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September 30, 2013

Via Email
Original via mail

Commission Secretary
BC Utilities Commission
Sixth Floor, 900 Howe Street, Box 250
Vancouver, BC V6Z 2N3

Attention: Ms. Erica M. Hamilton, Commission Secretary

Dear Ms. Hamilton:

**Re: FortisBC Inc. Semi-Annual Demand Side Management Report for the Year
ended June 30, 2013**

Please find enclosed for filing FortisBC Inc.'s Semi-Annual Demand Side Management Report to June 30, 2013. Twelve copies will be couriered to the Commission.

Sincerely,

FORTISBC INC.

Original signed:

Dennis Swanson
Director, Regulatory Affairs



FortisBC Inc.

**Semi-Annual DSM Report
Six Months Ended June 30, 2013**

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REPORT OBJECTIVE

This report provides highlights of FortisBC Inc.'s (FBC or the Company) Demand Side Management (DSM) programs for the six month period ended June 30, 2013. The report reviews the progress of FBC's PowerSense program in meeting the approved DSM Plan and incenting FBC's customers to improve their energy efficiency. The report also provides information regarding integration and collaboration of the DSM programs with other BC Utilities¹. A summary of PowerSense program activities in 2013 is also presented, with a comparison of actual energy savings and costs to Plan and provides a statement of financial results including benefit/cost ratios. Finally, a summary of historical FBC DSM costs and energy savings for the past five years is included in Appendix B.

OVERVIEW OF RESULTS FOR THE SIX MONTH PERIOD ENDED JUNE 30, 2013

Energy efficiency savings for the six month period ended June 30, 2013 were 11.6 GWh, or 73 percent of the 15.8 GWh Plan to June 30. Company costs incurred were \$2,919,000 or 74 percent of the \$3,939,000 Plan to June 30. Adding customer costs to the Company's program costs yields a Total Resource Cost (TRC) of \$5,555,000 with an overall TRC benefit/cost ratio of 1.3. The method used to determine benefits is provided in the Financial Results section.

OVERVIEW OF PROGRAM ACTIVITIES

After bringing several new energy efficiency programs rapidly to market in 2012, the early part of 2013 was focused on refining those program offers and improving processes. Marketing and communication campaigns were also developed to better address specific target markets for both the residential and commercial sectors. To provide a more seamless and positive experience for customers seeking information and rebates for both natural gas and electricity measures, program and marketing integration continued with FBC Energy Utilities (FEU) EEC program. Operational efficiencies between the two companies were also sought.

RESIDENTIAL SECTOR

For the residential sector, PowerSense continued to work cooperatively with the Ministry of Energy and Mines (MEM), BC Hydro and FEU to provide a "one-stop shop" retro-fit rebate offer through the LiveSmart BC program. Although the MEM was not able to fund rebates in 2013, by focusing on the most cost-effective retro-fit measures and using a "whole house" approach, the utility partners continued to support the program with rebates for insulation and air sealing measures. The utility partners continued to collaborate on the evaluation of the 2009-2011 LiveSmart BC program and also had research conducted to develop a BC Home Energy Performance strategy and a BC Standards Guide for Air Sealing.

The residential Home Improvement and New Home programs' offers remained the same as 2012. However, marketing efforts were integrated with EEC natural gas rebate offers.

¹ British Columbia Utilities Commission (BCUC or the Commission) Order G-110-12, Directive 51.

Customers applying for both energy type rebates can access joint program information and experience a single application process². The retail Appliance and Lighting Rebate programs and Heat Pump Maintenance programs continued to be popular. The Reduce Your Use program – rebates for home energy assessments for high-usage customers – was moderately successful with approximately 50 households receiving a full rebate on their home energy assessment.

A major advertising campaign to promote the On-Bill Financing program was launched in the spring. Despite the promotion, the program failed to garner much interest or participation. Feedback to MEM resulted in a change to the provincial regulation to loosen the eligibility requirements for the program.

The 2011-2012 Rossland Energy Diet pilot project's success in motivating customers to get home energy assessments and make energy efficiency improvements attracted national attention and resulted in funding from NRCan (Natural Resources Canada) and the Columbia Basin Trust to test the program's replicability and scalability. The Kootenay-region wide program for natural gas and electricity measures was launched in May and received immediate favourable responses. The intense "blitz" marketing campaign will continue to the end of the year. Planning for an Okanagan Energy Diet also started in late Q2.

The Low Income Direct Installation program for multi-family units continued from 2012. The common areas' lighting and control installations were completed in the Kootenays and household energy efficiency measures (low-flow shower heads, tap aerators and CFL lighting) were installed in-suite units. Planning for a Rental Direct Installation and Energy Assessment program commenced.

COMMERCIAL, INDUSTRIAL AND IRRIGATION SECTORS

In late 2012, PowerSense, in partnership with EEC, launched an on-line prescribed rebate program for business lighting, HVAC, refrigeration, commercial kitchen, natural gas boilers and hot water heaters. In 2013 program marketing started, which included sector specific advertising (i.e. commercial kitchens). The on-line application process was also improved. It was recognized that the lighting offer process needed to be amended to better meet customers' needs. Further customer research was conducted, which resulted in adding specific "point of sale" rebates at lighting wholesale businesses.

Although there were no changes to the Custom Business and Industrial Efficiency Program offers, the eligibility, application and approval processes were restructured and redesigned.

The PowerSense Irrigation program was structured in conjunction with the BC Farm Plan program, which lost funding in early 2013. During the redesign of the Irrigation Program, customers are able to access incentives through PowerSense's Custom Business Efficiency program.

² Due to labour and other contractual agreements, the back-end application processing remained separate.

The FLIP Direct Install Lighting Program for small businesses wrapped up in March. The MEM jointly funded program was hugely successful, achieving 10 million kWh in savings over the 3 year program.

BEHAVIOURAL PROGRAMMING AND SUPPORTIVE INITIATIVES

PowerSense was able to integrate most aspects of its behavioural and educational programming with EEC’s. PowerSense worked closely with the EEC outreach team and whenever appropriate, event sponsorship funding and outreach activities were shared. Similarly, PowerSense and EEC partnered to offer school educational programming: Destination Conservation, Beyond Recycling, Energy is Awesome, and the BC Lions Energy Champions are several of the educational programs supported.

PowerSense worked with EEC to help build a robust Contractor Ally program. The intent is to work collaboratively with local tradespeople and contractors so they can help promote energy efficiency and PowerSense’s incentive programs. Opportunities for trades training and marketing are offered regularly through the Contractor Ally program.

POWERSENSE PROGRAMS OFFERED IN 2013

The following tables summarize the PowerSense program offerings and indicate program status and progress of integration with FEU’s EEC programs.

Table 1 - Residential Programs 2013

Program and Measures	Status	Integrated with FortisBC Energy Utilities for combined offer
Energy Star Appliances	Ongoing	Yes ³ (clothes washers)
Energy Star Retail Lighting Rebate	Ongoing	No (electricity only)
Heat Pump (Air Source and Geo-Exchange)	Ongoing	No (electricity only)
TLC Heat Pump Maintenance	Ongoing	No (electricity only)
New Home	Ongoing	Yes (Marketing and Application Process)
Home Improvement (Retro-fit)	Ongoing	Yes (Marketing and Application Process)
LiveSmart BC (Retro-fit)	Ongoing	Yes
Reduce Your Use (energy assessments)	Ongoing	No (electricity only)
On-Bill Financing	Pilot Project	Yes
Low Income – Direct Installation Lighting	Completed	No (electricity only)

³ Based on fuel source of hot water tank.

Program and Measures	Status	Integrated with FortisBC Energy Utilities for combined offer
Low Income – Direct Installation Household Measures	New	Yes
Low Income – Energy Savings Kits	Ongoing	In progress
Rental and Low-Income Housing	In-Design	Yes
Supporting Initiatives	Ongoing	Yes (where appropriate)
Contractor program	New	Yes (where appropriate)
WaterSavers (Tap by Tap)	Enhanced	Yes

Table 2 - Commercial and Industrial Programs 2013

Program and Measures	Status	Integrated with FortisBC Energy Utilities for combined offer
Product Rebate Program	Ongoing	Yes
FLIP – Direct Installation of Lighting for Small Business	Complete	No (electricity only)
Building Improvement – New	Ongoing	No
Building Improvement – Retro-fit	Ongoing	No
Building Optimization	Ongoing	Yes
Partners in Energy	Ongoing	No
Energy Efficiency Studies	Ongoing	In progress
Industrial Efficiency	Ongoing	No
Irrigation Pumping	New	No (electricity only)
Green Motors (motor rewinds)	Ongoing	No (electricity only)

ENERGY SAVINGS BY SECTOR

The energy savings that PowerSense achieved in the six month period ended June 30, 2013, are shown in the table below.

Table 3 - Energy Savings by Sector

SECTOR	Plan	Actual	% of Plan
	GWh		Achieved
Residential	8.5	6.7	79%
Commercial	6.0	4.3	72%
Industrial	1.3	0.6	46%
Total Savings (GWh)	15.8	11.6	73%

Overall, PowerSense achieved 73 percent of the Plan goal of 15.8 GWh savings to June 30. Residential and Commercial sector energy savings were below Plan at 79 and 72 percent of Plan savings. Industrial sector energy savings were under Plan at 46 percent. These results are discussed in more detail in the following sections.

DETAIL OF ENERGY SAVINGS

The following tables provide details on the DSM energy savings in each sector, including DSM activities in the service territories of the Municipal Wholesale customers.

Table 4 - Residential Energy Savings

RESIDENTIAL	Plan	Actual	% of Plan
	GWh		Achieved
Home Improvement Program	4.7	1.5	32%
Low Income	0.8	0.6	71%
Residential Lighting	1.2	2.8	227%
Heat Pumps	1.7	0.9	53%
New Home Program	0.05	0.9	1982%
Total Savings (GWh)	8.5	6.7	79%

Note: Minor differences due to rounding

In the six month period ended June 30, 2013, the energy saving results from Residential programs were 79 percent of Plan. The New Home and Residential Lighting programs exceeded Plan. The Heat Pump, Home Improvement and Low Income programs fell short of forecast. Customer (and builder) participation in the New Home program continues to exceed plan expectations. The point-of-purchase incentive campaign in March-April was effective and contributed to the success in Residential Lighting.

The LiveSmart BC collaboration resulted in 0.6 GWh of retrofit energy savings, which are recorded in the Heat Pump and Home Improvement (HIP) programs. The provincial incentives

ended March 31, 2013, following in the steps of the federal government a year earlier, which likely was a factor in the reduced uptake in those programs.

In 2013, the Low Income program distributed approximately 140 Energy Saving Kits (ESKs) and the Kootenay phase of the direct install lighting program was completed. The ECAP⁴ program did not launch in the first half of the year, resulting in fewer Low Income savings than Plan.

Table 5 - Commercial Energy Savings

COMMERCIAL	Plan	Actual	% of Plan
	GWh		Achieved
Lighting	3.7	3.8	102%
Building and Process Improvement	1.7	0.5	30%
Water Handling and Infrastructure	0.6	0.0	0%
Total Savings (GWh)	6.0	4.3	72%

Note: Minor differences due to rounding

The Commercial sector recorded savings of 4.3 GWh, or 72 percent of Plan to June 30. The majority of these savings were realized through the Commercial lighting programs, which include both “at the counter” product rebates and custom lighting retrofits, such as those installed at a supermarket in Nelson, producing 0.2 GWh of savings. Another component of the Commercial lighting programs was the FLIP direct installation program, a collaborative effort with the LiveSmart BC Business program. FLIP continued to be very popular until the program ended in the first quarter of 2013 and it contributed 1.8 GWh of savings.

An example of a Building and Process Improvement (BIP) project is a refrigeration upgrade at a supermarket in the Okanagan, contributing 0.15 GWh of savings. BIP results lagged as the Product Rebate portal, which enables customers to apply for prescriptive incentives on-line, was still ramping up in the first half of 2013.

As of June 30, 2013, there were no large water infrastructure projects, which generally occur less frequently than projects in other sectors. The pilot phase of the Irrigation program, which closed April 30, 2013, had a small number of applicants; however none of the applicants were eligible for incentives based on the upgrades proposed.

⁴ Energy Conservation Assistance Program – targets low income owner occupied dwellings.

Table 6 - Industrial Energy Savings

INDUSTRIAL	Plan	Actual	% of Plan Achieved
	GWh		
Industrial Efficiency	1.1	0.6	52%
Integrated EMIS	0.1	0.0	0%
Total Savings (GWh)	1.3	0.6	46%

Note: Minor differences due to rounding

The Industrial Programs achieved savings of 0.6 GWh, or 46 percent of the 1.3 GWh Plan to June 30 as of result of an Industrial Efficiency project which involved the installation of variable speed drives on process equipment at a Kootenay lumber mill.

The table below disaggregates the Wholesale DSM savings, which are included in the sector tables above.

Table 7 - Wholesale Energy Savings by Municipality

WHOLESALE ACTIVITY	GWh	MW	% of GWh*
Penticton	0.6	0.1	39%
Summerland	0.2	0.1	13%
Grand Forks	0.1	0.01	5%
Nelson	0.6	0.1	42%
Total Savings (Wholesale)	1.5	0.3	100%

**Of savings attributable to the Wholesale class*

Note: Minor differences due to rounding.

The total Wholesale energy savings, which were acquired within the service areas of the four municipal electric utilities served by FBC, were 1.5 GWh and 0.3 MW in the first half of 2013. The largest DSM savings results occurred within Penticton and Nelson municipal utility service areas (the municipalities with the largest number of customers).

PROGRAM COSTS BY SECTOR

The table below presents the actual costs incurred in the six month period ended June 30, 2013, compared to the approved Plan. The percent of plan savings achieved is shown in the table for comparison purposes.

Table 8 - Costs by Sector

SECTOR/COMPONENT	Plan	Actual	% of Plan Costs	% of Plan Savings
	(\$000s)			
Residential	1,972	1,179	60%	79%
Commercial	1,043	1,038	100%	72%
Industrial	182	76	42%	46%
Supporting Initiatives	363	307	85%	-
Monitoring & Evaluation	156	103	66%	-
Planning & Admin	224	217	97%	-
Total	3,939	2,919	74%	73%

Note: Minor differences due to rounding

Costs amounted to \$2,919,000, or 74 percent of the 2013 Plan to June 30, commensurate with overall savings. Commercial Plan costs include proportionally higher fixed costs than Residential Plan costs, and as a result Commercial Plan costs are at 100 percent of Plan, despite lower Commercial Savings than plan to June 30. A breakdown of utility program costs per sector or program component follows. Appendix A contains an additional breakdown of total program costs, including the customer portion of project costs.

DETAIL OF COSTS

The following tables provide details on the DSM program costs for each sector and component in the PowerSense portfolio.

Table 9 - Residential Costs

RESIDENTIAL	Plan	Actual	% of Plan Achieved
	(\$000s)		
Home Improvement Program	1,114	350	31%
Low Income	330	151	46%
Residential Lighting	157	243	155%
Heat Pumps	349	180	52%
New Home Program	23	255	1134%
Total	1,972	1,179	60%

Note: Minor differences due to rounding

The utility cost of Residential programs was \$1,179,000, or 60 percent of Plan for the first half of 2013 largely due to the lower energy savings (32% of plan) in the Home Improvement program. The New Home program continues to be very successful and while the costs are over budget, they are commensurate with savings. The Low Income program was also underspent, since the Energy Conservation Assistance Program (ECAP) will not be launched until the second half of 2013.

Table 10 - Commercial Costs

COMMERCIAL	Plan	Actual	% of Plan
	(\$000s)		Achieved
Lighting	606	723	119%
Building and Process Improvement	348	307	88%
Water Handling and Infrastructure	89	8	9%
Total	1,043	1,038	100%

Commercial sector costs in the first half of 2013 amounted to \$1,043,000 or close to 100 percent of Plan. The largest cost component of Commercial programs was the Lighting program, which includes incentives paid through the LiveSmart BC FLIP collaboration. The expenditures for Water Handling and Infrastructure are under budget, partially because it incorporates the Irrigation program. PowerSense launched the Irrigation program in June 2012, but had low uptake. In 2013 the program will be assessed to determine causes of low participation and the steps to be taken to improve it.

Table 11 - Industrial Costs

INDUSTRIAL	Plan	Actual	% of Plan
	(\$000s)		Achieved
Industrial Efficiency	162	72	45%
Integrated EMIS	21	3	17%
Total	182	76	42%

Note: Minor differences due to rounding

Industrial sector costs incurred by the Company were \$76,000 for the period, or 42 percent of Plan. The Industrial sector is characterized by large projects that generally occur less frequently than in other sectors. Energy Management Information System (EMIS) software is a long-term program with up-front costs and savings that will be realized later in the process.

Portfolio level costs, which are not specifically associated with individual programs, include the following components: Supporting Initiatives, Monitoring and Evaluation, and Planning and Administration. These costs are summarized in the table below.

Table 12 - Portfolio Costs by Component

COMPONENTS	Plan	Actual	% of Plan
	(\$000s)		Achieved
Supporting Initiatives	363	307	85%
Monitoring & Evaluation	156	103	66%
Planning & Administration	224	217	97%
Total	743	627	84%

The Supporting Initiative costs for the first half of 2013 were \$307,000 or 85 percent of the \$363,000 Plan. Supporting Initiatives spending continues to drive community outreach and direct customer communication, which is a strong component of PowerSense programming. The three community ambassadors attended more than 85 community events in over 28 communities. Whenever possible, outreach and community event sponsorship was done in collaboration with EEC.

The Earth Hour promotion was expanded to include pledges from businesses in 2013, and was once again well received. As part of Earth Hour, customers across the FBC service area sent in approximately 1,500 pledges, each committing to turn their lights off for one hour. The majority of these customers also committed to at least one further action to reduce energy. Approximately 200 businesses pledged to turn their lights off for Earth Hour and 20 made commitments to take further action to reduce energy consumption.

The Planning and Evaluation budget is separated into two main components: Monitoring and Evaluation (M&E), and Planning and Administration. M&E was under budget with costs of \$103,000, or 66 percent of Plan. The majority of expenses for M&E will be in the second half of 2013 as the main evaluation reports are completed. The Planning and Administration expenditure was \$307,000, or 85 percent of Plan.

In Appendix A, Program Development costs are further broken out from the Planning and Administration costs.

FINANCIAL RESULTS

This section provides the financial and benefit/cost test results for the first half of 2013 and includes information about how the benefits were calculated for the total resource cost test (TRC) and for the modified total resource cost test (mTRC)⁵.

The table below presents the financial and benefit cost tests by program. It also includes the Planning and Evaluation costs, which are allocated to the programs by savings achieved.

Table 13 - Financial Results for Six Month Period Ended June 30, 2013 by Program

Program	Program Benefits	Utility Program Costs	Planning & Evaluation Costs			Customer Incurred Costs	Total Resource Costs	Benefits less Costs	Total Resource Benefit/Cost Ratio	
			Planning & Admin.	Monitoring & Eval.	Program Dev.				TRC	mTRC
(\$000s)										
Residential										
Home Improvement	1,360	350	23	13	5	567	958	402	1.4	1.5*
Low Income	197	151	8	5	2	35	201	(4)	1.0	1.3**
Residential Lighting	1,070	243	43	25	10	272	593	478	1.8	1.8
Heat Pumps	820	180	14	8	3	597	802	18	1.0	1.5*
New Home Program	994	255	14	8	3	261	541	452	1.8	1.8
Residential Total	4,441	1,179	102	60	24	1,731	3,095	1,347	1.4	1.6
Commercial										
Lighting	2,079	723	58	34	13	609	1,436	643	1.4	1.4
Building and Process Improvement	456	307	8	5	2	178	499	(43)	0.9	0.9
Water Handling Infrastructure	-	8	-	-	-	-	8	(8)	0.0	0.0
Commercial Total	2,536	1,038	65	38	15	787	1,943	592	1.3	1.3
Industrial										
Industrial Efficiency	336	72	9	5	2	118	206	130	1.6	1.6
Integrated EMIS	-	3	-	-	-	-	3	(3)	-	-*
Industrial Total	336	76	9	5	2	118	210	126	1.6	1.6
Supporting Initiatives		307					307		-	-
Total	7,313	2,599	176	103	41	2,635	5,555	1,758	1.3	1.4

Note: Minor differences due to rounding

* mTRC benefits used with some of program measures

** Low Income benefits increased by 30 percent

An overall total resource benefit/cost ratio of 1.3 was achieved in the first half of 2013. The benefit/cost ratios for the individual programs are also detailed in the table above. The Residential sector program performance resulted in a benefit/cost ratio of 1.4, the Commercial sector achieved a benefit/cost ratio of 1.3 and the Industrial sector benefit/cost ratio was 1.6.

The Low Income program attained a benefit/cost ratio of 1.0, and with the 30 percent benefits lift as per the DSM Regulation, s4(2)(b), the benefit/cost ratio increased to 1.3.

Program benefits are primarily based on the present value of avoided power purchase costs. For the TRC test, the present value of avoided power purchase costs is calculated using the long-term avoided power purchase cost⁶ over the measure lifespan, plus a deferred construction expenditure factor. Total resource costs shown are a total of Company costs and

⁵ As described in the Demand Side Management Regulation (326/2008 as amended in December 2011) of the Utilities Commission Act.

⁶ As per the 2012-2013 Long Term Demand Side Management (DSM) Plan, approved by BCUC Order G-110-12, the long-term avoided power purchase cost is \$84.94/MWh.

customer costs. The customer portion of costs are the incremental costs of new construction measures and the energy efficiency “portion” of retrofit measure costs.

The estimated modified total resource benefit/cost ratio is also shown in the table above. The benefits used in the mTRC were estimated using a long-term avoided power purchase cost⁷ plus a fifteen percent adder for non-energy benefits (NEB), as per the Company’s interpretation of the DSM Regulation filed in the 2012 – 2013 Revenue Requirements Application⁸ (2012-2013 RRA). The mTRC benefits were estimated based on the following measures that were subject to the mTRC in the 2012-2013 RRA:

- Residential:
 - Building Envelope – windows;
 - Heat Pumps – geo exchange, air source conversion, and ductless; and
 - Appliances – freezers.
- Industrial:
 - Integrated – EMIS.

The mTRC benefits estimation excludes the controls measure in the commercial lighting program, as it was not feasible to separate it from the other commercial lighting measures in the program results.

The mTRC does not differ substantially from the TRC results. Overall, the benefit/cost ratio increased from 1.3 to 1.4 using the prescribed mTRC method. The Residential benefit/cost ratio increased from 1.4 to 1.6. Most notably, the heat pump benefit/cost ratio increased from 1.0 to 1.5 with the use of the mTRC. Commercial and Industrial benefit/cost ratios were unaffected by incorporation of the mTRC.

The Company’s DSM expenditure related to the measures that are subject to the mTRC was estimated to be \$224,000 or 7.7 percent of the year-to-date DSM expenditure, which is within the regulated mTRC impact cap.

⁷ As per the 2012-2013 Long Term Demand Side Management (DSM) Plan, approved by BCUC Order G-110-12, the long-term avoided power purchase cost is \$111.96/MWh, for BC “clean” new resources.

⁸ FBC 2012-2013 Revenue Requirements Application, Exhibit B-23, Oral Hearing Undertakings from March 8, 2012, Table 31-1.

ON-BILL FINANCING PILOT PROGRAM

The On-Bill Financing (OBF) pilot program, which is marketed as the Residential Energy Efficiency Loan Program, was mandated by the provincial government and provides loans of up to \$10,000 to residential customers in the South Okanagan to make energy efficiency improvements to their homes. The loans are to be repaid on the customers' electricity bills over the next 10 years. This pilot program was launched on November 1, 2012 and will run until the end of 2014.

The OBF pilot program costs are separate from the DSM budget and in accordance with BCUC Order G-163-12, FBC created a non-rate base deferral account to capture the OBF pilot program costs. In the first half of 2013, the FBC portion of the OBF pilot program costs were \$6,000.

APPENDIX A - DSM SUMMARY REPORT IN BCUC FORMAT
Table 14 - FBC Demand Side Management Summary Report for Six month period ended June 30, 2013

Sector/Program	Utility Program Costs			Planning and Evaluation			Total Utility Costs	Customer Incurred Cost	Total Resource Cost	Program Benefits*	Energy Savings	Benefit/Cost Ratios				Levelised Cost	
	Direct Incentives	Direct Information	Program Labour	Planning & Admin.	Monitoring & Eval.	Program Dev.						Total Resource	Modified Total Resource	Rate Impact	Utility Cost		
	(\$000s)											MWh			¢/kWh		
Residential																	
Home Improvements Program	169	57	124	23	13	5	391	567	958	1,360	1,499	1.4	1.5	0.7	3.5	6.4	
Low Income	121	8	22	8	5	2	166	35	201	197	559	1.0	1.3	0.5	1.2	9.0	
Residential Lighting	194	6	43	43	25	10	320	272	593	1,070	2,803	1.8	1.8	0.7	3.3	5.3	
Heat Pumps	127	9	44	14	8	3	205	597	802	820	898	1.0	1.5	0.7	4.0	8.8	
New Home Program	199	20	36	14	8	3	281	261	541	994	921	1.8	1.8	0.7	3.5	5.2	
Residential Total	810	100	269	102	60	24	1,364	1,731	3,095	4,441	6,680	1.4	1.6	0.7	3.3	6.5	
Commercial																	
Lighting	476	33	213	58	34	13	827	609	1,436	2,079	3,783	1.4	1.4	0.6	2.5	5.0	
Building and Process Improvement	145	20	143	8	5	2	321	178	499	456	523	0.9	0.9	0.6	1.4	9.7	
Water Handling Infrastructure	-	2	6	-	-	-	8	-	8	-	-	0.0	0.0	0.0	0.0	-	
Commercial Total	621	55	362	65	38	15	1,157	787	1,943	2,536	4,306	1.3	1.3	0.6	2.2	5.8	
Industrial																	
Industrial Efficiency	41	3	29	9	5	2	89	118	206	336	590	1.6	1.6	0.8	3.8	5.2	
Integrated EMIS	-	-	3	-	-	-	3	-	3	-	-	0.0	0.0	0.0	0.0	-	
Industrial Total	41	3	32	9	5	2	92	118	210	336	590	1.6	1.6	0.8	3.6	5.3	
Supporting Initiatives	-	34	273	-	-	-	307	-	307	-	-	-	-	-	-	-	
TOTAL	1,472	191	936	176	103	41	2,919	2,635	5,555	7,313	11,576	1.3	1.4	0.7	2.5	6.5	

Note: Minor differences due to rounding

* Benefits calculated using the long-term avoided power purchase cost of \$84.94/MWh.

APPENDIX B - HISTORICAL SUMMARY OF FBC'S DSM COSTS AND ENERGY SAVINGS

Table 15 - Historical FBC DSM Costs and Energy Savings 2008- 2009

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	2008 (Actual)							2009 (Actual)						
	Spend (\$000s)			Energy Savings (MWh)			TRC ³	Spend (\$000s)			Energy Savings (MWh)			TRC ³
	Planned	Actual	Variance	Planned	Actual	Variance	(B/C)	Planned	Actual	Variance	Planned	Actual	Variance	(B/C)
Residential														
Home Improvements	135	62	73	385	331	(54)	0.8	273	145	128	1,024	1,032	8	1.4
Building Envelope ¹														
Heat Pumps	446	682	(236)	4,889	8,444	3,555	1.4	515	677	(162)	5,642	3,188	(2,454)	0.7
Residential Lighting	156	151	5	1,796	2,562	766	4.1	263	306	(44)	2,822	3,349	526	2.8
New Home Program	286	340	(54)	1,332	1,596	265	2.8	341	496	(155)	1,216	1,735	518	2.2
Appliances ¹														
Electronics ¹														
Water Heating ¹														
Low Income ¹														
Behavioural ¹														
Residential Total	1,023	1,236	(213)	8,401	12,933	4,531	1.7	1,391	1,624	(233)	10,705	9,304	(1,401)	1.3
Commercial														
Lighting	257	375	(118)	3,000	5,960	2,960	2.4	724	422	302	5,505	7,638	2,133	3.0
Building and Process Improvements	497	506	(9)	6,103	5,081	(1,022)	1.6	563	639	(75)	6,095	8,713	2,618	1.8
Computers														
Municipal (Water Handling) ²														
Irrigation ²														
Commercial Total	754	881	(127)	9,103	11,042	1,939	1.9	1,287	1,060	227	11,600	16,351	4,751	2.2
Industrial														
Compressed Air	58	22	36	700	210	(490)	1.2	71	41	30	811	398	(413)	0.9
EMIS														
Industrial Efficiencies	142	124	18	1,285	3,083	1,798	2.3	274	195	79	2,189	2,305	116	1.6
Industrial Total	200	147	53	1,985	3,294	1,309	2.3	345	236	109	3,000	2,703	(297)	1.5
Programs Total	1,977	2,264	(287)	19,489	27,268	7,779	-	3,023	2,920	103	25,305	28,358	3,053	-
Supporting Initiatives	-	-	-	-	-	-	-	141	141	0	-	-	-	-
Planning & Evaluation	378	419	(41)	-	-	-	-	503	402	101	-	-	-	-
Total	2,355	2,683	(328)	19,489	27,268	7,779	1.8	3,667	3,464	204	25,305	28,358	3,053	1.7

¹ These programs were included in Home Improvements program

² Water Treatment and Wastewater Handling infrastructure were part of Building and Process Improvement

³ Benefits calculated using RS3808 applicable at the time

Table 16 - Historical FBC DSM Costs and Energy Savings 2010

	1	2	3	4	5	6	7
	2010 (Actual)						
	Spend (\$000s)			Energy Savings (MWh)			TRC ³
	Planned	Actual	Variance	Planned	Actual	Variance	(B/C)
1 Residential							
2 Home Improvements	294	434	(140)	953	4,948	3,995	3.1
3 Building Envelope ¹							
4 Heat Pumps	624	749	(125)	6,377	3,239	(3,138)	1.2
5 Residential Lighting	243	278	(35)	2,383	2,589	206	2.4
6 New Home Program	254	247	7	1,392	477	(915)	1.1
7 Appliances ¹							
8 Electronics ¹							
9 Water Heating ¹							
10 Low Income ¹	100	131	(31)	1,000	385	615	0.7
11 Behavioural ¹							
12 <i>Residential Total</i>	1,515	1,838	(323)	12,105	11,638	764	1.9
13 Commercial							
14 Lighting	722	526	196	5,304	7,971	2,667	3.5
15 Building and Process Improvements	658	597	61	6,751	6,685	(67)	1.5
16 Computers							
17 Municipal (Water Handling) ²							
18 Irrigation ²							
19 <i>Commercial Total</i>	1,380	1,123	257	12,055	14,655	2,600	2.1
20 Industrial							
21 Compressed Air	87	25	62	938	114	(823)	0.7
23 EMIS							
22 Industrial Efficiencies	302	216	86	2,412	2,853	441	2.1
24 <i>Industrial Total</i>	389	241	148	3,350	2,967	(383)	2.0
25 Programs Total	3,284	3,203	81	27,510	29,261	2,981	2.1
26 Supporting Initiatives	148	155	(7)	-	-	-	
27 Planning & Evaluation	519	354	165	-	-	-	
28 Total	3,951	3,712	239	27,510	29,261	2,981	2.0

¹ These programs were included in Home Improvements program

² Water Treatment and Wastewater Handling infrastructure were part of Building and Process Improvement

³ Benefits calculated using RS3808 applicable at the time

Table 17 - Historical FBC DSM Costs and Energy Savings 2011-2012

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	2011 (Actual)							2012 (Actual)						
	Spend (\$000s)			Energy Savings (MWh)			TRC ³	Spend (\$000s)			Energy Savings (MWh)			TRC
	Planned	Actual	Variance	Planned	Actual	Variance	(B/C)	Planned	Actual	Variance	Planned	Actual	Variance	(B/C)
Residential														
Home Improvements	2,145	479	1,666	8,960	3,692	(5,268)	1.6	1,719	637	1,082	7,620	4,656	(2,964)	1.7
Building Envelope ¹														
Heat Pumps	694	532	162	3,397	2,257	(1,140)	1.0	703	636	67	3,397	2,161	(1,236)	1.0
Residential Lighting	438	239	199	3,420	3,308	(112)	2.2	328	337	(9)	2,530	2,599	69	1.8
New Home Program	54	205	(151)	105	689	584	1.0	43	314	(271)	90	1,040	950	1.4
Appliances ¹								247	332	(85)	690	1,248	558	
Electronics ¹														
Water Heating ¹														
Low Income	305	245	60	540	1,447	(907)	1.0	677	308	369	1,774	1,054	(720)	1.3
Behavioural ¹														
Residential Total	3,636	1,700	1,936	16,422	11,393	(6,843)	1.3	3,717	2,564	1,153	16,101	12,758	(3,343)	1.5
Commercial														
Lighting	1,114	1,995	(881)	7,370	20,577	13,207	2.3	1,157	2,152	(995)	7,390	14,256	6,866	2.2
Building and Process Improvements	572	606	(34)	3,010	1,386	(1,624)	0.7	659	612	47	3,410	1,959	(1,451)	1.3
Computers														
Municipal (Water Handling)	432	231	201	3,560	2,199	(1,361)	1.6	383	255	128	2,580	1,677	(903)	2.6
Irrigation ²														
Commercial Total	2,118	2,832	(714)	13,940	24,162	10,222	1.9	2,199	3,019	(820)	13,380	17,892	4,512	2.0
Industrial														
Compressed Air														
EMIS	10	9	1	80	-	(80)	-	27	10	17	190	-	(190)	2.0
Industrial Efficiencies	603	128	475	9,280	794	(8,486)	2.5	323	163	160	2,290	937	(1,353)	-
Industrial Total	613	137	476	9,360	794	(8,566)	2.4	350	173	177	2,480	937	(1,543)	1.9
Programs Total	6,367	4,669	1,698	39,722	36,349	(5,187)	1.8	6,266	5,756	510	31,961	31,587	(374)	1.8
Supporting Initiatives	725	658	67	-	-	-	-	725	816	(91)	-	-	-	-
Planning & Evaluation	750	590	160	-	-	-	-	740	728	12	-	-	-	-
Total	7,842	5,918	1,924	39,722	36,349	(5,187)	1.6	7,731	7,300	431	31,961	31,587	(374)	1.6

¹ These programs were included in Home Improvements program

² Irrigation was included in Municipal (Water Handling)

³ Benefits calculated using RS3808 applicable at the time