



Dennis Swanson
Director, Regulatory Affairs

FortisBC Inc.
Suite 100, 1975 Springfield Road
Kelowna BC V1Y 7V7
Ph: (250) 717-0890
Fax: 1-866-335-6295
dennis.swanson@fortisbc.com
www.fortisbc.com

June 3, 2009

Via Email
Original via mail

Ms. Erica M. Hamilton
Commission Secretary
BC Utilities Commission
Sixth Floor, 900 Howe Street, Box 250
Vancouver, BC V6Z 2N3

Dear Ms. Hamilton:

Re: FortisBC Inc's Semi Annual Demand Side Management Report

Please find enclosed for filing FortisBC Inc's Semi-Annual Demand Side Management Report to December 31, 2008. Twelve copies will be couriered to the Commission.

Sincerely,

A handwritten signature in black ink, appearing to be "DS" with a long horizontal line extending to the right.

Dennis Swanson
Director, Regulatory Affairs



FORTISBC INC.

SEMI-ANNUAL DSM REPORT

YEAR ENDED DECEMBER 31, 2008.

Table of Contents

REPORT OBJECTIVE	1
ENERGY SAVINGS PER SECTOR.....	1
PROGRAM COSTS.....	4
FINANCIAL RESULTS	6
DSM INCENTIVE FOR 2008	8
APPENDIX A DSM SUMMARY REPORT	9
APPENDIX B DSM INCENTIVE CALCULATION	10
APPENDIX C COMMERCIAL LIGHTING M&E REPORT.....	11

Report Objective

This report provides highlights of the Company's Demand Side Management ("DSM") programs for the year ending December 31, 2008. The presentation format compares actual energy savings and costs to plan, where applicable, provides a statement of financial results and details the DSM incentive for the fiscal year.

Overview of Results for the Year Ended December 31, 2008.

Energy efficiency savings for the year ended December 31, 2008 were 27.3 GW.h, 140 percent of the plan of 19.5 GW.h for the same period. Company costs incurred were \$2,683,000 or 114 percent of the plan \$2,355,000 for the same period. Adding the customers' costs yields a Total Resource Cost ("TRC") of \$5,145,000 for an overall TRC Benefit/Cost ratio of 1.8.

Energy Savings per Sector

	Plan	Actual	% of Plan
	GW.h		Achieved ¹
Residential (FBC)	8.4	9.8	116%
General Service (FBC)	9.1	7.9	87%
Industrial (FBC)	2.0	3.3	165%
Wholesale		6.3	
Total savings (GW.h)	19.5	27.3	140%

¹Differences due to rounding.

As per BCUC letter dated March 16, 2009 the above table disaggregates the energy savings for the Wholesale sector. Since plan figures were developed for each customer class, inclusive of indirect customers, there is no plan figure for the Wholesale sector.

Detail of Energy Savings

The following tables provide details on the DSM energy savings in each sector.

Residential Programs	Plan	Actual	% of Plan
	GW.h		Achieved¹
HIP/Watersavers	0.4	0.3	86%
New Home Program	1.3	1.6	120%
Heat Pumps (Air & Ground Source)	4.9	8.4	173%
Residential Lighting	<u>1.8</u>	<u>2.6</u>	<u>143%</u>
	8.4	12.9	154%

¹Differences due to rounding.

The Residential construction and renovation activity was still brisk at 154 percent of plan. In the New Home program, there were 450 participants, a drop from 519 in 2007. The number of Heat Pump program participants grew to a record 1000, compared to 984 in 2007. Most Residential programs met or exceeded plan expectations. The exception, the Home Improvement Program, is expected to pick up steam as a result of the LiveSmartBC collaboration.

General Service Programs	Plan	Actual	% of Plan
	GW.h		Achieved¹
Lighting	3.0	6.0	199%
Building and Process Improvement	<u>6.1</u>	<u>5.1</u>	83%
	9.1	11.0	121%

¹Differences due to rounding.

The General Service sector recorded savings of 11.0 GW.h, 121 percent of plan in 2008. The Cool Shops pilot project in Kelowna, which targeted small storefront businesses, attained 150 MW.h of energy savings. Examples of larger Building and Process Improvement projects include: a geexchange system in a Kelowna school (0.8 GW.h), geexchange and variable speed drive irrigation pumps at a Oliver winery (0.6 GW.h), and a more efficient process chosen for the Summerland water treatment plant (0.6 GW.h).

The 2008 Lighting program savings have been reduced to account for free riders, as per the attached Monitoring & Evaluation report in Appendix C.

Industrial Programs	Plan	Actual	% of Plan
	GW.h		Achieved¹
Compressed Air	0.7	0.2	30%
Industrial Efficiencies	1.3	3.1	240%
	2.0	3.3	166%

¹Differences due to rounding.

The Industrial Efficiency program achieved savings of 3.3 GW.h, well in excess of the plan of 2.0 GW.h. This was largely attributable to savings of 1.7 GW.h at a lumber mill where a waste wood incinerator was replaced with a chipper, and the secondary products are now shipped as feedstock to a nearby pulp mill.

Wholesale Activity	GW.h	MW	Percent¹
Grand Forks	0.2	0.0	3%
Summerland	1.5	0.2	24%
Nelson	0.6	0.1	10%
Penticton	1.5	0.2	24%
Kelowna	2.4	0.4	39%
Total (Wholesale)	6.3	1.0	100%

¹Differences due to rounding.

The total Wholesale energy savings, which were acquired within the service areas of the five municipal electric utilities, were 6.3 GW.h and 1.0 MW. The largest DSM savings results occurred within Kelowna, primarily in commercial and residential lighting, followed by a tie between Summerland, which had its majority of savings from Building and Process Improvements projects, and Penticton, where the largest activity was in the Air Source Heat Pump program.

Program Costs

The table below presents the actual costs incurred compared to plan.

Summary of Costs by Sector

	Plan	Actual	% of Plan ¹
	\$000s		
Residential	1,023	1,236	121%
General service	754	881	117%
Industrial	200	147	73%
Planning & Evaluation	378	419	111%
	2,355	2,683	114%

¹Differences due to rounding.

Costs amounted to \$2,683,000, 114 percent of plan to December 31, 2008, a variance of \$328,000 due to the robust level of activity and the hiring of one additional PowerSense staff member.

Costs per Sector

Residential	Plan	Actual	% of Plan
	\$000s		
H.I.P./Watersavers	135	62	46%
New Home Program	286	340	119%
Heat Pumps (Air & Ground)	446	682	153%
Residential Lighting	156	151	97%
	1,023	1,236	121%

The cost of Residential programs was \$1,236,000 or 121 percent of plan. The largest cost component of Residential programs is the Heat Pumps Program followed by the New Home Program. Incentives paid to Residential participants amounted to \$799,300 during the year or \$165,000 over plan, reflecting higher program participation levels.

General Service	Plan	Actual	% of Plan
	\$000s		
Lighting	257	375	146%
Building and Process Improvement	497	506	102%
	754	881	117%

Costs to December 31, 2008 for General Service amounted to \$880,000 or 117 percent of plan. This reflects the program activity within this sector which also resulted in savings exceeding plan. Incentives paid amounted to \$476,300 and were \$63,000 more than plan.

Industrial	Plan	Actual	% of Plan¹
	\$000s		
Industrial Efficiencies	142	124	88%
Compressed Air	58	22	38%
	200	147	73%

¹Differences due to rounding.

Industrial sector costs were \$147,000 for the period, 74 percent of plan. Incentives paid during the period amounted to \$68,600, which was \$58,000 below plan.

Financial Results

FINANCIAL RESULTS for Year Ending Dec 31, 2008

Financial Results by Program (\$000s)

Program	Program Benefits	Program Costs	Planning & Evaluation Costs	Customer Costs	Total Costs	Benefit Cost Ratio
Residential						
H.I.P./Watersavers	147	62	5	124	191	0.8
New Home program	892	340	25	(45)	320	2.8
Heat Pumps	2,813	682	130	1,271	2,083	1.4
Residential Lighting	763	151	39	(6)	184	4.1
Residential Total	4,615	1,236	199	1,344	2,778	1.7
General Service						
Lighting	1,806	375	92	280	746	2.4
Building and Process Improvement	1,839	475	78	589	1,143	1.6
General Service Total	3,645	881	170	869	1,920	1.9
Industrial						
Industrial Efficiencies	981	124	47	247	418	2.3
Compressed Air	35	22	3	3	28	1.2
Industrial Total	1,016	147	51	249	447	2.3
Total	9,276	2,264	419	2,462	5,145	1.8

Program benefits are the present value of avoided power purchases over the measure lifespan.

An overall Benefit/Cost ratio of 1.8 has been achieved in 2008, compared to 1.9 for 2007.

Residential Results

The Residential sector programs showed good performance with an overall benefit/cost ratio of 1.7 for the sector, a drop from the 1.9 result for the prior year. The programs benefited from the brisk construction pace that occurred in 2008 in the Okanagan service area.

General Service and Industrial Results

The General Service and Industrial financial results for 2007 were also robust, with benefit/cost ratios of 1.9 and 2.3 respectively. Savings potential is identified through key customer contacts, which include a review of their capital expenditure plans. Savings are also derived through various trade ally relationships, including lighting products wholesalers.

Program participation varied within both General Service and Industrial customer classes. The forestry industry continues to face weak markets, with several plant shutdowns, and is motivated to seek operating cost reductions.

Government Programs

The Company is collaborating with the provincial government on various initiatives, notably the LiveSmart BC home retrofit program and the Public Sector Efficiency & Conservation Agreement (“PSECA”) for publicly owned or funded organizations, including schools and hospitals. The programs are expected to increase program activity and results over their multi-year funding envelopes.

DSM Incentive for 2008

The table below presents the estimated DSM incentive results for 2008, based on actual costs and savings for the year.

	TRC Net Benefits (Thousands of Dollars)			Performance	Incentive (\$000s)
	Actual To Dec 31	Base To Dec 31	Eligible for Incentive		
Residential	2,035	1,796	1,853	103%	56
General Service	1,894	2,323	1,783	77%	(36)
Industrial	620	311	467	150%	14
Total	4,550	4,430	4,103		34.0

Actual TRC Net Benefits to December 31, 2008 amounted to \$4.550 million over the Base Net Benefits of \$4.430 million. The Net Benefits for each sector are compared to a 3-year baseline, to determine each sector's incentive amount. Please see Appendix B for a more detailed description of the Incentive Mechanism calculation.

The Residential and Industrial sectors performed well, thus earning incentives of \$56 and \$14 thousand respectively. The General Service performance was impacted by the M&E write-down, resulting in a \$36 thousand penalty for that sector.

The estimated DSM incentive is \$34,000 for the year ended December 31, 2008.

Appendix A DSM Summary Report

FortisBC
Demand-Side Management Summary Report
Year Ending Dec 31, 2008

Sector/Program	Utility Costs			Planning & Evaluation	Research Adm & OH	Total	Customer Incurred Cost	Total Resource Cost	Benefit/Cost Ratios		
	Direct Incentives	Direct Information	Program Labour						Total Resource	Rate Impact	Levelised Cost
\$000s											
<u>RESIDENTIAL:</u>											
Heat Pumps	405.5	126.8	150.1	77.9	51.9	812.1	1270.6	2,082.8	1.3	0.5	3.0
New Home Program	292.1	21.4	27.0	14.7	9.8	365.0	(45.2)	319.8	2.9	0.5	1.8
Residential Lighting	79.8	30.6	40.5	23.6	15.8	190.2	(5.9)	184.4	3.8	0.8	1.8
Home Improvements Program	<u>22.0</u>	<u>11.4</u>	<u>28.8</u>	<u>3.0</u>	<u>2.0</u>	<u>67.2</u>	<u>124.1</u>	<u>191.3</u>	<u>0.9</u>	<u>0.4</u>	<u>4.7</u>
	<u>799.3</u>	<u>190.2</u>	<u>246.2</u>	<u>119.3</u>	<u>79.5</u>	<u>1,434.6</u>	<u>1343.7</u>	<u>2,778.2</u>	<u>1.7</u>	<u>0.5</u>	<u>2.6</u>
<u>GENERAL SERVICE</u>											
Lighting	218.5	52.4	104.0	55.0	36.7	466.5	279.7	746.2	2.4	0.5	1.7
Building and Process Improvements	<u>226.3</u>	<u>38.9</u>	<u>209.8</u>	<u>44.1</u>	<u>29.4</u>	<u>548.5</u>	<u>589.4</u>	<u>1,137.9</u>	<u>1.4</u>	<u>0.5</u>	<u>4.5</u>
	<u>476.3</u>	<u>91.3</u>	<u>313.7</u>	<u>101.9</u>	<u>67.9</u>	<u>1,051.1</u>	<u>869.1</u>	<u>1,920.3</u>	<u>1.9</u>	<u>0.5</u>	<u>2.0</u>
<u>INDUSTRIAL:</u>											
Industrial Efficiencies	59.1	1.9	63.4	28.4	19.0	171.8	246.6	418.5	3.2	0.6	3.1
Compressors	<u>9.5</u>	<u>0.0</u>	<u>12.7</u>	<u>1.9</u>	<u>1.3</u>	<u>25.4</u>	<u>2.8</u>	<u>28.2</u>	<u>1.2</u>	<u>0.5</u>	<u>2.6</u>
	<u>68.6</u>	<u>1.9</u>	<u>76.1</u>	<u>30.4</u>	<u>20.3</u>	<u>197.2</u>	<u>249.5</u>	<u>446.7</u>	<u>2.3</u>	<u>0.6</u>	<u>1.4</u>
<u>TOTAL:</u>	<u>1,344</u>	<u>283.4</u>	<u>636.0</u>	<u>251.5</u>	<u>167.7</u>	<u>2,683</u>	<u>2462.3</u>	<u>5,145</u>	<u>1.8</u>	<u>0.5</u>	<u>2.2</u>

Levelised Energy Unit Cost - Cents per kWh

2.0

Energy Savings - kWh

27,268,049

Levelised Capacity Unit Cost - Dollars per kW

267.8

Capacity Savings - kW

4,193

Appendix B DSM Incentive Calculation

Total Resource Cost (TRC) Net Benefits are the gross benefits of lifecycle energy and capacity savings less the total resource cost (FortisBC program costs plus customer-incurred costs) for the energy savings measures installed.

The **Base TRC Net Benefits (Base)** are based on a yearly average of actual costs, savings and benefits for the immediately preceding three year period. The costs are escalated to the incentive year dollars and the benefits are priced at the incentive year BC Hydro Rate Schedule 3808.

The **DSM incentive mechanism** measures the variance between the actual TRC Net Benefits (Actual) and the Base TRC Net Benefits (Base) set for each sector for the year. There are different incentive or penalty levels based on the size of the variance for each of the three sectors. Incentives for the sectors are calculated for performances of 100 percent to 150 percent of Base. There is no calculation for performance between 90 percent and 100 percent of Base for all sectors. Calculations for performance of less than 90 percent of Base produce negative results. Maximum penalty is applied to performances of less than 50 percent of Base.

If the sum of the sector incentives or penalties is greater than zero, then that sum is the DSM incentive for FortisBC for the year. If the sum is less than zero, then there is no DSM incentive for FortisBC for the year and no penalty is charged.

The Residential incentive ranges from 3 percent to 6 percent, starting at the achievement of 101 percent of Base, while the penalty ranges from -3 percent to -6 percent. The incentive range for General Service is 2 percent to 4 percent and for Industrial is 1 percent to 3 percent, while the penalty ranges are -2 percent to -4 percent and -1 percent to -3 percent, respectively.

Appendix C Commercial Lighting M&E Report

SAMPSON RESEARCH

Consulting Project

COMMERCIAL LIGHTING PROGRAM EVALUATION

EXECUTIVE SUMMARY

Prepared for:

**PowerSense Dept.
FortisBC Inc.
Kelowna, British Columbia**

By:

Sampson Research Inc.

January 12, 2009

1543 Park Avenue
Roberts Creek, BC
V0N 2W2
Phone: 604.740.0254
Email: jsampson@sampsonresearch.com
www.sampsonresearch.com

Disclaimer

The opinions expressed in this report are the responsibility of the author, Sampson Research, and do not necessarily represent the views of FortisBC.

Currency Units

All dollar figures presented in this report, unless stated otherwise, are expressed in Canadian funds.

1 EXECUTIVE SUMMARY

1.1 Introduction

This report summarizes the findings from a process and impact evaluation of FortisBC's commercial lighting program; an energy acquisition program that offers financial incentives for retrofitting energy efficient lighting. Since its inception in the early 1990s, the program has recorded 85.3 GWh in energy savings and 15.8 MW in demand savings. Since 2004, the program has recorded energy and demand savings of 20.3 GWh and 4.8 MW respectively.

1.2 Evaluation Objectives & Methodology

The primary objectives of this evaluation were to:

- define and document the program's logic model;
- evaluate the effectiveness and efficiency of program design and delivery; and,
- evaluate program gross savings, net-to-gross factors, and net program savings.

The objectives of the evaluation were met through interviews with program staff and internal stakeholders (n=6), trade allies (n=5), and samples of custom option participants (n=22) and product (bulk purchase) option participants (n=20). Information from these interviews was used to supplement an engineering analysis and review of custom option project files (n=41), and a series of case studies based on statistically adjusted engineering (SAE) billing analyses (n=5).

Interviews took place between October 27th and December 2nd, 2008.

1.3 Summary of Evaluation Findings

1.3.1 Program Delivery

The PowerSense commercial lighting program is well received within the communities served by FortisBC. Comments provided during interviews with customers and external stakeholders were positive and program satisfaction scores were high. Field representatives were praised as friendly and responsive. Trade allies argued the FortisBC incentives often "cinched" the deal with customers to upgrade a standard lighting package to a higher efficiency package. The relative ease of participating in the custom and/or product options, including the lack of cumbersome application and approval procedures, was a positive feature of the lighting program for many customers and trade allies.

Field staff deliver the program with minimal operations support and resources. They manage the approximately 300 projects a year using systems that meet minimum requirements for project management and tracking. The loss of an administrative support person in 2008 hindered the program's ability to keep field staff and internal stakeholders up-to-date on the status of the program. The program has recently hired an operations manager and there is provision for hiring an additional program delivery representative in fiscal year 2009-10.

1.3.2 Eligible Lighting Technologies

Since inception, the program has undergone relatively few changes in product eligibility, program focus, and program resources. There was a general consensus among internal and external stakeholders that the current list of lighting technologies promoted by the program should be reviewed and refreshed. The current complement of qualifying technologies is viewed as a barrier to meeting future program savings targets.

1.3.3 Customer Perspectives

The custom and product (bulk purchase) options cater to participants with differing needs. Custom option participants were more likely to be undertaking a remodelling, expansion, or space build-out at the time of their lighting retrofit than their product option counterparts. As well, product option participants were more likely to say their existing lighting equipment was meeting their needs at the time (Exhibit 1).

Exhibit 1: Status of Lighting at Time of Retrofit / Lighting Purchase Product versus Custom Option Participants

Situation at the time of the lighting purchase	Product (Bulk Purchase) Option Survey	Custom Option Survey
Our business was in the process of a remodel, expansion, or space build-out	10%	45%
Our existing lighting equipment was old or inadequate and needed to be replaced	50%	41%
Our lighting equipment was meeting our lighting requirements	40%	14%
Total	100%	100%

Totals may not sum due to rounding

Participants of the custom option were generally satisfied with their program experience with 77% saying they were either very or somewhat satisfied with the program. They were most satisfied with their communications with FortisBC staff and the least satisfied with the choice of lighting products eligible for a rebate (Exhibit 2).

**Exhibit 2: Satisfaction with Aspects of PowerSense Commercial Lighting Program
Five point satisfaction scale (5 = Very satisfied, 1 = Not at all satisfied)**

Program Aspect:	Least Satisfied (1 or 2)	Most Satisfied (4 or 5)	Average Score (max=5.0)
Application procedures to obtain your rebate	0%	57%	4.3
Communications with FortisBC staff regarding this program	14%	76%	4.1
Information available on energy efficient lighting options	10%	57%	4.0
Information available on the FortisBC PowerSense lighting program	10%	48%	3.8
The amount of the PowerSense rebate	14%	52%	3.7
The choice of lighting products eligible for the PowerSense rebate	14%	38%	3.6

Product option participants were also generally satisfied with their program experience, with 85% saying they were very or somewhat satisfied with the program.

1.3.4 Impact Evaluation

Two evaluations of the PowerSense commercial lighting program have been conducted in the program's history. The most recent evaluation was completed in 1998.

The program has not adjusted its savings estimates for either free riders or program spill-over. An 18% correction factor was applied to Kelowna region projects following the 1998 evaluation. This report recommends the discount be discontinued.

EXECUTIVE SUMMARY

Custom Option

The rigor applied by the program to evaluating and approving custom option lighting projects is determined by the size of the project. For example, projects with rebates in excess of \$5,000 have one-half of the rebate deferred for a year to allow for verification of energy savings. Comprehensive procedures for evaluating and approving projects that were established following the 1998 evaluation are generally followed.

The review of custom option files, however, highlighted a number of issues directly related to the level of scrutiny and oversight applied to small and medium projects, and the inability to adequately monitor, track and verify participant savings. In many cases, these issues can be easily resolved by providing field staff with additional resources, enforcing procedures for project approval, and ensuring comprehensive and accurate capture of customer and project information.

There was no indication of systematic review of billing records before or after a retrofit to confirm savings or follow-ups with customers to assess whether their savings had materialized.

Other findings from the billing and engineering analysis of custom option participants include:

- Confirmed presence of lighting-HVAC interactions. There were notable cases where engineering estimates significantly overstated potential savings because they did not account for HVAC interactions, particularly for buildings with electric heat. Conversely, several customers realized additional energy savings because of reduced air conditioning load during the summer months. At present, the program does not adjust engineering estimates for lighting-HVAC interactions.
- Engineering estimates of hours-of-use, on average, were 7% higher than evaluated, although the majority were within plus or minus 5% of evaluated estimates. Overstatement of operating hours is attributed primarily to missed variations in daily or seasonal operating schedules (e.g., timers, seasonal shut-downs, etc.).
- Measure persistence was high with 95% of the lighting product rebated under the custom option between December 2005 to June 2008 still installed.
- Free riders were estimated at 31% of custom option participants.
- The custom option program induced 9% of participants to purchase and install additional energy efficient lighting (spill-over).

These findings suggest there is a need for PowerSense to review and update its project review and approval criteria and procedures. They should either recommit to savings verification procedures established following the last evaluation or adopt something of comparable rigor.

Product Option

Energy savings claimed under the product (bulk purchase) option of the program have increased significantly since switching to point-of-purchase rebates, and the expansion of this delivery model to other electrical wholesalers. Energy savings through bulk purchases for the first six months of 2008 were up 91% over the same period in 2007.

There is no formal requirement for point-of-purchase rebate recipients to verify they are a FortisBC customer. Wholesalers bear the onus of correctly “pre-qualifying” rebate recipients otherwise they risk not being reimbursed by FortisBC. This is done primarily using the customer’s address or through familiarity with repeat customers. Program staff visually scans wholesaler invoices to confirm or deny claims. Limited or incomplete customer information combined with an increasing volume of claims under this program stream will make it increasingly difficult to enforce the eligibility criterion.

Participants and wholesalers view the point-of-purchase rebates favourably. The evaluation has revealed, however, that a large proportion (59%) of bulk purchasers would have purchased their energy efficient

lighting products without the FortisBC rebate. The cost-effectiveness of this delivery model with the current list of qualifying lighting technologies, particularly CFLs, needs to be reassessed in light of this high free rider percentage.

Other findings from the product (bulk purchase) option impact analysis include:

- Evaluated hours-of-use were 35% higher than program assumptions.
- The majority (91%) of rebated lighting product purchased between December 2007 and June 2008 has been installed. The remainder is being held in storage until the existing lighting product wears out.
- No evidence of spill-over.

Evaluated Savings – Custom Option

Net energy savings from the custom option of the PowerSense commercial lighting program for the January 2005 to June 2007 period are estimated at 4.291 GWh per annum and 1,353.2 kW (Exhibit 3). Adjustments were made for measure persistence loss (5%), spill-over (9%), and free riders (31%). Evaluated savings amount to 72% of the program's original engineering estimates of 5.980 GWh and 1.886 MW.

Exhibit 3: Calculation of Net Program Savings (Run Rates) – Custom Option January 2005 to June 2007

	GWh/yr	kW
Gross Program Savings ¹ (PRGM)	5.980	1,885.8
Measure persistence loss (5%)	(0.299)	(94.3)
Participant Spill-over (9%)	0.538	169.7
Gross Program Savings (EVAL)	6.219	1,961.2
Free Riders (31%)	(1.928)	(608.0)
Net Program Savings (EVAL)	4.291	1,353.2
EVAL / PRGM Ratio	0.72	0.72

¹ Gross program savings represent savings prior to any adjustments for free riders or other discounts. Totals may not sum due to rounding

Evaluated Savings – Product Option

Savings attributable to bulk purchases made during the December 2007 to June 2008 period are estimated at 2.241 GWh per year and 390.9 kW (Exhibit 4). This is equivalent to 55% and 44% of the program's original energy and demand estimates respectively.

Exhibit 4: Calculation of Net Program Savings (Run Rates) – Product Option December 2007 to June 2008

	GWh/yr	kW
Gross Program Savings (PRGM)	4.048	951.9
Participant Spill-over (0%)	0.000	0.0
Hours-of-use adjustment (35%)	1.417	---
Gross Program Savings (EVAL)	5.465	951.9
Free Riders (59%)	(3.224)	(561.0)
Net Program Savings (EVAL)	2.241	390.9
EVAL / PRGM Ratio	0.55	0.41

Totals may not sum due to rounding

EXECUTIVE SUMMARY

1.4 Program Recommendations

This evaluation has identified opportunities to improve the design and delivery of the PowerSense commercial lighting program, and areas where attention is needed in the monitoring, tracking, and verification of program savings. Recommendations are grouped according to program design, program delivery, qualifying lighting technologies, and lastly, the monitoring, tracking and verification of program savings.

Program Design

1. The objectives of the commercial lighting program need to be reviewed in the context of FortisBC's current strategic DSM plan, and in light of FortisBC's commitment to the Government of British Columbia's 2020 conservation goal.
2. Program objectives should be documented and understood by all program staff and internal stakeholders.

Program Delivery

3. Field representatives and program staff should be provided with an integrated project management system to adequately manage projects, track program savings and performance metrics, and to provide a consistent basis for monthly and quarterly reporting.
4. Administrative resources and operations support assigned to the PowerSense commercial lighting program need to be increased to adequately support program delivery, improve monitoring, the timeliness of reporting, and the rigor of project review and approval procedures.
5. FortisBC should consider using the PowerSense commercial lighting program to assume a stronger leadership role with respect to the adoption of energy efficient lighting technologies. This leadership role should include collateral and materials devoted to educating commercial customers on energy efficient lighting options.

Qualifying Lighting Technologies

6. The list of energy efficient lighting technologies that qualify under the PowerSense program, their incentive levels, and cost-effectiveness should be reviewed in the context of current and projected lighting market trends (baseline), and ability to delivery on program savings targets.
7. All lighting technologies that qualify for an incentive, either under the custom option or the point-of-purchase rebates, should be clearly specified and communicated to internal stakeholders, customers, and trade allies.
8. The PowerSense program should review its policy regarding minimum quality standards for program qualifying technologies, including active consideration of limiting incentives for CFL lamps and fixtures to only those qualified under the Energy Star[®] program.

Monitoring, Tracking and Verification of Program Savings

9. PowerSense should review and update its project review and approval criteria and procedures. PowerSense should also recommit to savings verification procedures established following the last evaluation or adopt something of comparable rigor. In particular, periodic reviews of lighting plans submitted to FortisBC should be conducted to confirm the reasonableness and accuracy of pre- and post-retrofit fixture wattages, counts, and hours-of-use. Customer follow-ups, as per the general service protocols should be reinstated and enforced with large projects.


EXECUTIVE SUMMARY


10. The program should enforce criteria restricting projects from retrospectively qualifying for program support. Where possible, customers should be required to register with the program prior to commencing their retrofit or lighting upgrade. Participation criteria should be communicated to all trade allies and external stakeholders, and enforced on a consistent basis.
11. The program should confirm that all rebate payment requests bear the signature of the project sponsor (e.g., field representative) and authorizing manager.
12. All projects with annual energy savings estimates above a minimum savings threshold (e.g., 10,000 kWh) should be compared to 12 months worth of pre-retrofit consumption as a check on the reasonableness of the savings estimate.
13. All custom option project records should clearly indicate contact name(s), addresses and telephone numbers for both the retrofit location and for the recipient of the rebate cheque.
14. All custom option project records should clearly indicate the billing account number(s) that correspond to the retrofit site address. All meters impacted by the retrofit should be identified.
15. Further to Recommendations 12 through 14, FortisBC should investigate options to facilitate timely access to billing information for customers serviced by wholesale utilities.
16. Applications to the custom option should include an assessment of the likelihood and magnitude of interactions between lighting and HVAC systems using an industry accepted methodology. A threshold for the minimum acceptable heating penalty should be set by the program (e.g., 10% - 20% of savings during the heating season). If exceeded, engineering estimates of savings should be adjusted accordingly.
17. Electrical wholesalers should be required to improve the comprehensiveness of the information collected on customers receiving the point-of-purchase rebate. At the minimum, it should include first and last names, company name, and telephone number. Some method of confirming the participant's FortisBC account number and premise (street) location is strongly recommended.
18. FortisBC should establish limits for non-compliance (i.e., rebates mistakenly paid to non-FortisBC customers) for the product (bulk purchase) option. Periodic reviews of payment approvals should be conducted to confirm these limits are being upheld.
19. The program should implement program market and impact evaluations at regular intervals (e.g., every three years) and allocate sufficient resources for completing these evaluations (e.g., between 1% and 3% of program budget).
20. Estimates of free riders, persistence, and hours-of-use should be updated as part of regular evaluations.
21. Program savings estimates for product option participants for December 2007 onward should be adjusted to reflect the evaluation findings for operating hours and free riders.
22. Savings estimates for custom option projects should be adjusted to reflect evaluated estimates of persistence, free riders, and spill-over.

* * * * *

Sampson Research

Economic research that matters to communities and business

 604.740.0254

 jsampson@sampsonresearch.com

www.sampsonresearch.com