-	-	-	-
Labour	683	436	-	436	-	-	-	-	-	-	-	-
Non-Program Specific Expenses	100	-	-	-	-	-	-	-	-	-	-	-
Commercial Total	**3,129**	**3,346**	**2,871**	**476**	**10.8**	**16.2**	**1.7**	**3.6**	**2.1**	**4.7**	**0.7**	**4.7**
Industrial	-				-		-					
Industrial Prescriptive	797	430	429	1	5.5	1.2	1.0	0.5	10.5	3.1	1.0	1.1
Industrial Performance	810	117	98	19	2.0	0.2	0.2	0.0	0.8	1.7	0.7	13.1
Strategic Energy Management	235	168	168	-	0.8	8.5	0.2	-	-	4.5	0.8	-
Labour	277	209	-	209	-	-	-	-	-	-	-	-
Non-Program Specific Expenses	-	-	-	-	-	-	-	-	-	-	-	-
Industrial Total	**2,119**	**925**	**696**	**229**	**8.4**	**9.8**	**1.4**	**0.5**	**3.9**	**2.5**	**0.8**	**2.6**
Conservation Education and Outreach	897	534	-	534	-	-	-	-	-	-	-	-
Enabling Expenditures	1,550	1,192	729	463	-	-	-	-	-	-	-	-
Innovative Technologies	485	96	-	96	-	-	-	-	-	-	-	-
Demand Response	773	522	14	508	-	-	1.0	0.2	-	-	-	-
Portfolio Expenditures	813	602	-	602	-	-	-	-	-	-	-	-
Total Portfolio	**14,455**	**11,677**	**7,691**	**3,986**	**26.4**	**31.3**	**5.9**	**8.0**	**1.6**	**2.2**	**0.6**	**6.8**

Note: Annual electricity and demand savings below 0.1 GWh and 0.01 MW, respectively, are not included in the table due to rounding.

Appendix A-2

HISTORICAL SUMMARY OF DSM COST AND ENERGY SAVING RESULTS (2018-2022)

APPENDIX A-2

Historical Summary of DSM Cost and Energy Saving Results (2018 – 2022)

Program Area	Utility Expenditures ($000s)										Annual Electricity Savings (MWh)									
	2022		2021		2020		2019		2018		2022		2021		2020		2019		2018	
	Plan*	Actual	Plan*	Actual	Plan*	Actual	Plan*	Actual	Plan*	Actual	Plan*	Actual	Plan*	Actual	Plan*	Actual	Plan*	Actual	Plan*	Actual
Residential																				
HRR/Home Improvements	1,577	1,185	1,505	1,654	1,357	1,348	1,200	1,487	140	136	4,752	4,201	4,267	4,083	3,916	3,551	3,264	3,227	301	225
Heat Pumps	-	-	-	-	-	-	-	-	327	357	-	-	-	-	-	-	-	-	1,297	1,127
Residential Lighting	115	116	137	219	163	238	157	218	202	141	833	2,016	965	3,428	1,122	3,401	2,284	3,141	3,337	3,255
New Home Program	409	637	308	422	227	215	184	90	76	36	778	613	571	351	439	251	340	112	169	54
Appliances	-	-	-	-	-	-	-	-	159	204	-	-	-	-	-	-	-	-	215	303
Water Heating	-	-	-	-	-	-	-	-	25	25	-	-	-	-	-	-	-	-	38	38
Low Income (2015-2017)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Behavioral	-	-	-	-	-	-	-	-	165	16	-	-	-	-	-	-	-	-	240	67
Rental Apartment Program	52	27	54	59	54	37	54	33	53	19	148	-	148	33	148	-	148	21	306	87
Watersavers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Labour & Related Expenses	500	548	515	542	503	501	491	362	610	468	-	-	-	-	-	-	-	-	-	-
Residential Total	**2,653**	**2,513**	**2,519**	**2,896**	**2,304**	**2,339**	**2,086**	**2,190**	**1,757**	**1,402**	**6,512**	**6,831**	**5,951**	**7,895**	**5,625**	**7,203**	**6,036**	**6,501**	**5,903**	**5,156**
Low Income																				
Low Income	-	-	-	-	-	-	-	-	731	396	-	-	-	-	-	-	-	-	1,229	687
Self Install (ESK)	74	28	74	41	74	75	74	143	-	-	249	196	249	93	249	287	249	527	-	-
Direct Install (ECAP)	728	406	705	413	687	343	665	519	-	-	896	494	872	377	881	224	891	636	-	-
Social Housing Support	60	246	52	195	46	286	41	60	-	-	110	204	95	264	83	285	72	186	-	-
Labour & Related Expenses	68	174	67	193	65	114	64	217	-	282	-	-	-	-	-	-	-	-	-	-
Low Income Total	**930**	**854**	**898**	**842**	**872**	**818**	**844**	**939**	**731**	**678**	**1,255**	**895**	**1,216**	**734**	**1,213**	**796**	**1,212**	**1,349**	**1,229**	**687**
Commercial																				
Lighting	-	-	-	-	-	-	-	-	1,750	1,751	-	-	-	-	-	-	-	-	13,620	17,635
Building and Process Improvements	-	-	-	-	-	-	-	-	988	247	-	-	-	-	-	-	-	-	5,290	1,763
Computers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Municipal (Water Handling)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sm Business Direct Install	-	-	-	-	-	-	-	-	-	382	-	-	-	-	-	-	-	-	-	3,224
Irrigation	-	-	-	-	-	-	-	-	-	180	-	-	-	-	-	-	-	-	255	249
MURB New Construction	-	-	-	-	-	-	-	-	32	42	-	-	-	-	-	-	-	-	-	1,073
Commercial Custom	1,054	717	1,006	1,081	964	619	980	1,274	-	-	6,804	4,230	6,048	5,215	5,346	3,554	4,428	6,588	-	-
Commercial Prescriptive	1,018	1,527	1,177	1,767	1,218	1,513	1,371	1,505	-	-	8,667	6,459	9,243	7,107	10,121	7,596	11,114	8,375	-	-
Labour & Related Expenses	856	589	869	649	848	674	828	606	822	864	-	-			-	-	-	-	-	-
Commercial Total	**2,928**	**2,833**	**3,052**	**3,497**	**3,030**	**2,806**	**3,179**	**3,385**	**3,592**	**3,466**	**15,471**	**10,689**	**15,291**	**12,322**	**15,467**	**11,150**	**15,542**	**14,963**	**19,165**	**23,944**
Industrial																				
Industrial Efficiencies	-	-	-	-	-	-	-	-	305	240	-	-	-	-	-	-	-	-	1,188	1,615
Industrial Custom	1,116	605	1,308	1,841	1,308	1,092	1,288	640	-	-	8,226	7,501	8,226	4,829	8,226	4,491	8,226	1,868	-	-
Industrial Prescriptive	263	832	311	487	290	455	290	282	-	-	1,850	9,953	1,888	3,872	1,781	2,304	1,811	1,110	-	-
Labour & Related Expenses	170	185	195	324	190	220	185	174	72	157	-	-	-	-	-	-	-	-	-	-
Industrial Total	**1,549**	**1,622**	**1,814**	**2,652**	**1,788**	**1,767**	**1,763**	**1,096**	**377**	**397**	**10,076**	**17,454**	**10,114**	**8,701**	**10,007**	**6,795**	**10,037**	**2,978**	**1,188**	**1,615**
Programs Total	**8,060**	**7,822**	**8,283**	**9,887**	**7,994**	**7,730**	**7,872**	**7,610**	**6,457**	**5,943**	**33,314**	**35,869**	**32,572**	**29,652**	**32,312**	**25,944**	**32,827**	**25,791**	**27,485**	**31,402**
Supporting Initiatives	1,069	1,107	1,024	1,093	838	818	1,218	869	742	537	-	42	-	-	-	209	-	-	-	-
Planning & Evaluation	-	-	-	-	-	-	-	-	743	743	-	-	-	-	-	-	-	-	-	-
Conservation Education and Outreach	666	514	595	599	497	566	566	575	-	-	-	-	-	-	-	-	-	-	-	-
Portfolio Expenditures	956	953	1,019	793	913	911	776	762	-	-	-	-	-	-	-	-	-	-	-	-
Demand Response	240	215	130	311	324	135	477	264	-	-	-	-	-	-	-	-	-	-	-	-
Total Portfolio	**10,991**	**10,611**	**11,051**	**12,683**	**10,566**	**10,160**	**10,909**	**10,080**	**7,942**	**7,223**	**33,314**	**35,911**	**32,572**	**29,652**	**32,312**	**26,153**	**32,827**	**25,791**	**27,485**	**31,402**

*As filed in the 2017, 2018 and 2019-2022 DSM Plans.

In the 2019-2022 DSM Expenditures Plan, several existing DSM programs were reorganized and/or consolidated into new programs:
Residential: The Residential Home Improvements program name changed to the Home Renovation Rebate (HRR) program. Heat pumps, water heaters and appliances were consolidated into the HRR program.
Low Income: The Low Income program was separated into Self-Install, Direct Install and Social Housing Support.
Commercial: The Commercial Custom and Prescriptive programs both include lighting. MURB New Construction was moved into the Custom program and Building and Process Improvements was moved into the Prescriptive program.
Industrial: The Industrial Efficiencies program was separated into both the Industrial Custom and Prescriptive programs.
Portfolio Expenditures: Planning & Evaluation was moved into this portfolio.