



**FORTISBC**

**SEMI-ANNUAL DSM REPORT**

**SIX MONTHS ENDED JUNE 30, 2004**

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**Report Objective:**

This report provides highlights of energy management programs for the six months ending June 30, 2004. The presentation format compares actual energy savings and costs to plan, provides a statement of financial results and details the DSM incentive that has been accrued to date.

**Overview of Results for the Six Months Ended June 30, 2004:**

Energy efficiency savings for the six months ending June 30, 2004 amounted to 11.0 GW.h, which is 151% percent of the plan 7.3 GW.h. Costs to June 30, 2004 were \$1.095 million or 121% of the plan of \$907,000. The overall Resource Benefit/Cost ratio for the six-month period was 1.5.

**Summary Energy Savings per Sector:**

	<b>YTD Plan GW.h</b>	<b>Actual</b>	<b>% of Plan Achieved</b>
Residential	2.4	5.7	238%
General Service	4.1	5.0	122%
Industrial	<u>0.8</u>	<u>0.3</u>	<u>38%</u>
<b>Total savings (GW.h)</b>	<b><u>7.3</u></b>	<b><u>11.0</u></b>	<b><u>151%</u></b>

The commentary on individual sector performance is contained in the sections below.

**Detail of Energy Savings:**

<b>Residential Programs:</b>			
	<b>YTD Plan GW.h</b>	<b>Actual</b>	<b>% of Plan Achieved</b>
HIP/Watersavers	0.1	0.3	300%
New Home Program	0.1	1.1	1100%
Heat Pumps (Air & Ground Source)	1.2	2.2	183%
Residential Lighting	<u>1.0</u>	<u>2.1</u>	<u>210%</u>
	<b><u>2.4</u></b>	<b><u>5.7</u></b>	<b><u>238%</u></b>

The Home Improvements Program has 0.2 GW.h in savings due to the high efficiency furnace fan initiative with Terasen gas. Robust construction activities in the Kelowna area continue to drive the savings above plan. There were three multi-unit construction projects with 140 units accounting for 0.5 GW.h in the New Home Program. There were 207 units installed in the Air Source Heat Pump program.

The residential lighting savings exceeded plan because the 2003 fall Compact Fluorescent Lighting campaign had continued customer response into the early part of 2004.

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<b>General Service Programs:</b>			
	<b>YTD Plan</b>	<b>Actual</b>	<b>% of Plan</b>
	<b>GW.h</b>		<b>Achieved</b>
Lighting	1.0	2.5	250%
Building and Process Improvement	<u>3.1</u>	<u>2.5</u>	<u>81%</u>
	<b><u>4.1</u></b>	<b><u>5.0</u></b>	<b><u>122%</u></b>

The Lighting program attracted 52 individual projects. The largest projects included:

- A full lighting upgrade of the Agri-Food Research Centre and refrigerated growth chambers by Agriculture Canada in Summerland, accounting for 0.5 GW.h in savings
- Phase 2 of the LED traffic light upgrades and 2 new multi-unit residential buildings achieving further savings of 0.54 and 0.35 GW.h respectively.

Building and process improvements included two geo-exchange projects for 1.2 GW.h. in the hotel and accommodation market.

<b>Industrial Programs:</b>			
	<b>YTD Plan</b>	<b>Actual</b>	<b>% of Plan</b>
	<b>GW.h</b>		<b>Achieved</b>
Pumps and Fans	0.3	0.3	100%
Compressed Air	0.1	0.0	0%
Industrial Efficiencies	<u>0.4</u>	<u>0.0</u>	<u>0%</u>
	<b><u>0.8</u></b>	<b><u>0.3</u></b>	<b><u>38%</u></b>

Only one project has been recorded within Industrial year to date. This was a variable speed fan and control installation for a kiln in a lumber operation.

### DSM Program Costs:

Costs were \$1.095 million or 121% of plan, driven by Residential Program activity in excess of plan.

### Summary of Costs by Sector

	<b>YTD Plan</b>	<b>Actual</b>	<b>% of Plan</b>
	<b>\$'000</b>		
Sector:			
Residential	324	517	160%
General service	342	402	118%
Industrial	90	42	47%
Planning & Evaluation	151	134	89%
	<b>907</b>	<b>1,095</b>	<b>121%</b>

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### Costs per Sector:

The costs of the residential programs amounted to \$517,000, 160% of plan.

<b>Residential</b>	<b>YTD Plan</b>	<b>Actual</b>	<b>% of Plan</b>
	<b>\$'000</b>		
H.I.P./Watersavers	21	27	129%
New Home Program	45	211	469%
Heat Pumps (Air & Ground )	142	172	121%
Residential Lighting	116	107	92%
	<b>324</b>	<b>517</b>	<b>160%</b>

New Home program costs are \$166,000 above plan because of the higher than anticipated level of electric heat multi-unit residential construction in Kelowna and the participation rate in this program.

<b>General Service</b>	<b>YTD Plan</b>	<b>Actual</b>	<b>% of Plan</b>
	<b>\$'000</b>		
Lighting	104	138	133%
Building and Process Improvement	238	264	111%
	<b>342</b>	<b>402</b>	<b>118%</b>

The general service sector costs at \$402,000 are at 118% of plan \$342,000. This is due to incentive payments of \$262,000, which exceeded plan by \$109,000 and is directly related to the activity volumes in this sector.

<b>Industrial</b>	<b>YTD Plan</b>	<b>Actual</b>	<b>% of Plan</b>
	<b>\$'000</b>		
Pumps and Fans	33	23	70%
Compressed Air	12	5	42%
New Process Design	9	4	44%
Industrial Efficiencies	36	10	28%
	<b>90</b>	<b>42</b>	<b>47%</b>

Industrial sector costs are lower than expected for engineering review costs and incentives due to activity levels. During this period only one rebate was paid.

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### Financial Results:

An overall Benefit/Cost ratio of 1.5 has been achieved to June 30, 2004.

### FINANCIAL RESULTS for the Six months ended June 30, 2004

Financial Results by Program (\$'000)

Program	Program Benefits	Program Costs	Planning & Evaluation Costs	Customer Costs	Total Costs	Benefit Cost Ratio
<b>Residential</b>						
H.I.P./Watersavers	92	27	4	31	62	1.5
New Home program	440	210	14	20	244	1.8
Heat Pumps	675	172	27	351	550	1.2
Residential Lighting	<u>375</u>	<u>108</u>	<u>25</u>	<u>(17)</u>	<u>116</u>	<u>3.2</u>
<b>Residential Total</b>	<u>1,582</u>	<u>517</u>	<u>69</u>	<u>385</u>	<u>971</u>	<u>1.6</u>
<b>General Service</b>						
Lighting	654	138	30	194	362	1.8
Building and Process Improvement	<u>824</u>	<u>264</u>	<u>31</u>	<u>335</u>	<u>630</u>	<u>1.3</u>
<b>General Service Total</b>	<u>1,478</u>	<u>402</u>	<u>61</u>	<u>529</u>	<u>992</u>	<u>1.5</u>
<b>Industrial</b>						
Pumps and Fans	92	23	4	25	52	1.8
Compressed Air	0	5	0	0	5	0.0
Industrial Efficiencies	<u>0</u>	<u>14</u>	<u>0</u>	<u>0</u>	<u>14</u>	<u>0.0</u>
<b>Industrial Total</b>	<u>92</u>	<u>42</u>	<u>4</u>	<u>25</u>	<u>71</u>	<u>1.3</u>
<b>Total</b>	<b>3,152</b>	<b>961</b>	<b>134</b>	<b>939</b>	<b>2,034</b>	<b>1.5</b>

#### Residential Results

The residential sector had good results with an overall benefit/cost ratio of 1.6.

The Home Improvements Program includes results of the hi-efficiency fan motor upgrade offered in conjunction with the Terasen efficiency program to upgrade gas furnaces. This fan upgrade measure has a benefit/cost ratio of 2 and helped raise the overall performance of the Home Improvements Program.

The New Home program with its emphasis on multi-unit residential housing continues to be well received. Under this program, a large portion of the incremental cost of window upgrades is paid as an incentive to participants to ensure adoption of this measure.

The Air Source Heat Pump program was promoted through a cooperative spring advertising campaign with the air source heat pump distributors. Special manufacturers' incentives were available to customers during this campaign. Participation levels were similar to 2003.

The Residential Lighting program reflects the impact of the "100% of cost or up to \$7" rebate campaign for compact fluorescent lights (CFL). The campaign ended in March and participation rates were 200% of normal levels. The negative customer portion of costs represents the value of avoided incandescent lamp purchases due to the longer life of the CFL that was subtracted from the customer's net cost of the CFL.

#### General Service and Industrial Results

While the General Service and Industrial sectors had reasonable financial results with benefit/cost ratios of 1.5 and 1.3 respectively, the volumes were below those required to meet the

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net benefits targets that have been set. The delivery group is working diligently with energy management committees, trade allies and engineering firms to identify and implement energy efficiency projects in the latter half of the year. Current information indicates that there are limited industrial sector capital investments planned for the year and our benefits target may not be met.

### DSM Incentive Mechanism:

The DSM incentive mechanism provides for incentives based on Net Benefits being achieved at 101% of plan. The maximum benefit available is allowable on 150% of plan benefits. The Residential incentive ranges from 3% to 6%, starting at the achievement of 101% of plan Net benefits. The General Service range is from 2% to 4% and Industrial 1% to 3%, also both starting from achievement of 101% of plan Net benefits.

A penalty is possible if less than 90% of Net Benefits are achieved in each sector. There is a maximum penalty set at 50% of plan Net Benefits.

Net Benefits are defined as benefits assigned to energy and capacity savings based on avoided power purchase costs, less company program costs and customer-incurred costs pertinent to the energy savings system being installed.

	Net Benefits		Variance	Net Benefits For Incentive	% of Annual Target	Incentive Amount
	Actual to June 04	Target to June 04 (1) 30-Jun				
Residential	536	187	349	561	150%	33.7
General Service	546	647	-101	546	84%	0.0
Industrial	24	125	-100	24	49%	-0.7
	1106	959	148	1131		33.00

1. 2003 Net benefits target with TRC adjusted by 2.1% CPI increase

2. For General Service, we assume that targets will be achieved and we will not incur a penalty as at year-end.

Actual Net Benefits for June 30, 2004 were \$536,000, \$546,000 and \$24,000 for the Residential, General Service and Industrial sectors respectively.

The Residential exceeds 100% of the target and accordingly is eligible for an incentive. At 150% of annual target (\$374,000), the residential sector incentive is the product of \$561,000 \* 6% for \$337,000.

The General Service and Industrial sectors results are <90% of target. It is estimated that the General Service sector results at year-end will be higher than the penalty threshold and that only the Industrial sector will be in a penalty position.

An incentive of \$33,000 has been estimated for the first half of 2004. The actual DSM incentive earned is not calculated until the 2004 year-end when the annual net benefits are determined and measured against the annual target.

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Appendix A

**Fortis BC**  
**Demand-Side Management Summary Report in BCUC Format**  
**for the Six Months Ending June 30, 2004**

Sector/Program	Utility Costs			Program Evaluation	Research Adm & OH	Total	Customer Incurred Cost	Total Resource Cost	Benefit/Cost Ratios			
	Direct Incentives	Direct Information	Program Labour						Societal Cost	Total Resource	Rate Impact	Levelised Cost
<b>\$'000</b>												
<b><u>RESIDENTIAL:</u></b>												
Heat Pumps	81.0	42.3	47.7	16.2	10.8	197.9	351.0	548.9	n/a	1.2	0.7	2.7
New Home Program	179.0	19.1	12.9	8.2	5.5	224.7	20.0	244.7	n/a	1.8	0.6	1.9
Residential Lighting	76.0	7.4	23.6	14.9	9.9	131.9	-17.0	114.9	n/a	3.3	0.8	1.4
Home Improvements Program	<u>17.0</u>	<u>3.2</u>	<u>6.8</u>	<u>2.3</u>	<u>1.5</u>	<u>30.8</u>	<u>31.0</u>	<u>61.8</u>	<u>n/a</u>	<u>1.5</u>	<u>0.6</u>	<u>1.9</u>
	<u>353.0</u>	<u>72.0</u>	<u>91.0</u>	<u>41.6</u>	<u>27.7</u>	<u>585.3</u>	<u>385.0</u>	<u>970.3</u>		<u>1.6</u>	<u>0.7</u>	<u>2.2</u>
<b><u>GENERAL SERVICE</u></b>												
Lighting	99.0	4.0	35.0	17.8	11.9	167.7	194.0	361.7	n/a	1.8	0.6	2.0
Building and Process Improvement	<u>163.0</u>	<u>15.1</u>	<u>86.9</u>	<u>18.6</u>	<u>12.4</u>	<u>296.0</u>	<u>335.0</u>	<u>631.0</u>	<u>n/a</u>	<u>1.3</u>	<u>0.5</u>	<u>2.5</u>
	<u>262.0</u>	<u>19.1</u>	<u>121.9</u>	<u>36.4</u>	<u>24.3</u>	<u>463.7</u>	<u>529.0</u>	<u>992.7</u>		<u>1.5</u>	<u>0.5</u>	<u>2.3</u>
<b><u>INDUSTRIAL:</u></b>												
Industrial Efficiencies	0.0	0.1	13.9	0.0	0.0	14.0	0.0	14.0	n/a	0.0	0.0	0.0
Pumps & Fans	15.0	-0.1	8.1	2.4	1.6	27.1	25.0	52.1	n/a	1.8	0.7	1.6
Compressors	<u>0.0</u>	<u>0.0</u>	<u>5.0</u>	<u>0.0</u>	<u>0.0</u>	<u>5.0</u>	<u>0.0</u>	<u>5.0</u>	<u>n/a</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
	<u>15.0</u>	<u>0.0</u>	<u>27.0</u>	<u>2.4</u>	<u>1.6</u>	<u>46.1</u>	<u>25.0</u>	<u>71.1</u>		<u>1.3</u>	<u>0.6</u>	<u>2.2</u>
<b><u>TOTAL:</u></b>	<u>630.0</u>	<u>91.1</u>	<u>239.9</u>	<u>80.4</u>	<u>53.6</u>	<u>1,095.0</u>	<u>939.0</u>	<u>2,034.0</u>		<u>1.5</u>	<u>0.6</u>	<u>2.2</u>

Levelised Energy Unit Cost - Cents per kWh  
 Levelised Capacity Unit Cost - Dollars per kW

2.2  
 130.1

Energy Savings - kWh  
 Capacity Savings - kW

11,049,623  
 2,104