2007-2008

Power Smart* Annual Review

Power Smart Planning, Evaluation & Research

Consumer Marketing & Sales

Customer Care & Marketing

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Manitoba Hydro

EXECUTIVE SUMMARY

The Power Smart Annual Review reports the energy savings, customer energy cost savings, customer participation and associated greenhouse gas emission reductions that have been achieved through Manitoba Hydro's Power Smart initiative, including an assessment against the 2007/08 planned targets outlined in the 2006 Power Smart Plan[1].

Overall, 2007/08 was a successful year for Manitoba Hydro's Power Smart portfolio.

In 2007/08, Manitoba Hydro's Power Smart portfolio achieved 221 GW.h and 241 MW in electric savings (at generation), 9.5 million m^3 in natural gas savings and 167K tonnes of greenhouse gas emission reductions.

Total Power Smart expenditures in 2007/08 were $47 million, which consisted of $37 million for electric initiatives and $10 million for natural gas initiatives. Expenditures for total current programs that were offered in 2007/08 were $46.5 million, while $0.6 million was spent developing future electric and natural gas Power Smart initiatives.

The Total Resource Cost (TRC) ratio for electric incentive based programs, including option 2 support costs, was 2.3. The Rate Impact Measure (RIM) ratio, including support costs, was 1.3, and the levelized utility cost was 1.9¢/kW.h.

For the natural gas incentive-based programs the TRC ratio, (including support costs and interactive effects) was 2.1, the RIM ratio, (including support costs and interactive effects), was 0.7 and the Levelized Utility Cost was 8.7¢/m^3.

1 The 2006 Power Smart Plan was the most current, executive approved plan at the time of report compilation.

The combined TRC ratio for electric and natural gas incentive-based programs was 2.3.

In aggregate, the Power Smart initiative has achieved 1360 GW.h and 488 MW in electric savings, 27 million m^3 in natural gas savings and 970K tonnes of greenhouse gas emission reductions in 2007/08.

The cumulative cost of the Power Smart initiative is $246 million, in which $222 million is due to the electric initiatives and $24 million is due to the natural gas initiatives.

The energy savings from Power Smart programs translates to an annual reduction of $52 million in participating customer energy bills in 2007/08, with $40 million in reduced electricity bills and $12 million in reduced natural gas bills. By customer sector, $16 million was saved in the residential sector, $18 million in the commercial sector and $18 million in the industrial sector.

Cumulative customer bill reductions are approximately $331 million, consisting of $300 million in electric bills and $32 million in natural gas bills.

Awareness levels of the Power Smart brand continue to remain high with 95% of Manitoba respondents saying they recognize the brand name. Customers continue to report the strongest association between Power Smart and *Energy Efficiency* with the vast majority (83%) of respondents agreeing that the brand projects that message.

Manitoba Hydro's Power Smart initiatives have had many successes to date, as outlined by some recent projects:

- Vale Inco in Thompson completed a major upgrade of their Birchtree mine compressed air system, which is one of the largest compressed air systems in Manitoba. The project will save Vale Inco over 7 GW.h per year in annual energy usage which is equivalent to over $150K per year.

- Manitoba Hydro won 18 awards in 13 advertising and communications categories at the annual Better Communications Competition.

- The Power Smart Commercial Spray Valve program organized a full conversion of the Victoria Hospital's pre-rinse spray valves, which helped save the hospital just under $70K per year on their utility bills by reducing their natural gas consumption by approximately 200K m^3 annually. Additionally, the conversion helped the hospital save approximately $84K in annual water costs.

- Manitoba Hydro has increased the maximum Residential Earth Power Loan amount from $15K to $20K; and with support from the Affordable Energy Fund, has reduced the interest rate from 6.5% to 4.9% for the first 5 years.

- The Portage la Prairie School Division continued its long-standing history of retrofitting to Power Smart levels by completing lighting retrofits at eleven of its facilities.

Manitoba Hydro has been involved in a number of Research & Development initiatives, including: innovative solar greenhouse concepts, space heating concepts, bioenergy production, as well as a number of projects with the Canadian Electrical Association Technology Inc-Customer Energy Solutions Interest Group (CEATI-CESIG).

This report provides an integrated approach to evaluating the net energy savings achieved through the Power Smart initiative. The results reported are due to the combined electricity and natural gas energy conservation efforts. In this regard, any increased natural gas consumption (due to interactive effects) resulting from electricity efficiency efforts are netted against savings achieved directly through natural gas conservation.

Manitoba Hydro's Power Smart portfolio consists of electricity and natural gas focused initiatives, with each initiative falling into one of the following categories:

- Customer service initiatives & cost recovery programs;

- Codes & standards efforts;

- Incentive-based promotional programs,

    - Incentive-based efficiency programs,

    - Customer self generation programs; or

    - Rate load management programs.

2007/08 Electricity Savings Results

The following tables outline the electricity savings achieved through the Power Smart portfolio during 2007/08 and provide a comparison between achieved results and planned targets, where applicable:

Exhibit E.1
Annual GW.h Savings (at generation) - Power Smart Portfolio

	2007/08 Actual	Plan^
	GW.h	
INCENTIVE-BASED PROGRAMS		
Efficiency Programs	96	97
Rate/Load Management Programs	-	-
Customer Self-Generation Programs	93	-
	189	97
CODES & STANDARDS	28	50
CUSTOMER SERVICE INITIATIVES	4	5
OVERALL IMPACT	221	152

^ The 2007/08 plan values are from the 2006 Power Smart Plan.
Note: Figures may not add due to rounding.

During 2007/08, the electric energy savings achieved through the Power Smart portfolio was 45% greater than the planned targets.

Exhibit E.2
Annual MW Savings (at generation) - Power Smart Portfolio

	2007/08 Actual	Plan^
	MW	
INCENTIVE-BASED PROGRAMS		
Efficiency Programs*	17	20
Rate/Load Management Programs**	199	270
Customer Self-Generation Programs*	16	-
	232	290
CODES & STANDARDS	7	9
CUSTOMER SERVICE INITIATIVES	2	0
OVERALL IMPACT	241	300

^ The 2007/08 plan values are from the 2006 Power Smart Plan.
* MW savings are based on the average of the winter AM & PM system peak savings.
** MW savings reported is expected curtailable load on system at the time a curtailment occurs.
Note: Figures may not add due to rounding.

Power Smart portfolio demand savings was 19% below target in 2007/08. The majority of the variance is due to a change in the measurement methodology for the Curtailable Rates Program. The actual savings were adjusted by an additional efficiency factor to reflect that curtailable load is not as efficient as a combustion turbine. Plan savings do not include an efficiency factor so plan savings were significantly larger than actuals. Plan savings would have been 208 MW at generation if an efficiency factor was included.

All evaluated electric efficiency programs passed the Total Resource Cost (TRC) test. An overall TRC benefit/cost ratio, including support costs, of 2.3 was achieved for electric efficiency programs. The overall Rate Impact Measure (RIM) benefit/cost ratio for 2007/08 electric efficiency programs, including incremental support costs, was 1.3. The overall levelized utility cost (LUC) for 2007/08 electric efficiency programs, including incremental support costs, was 1.9 ¢/kW.h.

The following table outlines the costs associated with *current* Power Smart electricity activity in 2007/08:

Exhibit E.3
2007/08 Power Smart Portfolio Electricity Costs

Power Smart Portfolio	2007/08
	millions of dollars
INCENTIVE BASED PROGRAMS	
Efficiency Programs	26.0
Customer Self Generation Programs	1.4
Rate/Load Management Programs	6.5
	33.9
SUPPORT COSTS & CUSTOMER SERVICE INITIATIVES & STANDARDS	
	2.8
TOTAL CURRENT PROGRAM ELECTRICITY COSTS	36.7

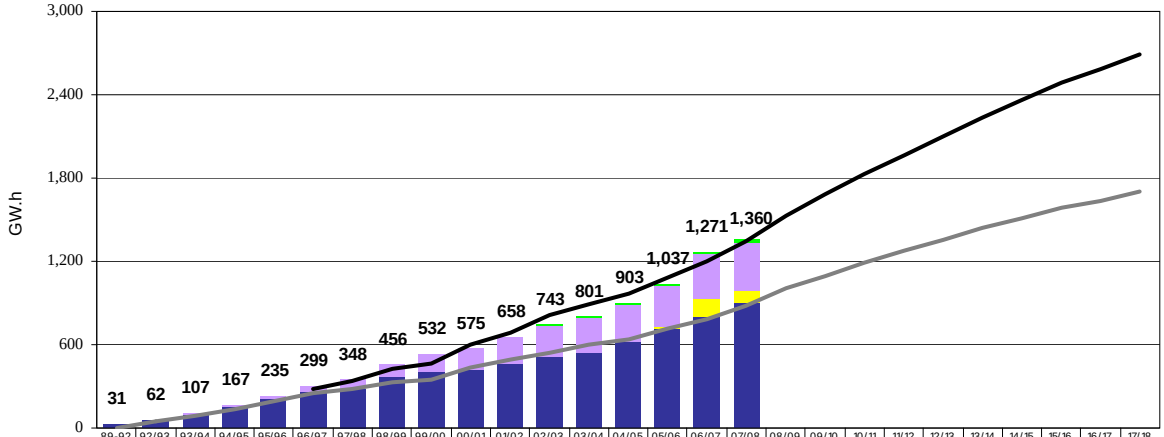
Notes: This table presents costs associated with current electric programs offered in 2007/08.
In 2007/08, an additional $423,000 was spent on developing future electric Power Smart initiatives.
Figures may not add due to rounding.
All figures in 07/08 dollars.

Total Electricity Results (2007/08 Results + Persisting Savings

In 2007/08, Power Smart initiatives saved a total of 1360 GW.h and 488 MW which were 1% above and 13% below their respective planned 2007/08 energy and demand savings. 2007/08 total savings represent 50% and 58% respectively of 2017/18 forecast energy and demand savings.

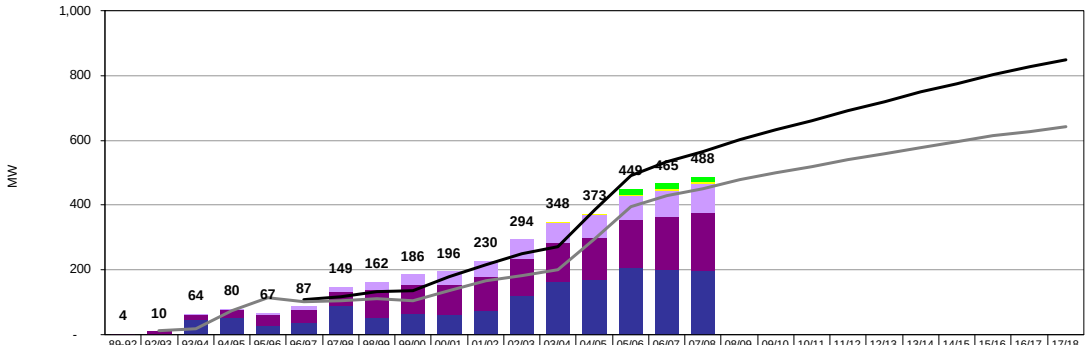
The following graphs present the energy and winter average demand savings achieved and corresponding targets:

Exhibit E.4
Electric Energy Savings - Power Smart Portfolio
Total Savings Achieved vs. Plan
at generation



	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Customer Service Initiatives											2	4	7	11	13	16	20										
Codes and Standards	-	2	8	16	25	40	63	93	125	156	189	228	248	274	298	323	352										
Incentive-based - Customer Self Gen															11	132	93										
Incentive-based - Efficiency	31	59	99	151	209	259	285	363	407	419	467	511	546	619	714	800	896										
Total Achieved	31	62	107	167	235	299	348	456	532	575	658	743	801	903	1,037	1,271	1,360										
Plan (incentive-based programs only)	-	50	86	138	195	252	279	327	350	435	491	544	603	634	713	782	879	1,002	1,098	1,191	1,274	1,358	1,438	1,514	1,590	1,638	1,705
Plan						281	336	422	466	602	686	810	891	970	1,088	1,199	1,350	1,530	1,680	1,828	1,964	2,099	2,231	2,357	2,483	2,580	2,695

Exhibit E.5
Average Winter Demand Savings - Power Smart Portfolio
Total Savings Achieved vs. Plan
at generation



		89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Incentive-based - Customer Self Gen																16	16	16										
Customer Service Initiatives												1	1	2	3	3	4	6										
Codes and Standards	-	1	2	4	6	10	15	23	32	40	49	59	64	70	76	82	89											
Incentive-based - Efficiency	4	10	17	26	34	41	46	86	91	93	105	113	119	131	146	161	179											
Incentive-based - Rate/Load	-	-	45	51	27	36	88	53	64	63	75	121	163	169	208	202	199											
Total Achieved	4	10	64	80	67	87	149	162	186	196	230	294	348	373	449	465	488											
Plan (incentive-based programs only)		12	18	75	114	101	104	110	105	136	166	183	200	296	394	429	449	477	499	520	539	559	579	596	613	628	641
Plan						108	118	134	135	178	216	249	273	385	491	535	564	601	632	662	691	720	749	776	802	826	848

In 2007/08, Power Smart incentive-based programs (efficiency, customer self generation and rate/load management programs) achieved a total load reduction of 989 GW.h and 393 MW (at generation), which were 13% above energy targets; while demand was 12% lower than planned. Total annual savings achieved in 2007/08 represent 58% and 61% respectively of the 2017/18 forecasted energy and demand savings as outlined in the “2006 Power Smart Plan”.

The overall TRC and RIM for Power Smart total electric energy efficiency programs, including support costs, were 2.3 and 1.3, respectively. To date, $222 million has been invested in Power Smart electricity activities.

2007/08 Natural Gas Results

The Power Smart portfolio realized natural gas savings of 9.5 million m^3 during 2007/08, 48% more than planned.

Exhibit E.6
Annual Natural Gas Savings

	2007/08 Actual	2007/08 Plan
	millions of cubic metres (m^3)	
PROGRAM & INITIATIVE		
Customer Service Initiatives	2.1	2.6
Incentive-Based Programs	8.2	4.6
	10.3	7.3
INTERACTIVE EFFECT		
Incentive-Based Interactive effect with Electric Programs	(0.8)	(0.8)
	(0.8)	(0.8)
NET IMPACT OVERALL	9.5	6.4

^ The 2007/08 plan values are from the 2006 Power Smart Plan.
Notes: Natural gas savings due to codes & standards are not presented.
Figures may not add due to rounding. All figures in 07/08 dollars.

All evaluated natural gas efficiency programs passed the Total Resource Cost (TRC) test. An overall TRC benefit/cost ratio, including support costs, of 2.1 was achieved for efficiency programs. The overall Rate Impact Measure (RIM) benefit/cost ratio for 2007/08 natural gas efficiency programs, including incremental support costs, was 0.7. The overall levelized utility cost for 2007/08 natural gas efficiency programs, including incremental support costs & interactive effects, was 8.7 ¢/m³.

The following table outlines the costs associated with the *current* Power Smart natural gas activity in 2007/08:

Exhibit E.7
2007/08 Power Smart Portfolio of Natural Gas Costs

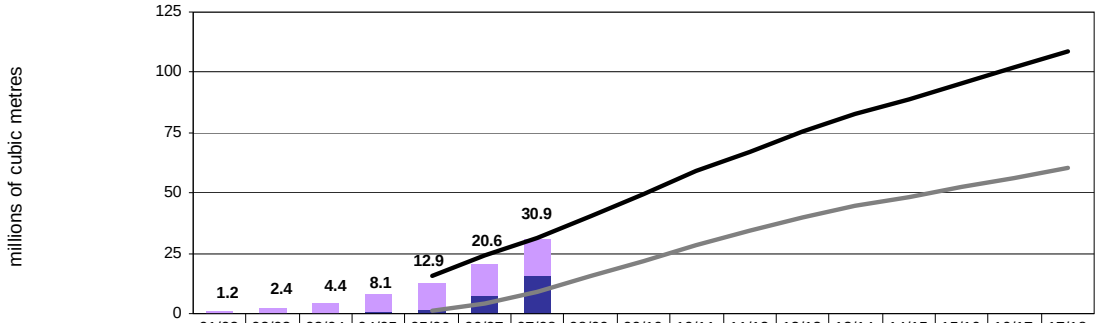
Power Smart Portfolio	2007/08
	millions of dollars ($)
INCENTIVE BASED PROGRAMS	
	7.8
SUPPORT COSTS & CUSTOMER SERVICE INITIATIVES & STANDARDS	2.0
TOTAL CURRENT PROGRAM NATURAL GAS COSTS	9.8

Notes: This table presents costs associated with current natural gas programs offered in 2007/08. During the year, an additional $236K was spent on developing future natural gas Power Smart initiatives.
Figures may not add due to rounding. All figures in 07/08 dollars.

Total Natural Gas Results (2007/08 Results + Persisting Savings)

In 2007/08 the Power Smart portfolio saved 31 million m^3 of natural gas, which was 1% below the planned targets. To date, $24 million has been invested in Power Smart natural gas activities.

Exhibit E.8
Natural Gas Savings - Power Smart Portfolio
Total Savings Achieved vs. Plan



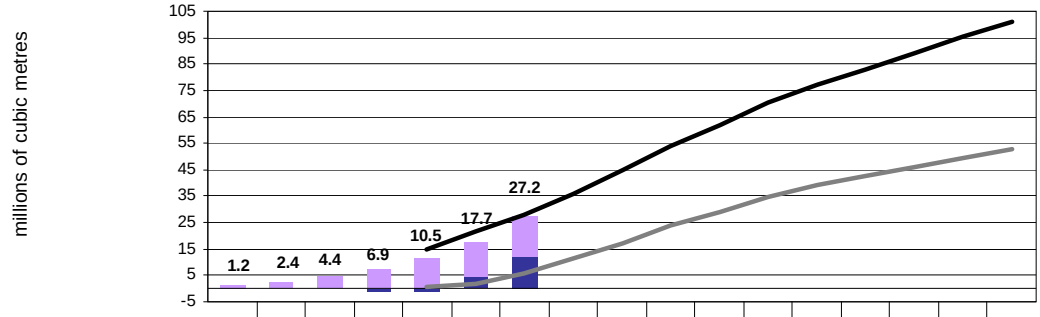
	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Customer Service Initiatives	1.2	2.4	4.3	7.7	11.3	13.2	15.3										
Incentive-Based Efficiency	0.0	0.1	0.1	0.4	1.7	7.4	15.6										
Total Achieved	1.2	2.4	4.4	8.1	12.9	20.6	30.9										
Plan (incentived-based programs only)					1.5	4.3	9.0	15.4	22.0	28.7	34.1	39.8	44.6	48.4	52.3	56.3	60.2
Plan					15.4	23.9	31.2	40.3	49.5	58.9	67.1	75.3	82.6	88.9	95.4	101.9	108.4

Notes: Figures may not add due to rounding.
Natural gas savings due to codes & standards are not presented.

Natural Gas Integrated Results

Some electric Power Smart programs have interactive effects which increase the consumption of natural gas. For example, a more energy efficient lighting system emits less heat and therefore results in more energy required for space heating. Net of interactive effects, savings of 12 million m^3 of natural gas were realized in 2007/08 on incentive based programs. Net of interactive effects, savings of 27 million m^3 of natural gas were realized in 2007/08 in incentive and customer service based programs/initiatives.

Exhibit E.9
Integrated Natural Gas Savings - POWER SMART Portfolio
Total Savings Achieved vs. Plan



	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Customer Service Initiatives	1.2	2.4	4.3	7.7	11.3	13.2	15.3										
Incentive-Based Integrated	0.0	0.1	0.1	-0.8	-0.8	4.5	11.9										
Total Achieved	1.2	2.4	4.4	6.9	10.5	17.7	27.2										
Integrated Plan (incentive-based programs only)					0.8	1.9	5.7	11.2	17.4	23.9	29.1	34.6	39.3	42.6	46.0	49.4	52.8
Integrated Plan					14.8	21.5	27.9	36.1	44.9	54.1	62.1	70.2	77.3	83.1	89.1	95.1	101.1

Notes: Figures may not add due to rounding.
Natural gas savings due to codes & standards are not presented.
2007/08 adjustment of 3.7 million m^3 is due to interactive effects.

The overall TRC and RIM for total natural gas energy efficiency programs, including support costs, was 1.5 and 0.7, respectively. To date, approximately $24 million has been invested in Power Smart natural gas activities.

Power Smart Utility Costs

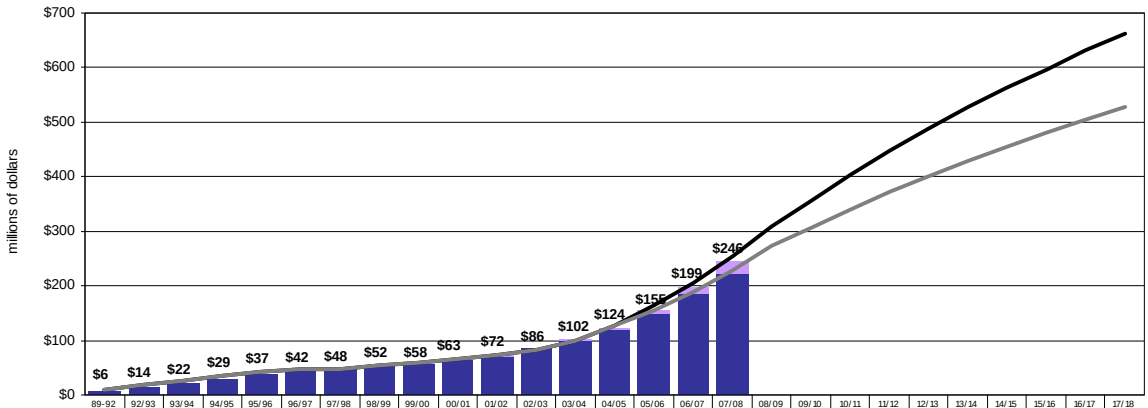
Total Power Smart expenditures in 2007/08 were $47 million, of which $37 million was spent on electricity and $10 million was spent on gas initiatives. Overall Power Smart expenditures were 5% below the budget of $50 million. The positive spending variance was caused primarily by lower electricity spending than budgeted; specifically electric efficiency spending was 12% below budget.

Cumulative Power Smart electricity expenditures are $222 million. Cumulative expenditures are 3% lower than the budgeted amount of $229 million to 2007/08.

Cumulative Power Smart natural gas expenditures are $24 million representing 18% of the overall 2017/18 natural gas budget. Cumulative gas expenditures are right on budget.

Overall cumulative Power Smart expenditures of $246 million represent 37% of the overall cumulative 2017/18 budget, as reported in the IFF-07. Cumulative expenditures are 3% lower than the budgeted amount of $254 million to 2007/08. The following graph depicts the annual expenditures against the planned expenditures.

Exhibit E.10
Utility Costs- Power Smart Portfolio
Cumulative Total Utility Cost vs. 2017/18 Plan
nominal dollars



	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Eval - Natural Gas	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1	$1	$2	$3	$6	$14	$24										
Eval - Electricity	$6	$14	$22	$29	$37	$42	$48	$52	$58	$63	$71	$84	$100	$121	$149	$185	$222										
Total Eval	$6	$14	$22	$29	$37	$42	$48	$52	$58	$63	$72	$86	$102	$124	$155	$199	$246										
Plan- Electricity	$10	$19	$25	$35	$42	$46	$48	$54	$60	$65	$74	$83	$99	$127	$156	$189	$229	$273	$307	$339	$372	$401	$430	$455	$480	$505	$528
Plan- Electricity & Natural Gas	$10	$19	$25	$35	$42	$46	$48	$54	$60	$65	$74	$83	$99	$127	$164	$204	$254	$309	$357	$402	$447	$488	$529	$563	$597	$631	$661

The Affordable Energy Fund

The Affordable Energy Fund was established during 2006/07 through the Winter Heating Cost Control Act and it supports Manitoba Hydro's sustainable development initiatives. The purpose of the Fund is to provide support for programs and services that achieve specific objectives including encouraging energy efficiency and conversation through programs and services for rural and northern Manitobans, low income customers and seniors and encouraging the use of alternative energy sources such as renewable energy:

Exhibit E.11 outlines the Affordable Energy Fund expenditures in 2007/08.

The 2007/08 expenditures on the Lower Income Initiative funded 2 different pilot programs. Funding of $116K supported a pilot community-based approach for bringing Power Smart to ninety-nine rental and owner-occupied low-income households under the "Greening of Centennial Neighbourhood Project." Funding of $99K supported a pilot community project that involved retrofitting forty homes in Brandon under the "Brandon Neighbourhood Renewal Corporation." The Province-wide portion of the program received $22K in funding; however there were no houses with completed retrofits by end of fiscal year 2007/08.

The 2007/08 expenditures on the Geothermal Initiative include $252K towards the advancement of geothermal technology and applications in Manitoba, along with $19K that subsidized the interest rate of the Residential Earth Power Loan. The Fund is being used to reduce the interest rate for program participants from 6.5% to 4.9% for the first 5 years of the loan term.

The 2007/08 expenditures on Oil, Propane and Wood include $75K that provided incentives to eighty-four customers with these fuels as heating sources who installed qualifying insulation in their homes.

The 2007/08 expenditures on ecoENERGY were $61K that contributed the incremental costs associated with providing Manitoba Hydro's In-Home Energy Assessment service under the Federal ecoENERGY Retrofit program to rural and northern Manitobans. In total, 3171 households participated in the program in 2007/08.

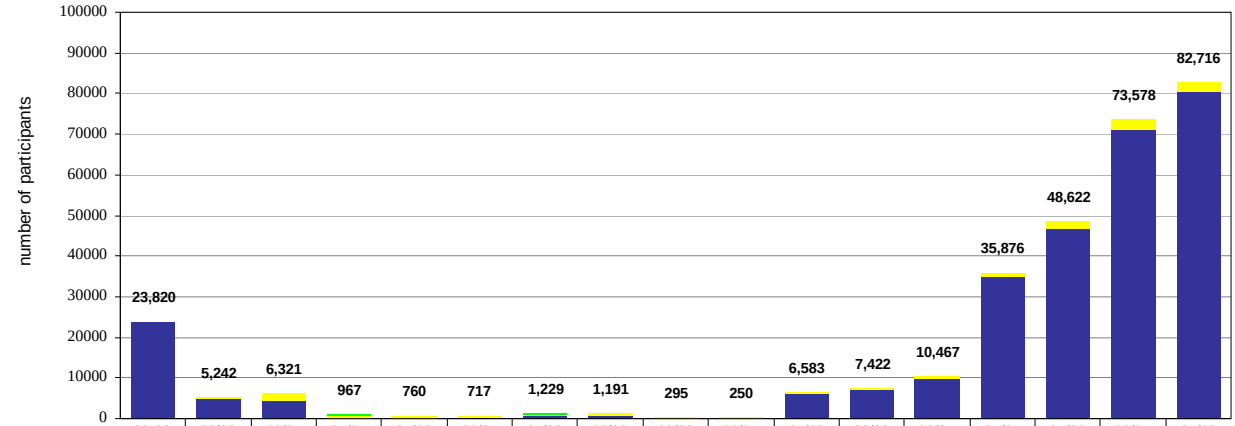
Exhibit E. 11
Summary of Affordable Energy Expenditures

	2006/07	2007/08	Total to 2007/08
		thousands of dollars	
LOWER INCOME INITIATIVE			
Lower Income - Centennial	94	116	210
Lower Income - Brandon	0	99	99
Lower Income - Province-Wide	0	22	22
Lower Income - Island Lake	162	-18	143
	256	219	475
GEOTHERMAL INITIATIVE			
Geothermal Development	619	252	871
Earth Power Loan Subsidization		19	19
	619	270	889
OIL, PROPANE AND WOOD			
Oil, Propane and Wood - Home Insulation Program	0	75	75
	0	75	75
ecoENERGY			
ecoENERGY	0	61	61
	0	61	61
TOTAL EXPENDITURES	$875	$625	$1,500

Customer Participation

There were over 82K participants in Power Smart customer service initiatives and incentive-based programs during 2007/08, and approximately 306K participants cumulatively.

Exhibit E.12
Power Smart Program Participation



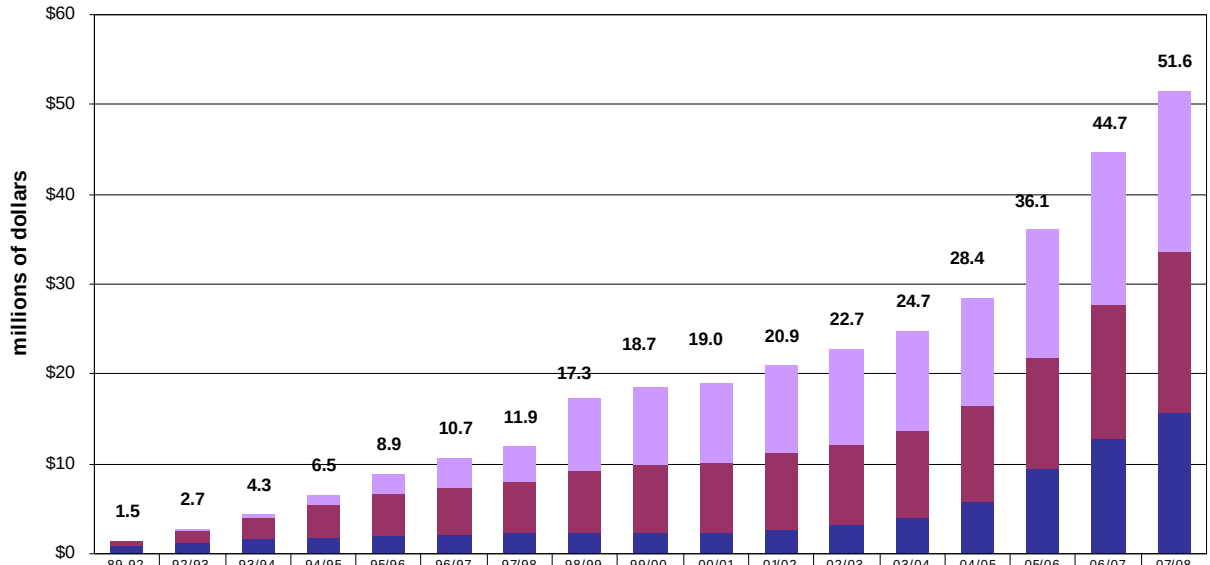
	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08
Industrial	24	157	202	229	185	182	195	8	4	9	17	25	32	48	50	49	81
Commercial	65	273	1,959	738	575	334	325	502	291	241	305	364	538	1,020	1,849	2,364	2,041
Residential	23,731	4,812	4,160	-	-	201	709	681	-	-	6,261	7,033	9,897	34,808	46,723	71,165	80,594
Total Achieved	23,820	5,242	6,321	967	760	717	1,229	1,191	295	250	6,583	7,422	10,467	35,876	48,622	73,578	82,716

Notes: Includes electric and natural gas participants.
Customers may participate in more than 1 Power Smart program.
Participation for codes & standards is excluded.
Curtailable Rates Program participation is included in the Industrial sector.

Customer Bill Reductions

Power Smart customer service initiatives and incentive-based programs saved participating customers approximately $52 million in energy bills during 2007/08 and $331 million cumulatively on electricity and natural gas bills to date.

Exhibit. E.13
Combined Electricity & Natural Gas Customer Bill Reduction (2007$)
Annual Reductions to Date by Sector



	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08
Industrial	$0.0	$0.2	$0.4	$1.0	$2.3	$3.4	$3.9	$8.1	$8.8	$8.8	$9.8	$10.6	$11.0	$11.9	$14.2	$16.9	$18.0
Commercial	$0.5	$1.1	$2.4	$3.6	$4.7	$5.1	$5.6	$6.9	$7.6	$7.9	$8.4	$8.8	$9.8	$10.7	$12.4	$15.0	$17.9
Residential	$1.0	$1.3	$1.5	$1.8	$1.9	$2.2	$2.4	$2.3	$2.3	$2.3	$2.8	$3.2	$4.0	$5.8	$9.4	$12.7	$15.7
Total	$1.5	$2.7	$4.3	$6.5	$8.9	$10.7	$11.9	$17.3	$18.7	$19.0	$20.9	$22.7	$24.7	$28.4	$36.1	$44.7	$51.6

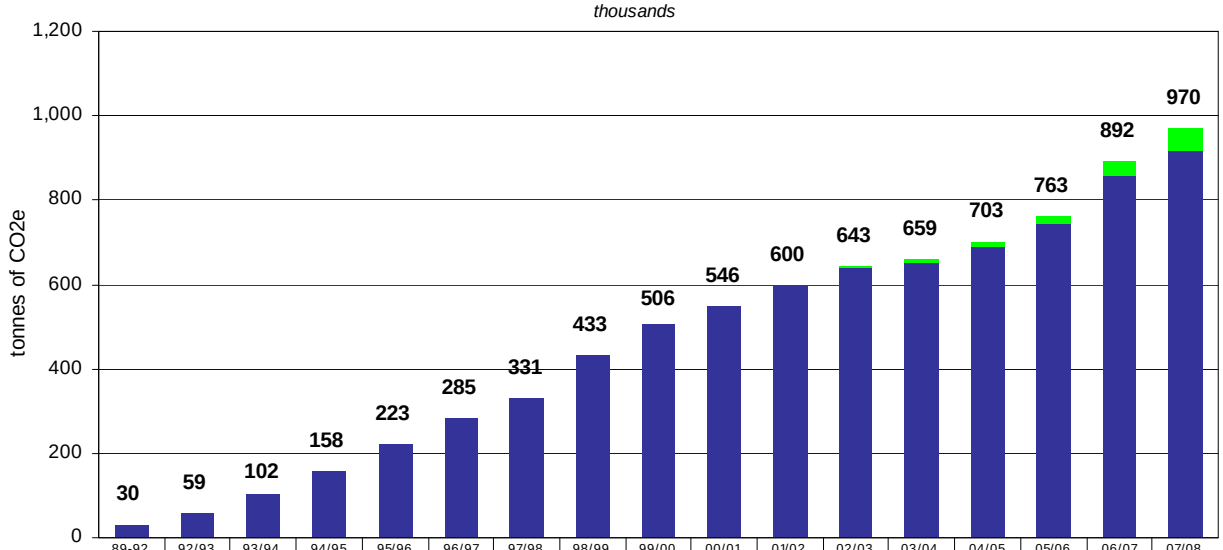
Notes: Includes electric and natural gas participants.
Customers may participate in more than 1one Power Smart program.
Participation for codes & standards is excluded.

The annual bill reduction for participating customers in 2007/08 of $52 million is comprised of $40 million of savings on electricity bills and $12 million on natural gas bills.

Greenhouse Gas Reductions

The 1360 GW.h savings from electricity and 27 million m^3 savings from natural gas Power Smart programs have resulted in greenhouse gas reduction of approximately 970K tonnes of carbon dioxide equivalent emissions. This is comparable to removing approximately 277K vehicles off the road for one full year. The majority (95%) of the greenhouse gas emission reductions result from electric Power Smart activity and provide indirect emission reductions due to export sales displacing coal and natural gas fuelled generation outside of Manitoba. The remaining (5%) emission reductions are direct reductions that occur as a result of lower natural gas consumption in Manitoba.

Exhibit E.14
Total Annual Greenhouse Gas Emission Reductions
Due to Electric & Natural Gas Savings
thousands



	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08
Natural Gas											2	5	8	13	20	34	52
Electric	30	59	102	158	223	285	331	433	506	546	598	639	650	690	743	858	918
Total	30	59	102	158	223	285	331	433	506	546	600	643	659	703	763	892	970

Note: Figures may not add due to rounding.

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1.0 Introduction

1.1 Background

In 1989, Manitoba Hydro launched the first of many Demand Side Management (DSM) programs, the Outdoor Timer Program. Soon after in 1991, Manitoba Hydro established Power Smart, the customer oriented brand for all of Manitoba Hydro's Demand Side Management (DSM) programs, initiatives and activities. DSM resource options are assessed and included in Manitoba Hydro's Integrated Resource Planning process. These resource options are developed to provide alternatives to traditional sources of power generation. Power Smart initiatives are justified based on their relative cost compared to traditional generation resource options and the customer service value realized by customers.

Since purchasing Centra Gas in 1999, Manitoba Hydro has been integrating natural gas conservation into the Corporation's overall Power Smart initiative. This report provides an integrated approach to evaluating the results and net energy savings are reported due to the combined electricity and natural gas energy conservation efforts. In this regard, any increased natural gas consumption (due to interactive effects) resulting from electricity efficiency efforts are captured and netted against natural gas conservation efforts. Interactive effects are not captured prior to the 2004/05 reporting period.

Energy conservation initiatives are designed to reduce customer energy requirements through energy-efficient measures (i.e. using less energy to obtain comparable or superior services). Load management activities are designed to reduce energy demands through programs offered to alter the timing of customer demands (e.g. Curtailable Rates Program).

Manitoba Hydro's Power Smart strategy focuses on creating a sustainable market change where energy efficient technologies and practices become the market standard - market transformation. The approach used to create and maintain market transformation varies by product and market segment and generally involves a combination of the following activities:

- Customer service initiatives & cost recovery programs;
- Efforts to encourage and support implementation of energy efficiency into codes and standards; and
- Incentive-based promotional programs, including:
    - Incentive-based efficiency programs,
    - Customer self generation programs and
    - Rate/load management programs.

The work in each of these different areas supports the overall Power Smart objective as well as other corporate goals, including: providing customers with exceptional value, protecting the environment, and maximizing export revenues.

The Power Smart DSM initiative is designed to encourage the efficient use of energy in the commercial, agricultural, residential, institutional and industrial customer sectors. More than thirty-five incentive-based

programs and many other customer service initiatives have been offered over the last eighteen years with impact evaluations of all incentive-based programs prepared regularly. By evaluating the incentive-based programs, Manitoba Hydro can determine its overall progress in achieving its corporate objectives and can adjust individual program targets and strategies to reflect market reaction and market changes.

1.2 Power Smart Strategy

Manitoba Hydro's Power Smart strategy is to create a sustainable market change where energy efficient technologies and practices become the market standard. To be effective in achieving the desired outcome, the corporation's strategy involves working along multiple tracks including:

- Providing customers with information and services on energy efficiency;
- Offering cost-recovery or incentive-based Power Smart programs designed to create market awareness, knowledge and acceptance of energy efficient technologies and products;
- Working with industry and trade allies to gain support for the Corporation's Power Smart efforts;
- Working with other utilities and government agencies in joint efforts to incorporate energy efficiency in codes and standards;
- Undertaking communication and marketing efforts focused on promoting Power Smart programs and the Power Smart brand name;
- Leveraging the Power Smart brand name by establishing "Power Smart Design Standards"; and
- Making a sustainable and long-term commitment to the efficient use of energy.

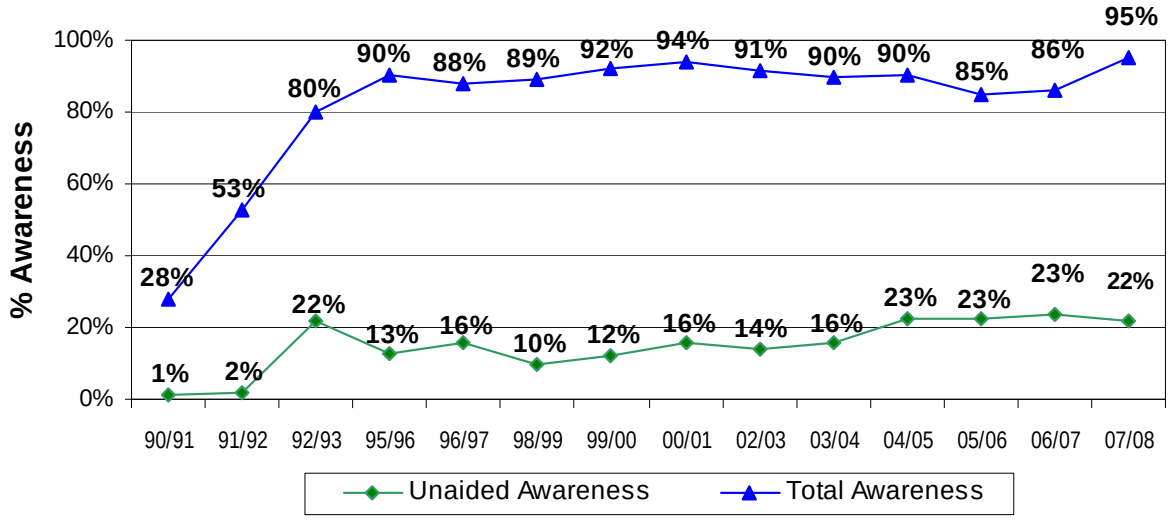
1.3 Power Smart Brand Awareness

Power Smart is the "brand name" that Manitoba Hydro has used since 1991 to promote its residential, commercial, industrial and agricultural energy efficiency initiatives.

The Power Smart campaign, as distinct from the marketing/promotional activities associated with specific Power Smart DSM programs, is a mass communications campaign undertaken to improve public awareness of the Power Smart brand and its association with energy efficiency, low electricity rates and increased system reliability.

Awareness levels of the Power Smart brand continue to remain high with 95% of Manitoba respondents saying they recognize the brand name. Independent recall (unaided awareness) of the Power Smart brand continues to remain in the low 20% range after rising in 2004/05 from the mid teens. An additional 72% said they recognized the Power Smart brand name when it was mentioned (aided recall).

Exhibit 1.3
POWER SMART* Brand Awareness



Note: POWER SMART* awareness not measured in 93/94, 94/95, 97/98 or 01/02.

1.4 Perceptions of the Power Smart Brand

Customers continue to report the strongest association between Power Smart and *Energy Efficiency* with the vast majority (83%) of respondents agreeing that the brand projects that message.

Respondent association of the Power Smart brand with *Saving Money on Energy Bills* continues to rise from the lower 70% range in 2002/03 and 2003/04 to 76% this year.

A third set of messages are reported as roughly equal in strength with 76% of respondents associating the brand with *Conserving the Environment* and 72% associating it with *Ensuring a Sufficient Supply of Electricity for the Future.* These remain unchanged from prior years.

Although respondents continue to report a more moderate association between the Power Smart brand and the message of *Paying Lower Electricity Prices*, the proportion of respondents agreeing that the brand projects that theme rose from the upper 50% range in prior years to 61% in 2007/08.

1.5 Purpose of Report

Power Smart is an important component of Manitoba Hydro's Integrated Power Resource Plan.

Manitoba Hydro's corporate approved Power Smart DSM targets for electric energy and average winter demand savings at generation are 2695 GW.h/year and 848 MW by 2017/18, as outlined under the "2006 Power Smart Plan". These targets represent the expected impact of electricity efficiency codes and standards, customer service initiatives and incentive-based program activities. Manitoba Hydro's incentive-based Power Smart programs are expected to contribute the

greatest portion of the savings, with projected energy and demand savings of 1705 GW.h/year and 641 MW by 2017/18.

Manitoba Hydro's corporate approved Power Smart DSM target for natural gas savings is 101 million m^3 by 2017/18, as outlined under the "2006 Power Smart Plan". This target represents the expected impact of incentive-based efficiency program activities, customer service initiatives and interactive effects from electricity programs. Manitoba Hydro's incentive-based efficiency Power Smart programs are expected to contribute the greatest portion of the savings, with projected savings of 60 million m^3 by 2017/18.

While this report will highlight all activities and results from the entire Power Smart portfolio, the emphasis will be on incentive-based program activities. Annual results for 2007/08 will be measured against planned savings of the most recent approved plan; the "2006 Power Smart Plan". More specifically, this report will:

- Report the energy and demand savings achieved by incentive-based Power Smart programs;
- Report the cost-effectiveness of incentive-based Power Smart programs; and
- Report the utility costs associated with all Power Smart programs and initiatives.

Refer to APPENDIX A - 'Sources of Evaluation and Planning Estimates' for details of the information considered when preparing program evaluation results and program plan estimates. Incentive-based programs are formally evaluated, while savings from other initiatives are calculated using engineering estimates as well as sales and market data provided by program specialists. Refer to APPENDIX B - 'Explanation of Benefit-Cost Ratios used in DSM Economic Tests' for formulas used to determine cost-effectiveness.

2.0 Power Smart Portfolio Review

Manitoba Hydro's Power Smart efforts include customer service initiatives and cost recovery programs, energy efficient codes and standards, and incentive-based Power Smart programs. The following section includes a synopsis of the current Power Smart initiatives and highlights some success stories.

2.1 Power Smart Customer Service Initiatives & Cost Recovery Programs

One of the primary drivers in Manitoba Hydro's Power Smart activities involves providing value-added customer service. This is achieved by offering customers advice, access to energy efficiency information and providing energy efficiency solutions. Through these efforts, Manitoba residents and businesses are provided with a number of benefits including:

- Allowing customers to improve the comfort and productivity of their work and home environments while reducing their energy bills;
- Lower electricity rates;
- Assisting businesses to become more competitive in national and international markets; and
- Creating employment opportunities within Manitoba for manufacturers, distributors, retailers, trade allies and installers of energy efficient products and services.

The following is a list of current Power Smart customer service initiatives and cost-recovery programs. Refer to section 4.1.2 for a synopsis of each initiative.

- Home Comfort & Energy Savings Program
- ecoENERGY Program (formerly EnerGuide)
- Wisdom in Saving Energy (WISE) "Seniors Helping Seniors" Home Program
- Residential Earth Power Program
- Energy Saver Presentations (formerly Home Energy Saver Workshop)
- New Homes Workshop
- Religious Buildings Initiative
- Power Smart Recreational Facility Survey
- Power Smart Design Standards

2.2 Energy Efficient Codes and Standards

The most effective and permanent form of market transformation for energy efficient technologies and practices is the adoption of energy efficient codes and standards. However, the process of achieving these changes is complex and politically sensitive due to three factors:

Governance: The provincial government department responsible for energy is separate from the department responsible for building codes. Canada's national model code development process historically only engages with provinces and territories via the department responsible for building codes.

Applicability: Building codes are minimum requirements for health and life-safety in buildings. Energy efficiency is not viewed by the code community as a necessary minimum requirement.

Market Acceptance: These changes impact building design and construction, as well as industry manufacturing processes, and therefore often do not receive strong industry support.

Manitoba Hydro's strategy to affect change in codes and standards involves being an aggressive and active participant and in many cases, a driving force on a number of provincial and national energy efficiency codes and standards committees (e.g. Manitoba Hydro representatives often chair committees). The focus of Manitoba Hydro's efforts on these committees is towards developing new energy-efficient technologies, developing energy efficient codes and standards and facilitating market acceptance of new technologies and building design practices.

2.3 Power Smart Incentive-Based Programs

Power Smart incentive-based programs are designed in consideration of specific market parameters and characteristics impacting market acceptance of the targeted energy-efficient technology or product. (For example, industry/customer awareness and appetite for acceptance, availability of competing products, state of product lifecycles, cost barriers, training barriers, state of existing codes and standards, etc.). The following is a synopsis of incentive-based Power Smart programs offered during 2007/08.

2.3.1 Residential Programs

New Home Program

Promotes and encourages energy efficiency in residential new construction, using measures such as: lighting, insulation, ventilation, water technologies, and improved building envelope. Customers can qualify by building to the Power Smart or R2000 standard. Manitoba Hydro became the delivery agent of Natural Resources Canada's R2000 Program in February of 2002.

Home Insulation Program

Information and a financial incentives are offered to encourage owners of existing homes to upgrade their insulation to Power Smart levels.

Compact Fluorescent Lighting Program

Encourages residential customers and property managers to "Switch and Save" by installing energy efficient compact fluorescent light bulbs.

Seasonal Light Emitting Diode (LED) Lighting Program

Residential customers are encouraged to replace their incandescent holiday light strings with energy efficient LED light strings.

Energy Efficient Light Fixtures Program

Residential customers and property managers are encouraged to install ENERGY STAR qualified light fixtures, dimmer switches and LED night lights in homes. This program also included the Torchiere Turn-In Program which encourages residential customers to replace their old halogen floor lamp with an ENERGY STAR qualified compact fluorescent torchiere lamp.

Programmable Thermostat Program

This program encourages residential customers to replace non-programmable thermostats with ENERGY STAR programmable models.

Appliance Program

The appliance program encourages residential customers to purchase ENERGY STAR qualified clothes washers, refrigerators and chest freezers.

High Efficiency Natural Gas Furnace/Boiler Program

Encourages residential customers who are replacing their existing natural gas furnace to purchase an ENERGY STAR qualified high efficiency natural gas furnace or boiler.

Lower Income Energy Efficiency Program (LIEEP)

The Lower Income Energy Efficiency Program is designed to bring Power Smart and energy efficient measures to qualifying Manitoba lower income households. The program leverages Manitoba Hydro Power Smart programs, the Affordable Energy Fund, the Federal Government ecoENERGY Program, provincial government programs and existing community-based infrastructures. Energy efficiency measures include pre-and post in-home energy evaluations, installation of basic energy efficiency items such as CFL's and low flow showerheads, insulation upgrades, and natural gas furnace upgrades.

2.3.2 Commercial Programs

Custom Measures Program

Encourages commercial customers who are renovating, undergoing plant expansion or building new facilities to improve system performance by installing or upgrading technologies such as; direct digital controllers, variable frequency drives and heat recovery ventilation systems. The program is designed for energy efficient projects that are not included in any of the existing Power Smart programs.

Building Envelope Program

Encourages building owners to incorporate window systems and/or insulation that meets Power Smart levels into their renovation or new building plans and helps to reduce air leakage that leads to heat loss.

HVAC Program

This program encourages the use of higher efficiency heating and cooling systems in commercial buildings such as: high efficiency furnaces, near-condensing and condensing boilers, variable speed drives and energy efficient water-cooled chillers.

Internal Retrofit Program

Energy efficiency in Manitoba Hydro buildings is encouraged by retrofitting existing and constructing new buildings to Power Smart levels.

Rinse and Save Program

The rinse and save program offers customers who operate a restaurant or food services business the free installation of a new low-flow pre-rinse spray valve. The old spray valve is recycled by Manitoba Hydro so that it cannot re-enter the market.

Commercial Lighting Program

This program encourages commercial customers to install cost-effective energy efficient lighting systems. Manitoba Hydro also works with lighting distributors, installers, contractors and manufacturers to assist customers in saving electricity.

Commercial Building Optimization Program

The commercial building optimization program encourages commercial customers with existing buildings to use an investigation process known as retro commissioning to help return their buildings to their design intent. The goal is to identify energy conservation opportunities with short payback periods.

Commercial Earth Power Program

This program provides information and financial incentives to customers who install a geothermal heat pump to offset a conventional electric heating system in either new construction or existing commercial buildings.

Parking Lot Controllers Program

The parking lot controllers program encourages commercial building and property managers to implement parking lot controller technology to effectively manage electricity usage in their parking lots.

Commercial Refrigeration Program

This program encourages retail stores and restaurants to install energy efficient refrigeration equipment for their walk-ins, display cases and mechanical rooms to reduce energy consumption and create a more comfortable environment for their customers.

Agricultural Heat Pad Program

The agricultural heat pad program helps swine barns realize energy and demand savings by using energy efficient heat pads over traditional heat lamps in hog farrowing crates.

City of Winnipeg Agreement

Encourages, promotes and implements energy saving measures to improve the efficiency of city-owned facilities. The Power Smart Agreement encompasses electricity, natural gas and water saving measures for both new construction and renovation projects.

2.3.3 Industrial Programs

Performance Optimization Program

The performance optimization program encourages industrial and large commercial customers to study and implement energy efficiency measures in their electro-technology processes and motor-drive systems.

Industrial Natural Gas Optimization Program

Provides industrial and large commercial customers with the technical support and financial incentives necessary to identify, investigate and implement systematic efficiency improvements throughout their facilities.

2.3.4 Rate/Load Management Programs

Curtailable Rates Program

Large industrial customers are provided with monetary incentives by way of a monthly credit on their electricity bill in exchange for customers having electrical load available for curtailment if called upon by Manitoba Hydro.

Customer Load Displacement Pilot Program

Encourages industrial customers to install, operate and maintain generation equipment at their site for displacing their internal load.

2.4 Power Smart Initiatives Launched During Reporting Period

The following section highlights the Power Smart initiatives launched during the 2007/08 fiscal period.

CFL School Program

Under the umbrella of the Residential Compact Fluorescent Lighting Program, the Manitoba Hydro CFL Give-Away is intended to reach those consumers who are either unaware of CFLs and their benefits or who have not chosen to act, while providing an educational experience for the students involved.

On June 13, 2007 a pilot was conducted in the town of Melita, Manitoba using a class of grade 6 students and their teachers. A brief presentation was used to educate the students on the benefits of using energy efficient lighting products, specifically compact fluorescent light bulbs (CFLs). After the presentation was complete, the students assembled approximately 500 packages that included a 2-pack of CFLs (one 13-watt and one 23-watt), an information handout, a survey regarding the package, as well as a postage paid envelope to return the survey to Manitoba Hydro. Once the packages were assembled, parent volunteers drove the students to predetermined routes in order to distribute the packages to households throughout the town.

Following the success of the Melita pilot, the CFL School Program offering was extended to all schools in Manitoba with students in grades 5 and 6. In the fall of 2007, twenty-eight schools participated in the program, delivering energy efficient lighting packages to almost 16K customers throughout the Province.

Energy Efficient Light Fixtures Mail-In Rebate Program

After a successful pilot run in 2006, on October 1, 2007 the Torchiere Turn-In Program expanded to become the Energy Efficient Light Fixtures Mail-In Rebate Program. This program was launched to encourage customers to install ENERGY STAR qualified light fixtures, dimmer switches and LED night lights to save energy in their homes. The program offered information to customers on the benefits of using these lighting products, as well as financial incentives. The program ran from October 1, 2007 to March 31, 2008. By the time the program ended, the supply of ENERGY STAR qualified light fixtures available from Manitoba retailers had greatly increased. The Torchiere Turn-In campaign was again offered in the fall of 2007, encouraging customers to trade in their halogen torchiere lamps for a coupon towards compact fluorescent torchiere lamps.

Programmable Thermostat Program

This program was designed to encourage electric and gas heated residential customers to replace their non-programmable thermostat with ENERGY STAR programmable models. The program offered a $20 rebate per thermostat and the rebate was applied to the customer's energy bill. Based on the success of the pilot, the program was again offered for a limited time between November 1, 2007 and March 31, 2008.

Natural Resources Canada announced the new ecoENERGY Retrofit Program, which provides financial assistance to Canadians for energy efficient retrofits to their homes. By integrating the new federal program into its Power Smart initiative, Manitoba Hydro will ensure Manitobans have a convenient way to access both federal dollars and Hydro's Power Smart programs. Federal grants of up to $5K are available to

homeowners depending on what energy improvements are made to their homes.

The cost of the pre-retrofit evaluation is $280, but with the Province of Manitoba and Manitoba Hydro paying $100 of this fee, the homeowner only pays $180, plus GST.

Manitoba Hydro has been offering in-home energy evaluations to homeowners since 2001. Under the previous federal EnerGuide for Houses Program, 22K energy evaluations were performed in Manitoba.

Low Income Program

In July 2007, Manitoba Hydro partnered Brandon with the Neighbourhood Renewal Corporation (BNRC) and the provincial government to launch a second community-based energy efficiency pilot project in Brandon, with similar program structure to that of the Centennial pilot project launched the previous fall. The goals were twofold: to reduce the energy-burden for low-income tenants and homeowners in one-hundred and twenty homes; and to provide employment training for low income residents living in the community. By the end of March 2009, forty lower income homes in Brandon were retrofitted with insulation upgrades and basic energy efficiency measures such as CFL's, low flow showerheads, and faucet aerators. In addition, the Centennial pilot project continued to evolve with one hundred lower income homes retrofitted by end of March 2009. As a result of the lessons learned from these pilot projects, Manitoba Hydro launched a Manitoba-wide Lower Income program on December 14, 2007.

2.5 Power Smart Success Stories

Manitoba Wins Energy Efficiency Award from Canadian Energy Efficiency Alliance

The Canadian Energy Efficiency Alliance (CEEA) announced that once again Manitoba Hydro and the Province of Manitoba have been recognized with its highest ranking for their shared commitments to energy efficiency and promoting the wise use of energy in the marketplace.

The CEEA gave Manitoba an A+ in its 7th National Report Card on Energy Efficiency, an increase from the Province's previous CEEA top ranking of A achieved in 2006. Manitoba's A+ ranking was once again the highest in the country and for the first time was shared with British Columbia. The CEEA noted that Manitoba continues to be an example for other jurisdictions.

The CEEA is a non-profit, member-supported organization charged with promoting energy efficiency in Canada. It includes membership from private companies, several provincial utilities, and the federal government.

Power Smart Commercial Spray Valves a Success for the Victoria Hospital

A test was conducted at the Victoria Hospital where two floors installed Power Smart low-flow pre-rinse spray valves to determine if they would meet their needs with respect to sufficient water pressure, no back-splash, and user friendliness. Hospitals typically use pre-rinse spray valves in the patients' rooms for cleaning purposes. Pursuant to a successful test phase, Manitoba Hydro organized a full hospital conversion. Approximately one-hundred and fifty valves were provided and installed at no cost to the hospital, which helped save the Victoria Hospital just under $70K per year in utilities by reducing their natural gas consumption by approximately 200K m^3 annually. Additionally, the conversion helped the hospital save $84K in annual water costs by reducing water consumption by 38 million liters of water annually.

Power Smart Embraced by Portage La Prairie School Division

The Portage la Prairie School Division continued its long-standing history of retrofitting to Power Smart levels by completing lighting retrofits at eleven of its facilities. Going back to 1995, forty-eight Divisional facilities have undergone Power Smart retrofits. Energy efficient lighting retrofits alone have yielded

216K kW.h and 75 KW of annual savings. In an effort to encourage and assist the Division with these lighting retrofits, Manitoba Hydro provided $39K in financial incentives. As well, the Division has installed parking lot controllers, covering seventy-six circuits in total, yielding over 41K kW.h of annual savings. The customer received a $3.8K incentive to assist with this installation. The aforementioned upgrades will provide annual electricity savings of over $10K for the Portage la Prairie School Division.

Vale Inco Upgrades Birchtree Mine Compressed Air System

As part of a corporate energy continuous optimization effort, Vale Inco in Thompson completed a major upgrade of their Birchtree mine compressed air system, which is one of the largest compressed air systems in Manitoba. The work involved the installation of 4 energy efficient 400 HP air compressors and a control system that would enable Inco to better match the cyclical needs of the Birchtree mine where compressed air is used by production machinery deep within the mine. The project will save Vale Inco over 7 GWh per year in annual energy usage which is equivalent to over $150K per year. Manitoba Hydro has provided technical support and financial incentives to Vale Inco for compressed air and other industrial energy efficiency projects since 1995.

Manitoba Hydro Enhances Residential Earth Power Loan

Manitoba Hydro increased the maximum Residential Earth Power Loan amount from $15K to $20K; and with support from the Affordable Energy Fund, has reduced the interest rate from 6.5% to 4.9% for the first five years of the loan. The fifteen-year loan, offered through the Earth Power Program, provides convenient financing to homeowners installing a geothermal heat pump system in their residence.

A geothermal heat pump works by moving heat into or out of the earth, through a network of underground pipes, to heat or cool a home. The initial cost to install a geothermal heat pump is more than a conventional system, ranging from $15K to $25K, but can reduce annual home heating costs by 50 to 70%. The technology can also greatly reduce household greenhouse gas emissions, making it an environmentally friendly home heating system.

Power Smart Advertising & Marketing Awards

Manitoba Hydro won 18 awards in 13 advertising and communications categories at the annual Better Communications Competition. The Corporation was ranked at the top of its category of utilities and placed third overall on a list of Top 10 Communicators, which includes some of the largest utilities in the United States. The awards were presented on June 27, 2008 at the Utility Communicators International Annual Conference held in Washington, DC. Awards were presented as follows:

1st place:

- Complete Campaign - Marketing for “Small Changes Add Up”
- Bill Insert for “Have a look at how we heat our home”
- Internet Site for “Small Changes Add Up”
- Newspaper - Single for “Know Your Hydro” campaign

- Annual Report for “Manitoba Hydro - Electric Board 56th Annual Report”
- Specialty Advertising for “Lights On - Know Your Hydro” campaign
- Complete Campaign - Gary Gzebb Award for “Know Your Hydro” campaign

2nd Place:

- Single Television Ad - Marketing for “Small Changes Add Up”
- Billboards - Exterior & Interior for “Beware Your Life is on the Line”
- Direct Mail for “Fall Lighting Campaign”
- Potpourri for “Watch for Guy Wires”
- Trade Show Booth for “Call Before You Dig” display
- Outdoor single - Billboard, Transit & Mail Posters for “Osprey - Know Your Hydro” campaign
- TV or Cinema Single for “Wind - Know Your Hydro” campaign
- TV or Cinema Campaign for “Insulation, Light Bulb, Shower Head - Small Changes Add Up”

3rd Place:

- Single Magazine Ad for “Underground lines may be closer than you think”
- Special Booklet or Pamphlet for “Geothermal Heat Pumps - A Homeowner’s Guide”
- Safety Communications for “Beware Your Life is on the Line” campaign

2.6 Research & Development Initiatives

Manitoba Hydro is working with the University of Manitoba on a solar greenhouse project to determine the feasibility of growing vegetables in Manitoba’s winter climate. The project is supported jointly by the Agriculture Rural Development Initiative. In 2007/08, researchers from the University of Manitoba completed a fourth round of tests at a solar greenhouse, in search of refinements that would improve the effectiveness of solar greenhouse operation in Manitoba’s climate.

The research was conducted at a solar energy greenhouse at Blue Lagoon Florascape on the outskirts of St. Francois Xavier. The greenhouse, based on a design from China, measures 22 feet wide, 100 feet long, and about 13feet high. A wall of concrete, 8 inches thick and more than 7 feet high, ran the length of the greenhouse to form the north wall. The concrete stores solar energy during the day for release at night to keep plants warm.

Clusters of LEDs (light emitting diodes) were tested for their ability to extend the plant-growing season in the greenhouse during the winter months. Findings suggest that LED lighting is better at promoting plant growth and health than conventional high-pressure sodium lighting, at about one-tenth the cost in electricity. But the LED lighting cost roughly 4 times as much as the high-pressure sodium lighting.

The greenhouse was covered with air-inflated double polyethylene of a special type designed to hold heat by reducing long-wave radiation from the greenhouse at

night. Comparisons with last year's performance of the greenhouse, which was covered with standard 6-mil poly, suggests that the new type of poly, 8-mil thick and marketed under the trade name SunSaver4, tends to maintain a slightly warmer indoor temperature.

An inexpensive subsoil heat storage system was installed to test whether air drawn from the warm upper levels of the greenhouse near the peak during the day could warm the soil sufficiently to help keep the greenhouse warm at night. Warming effects of the "earth charger" system in the solar greenhouse proved minimal because the ductwork was installed toward the end of January, after the ground was frozen. Given this late installation, soil temperatures were already so low that, despite warm air bringing heat energy as it circulated through the pipes, the soil was not able to reach high enough temperatures to effectively heat air in the greenhouse at night.

These and earlier results continue to support the feasibility of growing vegetables in solar greenhouses over the winter months in Manitoba, but point to the need for a source of supplementary heat to avoid losing a crop following a series of cold days with low solar radiation.

Findings also set the stage for testing solar greenhouses in northern communities where cost savings and a longer growing season could pay off in critical socio-economic and health benefits for people living in the North.

A researcher from the University of Manitoba has shown that circulating exhaust air from a hog barn through a biofilter inside a greenhouse can help keep plants warm during extremely cold winter days.

The biofilter also cuts hog barn odour by removing hydrogen sulphide from the air.

The setting for the research was the University of Manitoba's livestock facility at Glenlea Research Station. The heat source was a hog finishing barn where hogs are raised from 50 kg to a finish weight of 110 kg.

The exhaust air, generated by hogs in part of the barn, was ducted to a solar greenhouse where it was circulated through a biofilter—a bin filled with 1800 kg of woodchips and compost in an 80:20 mixture. A booster fan in the exhaust air duct ensured a steady flow of 1.4 cubic metres/second through the biofilter into the greenhouse, for a "residence" time of about 3 seconds.

The solar greenhouse, constructed about ten metres south of the barn, is of a type popular in China, where some 170K acres are covered by solar greenhouses. A solar wall running the length of the greenhouse stores solar energy during the day and releases it at night to keep the interior warm.

Since 2004, tests of similar solar greenhouses in Manitoba's severe winters showed the importance of a supplementary source of heat to avoid losing a crop following a run of cloudy, extremely cold weather.

Warm air from the hog barn represents such a source of heat and could eliminate the cost of operating wood stoves, electric unit heaters, or other backup heat sources.

Higher concentrations of carbon dioxide from animal respiration in the filtered air represent an added bonus for growers by creating an environment for better plant growth and yield.

The biofilter could also benefit swine producers by reducing the odour of hog barns.

Manitoba Hydro participates on the Canadian Electrical Association Technology Inc - Customer Energy Solutions Interest Group (CEATI- CESIG). The objectives of CESIG include sponsoring, testing and verification of energy efficient end use products, and education and training, specifically the production of educational guide books for use by the public and the design community. Manitoba Hydro as a member of CESIG was approached and co-sponsored several opportunities in 2007/08 through funding from the Manitoba Hydro Research Management Board and Power Smart programs.

The projects that were sponsored and/or completed in 2007/08 were as follows:

- Development of a Home Lighting Design Guide
- Revision of the Lighting Reference Guide
- Revision of the Variable Speed Drive Energy Efficiency Guide
- Benchmark Study to Establish a Test Protocol for Determination of Efficiency for Variable Frequency Drives (VFD)

In 2007/08, the following research projects were approved for funding by the Manitoba Hydro Research Management Board:

- Measurement of the efficiency of evacuated tubes for water and space heating
- Optimization on water treatment process
- Phase IV solar greenhouses
- Bioenergy production in Manitoba using biomass cattail harvesting fusarium damaged kernels (Biomass Energy Market)
- CHP district heating system solid bio fuels

2.7 Partnerships

Manitoba Hydro partners with a broad base of groups and organizations in relation to Power Smart initiatives.

Manitoba Hydro partnered with Dufresne Furniture & Appliance stores, Dino's Appliance & Mattress Centre in Portage la Prairie, Sears in Swan River, and Home Depot as contest sponsors and prize donors to present a unique opportunity for students to win a suite of energy efficient appliances for their Home Economics classroom.

In the fall of 2007, students in grades 7 and 8 were invited to produce a 60-90-second video about using large home appliances in ways that are energy efficient. The contest was intended to complement existing Home Economics lesson plans by engaging students in a fun and educational activity, with the ultimate goal being to encourage these future consumers to consider energy efficiency as an important factor in their purchase decisions and their daily use of large appliances.

From June 5 to July 31, 2007, Manitoba Hydro partnered with Dufresne Furniture & Appliance to promote the Power Smart Appliance Program. During this period, Dufresne matched Manitoba Hydro's $100 rebate on the purchase of ENERGY STAR qualified Whirlpool front loading washing machines, for total customer savings of $200. In addition, a portion of the

proceeds from this campaign went towards the Neighbours Helping Neighbours Program.

Habitat for Humanity and Manitoba Hydro partnered to ensure homes were constructed to R-2000 standards. Manitoba Hydro provided grants toward subsidizing the additional cost of constructing these homes to energy efficient standards, and making these homes more affordable for low-income purchasers (both in terms of operating and capital costs). In addition to grants, Manitoba Hydro paid for the cost of an R-2000 construction expert to provide on-site guidance during the construction period.

Power Smart insulation levels being installed in a Habitat for Humanity Home.

Manitoba Hydro has a contribution agreement with the Government of Canada to assist in delivering, marketing and promoting Natural Resources Canada's Office of Energy Efficiency's new housing initiatives. This includes the EnerGuide for New Houses Program and the R2000 Program. In 2007/08 the New Home Program received $80K from the federal government.

On July 27, 2007 Manitoba Hydro announced the launch of a Low Income Pilot program in Brandon. The Brandon Neighbourhood Renewal Corporation (BNRC) championed an innovative low-income energy-and water-efficiency program in its community, uniting training, cutting greenhouse gas emissions and lowering energy and water bills. This project was a joint effort involving several different partners and built upon a successful pilot in the Centennial neighbourhood in Winnipeg launched in 2006. Manitoba Hydro co-operated with many government departments and agencies to support this community-based initiative including Manitoba Housing and Renewal Corporation; Competitiveness, Training and Trade; Science, Technology, Energy and Mines; and Agriculture, Food and Rural Initiatives in order to make this project a success.

3.0 Market Change

Manitoba Hydro's Power Smart strategy focuses on creating a sustainable market change where energy efficient technologies and practices become the market standard - market transformation.

In recognizing market change, both qualitative and quantitative measures of change need to be explored. Qualitative measures are defined as observed changes in market characteristics, such as price, product distribution channels, or promotional activities. Quantitative measures are defined as increases in energy efficient unit sales, translating into energy and demand reductions. Currently, limited quantitative information is available for program market transformation results. As such, the focus of this section will be upon presenting qualitative changes that have been observed in the market since the introduction of the various Power Smart programs. Continuing analysis is being undertaken to identify the level of market activity (energy & demand savings) Power Smart programs have achieved beyond the incented activity currently tracked for most programs.

Based upon a qualitative market analysis, Power Smart programs have successfully contributed to creating change within their targeted market sectors.

Residential Renovation Market

The Power Smart Residential Loan provides financial assistance to customers, enabling residential customers to make their existing home more comfortable and energy efficient. Suppliers participating in this program indicate that the influence of this initiative reaches beyond the number of individual loan applications. Participating suppliers estimate that approximately 50% of their customers not participating in the Power Smart Loan are retrofitting to Power Smart recommended levels. This is substantially higher than the 20% penetration estimated by suppliers in 1994.

Residential New Homes Market

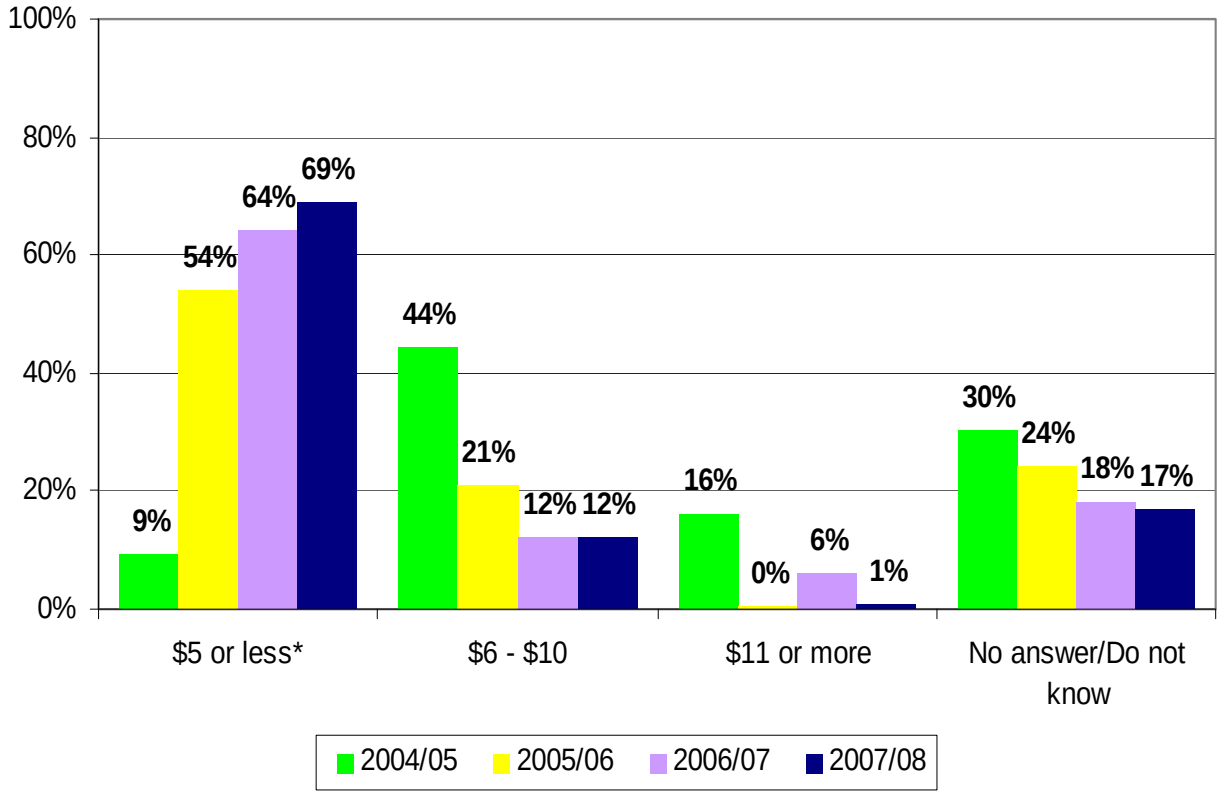
Manitoba Hydro's involvement in the new home construction market is continually influencing both builders and homeowners. Leading edge energy technologies displayed in new homes stimulates change in the existing home renovation market.

The program continues to achieve a growing presence in the market place. The increased number of Power Smart Homes in the Parade of Homes, and builder spec homes has accelerated the adoption of all the Power Smart technologies that Manitoba Hydro promotes. The market is also seeing an increase in the number of individual Power Smart features. The raised heel roof truss has become standard with some production builders. In addition, increased levels of insulation in the foundation, and increased attic insulation are now frequently seen in standard home drawings.

Residential Lighting Market

Since the introduction of Manitoba Hydro's Power Smart Compact Fluorescent Lighting (CFL) Program in 2004, several key changes in the market have occurred. The most notable market change for CFLs is evident in results from the 2007 CFL Program customer follow-up survey that indicate the unit price of CFLs is declining, as illustrated below:

Exhibit 3.0-A
Historical CFL Price (before discounts)



*It should be noted that due to decreasing prices, the 2006 Customer Satisfaction Study broke down the $5 or less category into $3 or less and $4-$5. Out of those who responded the two categories, 63% indicated that they paid $3 or less for a CFL before any discounts or rebates were received.

LED seasonal light strings are becoming increasingly popular among consumers. Since LEDs were introduced to the Manitoba market in 2004, there is an increasing variety in the types, shapes, sizes and colours available for sale. Initially, most retailers were stocking the 12-foot and 24-foot C6 LED string in red, green, blue, clear and multi. In 2006 the supply of LEDs increased at major retailers and included C5 and C9 bulbs, rope lights, icicle lights, colour-changing effects and mini light strings.

Commercial Lighting Market

In addition to changes in legislation under the National Energy Efficiency Act, the Commercial Lighting Program has significantly influenced pricing and product availability for T8 fluorescent lighting and exit sign technologies in the Manitoba marketplace.

The average pricing for 4-foot (2-lamp) T8 fluorescent ballasts and 8-foot T8 fluorescent ballasts was $51.50 and $80 per unit respectively when the program launched in 1992. These average prices have since fallen by 61% and 56% respectively, to $20 and $35 per unit. Product availability has also changed substantially since the program launched, with 447 T8 fluorescent ballasts now qualifying for incentives, compared to the 47 qualifying in 1992.

The average pricing for LED exit signs has fallen by 68% from $125 per unit in 1992 to $40 per unit in 2007. Product availability has increased substantially for LED exit signs since program launch. In 1992, 2 products and 3 series (i.e. a number of products) were provided by 3 manufacturers that qualified under the program. Under the current list of eligible LED exit signs, 38 products and 110 series provided by 12 manufacturers qualify for incentives.

By providing higher incentives for premium ballasts, the Commercial Lighting Program also influences the quality of linear fluorescent lighting systems. Premium ballasts increase the performance and reliability of electrical distribution systems for both the customer and Manitoba Hydro.

Commercial Parking Lot Controllers Market

As a result of the Commercial Parking Lot Controllers Program, the product design and overall acceptance of parking lot controller technology has changed. Traditional (pre-program launch) time sensitive only controls are no longer in demand and therefore product design has shifted to temperature sensitive control systems. The program has influenced customers to seek out temperature sensitive control systems and have resulted in the technology being more acceptable in the market.

Commercial Windows Market

In addition to impacting the sales of energy efficient windows in Manitoba, Power Smart has educated consumers and local industry players on the importance of the “U-value” as the primary rating of energy efficiency. As a result of this education, most window manufacturers are ensuring that all products are tested and labelled according to an independent analysis of the products’ U-value, as well as distributing the certified CSA A440.2 simulation results to window distributors and commercial customers for increased confidence.

The installation of energy efficient windows in the electrically-heated new construction market have become standard, arising largely due to the financial incentives offered as part of the Power Smart Commercial Building Envelope Program. Unfortunately, due to the high incremental costs of energy efficient upgrades and the corresponding long paybacks, the market would rebound to inefficient levels were the incentives discontinued.

Qualitative analysis of these changes is difficult as acceptable window performance can be achieved through various window feature combinations and are extremely difficult to track.

Commercial Custom Measures Market

The Custom Measures program has influenced the way Commercial building owners renovate or make equipment decisions during plant expansions or at the time of new construction. The Custom Measures program allows the customer to make a case for any new energy efficient technology that will benefit them by reducing energy consumption and as well provide non-energy benefits. Through increased levels of education and awareness the Custom Measures program has increased the installation of central control systems, heat pumps, and variable frequency drives that increase system efficiency and reduce energy consumption in Manitoba.

Commercial Refrigeration Market

Although Manitoba Hydro has not significantly influenced the pricing or product availability for refrigeration technologies, the Power Smart Commercial Refrigeration Program has educated customers about the reduced energy consumption and customer savings when energy efficient refrigeration equipment and technology upgrades are installed.

Manitoba Hydro also assisted the Office of Energy Efficiency (OEE) in developing regulations for self-contained refrigeration equipment. Natural Resources Canada's (NRCan's) Office of Energy Efficiency proposed to amend Canada's Energy Efficiency Regulations that requires dealers of self-contained, commercial refrigerators and freezers imported or shipped inter-provincially for sale or lease in Canada to comply with minimum energy performance standards. Product service screens, along with energy saving data were provided to the OEE and as of January 1, 2007, (part of Amendment 9 to the Energy Efficiency Regulations), Natural Resources Canada announced that they were harmonizing with the California Energy Commission performance level Tier 1. Effective January 1, 2008, Tier 2 levels will be harmonized with California Energy Commission performance level Tier 2.

Residential & Commercial Geothermal Heat Pump Market

Manitoba Hydro entered the geothermal heat pump market in 1996, promoting the technology under the Commercial Construction & Renovation Program. In 2002/03, this support was expanded to the residential sector under the Earth Power Program. As a result of Manitoba Hydro’s involvement, significant market changes have been observed in the Manitoba marketplace.

Industry sustainability continued to grow in 2007/08 through continued regulation by the Manitoba Geothermal Energy Alliance (MGEA), the provincial geothermal industry association. The association, through substantial development and organizational assistance from Manitoba Hydro, implemented contractor certification and customer quality assurance programs in 2006/07, the first of its kind in Canada. The association also took over responsibility for hosting industry events and training, beginning with the 2007 Manitoba Geothermal Energy Conference. In December 2007, the association signed a Partnership Agreement with the national Canadian GeoExchange Coalition

(CGC) to deliver a number of market transformation initiatives including the Global Quality GeoExchange Program. This program is considered one of the world's most stringent accreditation/training programs in the renewable energy sector and will help ensure only qualified and reputable professionals will be able to work in Manitoba's geothermal industry.

Promotion of geothermal heat pumps and the Earth Power Program was ramped up significantly in 2007 through development of new residential and commercial sector advertising campaigns. These campaigns targeted the promotion of geothermal technology to electrically heated - rural areas of Manitoba through various print advertisements and energy bill inserts. Overall advertising and promotion translated into solid market performance. A total of nine-hundred and thirty units were installed in the 2007 calendar year, a 245% increase in sales activity from 2001/02, prior to the program's inception. This level of sales activity is believed to have kept Manitoba as the per capita leader in system installations in Canada.

Agricultural Heat Pad Market

Since the program launch in 1998, adjustments to product design have been implemented to improve performance, and three manufacturer brands have received program eligibility status. As a result of Manitoba Hydro's Agricultural Heat Pad Program, market changes have been observed in the farrowing crate heating market. Sales data confirmed that the majority of the new construction and renovation farrowing crate market has been transformed to energy efficient heat pads.

Industrial Compressed Air Service Market

Over the last eight years, Manitoba Hydro has actively promoted the installation of energy efficient measures for compressed air systems such as variable speed drive compressors, air receiver tanks and flow controllers, and the implementation of compressed air leak management programs through its compressed air seminars. It is estimated that more than 50% of Hydro's largest customers have sent personnel to these seminars. As a result of the Performance Optimization Program and these seminars, market changes have occurred in products and services offered by compressed air suppliers. All major manufacturers now carry variable speed drive compressors and local manufacturer representatives are prompting customers to have their systems reviewed and optimized prior to installing new equipment. As well, several equipment vendors are now providing data logging services to help their customers identify compressed air energy usage patterns which will result in better managed systems.

Industrial Refrigeration System Market

Since 2004, Manitoba Hydro has actively promoted the installation of energy efficient measures for ammonia-based industrial refrigeration systems such as floating head pressure control, heat recovery from hot compressor discharge, purgers for non-condensable and variable speed drives for compressors. Presentations have been made to major customers with the largest systems and many of these customers are now investigating energy efficiency opportunities in their facilities. Refrigeration system contractors are also promoting energy efficiency measures when they receive calls for upgrading or renovating existing systems.

4.0 Market Results

In the past, the success of Manitoba Hydro's Power Smart initiative was evaluated on DSM incentive-based program activity alone. However, the true impact of Power Smart programs includes the impact of the program on the market as a whole - market transformation. However, market transformation is more difficult to measure. Manitoba Hydro has made significant in-roads in developing program-specific methodologies for measuring its impact. Wherever possible, Manitoba Hydro has attempted to obtain sales/technology specific data to calculate a program's true effect. Difficulties arise in obtaining sales data for measurement purposes for outside of Manitoba and with obtaining sales information that fall outside of Power Smart programs. In some instances, qualitative information is used to determine a program's impact on the market. Manitoba Hydro plans on continuing to further quantify and report on the influence of market transformation within the Manitoba marketplace.

4.1 Customer Service Initiatives & Cost Recovery Programs

Customer service initiatives and cost-recovery programs represent the level of DSM activity that Manitoba Hydro is committed to providing customers. These initiatives and programs focus on providing the customer with information, education and financing services.

4.1.1 Launch and Length of Customer Service Initiative & Cost Recovery Programs

Exhibit 4.1.1-A identifies the launch year of current customer service initiatives and cost recovery programs as well as the number of years in which the initiatives have been active.

Exhibit 4.1.1-A
Launch & Length of Customer Service Initiatives & Cost Recovery Programs

INITIATIVE	YEAR LAUNCHED	NUMBER OF FISCAL YEARS IN IMPLEMENTATION
RESIDENTIAL		
Home Comfort & Energy Savings Program	February, 2001	7.2
ecoENERGY^	March, 2001	7.1
Wisdom in Saving Energy (WISE) Home Program	June, 2001	6.8
Energy Saver Presentations^^	January, 2002	6.3
New Homes Workshop	January, 2002	6.3
Residential Earth Power Program	April, 2002	6.0
COMMERCIAL		
Power Smart Recreation Facility Survey	May, 1998	9.9
Religious Buildings Initiative	May, 2001	6.9
Power Smart Design Standards	September, 2002	5.6
DISCONTINUED/COMPLETED PROGRAMS		
Power Smart Energy Manager Program	September, 2001	4.0
R-2000 Home Program*	February, 2002	3.2

^formerly EnerGuide

^^formerly Home Energy Saver Workshops

*In 2004/05 the R-2000 Home Program was grouped into the New Home Program

Exhibit 4.1.1-B provides an overview of the annual and total amount of participants for select customer service initiatives and cost recovery programs. Refer to APPENDIX C - 'Total Power Smart Participation' for a detailed list of historical participation.

Exhibit 4.1.1-B
Customer Service Initiatives & Cost Recovery Program Participation

INITIATIVE	2007/08	Total to 2007/08
	Number of Participants	
RESIDENTIAL		
Home Comfort & Energy Savings Program		
*Power Smart Residential Loan**	*7,427*	*38,558*
Mail In/On-Line Energy Assessments	*421*	*2,928*
	7,848	41,486
ecoENERGY Program^	3,171	25,999
Wisdom in Saving Energy (WISE) Home Program	312	4,056
Residential Earth Power Program		
Residential Earth Power Loan	*224*	*760*
*Earth Power Consumer Workshops***	*0*	*688*
	224	1,448
Energy Saver Presentations^^	392	3,473
New Homes Workshop	0	854
	11,947	77,316
COMMERCIAL		
Religious Buildings Initiative	40	195
Power Smart Recreation Facility Survey	6	61
	46	256
DISCONTINUED/COMPLETED PROGRAMS		
Power Smart Energy Manager	0	38
R2000 Program	0	63
	0	101
TOTAL	11,993	77,673

* Participation includes approved loans while energy savings is measured by completed projects.
** Includes residential and commercial participants.
^ Participation includes 'D' & 'E' audits. ecoENERGY was previously called EnerGuide.
^^ Formerly Home Energy Saver Workshops.
Notes: This table includes electric and natural gas Power Smart participants.
Customers may participate in more than one Power Smart program.

4.1.2 Customer Service Initiative & Cost Recovery Program Activity

Customer service initiatives and cost recovery programs provide numerous benefits to Manitobans. Depending on the nature of the program, savings resulting from specific programs may be quantified to the extent that these savings can be reasonably determined. Estimated savings are generally calculated using engineering estimates as well as sales and market data provided by program specialists. Regular assessments include a qualitative evaluation of the benefits, with service levels being adjusted accordingly. The following outlines the many benefits of Power Smart customer service initiatives and cost recovery programs.

Home Comfort & Energy Savings Program

The Home Comfort & Energy Savings Program encourages homeowners to make energy efficient renovations to increase comfort and reduce home heating bills. The following services are offered under this customer service program:

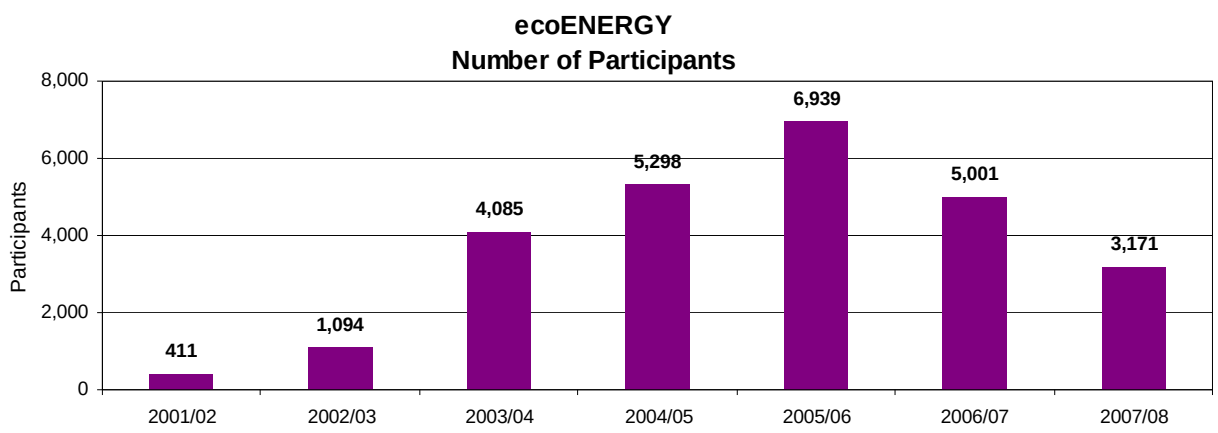
- Customers can call or e-mail a Power Smart Energy Expert with energy-related questions.
- The Home Energy Calculator is a simple on-line check sheet that enables homeowners to compare previous energy savings projects undertaken and make decisions regarding future projects.
- The Home Comfort & Energy Evaluation Guide can be completed as a mail-in or on-line survey. The customized report includes easy-to-read graphs and a Power Smart target comparing the current energy consumption of the customer's home with a home upgraded to the recommended Power Smart measures.
- Detailed brochures and renovation booklets for selecting and installing Power Smart measures guide the homeowner through the renovation process.
- A Power Smart Residential Loan of up to $7.5K allows customers to make energy efficient retrofits to their homes.

ecoENERGY Program (formerly EnerGuide)

Manitoba Hydro continues to market the federal government energy evaluation programs. The EnerGuide for Houses (EGH) Program ended March 31, 2007, and was replaced by the ecoENERGY program. Manitoba Hydro began offering the new program on May 1, 2007 through its Power Smart initiatives. Manitoba Hydro signed a licensing Agreement to deliver the initiative March 31, 2011.

The main goals of the ecoENERGY Program are to raise homeowner awareness of the benefits of energy efficiency, and to identify and prioritize energy efficient upgrades, by providing homeowners the information needed to make informed decisions. An in-home energy efficiency pre-retrofit evaluation 'D' based on the house-as-a-system approach, is the cornerstone of the program. The evaluation focuses on how the home's energy performance can be improved, while maintaining or improving the indoor environment.

Exhibit 4.1.2-A



Once the evaluation is conducted, the home is assigned an EnerGuide energy rating, based on a scale of 0 to 100. Homeowners who perform energy efficient upgrades on their homes as recommended by their report may take advantage of an 'E' or post-retrofit evaluation to determine the effectiveness of the upgrades. The home then receives an updated EnerGuide energy rating label. Specific energy efficient upgrades qualify for ecoENERGY grants. The grant amounts are based on specific energy saving measures, with a maximum grant of $5K per dwelling.

The cost for an ecoENERGY evaluation is $180 + GST for the pre-retrofit 'D' evaluation, and $125 + GST for the post-retrofit 'E' evaluation. Cost of the 'E' evaluation is reduced to $25 + GST if it is estimated the homeowner will receive an ecoENERGY Grant of $400 or more. The difference between the cost and the price is subsidized by Manitoba Hydro.

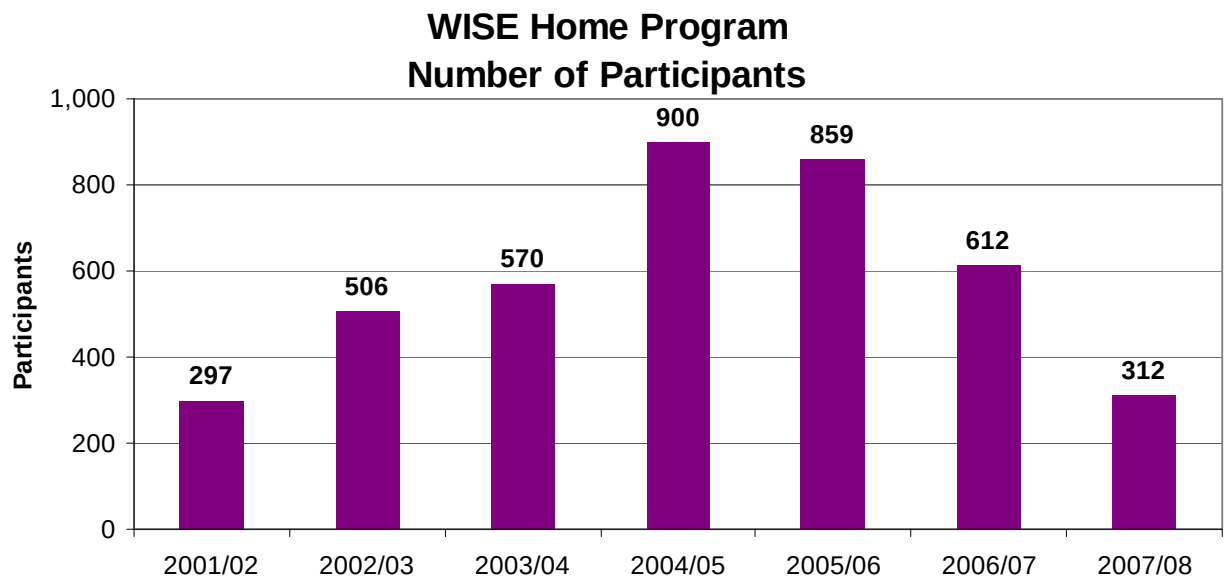
Wisdom in Saving Energy (W.I.S.E.) "Seniors Helping Seniors" Home Program

The W.I.S.E. Program operates in partnership with the Manitoba Society of Seniors. The program is designed to assist senior homeowners identify and implement energy saving measures in their homes. The program has been planned around the "Seniors Helping Seniors" concept and offers seniors an opportunity to volunteer and receive training from Manitoba Hydro energy experts in order to become qualified in-home energy advisors. The volunteer energy advisors visit homeowners and collect information about their homes, install energy saving devices, and offer energy saving tips and options to help senior customers save on energy consumption.

The program has been very well received by the community, as displayed by a consistently high mean satisfaction rating of 8.2 to 8.4 (out of 10) in the 7 years the program has been offered.

The following graph presents the number of participants in the WISE "Seniors Helping Seniors" Home Program. A total of 4056 Manitoba seniors have participated in the program to date.

Exhibit 4.1.2-B



Residential Earth Power Program

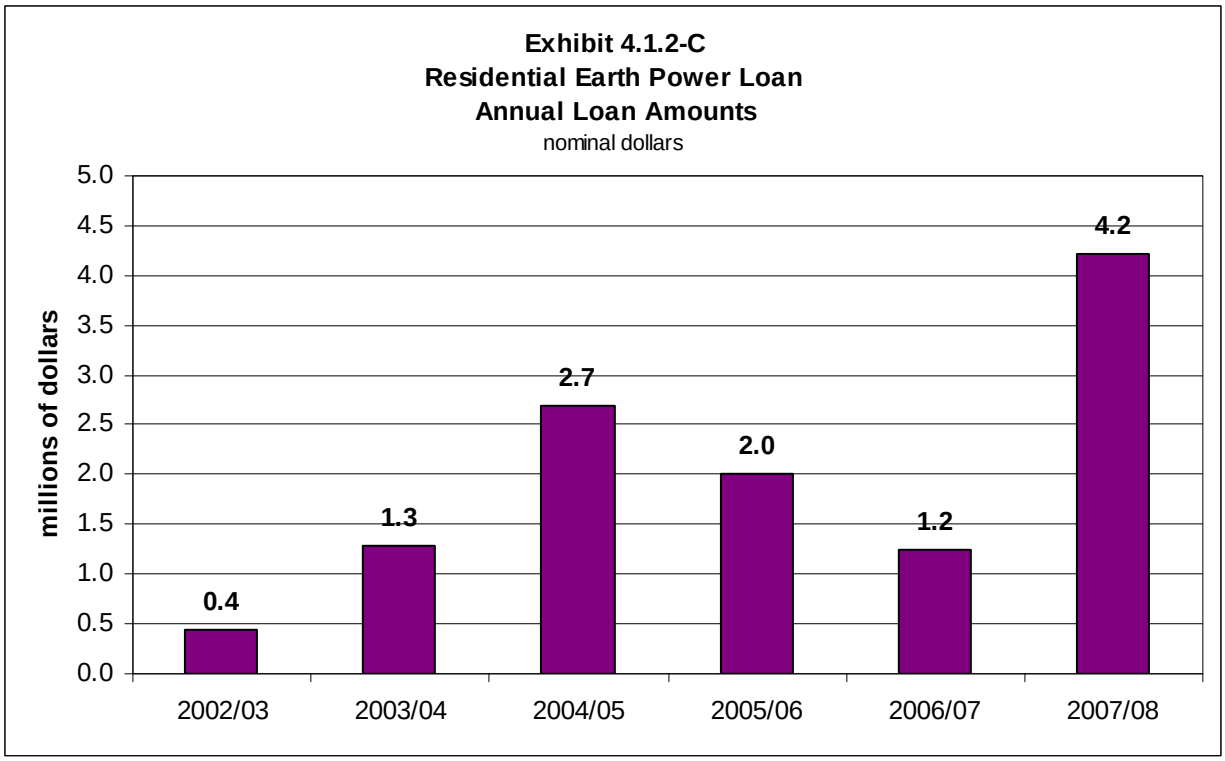
The Residential Earth Power Program's primary objective is to maximize the adoption of geothermal heat pump technology to offset the use of conventional electric heating systems.

To facilitate this objective, the Earth Power Program has developed a comprehensive strategy to assist efforts of local stakeholders in developing a sustainable provincial geothermal industry. Since its launch in 2002, the program has focused efforts in mitigating three key market barriers which include:

- Consumer awareness;
- Underdeveloped industry infrastructure; and
- High capital cost.

In 2002, the Earth Power Program introduced convenient financing through the Residential Earth Power Loan - a vital component of the Earth Power Program. The original terms of the loan offered financing up to $15K over a term up to 15 years at a fixed interest rate of 6.5%. In April 2007, changes were made to the loan terms which increased the amount of financing available to $20K and lowered the interest rate to 4.9% for the first 5 years of a customer's loan. The interest rate on the balance of the loan term will be set at prevailing interest rates. The lower initial term interest rate is being subsidized by the Affordable Energy Fund.

The following graph presents the loan amounts processed under the Power Smart Residential Earth Power Program:



Manitoba Hydro's Residential Earth Power Loan has continued to be an effective tool in facilitating residential geothermal installations. In 2007/08, a total of 224 customers financed their geothermal systems through the Residential Earth Power Loan, which is the highest annual participation rate to date. This brings the total number of loan participants to 760 since its inception in 2002/03; equivalent to $11.9 million in financing. Loan activity was strong due to the maximum loan amount being increased to $20K and the interest rate being reduced to 4.9% (5-year fixed) through subsidy of $18.5K from the Affordable Energy Fund (see section 5.5 for more information). Furthermore, residential geothermal market activity was increased due to a $3.5K geothermal system grant available from the Federal Government's ecoENERGY Retrofit - Homes Program.

Energy Saver Presentations

The Energy Saver Presentations (formerly the Home Energy Saver Workshops) offer customers planning to retrofit existing homes an overview of how to improve the comfort and energy efficiency of their home to reduce energy bills and save money. The presentation is offered at no-cost and is targeted at owners of existing homes.

New Homes Workshop

New Home Workshops offer customers planning to build a new home an overview of how to build an affordable, comfortable and energy efficient home.

Power Smart Recreation Facility Survey

The Power Smart Recreation Facilities Survey was created to help ice arenas and curling rinks reduce their operating costs by providing operators with an understanding of the energy use and potential energy saving measures within the facility. Technical staff at Manitoba Hydro review comprehensive surveys filled in by facility operators and an evaluation report is prepared. The report compares the energy use of the facility with other similar facilities in Manitoba and provides a list of possible Energy Savings Opportunities. In October 2002, a guide called “Saving Money Through Energy Efficiency - Guidelines for Operators of Manitoba’s Rinks and Arenas” was developed to assist rink operators to operate their facilities more efficiently and to present practical ideas for saving money by reducing the use of energy. This guide has been updated and is now called “Energy Efficiency Guide for Ice Arenas and Curling Rinks”.

Power Smart Design Standards

Manitoba Hydro developed design standards that new or renovated buildings must meet or exceed to achieve the Power Smart designation. The standards take the form of efficiency requirements, prescriptive measures by building type, eligible products and systems, and recommended good practice. The Design Standards were originally created to match the requirements of the former Federal Commercial Building Incentive Program (CBIP) but have since evolved to become an industry guideline for building energy efficiency in Manitoba. In 2007/08, 5 projects received a Power Smart designation.

Religious Buildings Initiative

The Religious Building Initiative was designed to assist religious organizations in finding ways to make their buildings more energy efficient. The initiative offers a benchmark audit and a low-interest loan of 8.5% to assist religious facilities in carrying out efficiency improvements. The benchmark audit report outlines how energy is being used in the building and indicates potential energy saving measures, which will reduce energy consumption. As part of the Religious Building Initiative, a guide called “Energy Efficiency Guide for Religious Buildings” was created. This energy and water efficiency guide assists people involved in the operation and maintenance of religious buildings to develop an action plan and take steps toward improving the efficiency of their buildings.

4.1.3 Annual Energy Savings from Customer Service Initiatives & Cost Recovery Programs

Exhibits 4.1.3-A through 4.1.3-C provide an overview of the estimated electrical and natural gas savings achieved to 2007/08 through customer service initiatives and cost recovery programs, for those programs where energy savings can be reasonably measured or estimated using engineering calculations.

Exhibit 4.1.3 - A
Annual GW.h Savings - Electric Customer Service Initiatives & Cost Recovery Programs

	Actual	2007/08 Plan^	Total	2017/18 Plan^
		GW.h		
RESIDENTIAL				
Residential Earth Power	2.7	2.8	8.8	38.2
Power Smart Residential Loan	0.7	0.7	4.6	11.3
ecoENERGY for Houses	-	2.1	0.8	14.9
Waverley West Project	-	(1.0)	-	(11.2)
	3.4	4.6	14.2	53.1
DISCONTINUED/COMPLETED PROGRAMS	-	-	3.0	0.2
	-	-	3.0	0.2
TOTAL (at customer meter)	3.4	4.6	17.2	53.3
TOTAL (at generation)	3.9	5.2	19.6	60.8

^ 2007/08 planning estimates and 2017/18 planning targets are from the approved DSM option in the "2006 Power Smart Plan".

Exhibit 4.1.3 - B
Annual MW Savings - Electric Customer Service Initiatives & Cost Recovery Programs

	Actual	2007/08 Plan^	Total	2017/18 Plan^
		MW		
RESIDENTIAL				
Power Smart Residential Loan	0.7	0.3	2.7	5.7
Residential Earth Power	0.7	0.7	2.1	8.9
Waverley West Project	-	(0.8)	-	(8.9)
	1.4	0.2	4.8	5.7
DISCONTINUED/COMPLETED PROGRAMS	-	-	0.2	0.0
	-	-	0.2	0.0
TOTAL (at customer meter)	1.4	0.2	5.0	5.7
TOTAL (at generation)	1.6	0.2	5.7	6.5

^ 2007/08 planning estimates and 2017/18 planning targets are from the approved DSM option in the "2006 Power Smart Plan".

The electric savings resulting from customer service initiatives are relatively small compared to incentive-based programs; however these initiatives have more significant bill reductions and other benefits (e.g. improving comfort and productivity of customers' homes and workplaces) to the participating customers.

After a review of the ecoENERGY Program it was determined that no new savings could be claimed through the program since savings were already being claimed by other Power Smart programs.

Residential Earth Power's higher than anticipated results for the 2007/08 evaluation year are warranted due to the following:

- The federal government announced development of the ecoENERGY Retrofit Grant program providing up to $5K to homeowners implementing energy efficient improvement in their existing homes. The incentive for a geothermal installation under this program is quite lucrative at $3.5K and became a driver for higher consumer demand.

- The Earth Power Program undertook an aggressive marketing campaign in the spring of 2007 to build demand in non-natural gas service areas. The continued comprehensive educational and promotional efforts of the program have resulted in an increase in market awareness of geothermal technology increasing from 21% in 2001 to 86% by June of 2007.

These Power Smart Customer Service Initiatives have resulted in electrical savings of over $900K in 2007/08, representing 28% of cumulative savings of approximately $3.2 million in customer bills to date.

Exhibit 4.1.3 - C
Annual m^3 Savings - Natural Gas Customer Service Initiatives & Cost Recovery Programs

	Actual	2007/08 Plan^	Total	2017/18 Plan^
		millions of cubic metres (m^3)		
RESIDENTIAL				
Power Smart Residential Loan	1.7	1.6	11.3	27.5
Residential Earth Power	0.3	0.4	1.3	5.3
ecoENERGY for Houses	-	0.2	2.3	10.9
Waverley West Project	-	0.4	-	4.5
	2.1	2.6	14.9	48.3
DISCONTINUED/COMPLETED PROGRAMS	-	-	0.3	0.0
	-	-	0.3	0.0
TOTAL	2.1	2.6	15.3	48.3

^ 2007/08 planning estimates and 2017/18 planning targets are from the approved DSM option in the "2006 Power Smart Plan".

The natural gas savings from customer service initiatives are a significant portion (56%) of the overall portfolio of natural gas savings. This is due to the longer existence of the customer service initiatives relative to the incentive-based programs.

These Power Smart Customer Service Initiatives have resulted in natural gas savings of approximately $7 million in 2007/08, representing 27% of cumulative savings of approximately $25 million in customer bills to date.

4.2 Energy Efficiency Codes & Standards

Canadian and U.S. electric utilities, including Manitoba Hydro, have been engaged in DSM activities for many years. In addition to utility specific DSM programs, some utilities are involved in a number of provincial and national committees. These committees work with governments and equipment manufacturers to gain acceptance of higher efficiency levels for various technologies and to encourage adoption of energy efficiency standards and regulations.

Manitoba Hydro annually prepares a forecast of the expected influence of codes and standards, and since 1995 this forecast has been and is used to adjust Manitoba Hydro's system load forecast. The adjustment to the 2007 Load Forecast for energy efficiency codes and standards resulted in forecasted energy and peak demand consumption being reduced by 24.8 GW.h/year and 6.2 MW (at meter) in 2007/08.

In many markets, legislation is the most effective and permanent form of market transformation, as it ensures that customers do not revert to less efficient technologies/practices once the incentives and/or promotional activities are discontinued. Traditionally, changing legislation is complex and politically sensitive due to 3 factors:

1. Codes and standards fall under federal, provincial and municipal jurisdictions;
2. National energy efficiency standards are difficult to agree upon due to varying environmental and market conditions; and
3. Industry places less emphasis upon making changes that are not related to safety issues.

4.2.1 National Activities

As Manitoba is not a major manufacturer of energy efficient products and offers a relatively small market for appliances/equipment, Manitoba Hydro's strategy is to be a very active participant, and in many cases a driving force, on a number of National energy efficiency code and standards committees. Manitoba Hydro representatives often chair these committees which undertake 3 functions:

1. Provide industry with assistance in the development of technologies;
2. Develop codes and standards; and
3. Assist in industry, market and government acceptance of the codes and standards.

These activities have proven to be extremely successful given the adoption and acceptance of code changes in recent years. The following examples highlight some of the efforts underway to encourage the future adoption of National energy efficiency standards and regulations:

Manitoba Hydro is a key player on the CSA Strategic Steering Committee on Performance, Energy Efficiency, and Renewables (SCOPEER), which is responsible for changes to Provincial and National performance standards and legislation which have resulted in the improvement of energy utilization of numerous appliances. An example of the influence of this committee is in the residential refrigeration market. As a result of the efforts of this committee, working with Canadian manufacturers, refrigerator

manufacturers market products which exceed the current minimum efficiency standards for inter-provincial exporting.

Beginning in September 2005, Manitoba Hydro chaired the newly created Manitoba Energy Code Advisory Committee which was tasked to provide recommendations for the adoption, development, and implementation of energy efficiency requirements for all new commercial construction (i.e. new buildings, additions to existing buildings, and major renovation of existing buildings) in Manitoba.

In the report "Building Energy, Building Leadership", the Committee recommended Manitoba adopt the Model National Energy Code for Buildings in the following three stages: (1) Adopt the Model National Energy Code for Buildings (1997) as a regulation under The Buildings and Mobile Homes Act, (2) Develop and adopt Manitoba Amendments to the Model National Energy Code for Buildings by January 1, 2009, and (3) Support and participate in a national initiative to update the Model National Energy Code for Buildings.

The Committee recommends that Manitoba adopt the energy code as a regulation under The Buildings and Mobile Homes Act, rather than as a regulation under The Energy Act because The Buildings and Mobile Homes Act supersede all other provincial legislation with respect to requirements for buildings.

Manitoba Hydro and representatives of the Province of Manitoba are working together to develop an industry consultation plan and a strategy to implement the recommendations outlined in the report.

Further supporting the development of energy codes for buildings, Manitoba Hydro is a former chair of the Building Energy Codes Collaborative (BECC). BECC is a provincial-territorial-federal committee supported by the Council of Energy Ministers, the Assistant Deputy Minister Steering Committee on Energy Efficiency (ASCEE) and Natural Resources Canada. It consists of representatives from both the code ministries and the energy ministries of provinces and territories working together to advance energy efficiency in building codes. In 2007 BECC was successful in securing the political and financial support necessary to convince the Canadian Commission on Building and Fire Codes to update the Model National Energy Code for Buildings. Currently, Manitoba, Ontario, Quebec and British Columbia are recognized as the most active and have made the most progress with respect to implementing energy efficiency requirements in buildings.

4.2.2 Provincial Activities

Initially a building code for residential homes was proposed by the Federal Government and was to be adopted by the Province of Manitoba in 1997. Due to a decline in new house starts and the perceived impact on building costs of a proposed Model National Energy Code for Houses (MNECH), it was anticipated that members of the new home construction industry would be reluctant to support the proposed MNECH. Recognizing the MNECH support may be low;

Manitoba Hydro initiated and sponsored amendments to Insulation Tables for new houses in the Manitoba building code as an interim measure to shore up eroding insulation practices below the 53rd parallel. The interim measures improved insulation practices in new housing north of the 53rd parallel. As anticipated the MNECH was not adopted, however, Manitoba Hydro's amendments were introduced in Manitoba in November

1998 with the support of the new home construction industry.

In July 2006, the requirements under Insulation Tables for new houses of the Manitoba Building Code were adjusted to simplify the requirements. Manitoba Hydro played a key role in ensuring that efficiency requirements were not significantly diluted. Insulation requirements for homes heated primarily with natural gas increased; insulation requirements for electrically heated homes were only slightly decreased. As a result, Manitoba's minimum requirements for insulation in new homes are the highest in Canada. It is estimated that this code change has resulted in energy and demand reductions of 10.1 GW.h and 3.7 MW annually by the end of 2007/08.

In September 2007, Manitoba Hydro presented research on the life cycle benefits of improved basement insulation to homeowners and were successful at convincing the Building Standards Board of Manitoba to request R20 in foundation walls for all homes in Manitoba.

Energy Efficiency Codes and Standards Savings

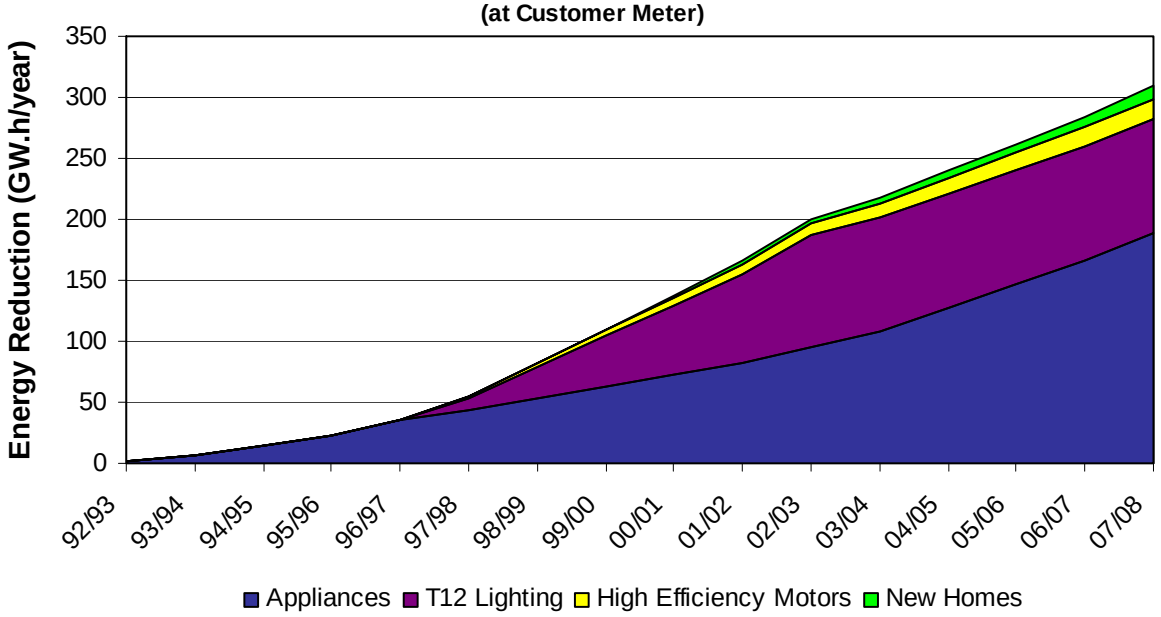
Code	Rationale	2007/08 Actual @ meter	2007/08 Cumulative @ meter
High Efficiency Motors	Manitoba Hydro becomes member of Coordinated Utilities Approach (CUA) in 1991.	0.0 GW.h	16.2 GW.h
	Code changed in Oct. 1997: minimum level of efficiency increased from 78.5-92.1% to 82.5-95.0%.	0.0 MW	2.8 MW
	2006/07 was the last year of incremental savings claimed for this code change.		
Appliances	Manitoba Hydro is a member of Strategic Steering Committee on Performance, Efficiency, and Renewables (SCOPEER).	23.2 GW.h	188.9 GW.h
	Savings calculated as the average efficiency improvement in appliances* since 1991.	5.6 MW	45.8 MW
Commercial Lighting	Influenced the Federal Government code change improving efficiency of T12 lights from 40 watt to 34 watts.	0.3 GW.h 0.1 MW	93.7 GWh 26.4 MW
New Homes	Influenced MB Building Code to shore up existing insulation practices that had begun to erode and improve insulation practices in new housing north of the 53rd parallel.	1.3 GW.h 0.5 MW	10.1 GW.h 3.7 MW
	Total	24.7 GW.h 6.2 MW	309.0 GW.h 78.6 MW

*Ranges, Fridges, Washers, Dryers

4.2.2 Energy Efficiency Codes & Standards Annual Energy and Demand Savings

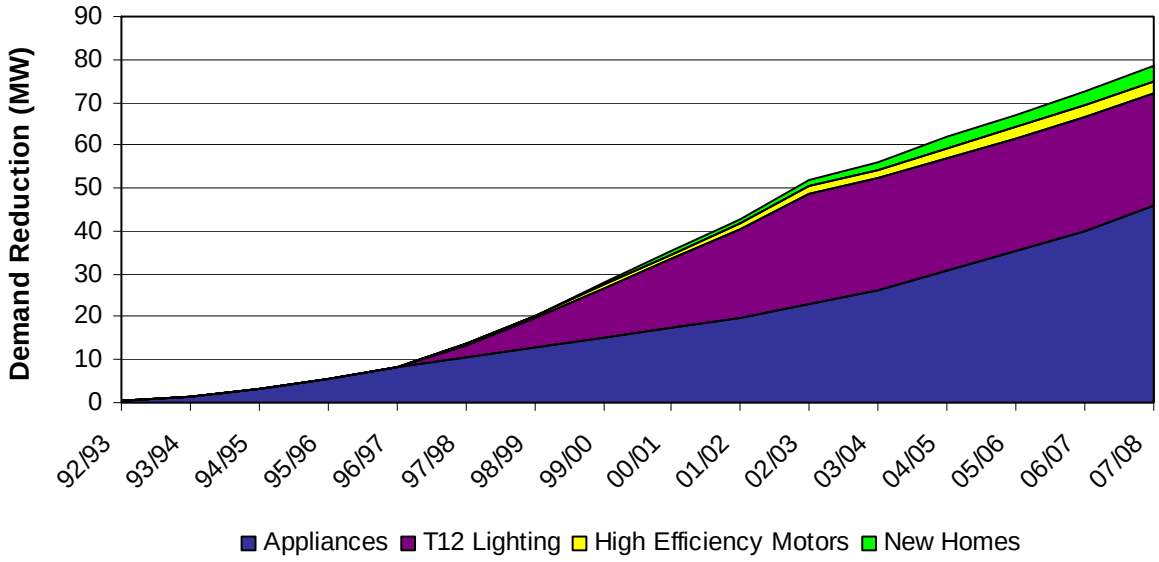
The following section outlines the estimated energy and demand savings resulting from codes and standards improvements in the Manitoba marketplace. As part of the 20007/08 evaluation process, the assumptions and methodologies used in calculating historical codes and standards savings were reviewed and revised where appropriate to reflect more current market knowledge.

Exhibit 4.2.2 - A
Energy Efficiency Codes & Standards
Cumulative GW.h Savings Achieved
(at Customer Meter)



Overall by 2007/08, a load reduction of 79 MW (90 MW at generation) and 309 GW.h/year (352 GW.h at generation) is estimated to have occurred as a result of changes to the above energy efficiency codes and standards.

Exhibit 4.2.2 - B
Energy Efficiency Codes & Standards
Cumulativive MW Savings Achieved
(at Customer Meter)



Because there are many participants (utilities, governments, manufacturers, environmental groups, etc.) contributing to the formation of energy efficiency standards, it is difficult to allocate specific credit for energy and demand savings among the various participants. For this reason, Manitoba Hydro only reports the estimated load reduction results from changes to energy efficiency codes and standards.

4.3 Incentive-Based Power Smart Programs

Power Smart incentive-based programs are designed to accelerate market awareness and acceptance of new energy efficiency standards and practices.

4.3.1 Launch and Length of Incentive-Based Power Smart Programs

Exhibit 4.3.1-A identifies the launch year of current and past Power Smart incentive-based programs and the number of fiscal years in which the programs have been implemented.

Figure 4.3.1-B provides an overview of the annual and total amount of participants for incentive-based programs. Refer to APPENDIX C- 'Total Power Smart Participation' for a detailed list of historical participation.

For a description of current incentive-based Power Smart programs, refer to Section 2.3. APPENDIX D provides a synopsis of discontinued Power Smart programs.

Exhibit 4.3.1-A
Launch and Length of Incentive-Based Programs

	YEAR LAUNCHED	NUMBER OF FISCAL YEARS IMPLEMENTED
RESIDENTIAL		
New Homes	February, 2004	4.1
Home Insulation	May, 2004	3.9
Compact Fluorescent Lighting	September, 2004	3.6
Seasonal LED Lighting	November, 2005	2.4
High Efficiency Furnace /Boiler	November, 2005	2.4
Appliances	June, 2006	1.8
Energy Efficient Light Fixtures	October, 2006	1.5
Programmable Thermostat Pilot	October, 2006	1.5
Lower Income	December, 2007	0.3
COMMERCIAL		
Commercial Lighting	April, 1992	16.0
Internal Retrofit	July, 1995	12.8
Custom Measures	December, 1995	12.3
Building Envelope	December, 1995	12.3
Commercial Earth Power	December, 1995	12.3
Parking Lot Controllers	December, 1995	12.3
Agricultural Heat Pads	April, 1998	10.0
City of Winnipeg Agreement	September, 2002	5.5
HVAC	September, 2003	4.6
Building Optimization	April, 2006	2.0
Commercial Refrigeration	April, 2006	2.0
Rinse and Save	July, 2006	1.8
INDUSTRIAL		
Performance Optimization	June, 1993	14.8
Industrial Natural Gas Optimization	September,2006	1.6
DISCONTINUED/COMPLETED PROGRAMS		
Commercial Construction- Air Conditioning Component	December, 1995	10.3
Commercial Construction- Air Barrier Component	December, 1995	10.3
High Efficiency Motor	September, 1991	8.6
Outdoor Timer	October, 1989	6 (October-February)
Roadway Lighting	April, 1991	5.0
Sentinel Lighting Conversion	April, 1991	4.0
Livestock Waterer	October, 1994	4 (September-November)
Energy Efficient Water Tank Measures Component of the 'No Worry Plan'	November, 1996	3.8
Energy Efficient Water Savings Measures Component of the 'No Worry Plan'	November, 1996	3.8
Agricultural Demand Controller	July, 1992	3.0
Infrared Heat Lamps	1991/92	2.0
Residential Showerhead Pilot	1991/92	2.0
Commercial Showerhead Pilot	1991/92	2.0
Refrigerator/Freezer Buy-Back Pilot	1991/92	2.0
CUSTOMER SELF-GENERATION PROGRAMS		
Customer Load Displacement Pilot	March, 2006	2.1
RATE/LOAD MANAGEMENT PROGRAMS		
Curtailable Rates	November, 1993	14.5

Exhibit 4.3.1-B
Incentive-Based Power Smart Program Participation

PROGRAM	2007/08	Total to 2007/08
	Number of Participants	
RESIDENTIAL		
Compact Fluorescent Lighting	28,933	94,515
Appliances	15,436	25,810
LED Lighting	8,144	20,924
HE Furnace /Boiler	6,630	14,886
Home Insulation	4,551	11,640
Energy Efficient Light Fixtures	2,380	3,427
Thermostats	2,230	7,178
New Homes	204	583
Lower Income	139	139
	68,647	179,102
COMMERCIAL		
Commercial Lighting	1,116	7,427
Parking Lot Controllers	296	549
Rinse and Save	202	858
Building Envelope	179	351
HVAC	112	211
Internal Retrofit	32	1,075
Commercial Refrigeration	27	39
Commercial Earth Power	15	43
City of Winnipeg Agreement	7	310
Agricultural Heat Pads	6	114
Custom Measures	3	7
Commercial Building Optimization	0	0
	1,995	10,984
INDUSTRIAL		
Performance Optimization	66	298
Industrial Natural Gas Optimization	10	10
	76	308
DISCONTINUED/COMPLETED PROGRAMS		37,959
EFFICIENCY PROGRAMS SUBTOTAL	70,718	228,353
CUSTOMER SELF-GENERATION PROGRAMS		
Customer Load Displacement Pilot	1	1
	1	1
RATE/LOAD MANAGEMENT PROGRAMS:		
Curtailable Rates*	4	5
	4	5
TOTAL	70,723	228,359

* Annual participation represents the number of customers who participate each year. Since most customers participate year after year, the cumulative number represents the actual number of customers who have participated to date.

Notes: This table includes electric and natural gas Power Smart participants.
Customers may participate in more than one Power Smart program.
Participation is measured by number of completed projects and does not include market transformation.

4.3.2 Power Smart Electric Program Results

The following sections outline the Power Smart program results in terms of electric energy and demand savings, benefit/cost analyses and levelized costs.

4.3.2.1 Annual Energy Savings

Exhibits 4.3.2.1 A and B provide an overview of the energy savings achieved to 2007/08 by incentive-based Power Smart programs.

The following chart represents the contribution to savings that each sector made in 2007/08:

Exhibit 4.3.2.1 - A
Percentage of Annual GW.h Savings - Electric Incentive Based Programs

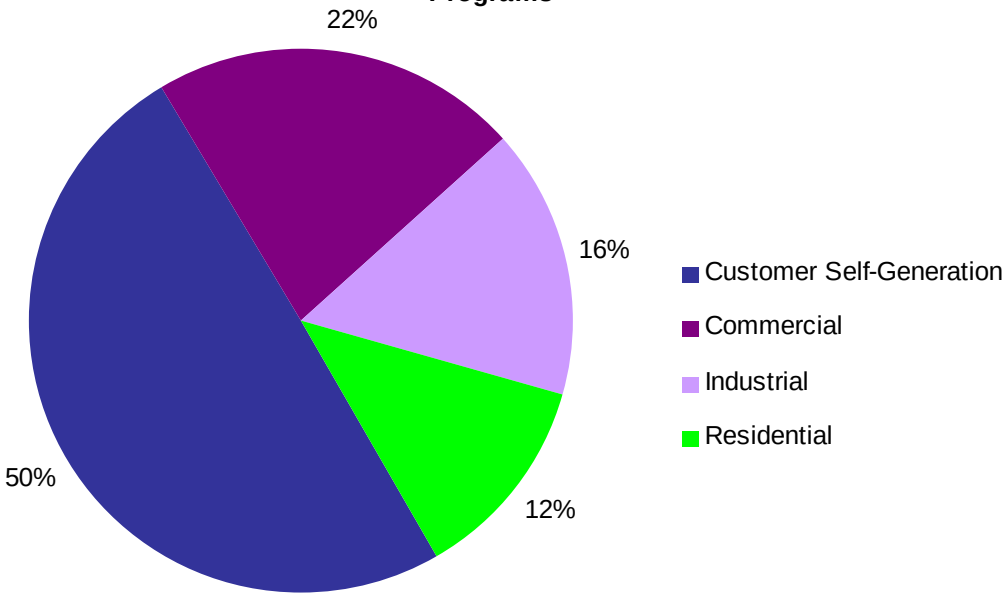


Exhibit 4.3.2.1 - B
Annual GW.h Savings - Electric Incentive Based Programs

	Actual	2007/08 Plan^	Total	2017/18 Plan^^
		GW.h		
RESIDENTIAL				
Compact Fluorescent Lighting	7.5	6.7	28.1	76.3
Home Insulation	5.7	2.6	16.5	25.3
Appliances	4.1	0.9	7.6	19.1
New Homes	1.0	0.9	2.9	47.1
Seasonal LED Lighting	1.0	2.3	2.3	5.2
Energy Efficient Light Fixtures	0.8	0.5	1.0	0.0
Low Income	0.6	0.9	0.6	8.7
Thermostats	0.1	0.9	0.4	8.3
Water Saver Package	-	0.5	-	2.2
Refrigerator Buy Back	-	1.4	-	11.3
Aboriginal Residential	-	0.4	-	1.5
Residential Geothermal	-	0.0	-	7.1
ECM	-	0.1	-	2.2
	20.8	18.1	59.3	214.3
COMMERCIAL				
Commercial Lighting	18.1	25.1	193.9	404.8
Agricultural Heat Pads	4.7	3.6	21.8	26.5
Commercial Geothermal	3.3	2.0	18.6	36.1
Parking Lot Controllers	2.5	0.9	30.5	34.6
Custom	2.3	1.3	15.4	34.8
Commercial Refrigeration	1.8	0.7	3.0	19.4
Building Envelope	1.8	1.5	6.3	38.8
Internal Retrofit	1.1	3.2	18.0	26.4
Spray Valves	1.0	5.0	2.9	0.0
City of Winnipeg Agreement	0.6	0.2	11.2	12.3
HVAC	0.2	1.1	4.3	11.0
Commercial Building Optimization	0.0	1.2	0.0	21.1
New Construction	-	-	-	10.0
New Building	-	-	-	12.5
Aboriginal Commercial	-	0.4	-	1.5
Air Conditioners	-	0.3	-	4.3
Commercial 80+	-	0.6	-	0.0
	37.3	47.1	325.9	694.1
INDUSTRIAL				
Performance Optimization	27.0	12.0	309.4	407.1
Efficient Motors (QMR)	0.0	0.1	0.0	7.2
Bioenergy	0.0	8.3	0.0	89.7
	27.0	20.4	309.4	503.9
DISCONTINUED/COMPLETED PROGRAMS	0.1	0.0	103.1	101.7
	0.1	0.0	103.1	101.7
EFFICIENCY PROGRAMS SUBTOTAL	85.2	85.6	797.8	1,514.0
CUSTOMER SELF-GENERATION PROGRAMS				
Customer Load Displacement Pilot*	84.2	0.0	84.2	0.0
	84.2	0.0	84.2	0.0
RATE/LOAD MANAGEMENT PROGRAMS				
Curtailable Rates	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
TOTAL (at customer meter)	169.4	85.6	882.0	1,514.0
TOTAL (at generation)	188.6	96.8	988.7	1,704.9

* Since this program ran as a pilot in 2006/07, there were no official planning ratios for the Customer Load Displacement Pilot.

^ 2007/08 planning estimates are from the approved DSM option in the "2006 Power Smart Plan", however, there may be some variances due to revisions.

^^ 2017/18 planning targets are from the "2006 Power Smart Plan".

Note: Figures may not add due to rounding.

The annual energy reduction resulting from incentive-based Power Smart programs was 169.4 GW.h, (188.7 GW.h at generation), in 2007/08. The 169.4 GW.h includes 85.2 GW.h (96.0 GW.h at generation) of savings from energy efficiency programs and 84.2 GW.h (92.6 GW.h at generation) of savings from the Customer Self-Generation Pilot.

The Seasonal LED Program did not meet its targets in 2007/08 due to less than expected program and free driver participation.

The HVAC Program was below target due to lower than forecasted program participation. A number of pre-approved applications have yet to proceed to the installation phase, including some larger projects. These projects are expected to be included in the next fiscal year.

Although Manitoba Hydro provided training during the launch of the Building Optimization Program, overall lack of education and experience in the commissioning provider industry has led to longer project timelines than expected and has therefore resulted in no savings in the fiscal year 2007/08.

The total annual energy reduction from incentive-based Power Smart program activity achieved in 2007/08 was 881.9 GW.h (988.7 GW.h at generation). This reduction includes 797.7 GW.h (896.0 GW.h at generation) of savings from energy efficiency programs and 84.2 GW.h (92.6 GW.h at generation) of savings from the Customer Load Displacement Pilot.

The Performance Optimization Program has achieved the greatest energy reduction to date through its system optimization projects with 309.4 GW.h of savings (340.3 GW.h at generation). The savings to date for the Commercial Lighting Program have also contributed significantly to Manitoba Hydro's Power Smart achievement with 193.9 GW.h of savings (221.0 GW.h at generation).

4.3.2.2 Winter Peak Demand Savings

Exhibits 4.3.2.2 A and B highlight the demand savings of incentive-based Power Smart programs achieved to 2007/08. The demand savings are presented as an average of the winter AM and PM system peak savings.

Exhibit 4.3.2.2 - A
% of Annual MW Savings - Electric Incentive Based Programs

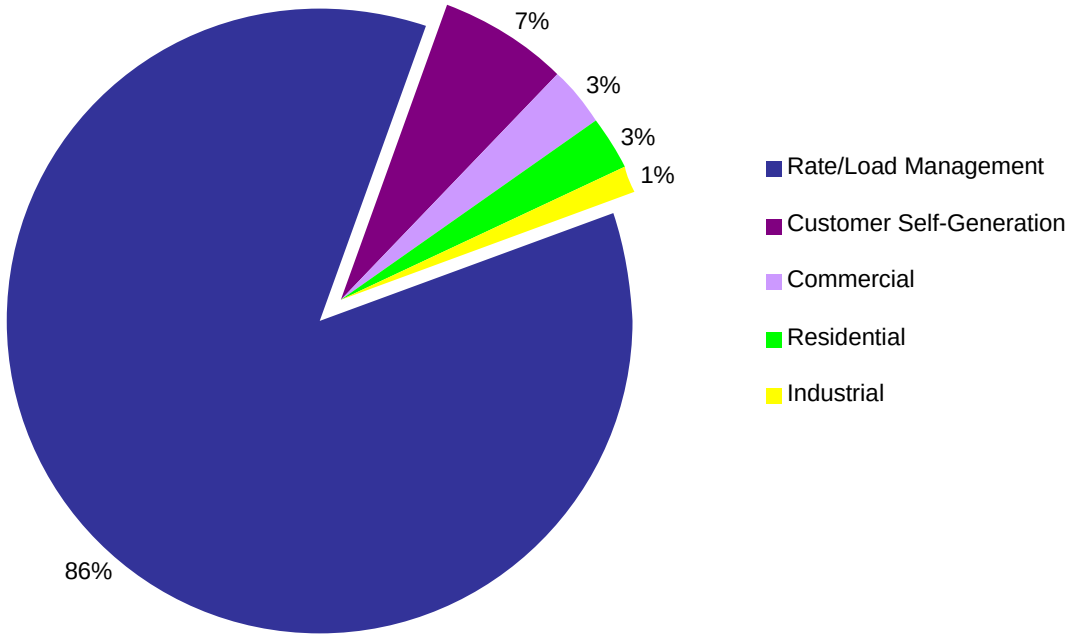


Exhibit 4.3.2.2 - B
Annual MW Savings - Electric Incentive Based Programs

	2007/08			
	Actual	Plan^	Total	2017/18 Plan^^
		MW		
RESIDENTIAL				
Home Insulation	2.8	1.3	8.0	11.7
Compact Fluorescent Lighting	1.5	1.3	5.7	15.3
Appliances	0.5	0.1	1.0	2.6
New Homes	0.3	0.2	0.7	10.9
Energy Efficient Light Fixtures	0.2	0.1	0.2	0.0
Low Income	0.1	0.5	0.1	5.7
Seasonal LED Lighting	0.0	0.1	0.2	0.2
Thermostats	0.0	0.3	0.0	2.6
Water Saver Package	-	0.1	-	0.3
Refrigerator Buy Back	-	0.1	-	1.1
Aboriginal Residential	-	0.1	-	0.6
Residential Geothermal	-	0.0	-	2.9
ECM	-	0.0	-	0.4
	5.5	4.3	15.9	54.3
COMMERCIAL				
Commercial Lighting	2.9	6.5	34.1	94.8
Commercial Geothermal	1.2	0.9	8.7	17.4
Building Envelope	0.7	0.7	2.5	17.8
Commercial Refrigeration	0.7	0.1	0.8	2.5
Agricultural Heat Pads	0.5	0.4	3.2	3.9
Internal Retrofit	0.2	0.9	3.0	5.7
Custom	0.2	0.0	1.1	1.9
City of Winnipeg Agreement	0.2	0.1	2.0	2.4
HVAC	0.0	0.0	0.0	0.0
Spray Valves	0.0	0.6	0.0	0.0
Commercial Building Optimization	0.0	0.4	0.0	7.0
Parking Lot Controllers	0.0	0.0	0.0	0.0
New Construction	-	0.0	-	2.3
New Building	-	0.0	-	3.2
Aboriginal Commercial	-	0.1	-	0.5
Air Conditioners	-	0.0	-	0.0
Commercial 80+	-	0.2	-	0.0
	6.5	10.8	55.5	159.4
INDUSTRIAL				
Performance Optimization	3.1	1.8	70.6	86.8
Efficient Motors (QMR)	0.0	0.0	0.0	1.0
Bioenergy	0.0	1.0	0.0	11.2
	3.1	2.9	70.6	99.1
DISCONTINUED/COMPLETED PROGRAMS				
Air Barriers	-	-	17.3	17.1
	-	-	17.3	17.1
EFFICIENCY PROGRAMS SUBTOTAL	15.1	18.0	159.2	329.8
CUSTOMER SELF-GENERATION PROGRAMS				
Customer Load Displacement Pilot*	14.3	-	14.3	-
	14.3	-	14.3	-
RATE/LOAD MANAGEMENT PROGRAMS				
Curtailable Rates	180.6	245.0	180.6	245.0
	180.6	245.0	180.6	245.0
TOTAL (at customer meter)	210.0	263.0	354.1	574.8
TOTAL (at generation)	231.5	289.9	392.9	641.4

* Since this program ran as a pilot in 2006/07, there were no official planning ratios for the Customer Load Displacement Pilot.

^ 2007/08 planning estimates are from the approved DSM option in the "2006 Power Smart Plan", however, there may be some variances due to revisions.

^^ 2017/18 planning targets are from the "2006 Power Smart Plan".

Note: Figures may not add due to rounding.

The annual demand reduction achieved from incentive-based Power Smart program activity in 2007/08 was 210.0 MW (231.5 MW at generation). The 210.0 MW includes 15.1 MW (17.1 MW at generation) of savings from energy efficiency programs, 14.3 MW (15.7 MW at generation) of savings from customer self-generation programs and 180.6 MW (198.7 MW at generation) of savings from the Curtailable Rates Program. Refer to APPENDIX E - 'Curtailable Rates Program Information & Methodology' for details on the Curtailable Rates Program and the methodology used to determine achieved and targeted savings.

The Commercial Lighting Program demand savings were significantly lower (45%) than expected. This is due to higher than expected participation from lighting projects that operate during off-peak hours.

The Commercial Building Optimization Program did not achieve savings in 2007/08 because of longer than expected customer project timelines.

The total demand reduction achieved in 2007/08 was 354.1 MW (392.9 MW at generation). The 354.1 MW of peak load reduction includes 159.2 MW (178.5 MW at generation) of savings from energy efficiency programs, 14.3 MW (15.7 MW at generation) of savings from the Customer Self-Generation Pilot and 180.6 MW (198.7 MW at generation) of savings from the Curtailable Rates Program.

The total average winter peak demand reduction resulting from efficiency program activity achieved to 2007/08 was 159.2 MW (178.5 MW at generation). The Performance Optimization Program has achieved the greatest demand reduction to date of all efficiency programs, with approximately 70.6 MW of savings (77.7 MW at generation). The savings to date for the Commercial Lighting Program have also contributed significantly to Manitoba Hydro's Power Smart achievement with 34.1 MW of savings (38.9 MW at generation).

4.3.2.3 Electric Total Resource Cost Benefit/Cost Analysis

Exhibits 4.3.2.3-A and B show the benefit/cost analysis results under the electric Total Resource Cost (TRC) test by program. The calculation of the benefit/cost ratio was based on a 30-year planning period. Refer to APPENDIX F - 'Summary of Evaluation and Planning Reports' for further detail of assumptions and of the type of calculations used in evaluating programs. Refer to APPENDIX B - 'Explanations of Benefit/Cost Ratios used in DSM Economic Tests' for formulas and criteria used to determine cost-effectiveness.

Exhibit 4.3.2.3 - A
2007/08 TRC - Electric Incentive Based Programs

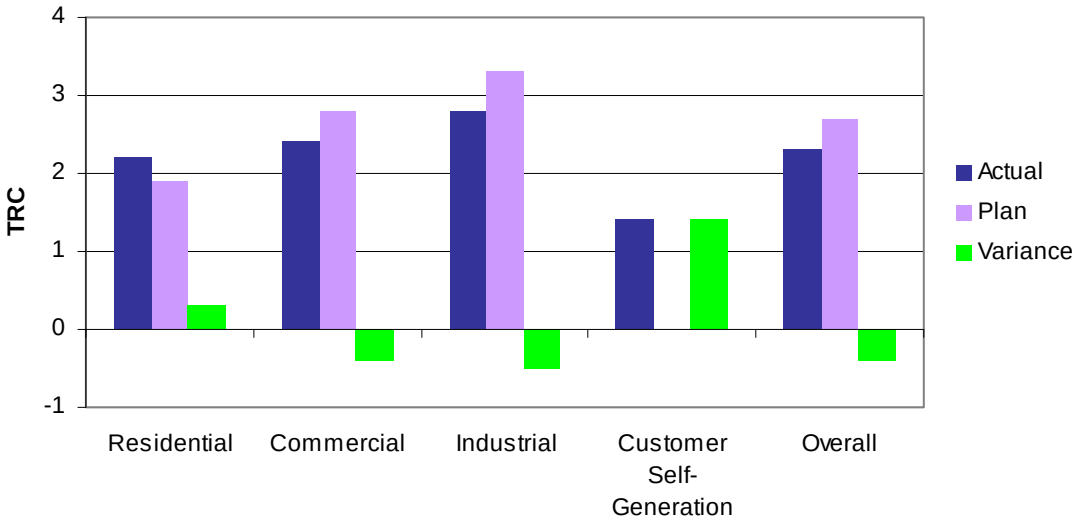


Exhibit 4.3.2.3 - B
Total Resource Cost Benefit/Cost Analysis - Electric Incentive Based Programs

	2007/08			
	Actual	Plan^^	Total	2017/18 Plan^^^
			TRC Ratio	
RESIDENTIAL				
Home Insulation	5.2	2.7	4.1	3.4
Seasonal LED Lighting	3.3	6.9	3.8	7.2
Compact Fluorescent Lighting	3.1	2.6	2.6	7.1
Energy Efficient Light Fixtures	1.8	1.7	1.9	1.4
Programmable Thermostats	1.8	1.2	2.1	1.9
New Homes	1.6	1.0	1.0	1.5
Appliances	0.9	0.4	1.0	1.1
Low Income****	0.9	-	0.9	4.9
	2.2	1.9	2.4	2.5
Low Income*****	0.8	-	0.8	-
	2.2	-	2.4	2.5
COMMERCIAL				
Agricultural Heat Pads	96.6	35.1	45.4	34.3
Spray Valves	15.0	16.6	18.5	17.4
Building Envelope	4.5	4.8	2.3	4.7
Commercial Refrigeration	3.6	1.1	2.4	2.3
City of Winnipeg Agreement	3.2	-	3.2	4.3
Custom	2.7	2.1	1.7	2.6
Commercial Geothermal	2.4	2.9	1.8	3.0
Commercial Lighting	1.9	2.6	2.4	2.5
Parking Lot Controllers	1.9	2.5	3.5	2.1
Internal Retrofit	1.7	2.8	2.8	2.9
HVAC	1.6	1.9	3.6	1.7
Commercial Building Optimization	-	2.0	-	2.7
	2.4	2.8	2.5	2.8
INDUSTRIAL				
Performance Optimization	2.8	3.3	3.4	3.1
	2.8	3.3	3.4	3.1
DISCONTINUED/COMPLETED PROGRAMS*				
Air Barriers	1.9	-	1.7	-
	1.9	-	1.7	-
CUSTOMER SELF-GENERATION PROGRAMS				
Customer Load Displacement Pilot**	1.4	-	1.5	-
	1.4	-	1.5	-
OVERALL PROGRAM COSTS***	2.3	2.7	2.6	3.0
OVERALL PROGRAM COSTS with Bill 11***	2.3	-	2.6	-
OVERALL PROGRAM COSTS + SUPPORT COSTS*** ^	2.3	2.7	2.5	2.7
OVERALL PROGRAM COSTS + SUPPORT COSTS with Bill 11*** ^	2.3	-	2.5	-

* Discontinued/Completed Programs do not have a projected TRC benefit/cost ratio under the 2006 Power Smart Plan.

** Since this program ran as a pilot in 2006/07, there were no official planning ratios for the Customer Load Displacement Pilot.

*** The expected benefit & costs of future programs in the "overall program costs" and "overall program & support costs" are included for the 2017/18 target ratios and excluded in the 2006/07 plan ratios. Therefore, evaluation results to 2007/08 are being compared to future estimates of cost effectiveness.

**** Includes external funding, without the Affordable Energy Fund.

***** Includes external funding and the Affordable Energy Fund.

^ Support costs contain incremental costs only (no Customer Service Initiatives and Standards).

^^ 2007/08 planning ratios are from the "2006 Power Smart Plan", however, some revisions may have been made.

^^^ 2017/18 planning ratios are from the "2006 Power Smart Plan" and reflect estimates for the years 2006/07 to 2035/36.

Notes: Benefit/cost analysis is not calculated for rate/load management programs.
Benefit/cost analysis is not calculated for the Building Optimization Program because there was no program activity.
In TRC analysis, program administration costs include funds from the Federal Government.

For 2007/08, the overall TRC benefit/cost ratio including support costs was 2.3, which is lower than projected under the 2006 plan. The results indicate that all evaluated energy efficiency Power Smart programs were cost-effective under the Total Resource Cost test in 2007/08.

For 2007/08, the Agricultural Heat Pads Program had the highest benefit/cost ratio at 96.6. The Agricultural Heat Pads Program has a very positive benefit/cost ratio primarily due to the technology being more efficient than the current technology (Heat Lamps). The incentive offered in this program also helps defer the significant capital costs compared to Heat Lamps. As a result, energy savings are achieved at very minimal incremental costs.

The overall TRC benefit/cost ratio achieved to 2007/08 for efficiency programs, including support costs was 2.3.

The TRC calculated for each program for the "TOTAL" contains the entire start up cost of programs and therefore, the measure is a conservative representation of the program's success for programs recently launched. This calculation will be reviewed in the future and consideration will be given to amortizing start-up costs across the expected life of the specific programs.

4.3.2.4 Electric Rate Impact Measure - Benefit/Cost Analysis

Exhibits 4.3.2.4-A and B identify the benefit/cost ratios under the Rate Impact Measure (RIM) test by program. The calculation of the benefit/cost ratio was based on a 30-year planning period. Refer to APPENDIX F - 'Summary of Evaluation and Planning Reports' for further detail of assumptions and of the type of calculations used in evaluating programs. Refer to APPENDIX B- 'Explanation of Benefit/Cost Ratios used in DSM Economic Tests' for formulas and criteria used to determine cost-effectiveness.

Exhibit 4.3.2.4 - A
2007/08 RIM - Electric Incentive Based Programs

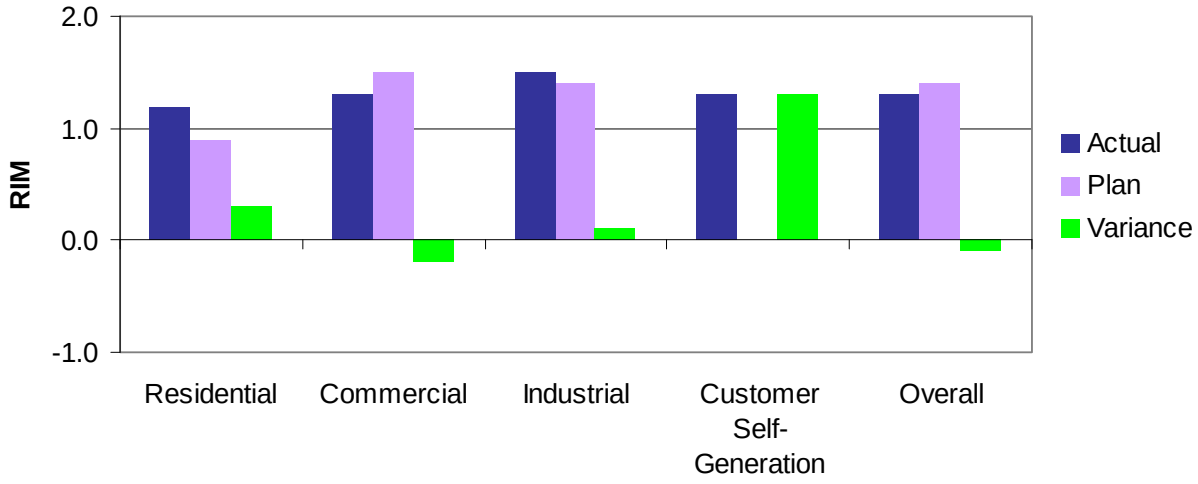


Exhibit 4.3.2.4 - B
Rate Impact Cost Benefit/Cost Analysis - Electric Incentive-Based Program

	2007/08			
	Actual	Plan^^	Total	2017/18 Plan^^^
		RIM		
RESIDENTIAL				
Home Insulation	1.6	1.4	1.5	1.5
Compact Fluorescent Lighting	1.1	1.0	1.0	1.4
New Homes	1.0	0.8	0.7	1.2
Low Income	1.0	-	1.1	1.8
Seasonal LED Lighting	0.8	0.9	0.8	1.0
Energy Efficient Lighting	0.8	0.7	0.9	0.8
Appliances	0.8	0.3	0.7	0.9
Thermostats	0.7	0.8	0.7	1.2
	1.2	0.9	1.1	1.3
COMMERCIAL				
Custom	1.9	1.2	1.2	1.2
Spray Valves	1.9	1.4	1.3	1.4
Commercial Geothermal	1.9	2.0	1.6	2.1
Agricultural Heat Pads	1.9	1.7	1.6	1.7
Internal Retrofit	1.9	2.8	2.8	2.9
Building Envelope	1.5	1.8	1.3	1.9
Commercial Refrigeration	1.5	0.7	1.2	1.1
City of Winnipeg	1.2	-	1.2	1.4
Commercial Lighting	1.1	1.4	1.0	1.5
Parking Lot Controllers	1.0	1.3	1.3	1.1
HVAC	0.9	0.9	1.1	1.0
Commercial Building Optimization	-	1.4	-	1.6
	1.3	1.5	1.2	1.5
INDUSTRIAL				
Performance Optimization	1.5	1.4	1.3	1.4
DISCONTINUED/COMPLETED PROGRAMS*				
Air Barriers	2.1	-	1.0	-
CUSTOMER SELF-GENERATION PROGRAMS				
Customer Load Displacement Pilot**	1.3	-	1.5	-
OVERALL PROGRAM COSTS***	1.3	1.4	1.1	1.5
OVERALL PROGRAM COSTS + SUPPORT COSTS*** ^	1.3	1.4	1.1	1.4

* Discontinued/Completed Programs have no projected RIM benefit/cost ratio under the 2006 Power Smart Plan.

** Since this program ran as a pilot in 2006/07, there were no official planning ratios for the Customer Load Displacement Pilot.

*** The expected benefit & costs of future programs in the "overall program costs" and "overall program & support costs" are included for the 2017/18 target ratios and excluded in the 2006/07 plan ratios. Therefore, evaluation results to 2007/08 are being compared to future estimates of cost effectiveness.

^ Support costs contain incremental costs only (no Customer Service Initiatives and Standards).

^^ 2007/08 planning ratios are from the "2006 Power Smart Plan", however, some revisions may have been made.

^^^ 2017/18 planning ratios are from the "2006 Power Smart Plan".

Notes: Benefit/cost analysis is not calculated for rate/load management programs.
Benefit/cost analysis is not calculated for the Building Optimization Program because there was no program activity.

For 2007/08, the overall RIM benefit/cost ratio including supports costs was 1.3, which is lower than planned.

For 2007/08, the Internal Retrofit Program had the highest benefit/cost ratio, along with four other programs, at 1.9. However, the Internal Retrofit Program does not fall within the typical definition of a "program". The above benefit/cost analysis for the Internal Retrofit Program does not include foregone revenue as the buildings being retrofitted under this program belong to Manitoba Hydro.

The total RIM benefit/cost ratio achieved in 2007/08 for efficiency programs including support costs was 1.1. Excluding Internal Retrofit, Commercial Geothermal and Agricultural Heat Pads have the highest total RIM benefit/cost ratio in 2007/08 at 1.6.

The RIM calculated for each program for the "total achieved to 2007/08" contains the entire start-up cost of programs and therefore, the measure is not an accurate measure of success for programs recently launched. This calculation will be reviewed in the future and consideration will be given to amortizing start-up costs across the expected life of the specific programs.

4.3.2.5 Electric Levelized Utility Costs - ¢/kW.h Saved

Exhibits 4.3.2.5-A and B highlight the levelized cost of 2007/08 electric incentive-based programs in ¢/kW.h. The calculation of ¢/kW.h saved was based upon current program kW.h savings at generation over a 30-year planning period. Refer to APPENDIX E - 'Summary of Evaluation and Planning Reports' for further detail of assumptions and of the type of calculations used in evaluating programs. The utility costs presented do not include costs associated with future Power Smart incentive-based programs, customer service initiatives, standards activities, or the customer costs of demand side management measures.

Exhibit 4.3.2.5 - A
2007/08 Levelized Utility Cost
at generation

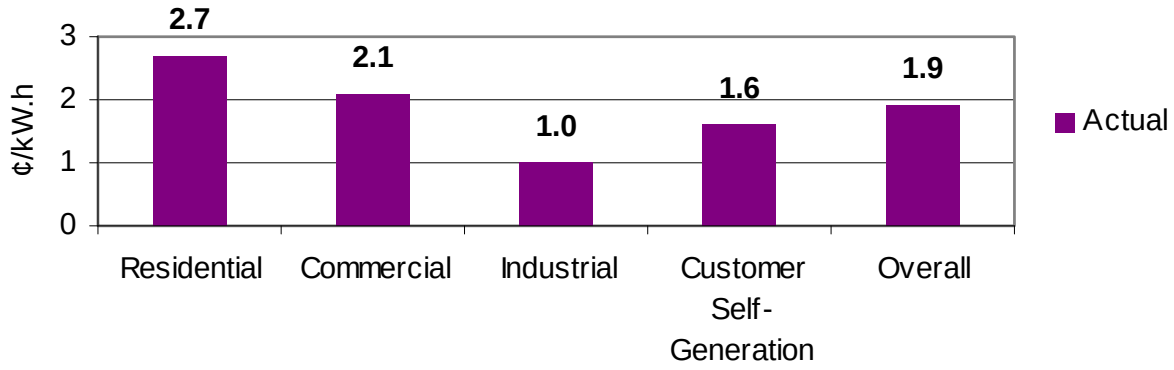


Exhibit 4.3.2.5 - B
Levelized Utility Cost at Generation - ¢/kW.h saved by Power Smart Program

	2007/08 Actual ¢/kW.h
RESIDENTIAL	
Home Insulation	1.7
Compact Fluorescent Lighting	2.4
Low Income (excluding Bill 11)	2.6
LED Lighting	2.7
Thermostats	2.8
Appliances	3.9
Energy Efficient Light Fixtures	4.2
New Homes	4.6
	2.7
Low Income (including Bill11)	3.4
	2.7
COMMERCIAL	
Agricultural Heat Pads	0.1
Spray Valves	0.3
Custom	0.5
Commercial Geothermal	0.8
Commercial Refrigeration	1.8
Parking Lot Controllers	2.0
Building Envelope	2.3
HVAC	2.4
City of Winnipeg	2.7
Commercial Lighting	2.9
Internal Retrofit	3.5
Commercial Building Optimization	n/a
	2.1
INDUSTRIAL	
Performance Optimization	1.0
	1.0
DISCONTINUED/COMPLETED PROGRAMS	
Air Barriers	0.6
	0.6
CUSTOMER SELF-GENERATION PROGRAMS	
Customer Load Displacement Pilot	1.6
	1.6
OVERALL: PROGRAM COSTS	1.9
OVERALL: PROGRAM COSTS with Bill 11	1.9
OVERALL: PROGRAM COSTS + SUPPORT COSTS^	1.9
OVERALL: PROGRAM COSTS + SUPPORT COSTS with Bill 11^	1.9

^ Support costs contain incremental support costs only (no Customer Service Initiatives and Standards).

Notes: Levelized cost analysis is not provided for rate/load management programs.
Levelized cost analysis is not calculated for the Building Optimization Program because there was no program activity.

4.3.3 Power Smart Natural Gas Program Results

The following sections outline the Power Smart program results in terms of natural gas energy savings, benefit/cost analyses and levelized costs.

4.3.3.1 Annual Natural Gas Energy Savings

Exhibits 4.3.3.1-A and B provide an overview of the energy savings achieved to 2007/08 by incentive-based Power Smart programs.

The following chart represents the contribution to savings each sector made in 2007/08:

Exhibit 4.3.3.1 - A
% of Annual Natural Gas Savings by Incentive Based Programs

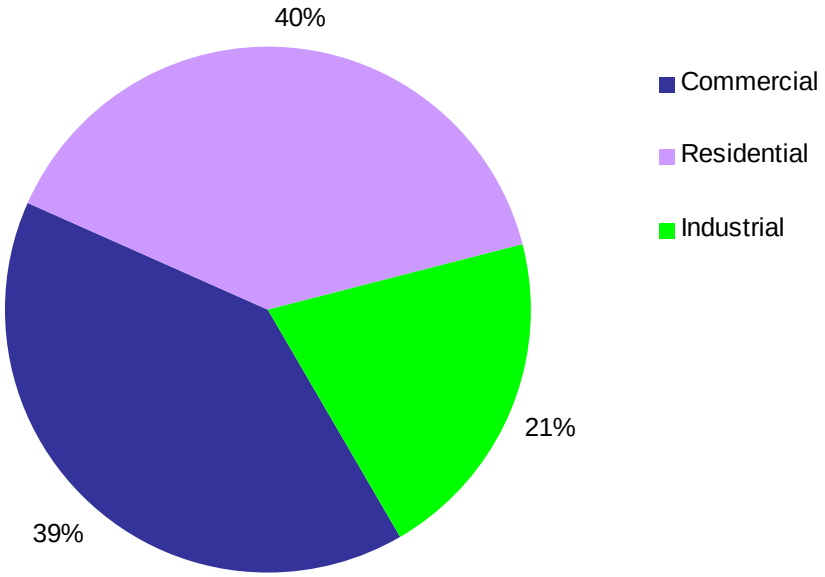


Exhibit 4.3.3.1 - B
Annual Natural Gas Savings - Incentive-Based Programs

	Actual	2007/08 Plan^	Total	2017/18 Plan^^
		millions of cubic metres (m^3)		
RESIDENTIAL				
Home Insulation	1.7	0.9	3.9	9.3
HE Gas Furnace	1.4	0.7	4.0	5.0
New Homes	0.1	0.1	0.2	7.5
Thermostats	0.1	0.2	0.2	2.2
Lower Income	0.0	0.3	0.0	2.0
Appliances	-	0.0	-	0.2
	3.3	2.3	8.3	26.0
COMMERCIAL				
HVAC	2.1	0.5	2.5	10.6
Building Envelope	0.8	0.2	1.2	5.4
Spray Valves	0.3	0.6	1.1	4.2
City of Winnipeg Agreement	0.0	0.0	0.8	1.0
Commercial Building Optimization	-	0.2	-	3.4
Commercial Custom	-	-	-	0.2
New Construction	-	-	-	2.8
	3.2	1.5	5.6	27.6
INDUSTRIAL				
Industrial Natural Gas Optimization	1.7	0.6	1.7	4.4
Bioenergy	-	0.2	-	2.2
	1.7	0.8	1.7	6.6
EFFICIENCY PROGRAMS SUBTOTAL	8.2	4.6	15.6	60.2
INTERACTIVE EFFECTS WITH ELECTRICITY PROGRAMS				
Commercial Refrigeration	0.1	-	0.2	-
Appliances	0.1	(0.0)	0.1	(0.1)
New Homes	(0.0)	0.0	(0.0)	-
CFT Lighting	(0.1)	-	(0.1)	-
Commercial Lighting	(0.2)	(0.2)	(1.8)	(2.5)
Compact Fluorescent Lighting	(0.7)	(0.4)	(2.2)	(4.8)
Com 80+	-	(0.2)	-	
	(0.8)	(0.8)	(3.7)	(7.4)
NET IMPACT OVERALL	7.4	3.8	11.9	52.8

^ 2007/08 planning estimates are from the approved DSM option in the "2006 Power Smart Plan", however, there may be some variances due to revisions.

^^ 2017/18 planning targets are from the "2006 Power Smart Plan".

Note: Figures may not add due to rounding.

Power Smart incentive-based efficiency program activity in 2007/08 provided 8.2 million m^3 of natural gas savings, 178% above plan.

Although Manitoba Hydro provided training during the launch of the Building Optimization Program, overall lack of education and experience in the commissioning provider industry has led to longer project timelines than expected for the program and has therefore resulted in no savings in the fiscal year 2007/08.

The Industrial Natural Gas Optimization Program far exceeded its annual energy target and slightly surpassed targeted program driven sales. The favourable energy saving variance was primarily due to one very high volume customer. Diageo installed a 20-year high efficiency boiler which accounted for 85% of the program's annual energy savings.

The HVAC natural gas program surpassed the 2007/08 savings targets despite participation being less than target. This suggests that the projects undertaken in 2007/08 yielded higher than expected energy savings.

The total annual natural gas reduction from Power Smart efficiency incentive-based programs achieved in 2007/08 was 15.6 million m^3. The High Efficiency Gas Furnace Program achieved the greatest total energy reduction in 2007/08 with 4.0 million m^3 of natural gas savings.

Some Power Smart electricity programs have interactive effects which can result in an increase or decrease in natural gas consumption. For example, a more energy efficient lighting system emits less heat, requiring more energy to heat the space. In cases where the heat is produced through electric heating sources, the interactive effect is taken into account when calculating the anticipated electricity savings that will result from the program. In cases where the heat is produced through natural gas heating systems, the interactive effects are reported here. These interactive effects represent the increase in natural gas consumption for gas-heated homes from installing energy efficient lighting systems.

In 2007/08, interactive effects increased consumption by 0.8 million m^3, thus providing an integrated incentive-based natural gas result of 7.4 million m^3. The total integrated incentive-based natural gas result achieved in 2007/08 was 11.9 million m^3 of gas.

4.3.3.2 Natural Gas Total Resource Cost- Benefit/Cost Analysis

Exhibits 4.3.3.2-A and B show the benefit/cost analysis results under the natural gas Total Resource Cost (TRC) test by program. The calculation of the benefit/cost ratio was based on a 30-year planning period. Refer to APPENDIX F - 'Summary of Evaluation and Planning Reports' for further detail of assumptions and of the type of calculations used in evaluating programs. Refer to APPENDIX B - 'Explanations of Benefit-Cost Ratios used in DSM Economic Tests' for formulas and criteria used to determine cost-effectiveness.

Exhibit 4.3.3.2 - A
2007/08 TRC - Natural Gas Incentive Based Programs

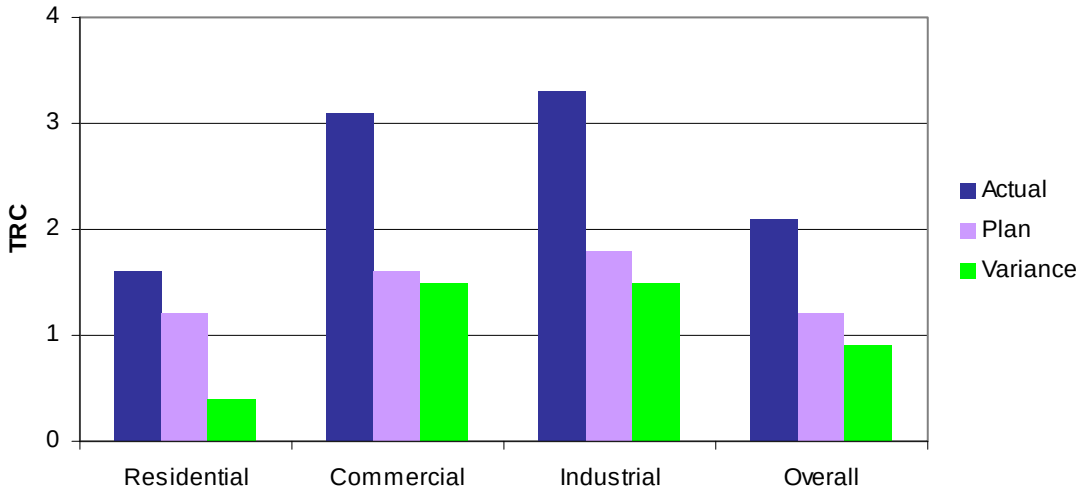


Exhibit 4.3.3.2 - B
Total Resource Cost Benefit/Cost Analysis - Natural Gas Incentive-Based Program

	Actual	2007/08 Plan^^	Total	2017/18 Plan^^^
		TRC		
RESIDENTIAL				
Home Insulation	2.1	1.1	1.8	1.1
Programmable Thermostat Pilot	1.5	1.5	1.8	1.2
High Efficiency Furnace/Boiler	1.3	1.3	1.2	1.3
New Homes	0.9	1.1	0.9	1.1
Low Income**	0.3	-	0.3	1.1
	1.6	1.2	1.4	1.1
COMMERCIAL				
Rinse and Save	13.5	17.6	14.4	17.9
HVAC	3.6	0.9	3.0	1.7
Building Envelope	2.2	1.4	2.0	1.2
Building Optimization	-	1.0	-	1.4
	3.1	1.6	2.8	1.6
INDUSTRIAL				
Industrial Natural Gas Optimization	3.3	1.8	3.1	1.8
	3.3	1.8	3.1	1.8
OVERALL: PROGRAM COSTS*	2.2	1.4	1.8	1.4
OVERALL: PROGRAM COSTS incl. INTERACTIVE EFFECTS* †	2.1	1.2	1.5	1.3
OVERALL: PROGRAM COSTS + SUPPORT COSTS incl. INTERACTIVE EFFECTS* ^ †	2.1	1.2	1.5	1.2

* The expected benefits and costs of future programs in the "overall program costs" and "overall program & support costs" are included for the 2017/18 target ratios and excluded in the 2007/08 plan ratios. Therefore, evaluation results to 2007/08 are being compared to future estimates of cost effectiveness.
** Includes external funding.
^ Support costs contain incremental costs only (no Customer Service Initiatives and Standards).
^^ 2007/08 planning ratios are from the "2006 Power Smart Plan", however, some revisions may have been made.
^^^ 2017/18 planning ratios are from the "2006 Power Smart Plan" and reflect estimates for the years 2006/07 to 2035/36.
† Increased or decreased natural gas benefits resulting from electric incentive-based programs have been included in the overall calculation.
Notes: Benefit/cost analysis is not calculated for the Building Optimization Program because there was no program activity. In TRC analysis, program administration costs include funds from the Federal Government.

For 2007/08, the overall TRC benefit/cost ratio including support costs was 2.1, which was above target. The results indicate that all evaluated energy efficiency Power Smart programs were cost effective under the Total Resource Cost test in 2007/08.

For 2007/08, the Rinse and Save Program had the highest benefit/cost ratio at 13.5. The Rinse and Save Program has a very positive benefit/cost ratio because the life-cycle benefits of the low flow spray valve far outweigh the minimal upfront cost of the spray valve and installation. This combined with low administration costs makes the program very favourable. The total TRC benefit/cost ratio achieved in 2007/08 for natural gas efficiency programs, including support costs was 1.5.

The TRC calculated for each program for the "Total" contains the entire start-up cost of programs and therefore, the measure is an overly conservative measure of the program's success for programs recently launched. This calculation will be reviewed in the future and consideration will be given to amortizing start-up costs across the expected life of the specific programs.

4.3.3.3 Natural Gas Rate Impact Measure - Benefit/Cost Analysis

Exhibits 4.3.3.3-A and B identify the benefit/cost ratios under the Rate Impact Measure (RIM) test by program. The calculation of the benefit/cost ratio was based on a 30-year planning period. Refer to APPENDIX F- 'Summary of Evaluation and Planning Reports' for further detail of assumptions and the type of calculations used in evaluating programs. Refer to APPENDIX B - 'Explanation of Benefit/Cost Ratios used in DSM Economic Tests' for formulas and criteria used to determine cost-effectiveness.

Exhibit 4.3.3.3 - A
2007/08 RIM - Natural Gas Incentive Based Programs

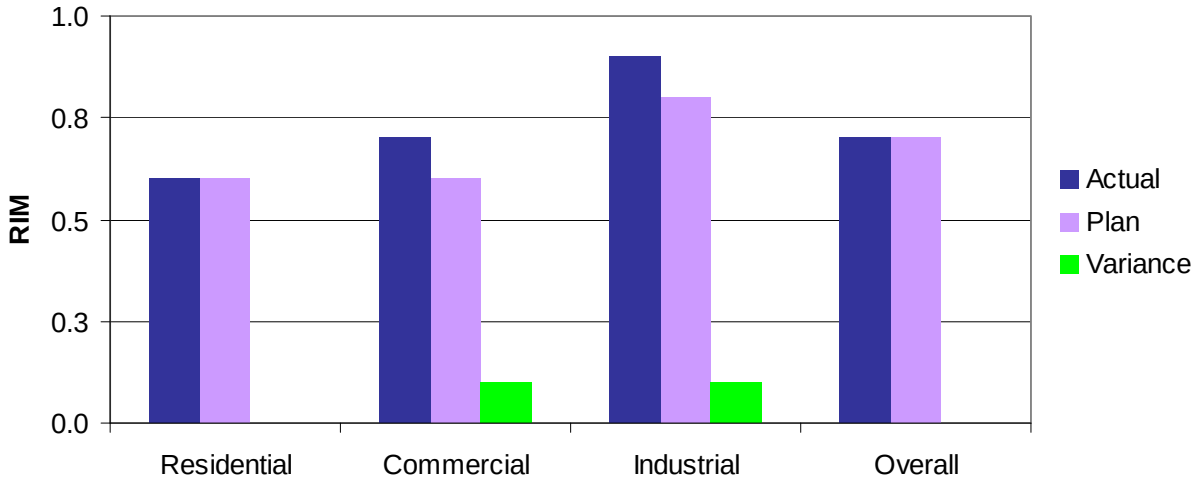


Exhibit 4.3.3.3 - B
Rate Impact Cost Benefit/Cost Analysis - Natural Gas Incentive-Based Program

	Actual	2007/08 Plan^^	Total	2017/18 Plan^^^
		RIM		
RESIDENTIAL				
New Homes	0.6	0.7	0.6	0.7
Home Insulation	0.6	0.6	0.7	0.5
HE Gas Furnace	0.6	0.7	0.7	0.7
Thermostats	0.5	0.5	0.6	0.5
Low Income	0.3	-	0.3	0.5
	0.6	0.6	0.7	0.6
COMMERCIAL				
HVAC	0.8	0.5	0.8	0.7
Spray Valves	0.8	0.9	0.9	1.0
City of Winnipeg	0.8	-	0.8	0.6
Building Envelope	0.7	0.7	0.7	0.7
Building Optimization	-	0.6	-	0.7
	0.7	0.6	0.7	0.7
INDUSTRIAL				
Industrial Natural Gas Optimization	0.9	0.8	0.9	0.8
	0.9	0.8	0.9	0.8
OVERALL: PROGRAM COSTS*	0.7	0.7	0.7	0.7
OVERALL: PROGRAM COSTS incl. INTERACTIVE EFFECTS* †	0.7	0.7	0.7	0.7
OVERALL: PROGRAM COSTS + SUPPORT COSTS incl. INTERACTIVE EFFECTS* †	0.7	0.7	0.7	0.6

* The expected benefits and costs of future programs in the "overall program costs" and "overall program & support costs" are included for the 2017/18 target ratios and excluded in the 2007/08 plan ratios. Therefore, evaluation results to 2007/08 are being compared to future estimates of cost effectiveness.

^ Support costs contain incremental costs only (no Customer Service Initiatives and Standards).

^^ 2007/08 planning ratios are from the "2006 Power Smart Plan", however, some revisions may have been made.

^^^ 2017/18 planning ratios are from the "2006 Power Smart Plan" and reflect estimates for the years 2006/07 to 2035/36.

† Increased or decreased natural gas benefits and rate impacts resulting from electric incentive-based programs have been included in the overall calculation.

Note: Benefit/cost analysis is not calculated for the Building Optimization Program because there was no program activity.

For 2007/08, the overall RIM benefit/cost ratio including support costs was 0.7, which met target.

For 2007/08, the Industrial Natural Gas Program had the highest benefit/cost ratio at 0.9.

The overall RIM benefit/cost ratio achieved to 2007/08 for natural gas efficiency programs including support costs was 0.7.

The RIM calculated for each program for the "total achieved to 2007/08" contains the entire start-up cost of programs and therefore, the measure is not an accurate measure of success for programs recently launched. This calculation will be reviewed in the future and consideration will be given to amortizing start-up costs across the expected life of the specific programs.

4.3.3.4 Natural Gas Levelized Utility Costs - ¢/m3 Saved

Exhibits 4.3.3.4-A and B highlight the levelized cost of incentive-based programs implemented prior to 2007/08 in ¢/m^3. The calculation of ¢/m^3 saved was based upon current program natural gas savings over a 30-year planning period. Refer to APPENDIX E - 'Summary of Evaluation and Planning Reports' for further details of assumptions and of the types of calculations used in evaluating programs. The utility costs presented do not include costs associated with future Power Smart incentive-based programs, customer service initiatives, standards activities, or the customer costs of demand-side management measures.

Exhibit 4.3.3.4 - A
2007/08 Levelized Utility Cost (¢/m³)

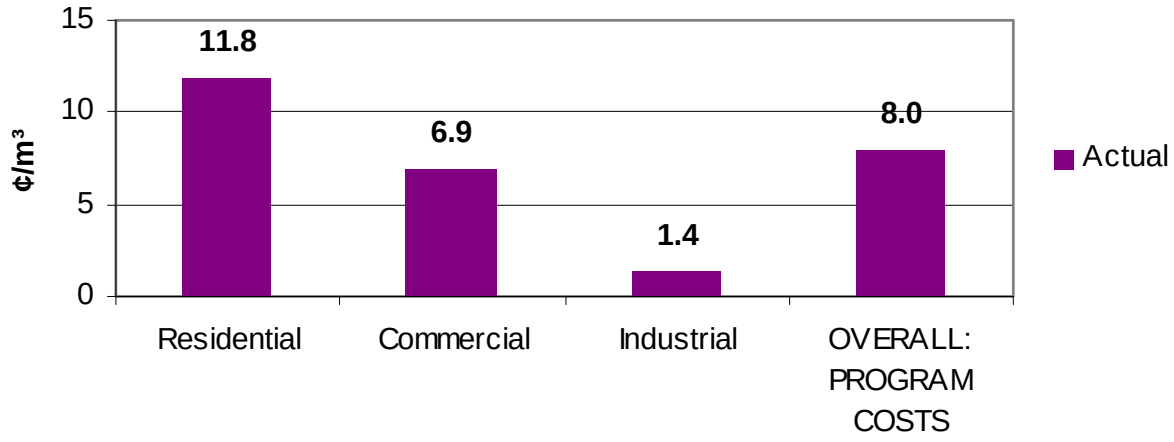


Exhibit 4.3.3.4 - B
Levelized Utility Cost - ¢/m³ saved by Power Smart Program

	2007/08 Actual ¢/m³
RESIDENTIAL	
HE Gas Furnace	10.7
Home Insulation	11.9
New Homes	12.6
Thermostats	18.5
Low Income (excluding federal funding & Bill 11)	66.8
	11.8
COMMERCIAL	
Commercial Building Optimization	n/a
Spray Valves	2.4
HVAC	5.7
Building Envelope	9.5
	6.9
INDUSTRIAL	
Industrial Natural Gas Optimization	1.4
OVERALL: PROGRAM COSTS	8.0
OVERALL: PROGRAM COSTS incl. INTERACTIVE EFFECTS†	8.4
OVERALL: PROGRAM COSTS + SUPPORT COSTS incl. INTERACTIVE EFFECTS^	8.7

^ Support costs contain incremental support costs only (no Customer Service Initiatives and Standards).
† Increased or decreased natural gas benefits resulting from electric incentive-based programs have been included in the overall calculation.
Notes: Levelized cost analysis is not calculated for the City of Winnipeg Agreement, this will be calculated in 2008/09 when the majority of projects are completed.
Levelized cost analysis is not calculated for the Building Optimization Program because there was no program activity.

Of all current programs, the Industrial Natural Gas Program had the lowest levelized utility cost in 2007/08 of 1.4¢/m³ saved.

4.3.4 Power Smart Combined Electricity & Natural Gas Program Results

Total Resource Cost - Benefit/Cost Analysis

Exhibits 4.3.4-A and B show the combined electricity and natural gas benefit/cost analysis results under the Total Resource Cost (TRC) test by program. The calculation of the benefit/cost ratio was based on a 30-year planning period.

Exhibit 4.3.4 - A
2007/08 TRC - Combined Electric & Gas Incentive Based Programs

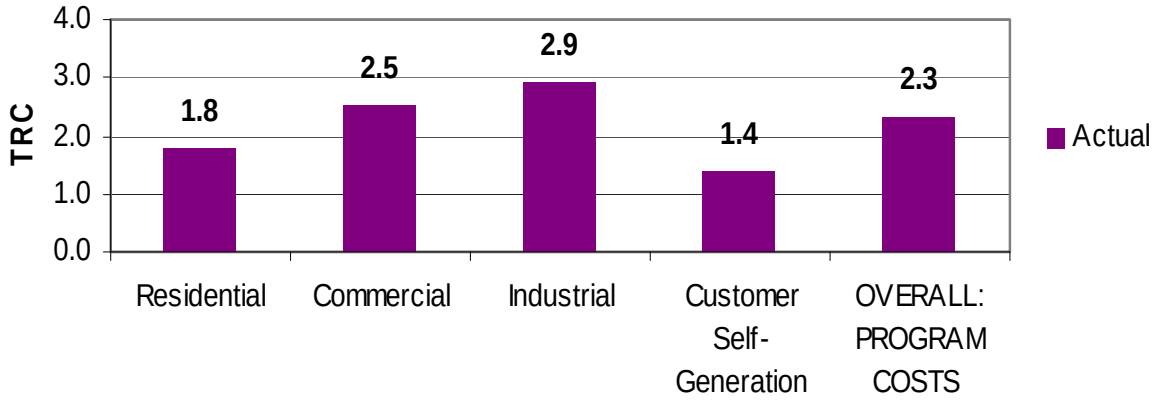


Exhibit 4.3.4 - B
Total Resource Cost Benefit/Cost Analysis - Combined Electric & Gas Incentive-Based Program

		2007/08		
	Actual	Plan^^	Total	2017/18 Plan^^^
		TRC		
RESIDENTIAL				
New Homes	1.4	1.0	0.9	1.3
Home Insulation	3.2	2.6	2.9	1.7
Compact Fluorescent Lighting	2.0	1.8	1.8	5.8
Seasonal LED Lighting	3.3	6.9	3.9	7.2
Energy Efficient Light Fixtures	1.2	1.7	1.3	1.4
Programmable Thermostat Pilot	1.6	1.4	1.9	1.5
Appliances	0.9	0.4	1.0	1.1
High Efficiency Furnace/Boiler	1.3	1.3	1.3	1.3
Low Income (Including external funding without Bill 11)	0.7	-	0.7	2.5
	1.8	-	1.9	1.7
Low Income w/o Bill 11 (Including external funding and with Bill 11)	0.7	-	0.7	-
	1.8	-	2.0	-
COMMERCIAL				
Agricultural Heat Pads	96.6	35.1	45.4	34.3
Rinse and Save	14.0	17.1	15.5	17.7
Commercial Refrigeration	4.0	1.3	3.0	2.6
HVAC	3.5	1.4	3.2	1.7
City of Winnipeg	3.2	-	3.2	3
Building Envelope	2.8	3.1	2.2	2.9
Custom Measures	2.7	2.1	1.7	2.6
Commercial Earth Power	2.4	2.9	1.8	3.0
Commercial Lighting	1.9	2.6	2.3	2.5
Parking Lot Controllers	1.9	2.5	3.5	2.1
Internal Retrofit	1.7	2.8	2.8	2.9
Building Optimization	-	1.6	-	2.2
	2.5	-	2.5	2.6
INDUSTRIAL				
Industrial Natural Gas	3.3	1.8	3.2	1.8
Performance Optimization	2.8	3.3	3.4	3.1
	2.9			
DISCONTINUED/COMPLETED PROGRAMS*				
Air Barriers	1.9	-	1.7	-
	1.9			
CUSTOMER SELF-GENERATION PROGRAMS				
Customer Load Displacement Pilot**	1.4	-	1.5	-
	1.4	-	1.5	
OVERALL: PROGRAM COSTS	2.3	2.4	2.5	2.6
OVERALL: PROGRAM COSTS with Bill 11	2.2	-	2.5	-
OVERALL: PROGRAM COSTS + SUPPORT COSTS^	2.2	2.4	2.4	2.4
OVERALL: PROGRAM COSTS + SUPPORT COSTS with Bill 11^	2.2	-	2.4	-

* Discontinued/Completed Programs have no projected TRC benefit/cost ratio under the 2006 Power Smart Plan.
** Since this program ran as a pilot in 2006/07, there were no official planning ratios for the Customer Load Displacement Pilot.
^ Support costs contain incremental costs only (no Customer Service Initiatives and Standards).
^^ 2007/08 planning ratios are from the "2006 Power Smart Plan", however, some revisions may have been made.
^^^ 2017/18 planning ratios are from the "2006 Power Smart Plan" and reflect estimates for the years 2006/07 to 2035/36.
Notes: Increased or decreased natural gas benefits resulting from electric incentive-based programs have been included in the overall calculation.
Benefit/cost analysis is not calculated for rate/load management programs.
Benefit/cost analysis is not calculated for the Building Optimization Program because there was no program activity.
In TRC analysis, program administration costs include funds from the Federal Government.

For 2007/08, the combined overall TRC benefit/cost ratio including support costs was 2.3, which is slightly lower than the plan. However, the results indicate that all evaluated energy efficiency Power Smart programs, except Low Income, were cost-effective under the Total Resource Cost test in 2007/08.

The TRC calculated for each program for the "Total" contains the entire start-up cost of programs and therefore, the measure is not an accurate measure of success for programs recently launched. This calculation will be reviewed for next year's annual review and consideration will be given to amortizing start-up costs across the expected life of the specific programs.

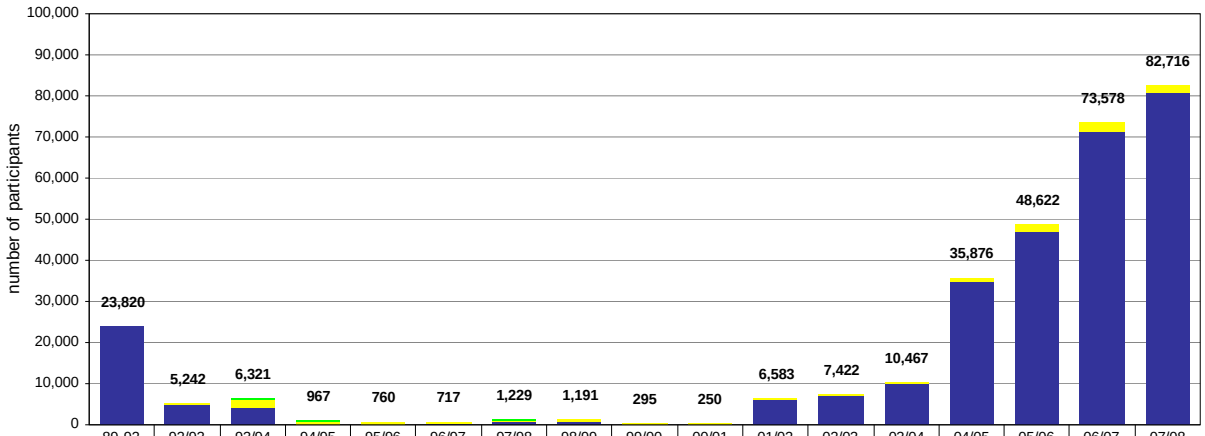
4.4 Power Smart Portfolio Results

The following sections provide an overview of Power Smart portfolio results to date.

4.4.1 Participation in Power Smart Programs

The following graph outlines total Power Smart participation in incentive-based programs, customer service initiatives and cost recovery programs with participation presented by sector (i.e. residential, commercial/agricultural and industrial programs).

Exhibit 4.4.1
POWER SMART Program Participation



	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08
Industrial	24	157	202	229	185	182	195	8	4	9	17	25	32	48	50	49	81
Commercial	65	273	1,959	738	575	334	325	502	291	241	305	364	538	1,020	1,849	2,364	2,041
Residential	23,731	4,812	4,160	-	-	201	709	681	-	-	6,261	7,033	9,897	34,808	46,723	71,165	80,594
Total Achieved	23,820	5,242	6,321	967	760	717	1,229	1,191	295	250	6,583	7,422	10,467	35,876	48,622	73,578	82,716

Notes:
Includes electric and natural gas participants.
Customers may participate in more than one Power Smart program.
Participation for codes & standards excluded.
Curtailable Rates Program participation is included in the industrial sector.

There were over 82K Power Smart participants during 2007/08, and have been approximately 306K participants cumulatively. Refer to Appendix C for a historical list of participants by Power Smart program.

4.4.2 Power Smart Portfolio - Impact of Electric Programs

The following tables outline the electricity savings achieved through the Power Smart portfolio during 2007/08 and provide a comparison between achieved results and planned targets, where applicable:

Exhibit 4.4.2-A
Annual GW.h Savings (at generation) - Power Smart Portfolio

	2007/08 Actual	2007/08 Plan^
	GW.h	
INCENTIVE-BASED PROGRAMS		
Efficiency Programs	96	97
Rate/Load Management Programs	-	-
Customer Self-Generation Programs	93	-
	189	97
CODES & STANDARDS	28	50
CUSTOMER SERVICE INITIATIVES	4	5
OVERALL IMPACT	221	152

^ The 2007/08 plan values are from the 2006 Power Smart Plan.
Note: Figures may not add due to rounding.

During 2007/08, the electric energy savings achieved through the Power Smart portfolio were 45% greater than the planned targets due to the success of efficiency programs and the introduction of customer self-generation programs.

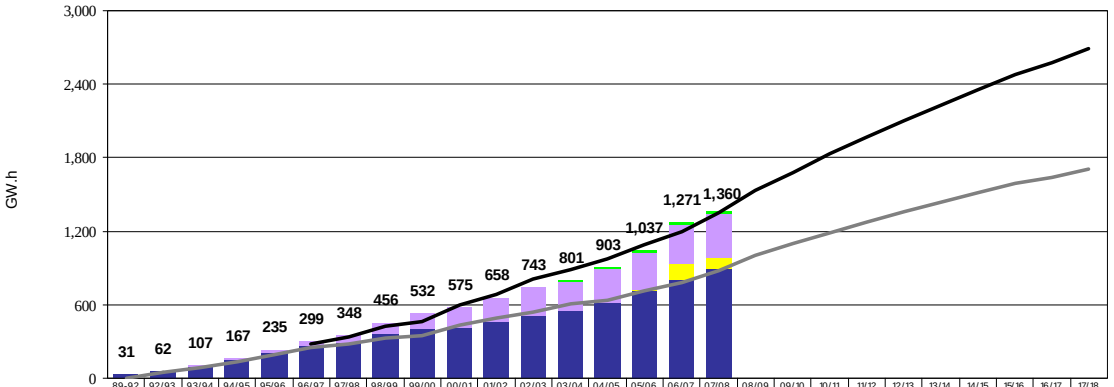
Exhibit 4.4.2-B
Annual MW Savings (at generation) - Power Smart Portfolio

	2007/08 Actual	Plan^
	MW	
INCENTIVE-BASED PROGRAMS		
Efficiency Programs*	17	20
Rate/Load Management Programs**	199	270
Customer Self-Generation Programs*	16	-
	231	290
CODES & STANDARDS	7	9
CUSTOMER SERVICE INITIATIVES	2	0
OVERALL IMPACT	240	299

^ The 2007/08 plan values are from the 2006 Power Smart Plan.
* MW savings are based on the average of the winter AM & PM system peak savings.
** MW savings reported is expected Curtailable load on system at the time a curtailment occurs.
Note: Figures may not add due to rounding.

Power Smart portfolio demand savings were 19% below target. Demand savings for efficiency programs were 15% below target. The following graphs present the electric energy and demand savings achieved to date by the Power Smart portfolio and the corresponding targets:

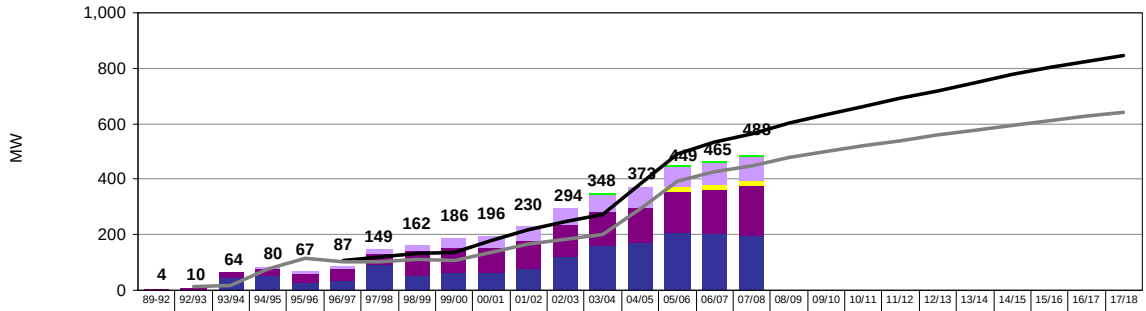
Exhibit 4.4.2-C
Electric Energy Savings - Power Smart Portfolio
Total Savings Achieved vs. Plan
at generation



	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Customer Service Initiatives											2	4	7	11	13	16	20										
Codes and Standards	-	2	8	16	25	40	63	93	125	156	189	228	248	274	298	323	352										
Incentive-based - Customer Self Gen															11	132	93										
Incentive-based - Efficiency	31	59	99	151	209	259	285	363	407	419	467	511	546	619	714	800	896										
Total Achieved	31	62	107	167	235	299	348	456	532	575	658	743	801	903	1,037	1,271	1,360										
Plan (incentive-based programs only)	-	50	86	138	195	252	279	327	350	435	491	544	603	634	713	782	879	1,002	1,098	1,191	1,274	1,358	1,438	1,514	1,590	1,638	1,705
Plan						281	336	422	466	602	686	810	891	970	1,088	1,199	1,350	1,530	1,680	1,828	1,964	2,099	2,231	2,357	2,483	2,580	2,695

Notes: Targeted savings are unadjusted for programs not running or other revisions.
Figures may not add due to rounding.

Exhibit 4.4.2-D
Average Winter Demand Savings - Power Smart Portfolio
Total Savings Achieved vs. Plan
at generation



	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Customer Service Initiatives											1	1	2	3	3	4	6										
Codes and Standards	-	1	2	4	6	10	15	23	32	40	49	59	64	70	76	82	89										
Incentive-based - Customer Self Gen															16	16	16										
Incentive-based - Efficiency	4	10	17	26	34	41	46	86	91	93	105	113	119	131	146	161	179										
Incentive-based - Rate/Load	-	-	45	51	27	36	88	53	64	63	75	121	163	169	208	202	199										
Total Achieved	4	10	64	80	67	87	149	162	186	196	230	294	348	373	449	465	488										
Plan (incentive-based programs only)		12	18	75	114	101	104	110	105	136	166	183	200	296	394	429	449	477	499	520	539	559	579	596	613	628	641
Plan						108	118	134	135	178	216	249	273	385	491	535	564	601	632	662	691	720	749	776	802	826	848

Note: Targeted savings are unadjusted for programs not running or other revisions.
Figures may not add due to rounding.

Overall, results of the entire Power Smart portfolio achieved to 2007/08 were 1360 GW.h and 488 MW (at generation), which are 0.7% above and 13% below their respective targets.

4.4.3 Power Smart Portfolio - Impact of Natural Gas Programs

The following table and graph presents natural gas savings achieved by the Power Smart portfolio:

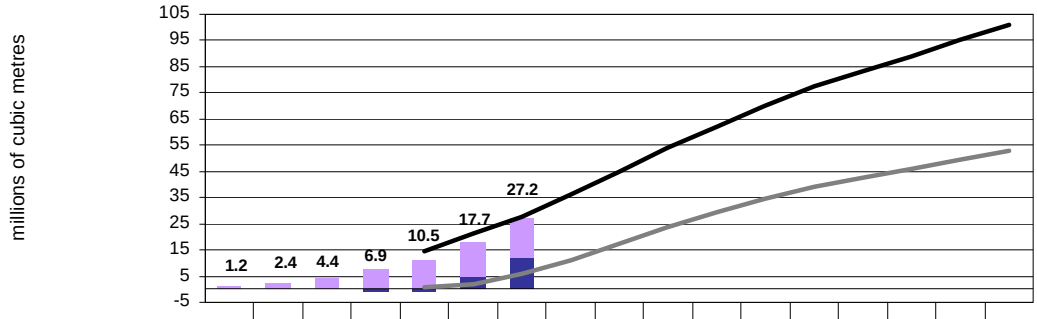
Exhibit 4.4.3 - A
Annual Natural Gas Savings

	2007/08 Actual	2007/08 Plan
	millions of cubic metres	
PROGRAM & INTIATIVE		
Customer Service Intiatives	2.1	2.6
Incentive-Based Programs	8.2	4.6
	10.3	7.3
INTERACTIVE EFFECT		
Incentive-Based Interactive effect with Electric Programs	(0.8)	(0.8)
	(0.8)	(0.8)
NET IMPACT OVERALL	9.5	6.4

Notes: Figures may not add due to rounding.
Natural gas savings due to codes & standards are not measured.

The Power Smart portfolio provided natural gas savings of 10.3 million m^3 in 2007/08, which is 41% more than plan. After interactive effects, a net savings of 9.5 million m^3 of natural gas were saved in 2007/08, which are 48% more than plan.

Exhibit 4.4.3 - B
Integrated Natural Gas Savings - Power Smart Portfolio
Total Savings Achieved vs. Plan



	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Customer Service Initiatives	1.2	2.4	4.3	7.7	11.3	13.2	15.3										
Incentive-Based Integrated	0.0	0.1	0.1	-0.8	-0.8	4.5	11.9										
Total Achieved	1.2	2.4	4.4	6.9	10.5	17.7	27.2										
Integrated Plan (incentive-based programs only)					0.8	1.9	5.7	11.2	17.4	23.9	29.1	34.6	39.3	42.6	46.0	49.4	52.8
Integrated Plan					14.8	21.5	27.9	36.1	44.9	54.1	62.1	70.2	77.3	83.1	89.1	95.1	101.1

Notes: Figures may not add due to rounding.
Natural gas savings due to codes & standards are not presented.

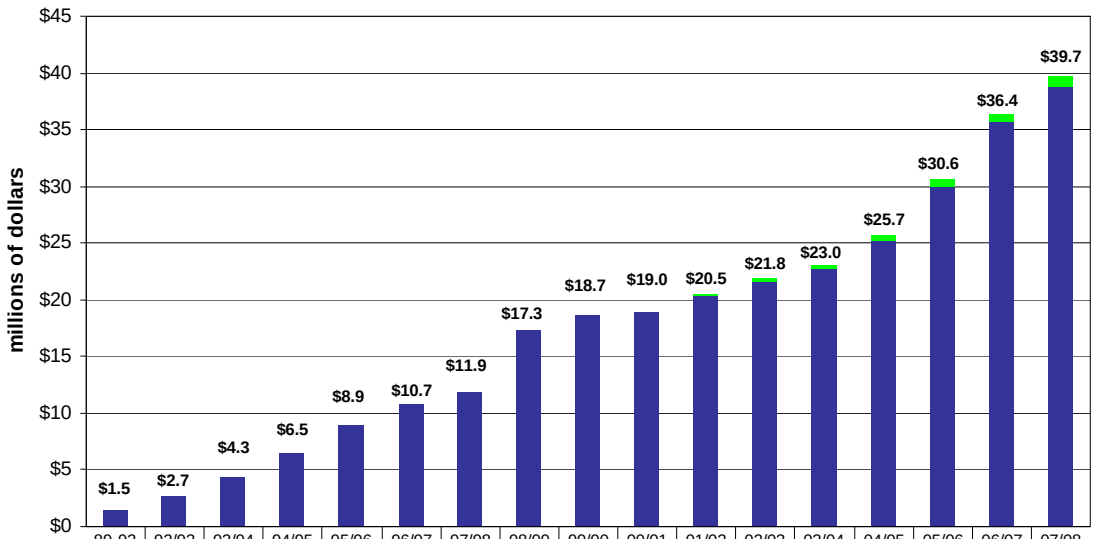
To date, the Power Smart portfolio has saved just over 27 million m^3 of natural gas, after interactive effects, which are 10% below target.

4.4.4 Customer Bill Reduction

Electricity Bill Reduction

When customers save electricity through Manitoba Hydro's Power Smart programs, it translates into lower electricity bills for participating customers. Displayed in Exhibit 4.4.4-A are the annual customer bill reductions resulting from customer service initiatives and incentive-based Power Smart program electrical savings to date.

Exhibit 4.4.4-A
Customer Electricity Bill Reduction (2007$)
millions of dollars



	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08
CSI Savings	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.1	$0.2	$0.3	$0.5	$0.6	$0.7	$0.9
Incentive-Based Savings	$1.5	$2.7	$4.3	$6.5	$8.9	$10.7	$11.9	$17.3	$18.7	$19.0	$20.4	$21.6	$22.7	$25.2	$30.0	$35.6	$38.8
Total	$1.5	$2.7	$4.3	$6.5	$8.9	$10.7	$11.9	$17.3	$18.7	$19.0	$20.5	$21.8	$23.0	$25.7	$30.6	$36.4	$39.7

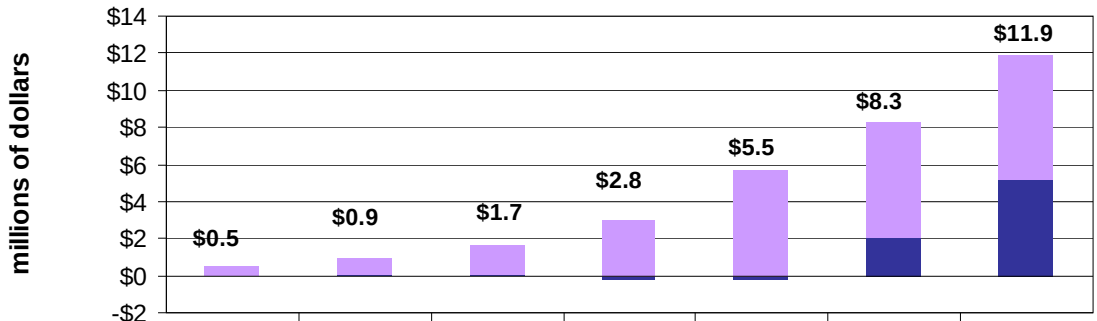
Notes: Figures may not add due to rounding.
Bill reductions exclude savings due to codes & standards.
Demand savings resulting from the Curtailable Rates Program are excluded from this analysis.

Power Smart customer service initiatives and incentive-based programs have saved participating customers approximately $40 million in 2007/08 and $300 million cumulatively on electricity bills to date.

Natural Gas Bill Reduction

Customers also save on their natural gas bills when participating in certain Power Smart initiatives. Exhibit 4.4.4-B displays annual customer bill reductions resulting from net Power Smart natural gas initiatives savings to date.

Exhibit 4.4.4-B
Customer Natural Gas Bill Reduction (2007$)
millions of dollars



	01/02	02/03	03/04	04/05	05/06	06/07	07/08
CSI Savings	$0.5	$0.9	$1.6	$3.0	$5.7	$6.3	$6.7
Incentive-Based Savings	$0.0	$0.0	$0.0	-$0.2	-$0.2	$2.0	$5.2
Total	$0.5	$0.9	$1.7	$2.8	$5.5	$8.3	$11.9

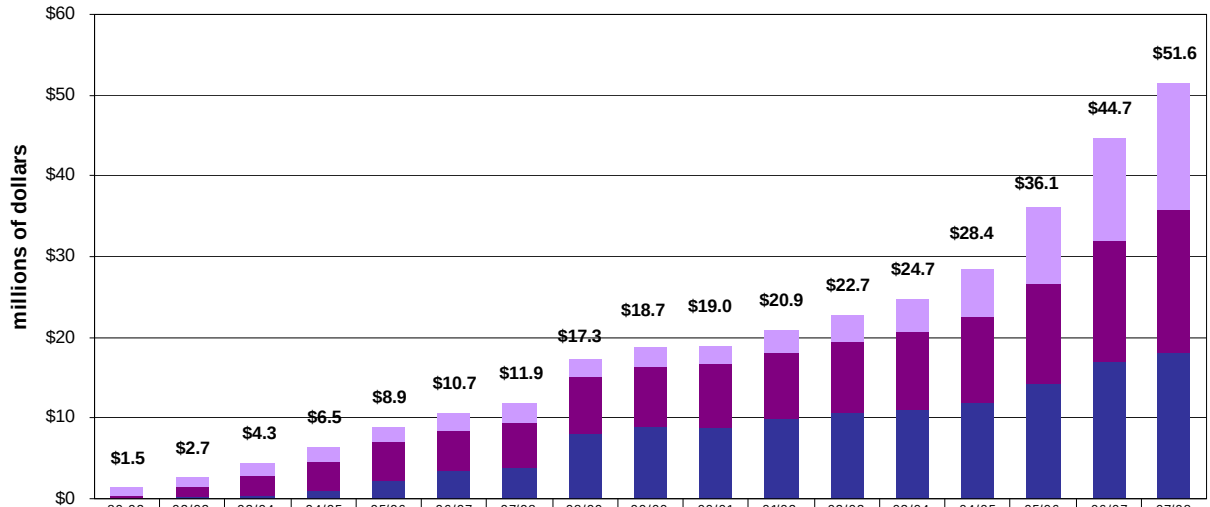
Notes:
Figures may not add due to rounding.
Bill reductions exclude savings due to codes & standards.
Interactive Effects in 2007/08 resulted in a $1.3 million increase in customer bills, which is captured within Incentive-Based Savings.

As a result of Power Smart initiatives, participating customers saved approximately $12 million in 2007/08 and $32 million cumulatively on their natural gas bills to date.

Combined Bill Reduction

The following graph presents the annual customer bill reduction for participants of Power Smart customer service initiatives and incentive-based programs by sector. Savings include those from both electric and natural gas initiatives.

Exhibit 4.4.4-C
Combined Electricity & Natural Gas Customer Bill Reduction (2007$)
Total Annual Reductions by Sector
millions of dollars



	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08
Residential	$1.0	$1.3	$1.5	$1.8	$1.9	$2.2	$2.4	$2.3	$2.3	$2.3	$2.8	$3.2	$4.0	$5.8	$9.4	$12.7	$15.7
Commercial	$0.5	$1.1	$2.4	$3.6	$4.7	$5.1	$5.6	$6.9	$7.6	$7.9	$8.4	$8.8	$9.8	$10.7	$12.4	$15.0	$17.9
Industrial	$0.0	$0.2	$0.4	$1.0	$2.3	$3.4	$3.9	$8.1	$8.8	$8.8	$9.8	$10.6	$11.0	$11.9	$14.2	$16.9	$18.0
Total	$1.5	$2.7	$4.3	$6.5	$8.9	$10.7	$11.9	$17.3	$18.7	$19.0	$20.9	$22.7	$24.7	$28.4	$36.1	$44.7	$51.6

Notes: Figures may not add due to rounding.
Bill reductions exclude savings due to codes & standards.
Demand savings resulting from the Curtailable Rates Program are excluded from this analysis.
Natural gas bill reduction is based on Manitoba Hydro's primary gas rate.

Power Smart customer service initiatives and incentive-based programs saved participating customers $52 million in 2007/08 alone. Approximately 35%, 35% and 30% were saved by industrial, commercial and residential customers respectively.

To date, participating customers have saved $331 million cumulatively on electricity and natural gas bills. Approximately 39%, 39% and 22% were saved by industrial, commercial and residential customers respectively.

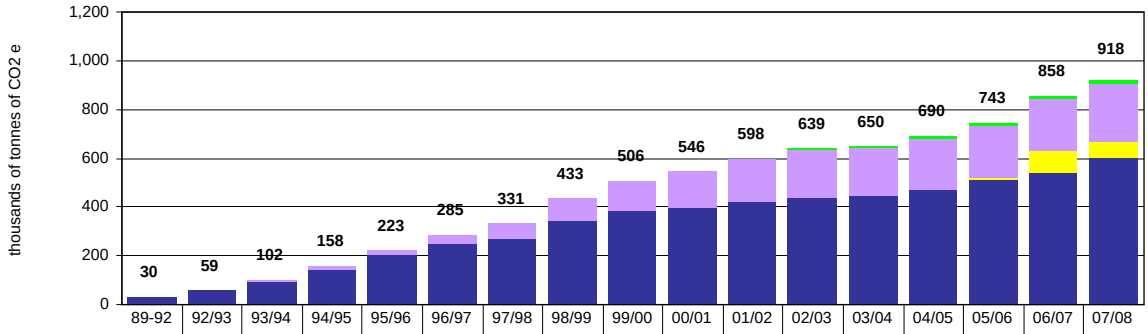
4.4.5 Power Smart Program Impact on Greenhouse Gas Emissions

The energy efficiency measures and improvements installed through Manitoba Hydro's Power Smart programs reduce the amount of greenhouse gas and other air polluting emissions from power generation and the transmission and distribution of natural gas, and will continue to do so over their product lives. Both electricity and natural gas consumption reductions have a positive impact on greenhouse gas emissions.

Impact of Electricity Savings

As Manitobans conserve electric energy through Power Smart programs, more hydro-electricity is available for export. These exports displace coal and natural gas fuelled generation outside of Manitoba, which results in significant global reductions of greenhouse gases and other emissions. Therefore, the impact of Power Smart programs on global greenhouse gas emissions is quantified based on estimates of reduced coal and natural gas fuelled generation outside the province, and is measured in carbon dioxide equivalent emissions. Because the emission reductions do not occur at the site of the participating customer, these reductions are referred to as indirect emission reductions. Exhibit 4.4.5-A shows the equivalent reduction in carbon dioxide emissions resulting from Power Smart electric program activity to date.

Exhibit 4.4.5-A
Indirect Greenhouse Gas Emission Reductions Due to Electric Savings To Date
thousands of tonnes of CO2e



	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08
CSI savings											2	3	6	8	10	11	13
Codes & standards		2	7	15	24	38	60	88	119	149	172	196	201	209	213	218	237
Self Generation															8	89	63
Incentive-based savings	30	56	95	144	199	246	271	345	386	398	424	439	444	473	512	540	605
Total	30	59	102	158	223	285	331	433	506	546	598	639	650	690	743	858	918

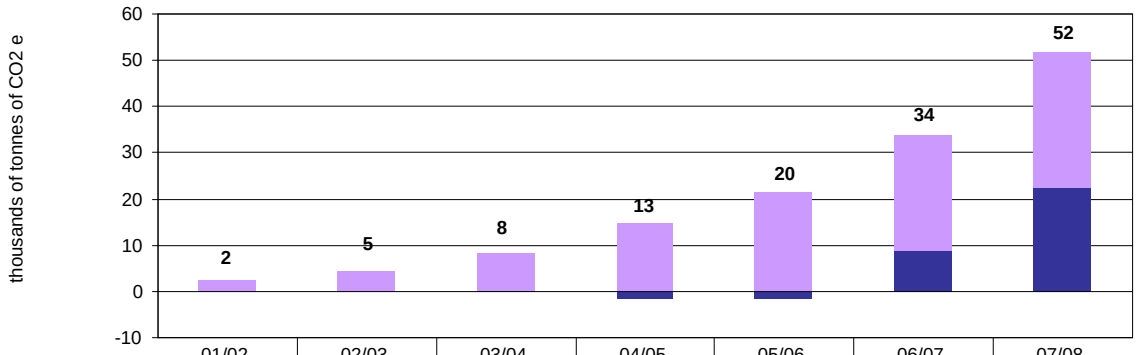
Note: Figures may not add due to rounding.

The 1360 GW.h savings resulting from electricity Power Smart program activity and codes and standards initiatives to date have displaced greenhouse gas emissions by approximately 918K tonnes of carbon dioxide equivalent emissions. This is comparable to removing approximately 262K cars off the road in the United States for one full year.

Impact of Natural Gas Savings

Power Smart natural gas programs result in direct emission reductions at the location of the participating customer. The following chart displays direct greenhouse gas reductions that occur as a result of lower natural gas consumption in Manitoba.

Exhibit 4.4.5-B
Total Annual Direct Greenhouse Gas Emission Reductions
Due to Natural Gas Savings
thousands of tonnes of CO2e



	01/02	02/03	03/04	04/05	05/06	06/07	07/08
CSI savings	2	5	8	15	21	25	29
Incentive-based savings	0	0	0	-1	-1	9	23
Total	2	5	8	13	20	34	52

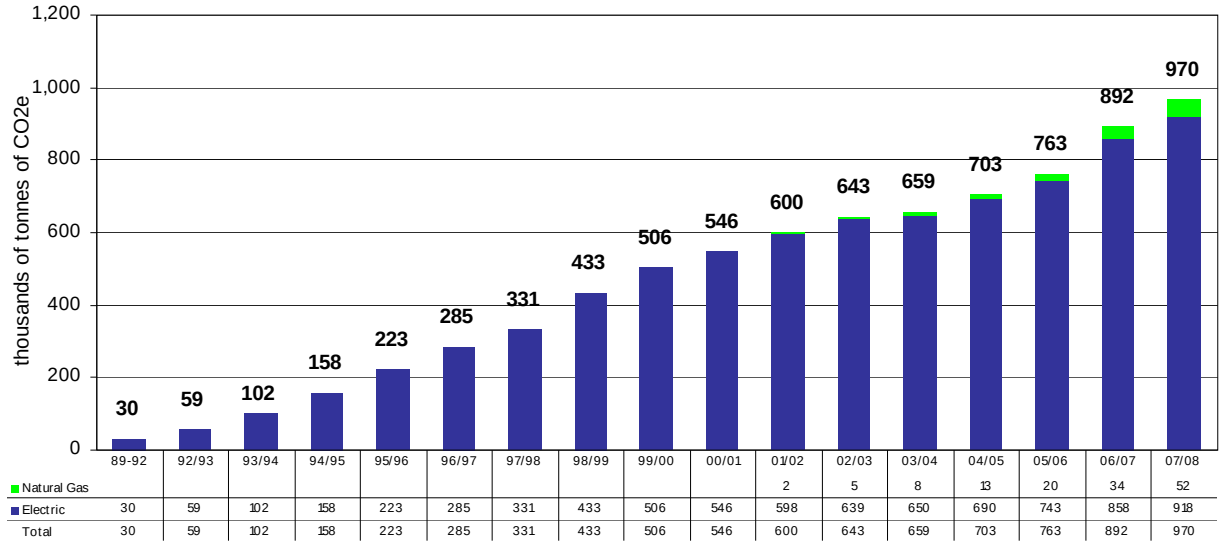
Note: Figures may not add due to rounding.

The 27 million m^3 of reduced natural gas consumption (after interactive effects) from Power Smart programs to date displaced 52K tonnes of greenhouse gas emissions in 2007/08 alone. This is equivalent to removing approximately 15K vehicles off the road in Manitoba for one full year.

Combined Impact of Electricity and Natural Gas Savings

The following graph presents the greenhouse gas emission reductions that have resulted from all electric and natural gas Power Smart program activity to date.

Exhibit 4.4.5-C
Total Annual Greenhouse Gas Emission Reductions
Due to Electric & Natural Gas Savings
thousands of tonnes of CO2e



	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08
Natural Gas											2	5	8	13	20	34	52
Electric	30	59	102	158	223	285	331	433	506	546	598	639	650	690	743	858	918
Total	30	59	102	158	223	285	331	433	506	546	600	643	659	703	763	892	970

The 1360 GW.h savings from electricity and 27 million m^3 savings from natural gas Power Smart programs have resulted in greenhouse gas reduction of approximately 970K tonnes of carbon dioxide equivalent emissions. This is comparable to removing approximately 277K vehicles off the road for one full year.

"We do not inherit the earth from our ancestors; we borrow it from our children."

Native American Proverb

5.0 Total Power Smart Utility Costs

Total utility costs include all costs incurred by the utility in the planning, development, design, implementation, and evaluation of current and future Power Smart programs.

Current program utility costs are all costs incurred for programs which have been implemented during the period up to and including 2007/08. Current program costs include direct program administration and incentive costs plus support costs spent for programs offered during the period of April 1, 1989 to March 31, 2008.

Future program utility costs are all expenditures incurred in the planning and design of programs which will be implemented in the future. Future program costs include direct program design costs plus support costs for programs to be implemented after March 31, 2008.

Support costs are indirect costs of activities supporting Power Smart programs which cannot be wholly assigned to any one specific program. These costs include activities such as Power Smart promotions (general branding), promoting sustainability and standards, and demand side management administration (overall planning and evaluation).

The 2007/08 utility costs presented here are accounting system costs and may not directly match the economic figures used for cost-effectiveness purposes. Refer to Appendix A for details and sources of costs.

5.1 Summary of Total Power Smart Utility Costs

Exhibit 5.1 summarizes the utility costs of current and future programs cumulative to 2007/08. The reported utility costs cumulative to 2007/08 are presented in nominal dollars and detail actual accounting expenditures to 2007/08 for all Power Smart initiatives and activities.

Exhibit 5.1
Summary of Utility Costs cumulative to 2007/08

UTILITY COSTS	Cumulative to 2007/08
	millions of nominal $
COSTS - CURRENT PROGRAMS	
Program Cost	197.0
Support Cost	47.8
	244.8
COSTS - FUTURE PROGRAMS	
Program Cost	1.0
	1.0
TOTAL UTILITY COSTS	245.8

Notes Support costs include both customer service initiatives and support activity costs.
As of April 1, 2004, natural gas programs were added to the Power Smart portfolio.
Figures may not add due to rounding.

As of March 31st, 2008, Manitoba Hydro had invested $246 million in Power Smart. The highest component of this expenditure was the current program utility costs at $197 million, which is 80% of the total expenditures cumulative to 2007/08.

5.2 Utility Costs Allocated to Current Power Smart Programs

Exhibits 5.2-A, B and C outline the costs to the utility for Power Smart programs implemented between April 1, 1989 and March 31, 2008.

Exhibit 5.2 - A
Utility Costs for Current Support & Customer Service Initiatives & Standards

	Actual 2007$	Cumulative to 2007/08 nominal $
	thousands of dollars	
SUPPORT COSTS & CUSTOMER SERVICE INITIATIVES & STANDARDS:		
Customer Service Initiatives & Standards		
Customer Service Initiatives & Standards Electric Cost	*1,546*	*17,305*
Customer Service Initiatives & Standards Natural Gas Cost	*916*	*5,770*
	2,462	23,075
Power Smart Communications		
Power Smart Communications Electric Cost	*615*	*11,352*
Power Smart Communications Natural Gas Cost	*410*	*1,134*
	1,025	12,486
Residential Retrofit		
Residential Retrofit Electric Cost	*124*	*212*
Residential Retrofit Natural Gas Cost	*230*	*292*
	354	504
Retrofit Demonstrations		
Retrofit Demonstrations Electric Cost	*5*	*45*
Retrofit Demonstrations Natural Gas Cost	*5*	*80*
	10	125
Integrated Plan/Targets		
Integrated Plan/Targets Electric Cost	*90*	*2,726*
Integrated Plan/Targets Natural Gas Cost	*60*	*194*
	151	2,919
DSM Administration		
DSM Administration Electric Cost	*159*	*2,968*
DSM Administration Natural Gas Cost	*106*	*383*
	264	3,351
Load Research	0	1,749
DSM Tracking System		
DSM Tracking System Electric Cost	*6*	*356*
DSM Tracking System Natural Gas Cost	*4*	*7*
	11	362
Residential Baseline	0	344
Residential Energy Analysis	0	129
Commercial Baseline	0	616
Commercial Audits		
Commercial Audits Electric Cost	*2*	*450*
Commercial Audits Natural Gas Cost	*10*	*45*
	12	495
Sustainabilities & Standards		
Sustainabilities & Standards Electric Cost	*48*	*180*
Sustainabilities & Standards Natural Gas Cost	*89*	*324*
	136	504
Power Smart for Business		
Power Smart for Business Electric Cost	*211*	*864*
Power Smart for Business Natural Gas Cost	*141*	*244*
	352	1,109
TOTAL SUPPORT COSTS & CUSTOMER SERVICE INITIATIVES & STANDARDS	4,777	47,770

Notes: As of April 1, 2004, natural gas programs were added to the Power Smart portfolio.
Figures may not add due to rounding.

Exhibit 5.2 - B
Utility Costs for Current Efficiency Programs

	Actual 2007$	Cumulative to 2007/08 nominal $
	thousands	
EFFICIENCY PROGRAMS		
RESIDENTIAL		
Home Insulation		
Home Insulation Electric Cost	*1,537*	*6,401*
Home Insulation Natural Gas Cost	*2,439*	*5,157*
	3,976	11,559
New Homes		
New Homes Electric Cost	*546*	*3,194*
New Homes Natural Gas Cost	*61*	*397*
	606	3,591
High Efficiency Furnaces (Natural Gas)	1,945	3,900
Compact Fluorescent Lighting	810	3,432
LED Seasonal Lighting Program	350	744
Energy Efficient Light Fixtures	456	515
Thermostats		
Thermostats Electric Cost	*28*	*113*
Thermostats Natural Gas Cost	*108*	*295*
	136	408
Appliances	1,919	3,423
Lower Income Energy Efficiency Program		
First Nation Program	*2*	*20*
Lower Income Energy Efficiency Program Electric Cost	*222*	*319*
Lower Income Energy Efficiency Program Natural Gas Cost	*150*	*202*
	374	541
	10,572	28,111
COMMERCIAL		
Custom		
Custom Electric Cost	*169*	*1,771*
Custom Natural Gas Cost	*91*	*91*
	261	1,862
Building Envelope		
Building Envelope Electric Cost	*675*	*1,906*
Building Envelope Natural Gas Cost	*1,013*	*1,363*
	1,688	3,269
Parking Lot Controllers	574	4,737
Commercial Geothermal	333	3,029
HVAC		
HVAC Electric Cost	*66*	*851*
HVAC Natural Gas Cost	*1,502*	*2,272*
	1,569	3,123
Internal Retrofit	7,660	18,804
Commercial Lighting	6,882	39,922
Agricultural Heat Pads	63	729
City of Winnipeg Agreement	195	10,511
Refrigeration	274	781
Spray Valves		
Spray Valves Electric Cost	*26*	*57*
Spray Valves Natural Gas Cost	*60*	*185*
	85	242
Building Optimization Program		
Building Optimization Program Electric Cost	*49*	*277*
Building Optimization Program Natural Gas Cost	*195*	*504*
	244	781
	19,828	87,789
INDUSTRIAL		
Performance Optimization	3,145	17,800
Industrial Natural Gas Optimization	285	467
	3,430	18,266
DISCONTINUED/COMPLETED PROGRAM COSTS		
Discontiuned/Completed Program Costs	5	13,232
	5	13,232
EFFICIENCY PROGRAMS COSTS SUBTOTAL	33,836	147,399
CUSTOMER SELF GENERATION		
Customer Load Displacement Pilot	1,439	3,193
	1,439	3,193
RATE/LOAD MANAGEMENT PROGRAMS		
Curtailable Rates	6,454	46,413
	6,454	46,413
SUBTOTAL: CURRENT PROGRAM COSTS	41,728	197,005

Notes: As of April 1, 2004, natural gas programs were added to the Power Smart portfolio.
Figures may not add due to rounding.

Exhibit 5.2 - C
Total Current Program Utility Costs

	Actual 2007$	Cumulative to 2007/08 nominal $
	millions of dollars	
CURRENT PROGRAM UTILITY COSTS		
Efficiency Program Costs	41.7	197.0
Support Costs & Customer Service Initiatives & Standards	4.8	47.8
	46.5	244.8
TOTAL CURRENT PROGRAM UTILITY COSTS	46.5	244.8

Notes: As of April 1, 2004, natural gas programs were added to the Power Smart portfolio.
Figures may not add due to rounding.

Program expenditures for current Power Smart initiatives cumulative to 2007/08 totalled $245 million. The Curtailable Rates and Commercial Lighting Programs account for the largest proportions of the overall program expenditures, with 19% and 16% of expenditures respectively.

Expenditures supporting current DSM initiatives total $48 million to date, with Power Smart communications accounting for 26% of these costs, or $12.5 million. The support costs will decline relative to total Power Smart costs as more programs are implemented in the future.

5.3 *Utility Costs Allocated to Future Power Smart Programs*

Exhibit 5.3 outlines the costs to the utility for Power Smart programs which will be implemented in future years after 2007/08.

Exhibit 5.3
Utility Costs for Future Power Smart Programs

	Actual 2007$	Cumulative to 2007/08 nominal $
	thousands of dollars	
RESIDENTIAL		
Power Saver Cords	0	3
Water and Energy Saver Package	0	17
Fridge & Freezer Buy-Back	13	142
ECM Furnace Motor Program	0	3
	13	165
COMMERCIAL		
Power Smart Energy Manager		
Power Smart Energy Manager Electric Cost	*77*	*78*
Power Smart Energy Manager Natural Gas Cost	*116*	*125*
	194	204
New Construction		
New Construction Electric Cost	*150*	*152*
New Construction Natural Gas Cost	*64*	*65*
	214	217
Clothes Washers	54	77
Kitchen Appliances		
Kitchen Appliances Electric Cost	*7*	*7*
Kitchen Appliances Natural Gas Cost	*41*	*41*
	49	49
Power Smart Shops		
Power Smart Shops Electric Cost	*1*	*1*
Power Smart Shops Natural Gas Cost	*1*	*1*
	2	2
Network Energy Manager	2	2
	515	552
INDUSTRIAL		
Efficient Motors (QMR)	0	70
	0	70
CUSTOMER SELF GENERATION		
Bio Energy		
Bio Energy Electric Cost	*117*	*127*
Bio Energy Natural Gas Cost	*13*	*104*
	130	231
	130	231
TOTAL FUTURE PROGRAM UTILITY COST	659	1,017

Notes: As of April 1, 2004, natural gas programs were added to the Power Smart portfolio.
Figures may not add due to rounding.

Utility expenditures cumulative to 2007/08 for the development of future programs and initiatives total just over $1 million.

5.4 Utility Costs by Energy Source

Exhibit 5.4
Summary of Electricity & Natural Gas Utility Costs

	Actual 2007$	Cumulative to 2007/08 nominal $
	millions of dollars	
ELECTRICITY		
Current Program Cost	33.9	182.2
Future Program Cost	0.4	0.7
Support Cost	2.8	39.3
	37.1	222.1
NATURAL GAS		
Current Program Cost	7.8	14.8
Future Program Cost	0.2	0.3
Support Cost	2.0	8.5
	10.1	23.6
TOTAL UTILITY COSTS (ELECTRICITY + NATURAL GAS)	47.2	245.8

Note: Support costs include both customer service initiatives and support activity costs.

Total Power Smart electricity initiatives cost $37 million in 2007/08, while natural gas initiatives cost $10 million, representing 79% and 21%, respectively, of total Power Smart expenditures in 2007/08. Electricity initiatives represent 90% of cumulative costs to date.

5.5 The Affordable Energy Fund

The Affordable Energy Fund was established during 2006/07 through the Winter Heating Cost Control Act and it supports Manitoba Hydro's sustainable development initiatives. The purpose of the Fund is to provide support for programs and services that achieve specific objectives including encouraging energy efficiency and conversation through programs and services for rural and northern Manitobans, low income customers and seniors and encouraging the use of alternative energy sources such as renewable energy.

Exhibit 5.5 outlines the Affordable Energy Fund expenditures in 2007/08.

The 2007/08 expenditures on the Low Income Initiative funded 2 different pilot programs. Funding of $116K supported a pilot community-based approach for bringing Power Smart to ninety-nine rental and owner-occupied low-income households under the "Greening of Centennial Neighbourhood Project." Funding of $99K supported a pilot community project that involved retrofitting forty homes in Brandon under the "Brandon Neighbourhood Renewal Corporation." The Province-wide portion of the program received $22K in funding, however there were no houses with completed retrofits by end of fiscal year 2007/08.

The 2007/08 expenditures on the Geothermal Initiative include $252K towards the advancement of geothermal technology and applications in Manitoba, along with $19K that subsidized the interest rate of the Residential Earth Power Loan. The Fund is being used to reduce the interest rate for program participants from 6.5% to 4.9% for the first 5 years of the loan term.

The 2007/08 expenditures on Oil, Propane and Wood include $75K that provided incentives to customers with these fuels as heating sources who installed qualifying insulation in their homes. The following table outlines participation in the Home Insulation Program that was funded by the Affordable Energy Fund:

	PROPANE	OIL	WOOD
Gross Participation	15	44	25
- Free Rider Sales	2	2	3
Total Participation	13	42	22

The 2007/08 expenditures on ecoENERGY were $61K that contributed the incremental costs associated with providing Manitoba Hydro's In-Home Energy Assessment service under the Federal ecoENERGY Retrofit program to rural and northern Manitobans. In total, 3171 households participated in 2007/08.

Exhibit 5.5
Summary of Affordable Energy Expenditures

	2006/07	2007/08	Total to 2007/08
		thousands of dollars	
LOWER INCOME INITIATIVE			
Lower Income - Centennial	94	116	210
Lower Income - Brandon	0	99	99
Lower Income - Province-Wide	0	22	22
Lower Income - Island Lake	162	-18	143
	256	219	475
GEOTHERMAL INITIATIVE			
Geothermal Development	619	252	871
Earth Power Loan Subsidization		19	19
	619	270	889
OIL, PROPANE AND WOOD			
Oil, Propane and Wood - Home Insulation Program	0	75	75
	0	75	75
ecoENERGY			
ecoENERGY	0	61	61
	0	61	61
TOTAL EXPENDITURES	875	625	1,500

6.0 Summary of Incentive Based Results

The following subsections present the influence of Manitoba Hydro's Power Smart incentive-based programs on the Manitoba market. The energy and demand savings presented result from specific DSM incentive-based program activity and are incremental to reductions resulting from the development of new codes and standards, customer service initiatives and cost recovery programs.

6.1 Power Smart Electric Incentive-Based Programs

During the 2007/08 fiscal year, twenty-three electric incentive-based programs were delivered under Power Smart. Of theses programs, twenty-one focused on encouraging customers to install energy efficient technologies and/or to improve the efficiencies of their operations, one was a customer self-generation program and one was a rate/load management program. A number of support initiatives were also in place to assist in the implementation of current Power Smart programs and to assist in the development of future Power Smart programs and activities.

6.1.1 2007/08 Electric Incentive-Based Program Results: Actual vs. Annual Targets

Exhibit 6.1.1-A illustrates the program results and program targets for Power Smart electric incentive-based programs delivered during the 2007/08 fiscal year. The utility costs presented are the costs of implementing these programs and all associated incentive costs. Refer to section 5.0 Total Utility Costs for a detailed description of Power Smart utility costs.

Exhibit 6.1.1 - A
Annual Electric Power Smart Incentive-Based Programs at Generation

SAVINGS (at Generation)	Actual	2007/08 Plan/Budget^	% Variance
		Results vs. Plan	
EFFICIENCY PROGRAMS			
GW.h Savings	96	97	-1%
MW Savings*	17	20	-17%
CUSTOMER SELF-GENERATION PROGRAM			
GW.h Savings	93	-	-
MW Savings*	16	-	-
RATE/LOAD MANAGEMENT PROGRAMS			
GW.h Savings	-	-	-
MW Savings**	199	270	-26%
TOTAL SAVINGS			
GW.h Savings	189	97	95%
MW Savings	232	290	-20%

UTILITY PROGRAMS COSTS	Actual	Plan/Budget^^	% Variance
		millions of dollars	
Efficiency Programs	26.0	25.9	0%
Customer Self-Generation Programs	1.4	-	-
Rate/Load Management Programs	6.5	6.5	0%
TOTAL PROGRAM COSTS	33.9	32.4	5%

* MW savings are based on the average of the winter AM & PM system peak savings.
** MW savings reported is expected curtailable load on system at the time a curtailment occurs.
^ 2007/08 planning/budget estimates are from the approved DSM option in the "2006 Power Smart Plan".
^^ 2007/08 planning/budget estimates are from SAP DSM reporting March 31st, 2008.
Notes: Figures may not add due to rounding.
Utility program costs presented above do not include Customer Service Initiative Costs or support costs, only the costs related to specific program activity.

During 2007/08, Power Smart incentive-based programs resulted in an energy reduction of 189 GW.h and a demand reduction of 232 MW at winter peak at a cost to the utility of approximately $34 million. The 232 MW of peak load reduction includes 199 MW of savings from the Curtailable Rates Program.

In 2007/08, the energy savings achieved by efficiency programs were 1% below plan, while demand savings were 17% below plan. The corresponding expenditures for efficiency programs were right on budget.

During 2007/08 the savings achieved through rate/load management programs were 26% below forecasted savings, while expenditures were on budget. The majority of the variance is due to a change in measurement methodology. Actual savings were adjusted by an additional efficiency factor to reflect that

curtailable load is not as efficient as a combustion turbine. Plan savings do not include an efficiency factor thus artificially inflating the targets. Plan savings would have been 208 MW (at generation) if an efficiency factor were included.

Exhibit 6.1.1-B presents the cost effectiveness of the Power Smart incentive-based programs in implementation during 2007/08 based upon the Total Resource Cost (TRC) test and the Rate Impact Measure (RIM) test.

Exhibit 6.1.1-B
Annual Cost Effectiveness of Savings

	2007/08	
	Actual	Plan^
COST EFFECTIVENESS MEASURE		
TRC Benefit/Cost Ratio	2.3	2.7
RIM Benefit/Cost Ratio	1.3	1.4

^ 2007/08 planning ratios are from the "2006 Power Smart Plan".

The results indicate that program activity in 2007/08 is cost effective under both the TRC test and the RIM test.

The levelized utility cost in 2007/08 is 1.9¢ per kilowatt hour.

6.1.2 Total Electric Incentive-Based Results (2007/08 + Persisting Savings) vs. 2017/18 Targets

Exhibits 6.1.2-A to 6.1.2-E identify Manitoba Hydro's 2017/18 planning targets and the progress in achieving these targets by the end of the 2007/08 fiscal year. Exhibits 6.1.2-A to 6.1.2-C present the energy and demand savings of the Power Smart incentive-based programs in implementation from 1989/90 to 2007/08. Exhibits 6.1.2-A, 6.1.2-D and 6.1.2-E present the costs and cost-effectiveness of those same programs.

Cumulative utility costs include costs for programs which have been delivered during the period up to and including 2007/08 (current program costs), and planning/design costs for programs which will be implemented in the future (future program costs). Total utility costs to March 31, 2008 presented in this table include expenditures for the entire Power Smart portfolio. Refer to Section 5.0 Total Utility Costs for a detailed description of Power Smart utility costs.

Exhibit 6.1.2 - A

Annual Power Smart Incentive-Based Program at Generation - Total Savings (2007/08 + Persisting)

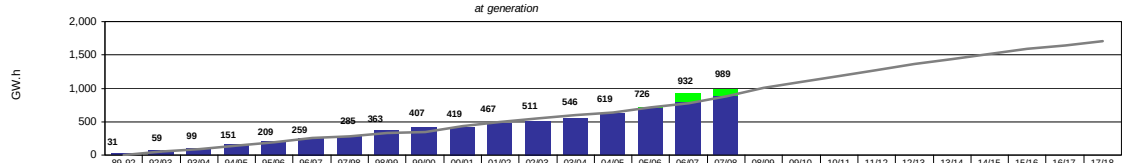
SAVINGS (at Generation)	2007/08 Total	2017/18 Plan/Budget^ †	2007/08 Total as a % of 2017/18 Plan/Budget
		Results vs. Plan	
EFFICIENCY PROGRAMS			
GW.h Savings/Year	897	1,606	56%
MW Savings*	179	360	50%
CUSTOMER SELF-GENERATION PROGRAM			
GW.h Savings/Year	93	99	94%
MW Savings	16	12	133%
RATE/LOAD MANAGEMENT PROGRAMS			
GW.h Savings/Year	-	-	-
MW Savings	199	270	74%
TOTAL SAVINGS			
GW.h Savings/Year	989	1,705	58%
MW Savings	393	641	61%
CUMULATIVE UTILITY PROGRAMS COSTS		*millions of dollars*	
Efficiency Programs	132.6		
Customer Self-Generation Programs	3.2		
Rate/Load Management Programs	46.4		
Support	39.3		
CURRENT PROGRAMS	221.5		
Program Design	0.7		
FUTURE PROGRAMS	0.7		
TOTAL UTILITY COSTS (Nominal$)	222.1	527.6	42%

* MW savings are based on the average of the winter AM & PM system peak savings.
^ 2017/18 planning estimates are from the "2006 Power Smart Plan".
† 2017/18 budget as outlined under the current Integrated Financial Forecast (IFF07-1).
Note: Figures may not add due to rounding.

Total annual energy and demand savings, as a result of all persisting savings and savings achieved in 2007/08, were 989 GW.h/year and 393 MW. The 393 MW of peak load reduction includes 179 MW of savings from energy efficiency programs, 16 MW of savings from Customer Self-Generation programs and 199 MW of savings from the Rate/Load Management Programs. Refer to APPENDIX E - 'Curtailable Rates Program Information & Methodology' for details on the Curtailable Rates Program and the methodology used to determine achieved and targeted savings.

As shown in Exhibit 6.1.2-B, the 989 GW.h of total energy savings achieved by Power Smart programs in 2007/08 include 897 GW.h of savings from energy efficiency programs and 93 GW.h of savings from customer self-generation programs.

Exhibit 6.1.2-B
Energy Savings- Incentive Based Programs
Total Annual GW.h Achieved vs Plan
at generation



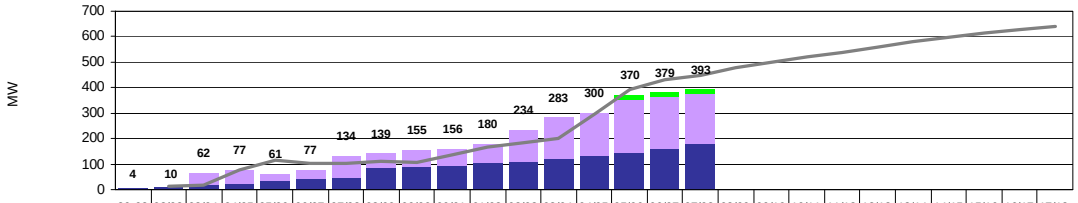
	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Incentive-based - Customer Self-Generation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	132	93										
Incentive-based - Efficiency	31	59	99	151	209	259	285	363	407	419	467	511	546	619	714	800	897										
Total	31	59	99	151	209	259	285	363	407	419	467	511	546	619	726	932	989										
Plan	-	50	86	138	195	252	279	327	350	435	491	544	603	634	713	782	879	1,002	1,098	1,191	1,274	1,358	1,438	1,514	1,590	1,638	1,705

Note: Targeted savings are unadjusted for programs not running or other revisions.

The overall energy savings were 13% above targeted total energy savings expected to be achieved in 2007/08.

As shown in Exhibit 6.1.2-C, the 393 MW of peak load reduction achieved by Power Smart programs in 2007/08 includes 179 MW of savings from energy efficiency programs, 16 MW of savings from customer self-generation programs and 199 MW of savings from the Curtailable Rates Program.

Exhibit 6.1.2-C
Demand Savings- Incentive Based Programs
Total Annual MW Achieved vs. Plan
at generation



	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Incentive-based - Customer Self-Generation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	16	16										
Incentive-based - Rate/Load	0	0	45	51	27	36	88	53	64	63	75	121	163	169	208	202	199										
Incentive-based - Efficiency	4	10	17	26	34	41	46	86	91	93	105	113	119	131	146	161	179										
Total Achieved	4	10	62	77	61	77	134	139	155	156	180	234	283	300	370	379	393										
Plan		12	18	75	114	101	104	110	105	136	166	183	200	296	394	429	449	477	499	520	539	559	579	596	613	628	641

Notes: Figures may not add due to rounding.
Targeted savings are unadjusted for programs not running or other revisions.

The overall demand savings were 12% lower than total targeted demand savings to be achieved in 2007/08, primarily due to a change in evaluation methodology for the Curtailable Rates Program.

Exhibit 6.1.2-D presents the historical cost-effectiveness of the Power Smart incentive-based running between 1989/90 to 2007/08 compared to future estimates of cost-effectiveness.

Exhibit 6.1.2 - D
Cost Effectiveness of Total Electric Power Smart Programs Achieved in 2007/08

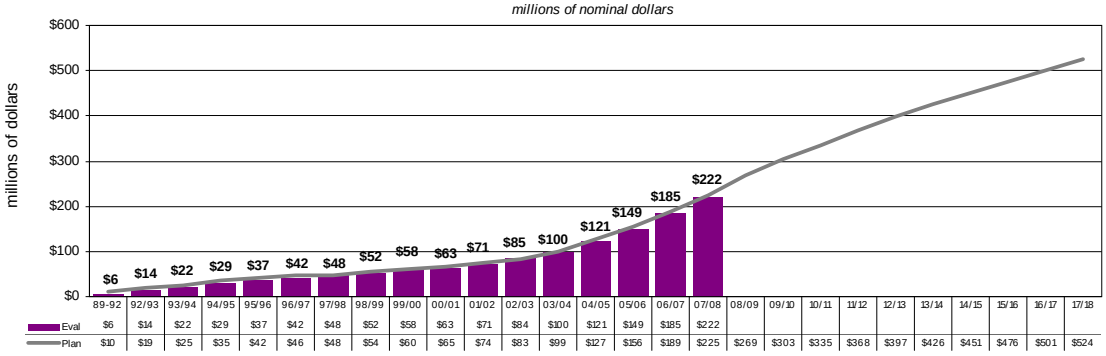
	2007/08 Actual	2017/18 Plan^
COST EFFECTIVENESS MEASURE		
TRC Benefit/Cost Ratio	2.5	2.7
RIM Benefit/Cost Ratio	1.1	1.4

^ 2017/18 planning targets are from the "2006 Power Smart Plan".

The results indicate a TRC benefit/cost ratio of 2.5 was achieved in 2007/08, due to persisting and 2007/08 savings. The results also report a RIM benefit/cost ratio in 2007/08, including associated support costs of 1.1.

Exhibit 6.1.2-E presents the cumulative utility expenditures for all Power Smart activities (customer service initiatives, standards and incentive-based programs).

Exhibit 6.1.2-E
Utility Costs- Power Smart Portfolio
Cumulative Electric Total Utility Cost vs. 2017/18 Plan
millions of nominal dollars



	89-92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Eval	$6	$14	$22	$29	$37	$42	$48	$52	$58	$63	$71	$84	$100	$121	$149	$185	$222										
Plan	$10	$19	$25	$35	$42	$46	$48	$54	$60	$65	$74	$83	$99	$127	$156	$189	$225	$269	$303	$335	$368	$397	$426	$451	$476	$501	$524

Note: 2017/18 budget as outlined under the current Integrated Financial Forecast (IFF07-1).

Approximately $222 million has been spent to date on all electric Power Smart activities as of the end of the 2007/08 fiscal year. These expenditures were slightly lower (1%) than the expenditures budgeted for this period under Manitoba Hydro's Integrated Financial Forecast.

6.2 Power Smart Natural Gas Incentive-Based Programs

During the 2007/08 fiscal year, ten natural gas incentive-based programs were delivered under Power Smart. A number of support initiatives were also in place to assist in the implementation of current Power Smart programs and to aid in the development of future Power Smart programs and activities.

6.2.1 2007/08 Natural Gas Incentive-Based Program Results: Actual vs. Annual Targets

Exhibits 6.2.1-A and 6.2.1-B illustrate the program results and program targets for Power Smart natural gas incentive-based programs delivered during the 2007/08 fiscal year. The utility costs presented are the costs of implementing these programs and all associated incentive costs. Refer to section 5.0 Total Utility Costs for a detailed description of Power Smart utility costs.

Exhibit 6.2.1 - A
Annual Power Smart Natural Gas Incentive-Based Programs

	Actual	2007/08 Plan^	% Variance
		millions of cubic metres	
RESULTS			
Efficiency Program Savings	8.2	4.6	77%
Interactive effects	(0.8)	(0.8)	-4%
INTEGRATED IMPACT OVERALL	7.4	3.8	95%
		millions of dollars	
EFFICIENCY PROGRAM COSTS			
Efficiency Program Costs^^	8.5	9.8	14%

^ 2007/08 planning estimates are from the approved DSM option in the "2006 Power Smart Plan".
^^ Source: SAP DSM reporting, March 31st, 2008, which includes current and future program costs.
Note: Figures may not add up due to rounding.

Natural gas efficiency programs saved 77% more energy than planned in 2007/08, while spending 14% less than budgeted. As explained previously in section 4.3, some incentive-based electricity Power Smart programs have interactive effects which result in an increase in natural gas consumption. In 2007/08, interactive effects increased gas consumption by 0.8 million m^3, 4% less than planned.

Exhibit 6.2.1-B
Annual Cost Effectiveness of Savings

	2007/08 Actual	2007/08 Plan^^
COST EFFECTIVENESS MEASURE		
TRC Benefit/Cost Ratio	2.1	1.2
RIM Benefit/Cost Ratio	0.7	0.7

^ 2007/08 planning estimates are from the approved DSM option in the "2006 Power Smart Plan".
Note: Current programs only, including interactive effects and support costs.

The results indicate that program activity in 2007/08 is cost effective under both the TRC test and the RIM test. The levelized utility cost in 2007/08 was 8.7¢ per m^3.

6.2.2 Total Natural Gas Incentive-Based Results (2007/08 + Persisting Savings) vs. 2017/18 Targets

Exhibits 6.2.2-A to 6.2.2-E identify Manitoba Hydro's 2017/18 natural gas planning targets and the progress in achieving these targets by the end of the 2007/08 fiscal year. Exhibits 6.2.2-A, 6.2.2-B and 6.2.2-C present the energy savings of the Power Smart incentive-based programs with persisting savings and 2007/08 activity. Exhibits 6.2.2-A, 6.2.2-D & 6.2.2-E present the costs and cost-effectiveness of the Power Smart incentive-based programs that ran between 1989/90 and 2007/08.

Cumulative utility costs include costs for programs which have been delivered during the period up to and including 2007/08 (current program costs) and planning/design costs for programs which will be implemented in the future (future program costs). Total utility costs to March 31, 2008 presented in this table include expenditures for the entire Power Smart portfolio. Refer to Section 5.0 Total Utility Costs for a detailed description of Power Smart utility costs.

Exhibit 6.2.2 - A
Total Annual Power Smart Natural Gas Incentive-Based Programs

	2007/08 Total	2017/18 Plan/Budget* ^	2007/08 Total as a % of 2017/18 Plan/Budget
		(millions of m^3)	
INTEGRATED IMPACT OVERALL			
Efficiency Program Savings	15.6	58.0	27%
Customer Self-Generation Program	-	2.2	0%
Interactive effects	(3.7)	(7.4)	50%
	11.9	52.8	23%
CUMULATIVE UTILITY PROGRAMS COSTS		*millions of nominal dollars*	
CURRENT PROGRAMS			
Programs	14.8		
Support	8.5		
	23.3		
FUTURE PROGRAMS			
Program Design	0.3		
	0.3		
TOTAL UTILITY COSTS	23.6	133.8	18%

* 2017/18 planning estimates are from the approved DSM option in the "2006 Power Smart Plan".
^ 2017/18 budget as outlined under the current Integrated Financial Forecast (IFF07-1).
Note: Figures may not add due to rounding.

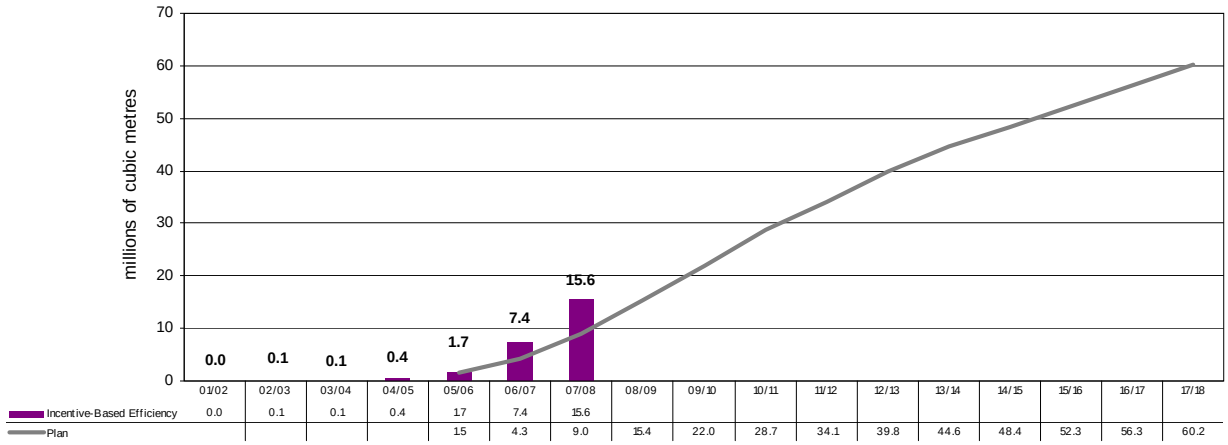
Total annual energy savings, as a result of incentive-based natural gas efficiency programs, achieved in 2007/08 was approximately 16 million m³. Total annual interactive effects, persisting and 07/08 effects, have resulted in an increase in natural gas consumption of almost 4 million m³. Integrating efficiency programs with interactive effects provides a net impact of 12 million m³.

As shown in Exhibit 6.2.2-B, Power Smart natural gas incentive-based efficiency programs have achieved energy savings that are 73% higher than the targeted energy savings expected in 2007/08.

Exhibit 6.2.2-B

Natural Gas Savings - Incentive-based Efficiency

Total Annual Savings Achieved vs. Plan



	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Incentive-Based Efficiency	0.0	0.1	0.1	0.4	1.7	7.4	15.6										
Plan					1.5	4.3	9.0	15.4	22.0	28.7	34.1	39.8	44.6	48.4	52.3	56.3	60.2

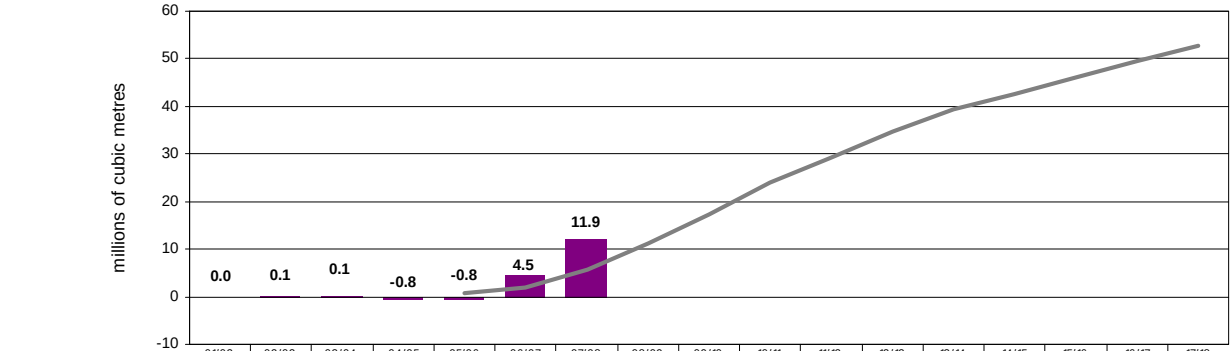
Note: Targeted savings are unadjusted for programs not running or other revisions.

Exhibit 6.2.2-C shows the integrated results of Power Smart natural gas incentive-based programs, after interactive effects. Integrated results are 109% above the targeted energy savings expected in 2007/08.

Exhibit 6.2.2-C

Natural Gas Savings - Incentive-based Integrated

Total Annual Savings Achieved to date vs. Plan



	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Incentive-Based Integrated	0.0	0.1	0.1	-0.8	-0.8	4.5	11.9										
Integrated Plan					0.8	1.9	5.7	11.2	17.4	23.9	29.1	34.6	39.3	42.6	46.0	49.4	52.8

Note: Targeted savings are unadjusted for programs not running or other revisions.

Exhibit 6.2.2-D presents the historical cost-effectiveness of the Power Smart incentive-based programs in implementation from 2001/02 to 2007/08 compared to future estimates of cost-effectiveness.

Exhibit 6.2.2-D
Annual Cost Effectiveness of Savings achieved to 2007/08^

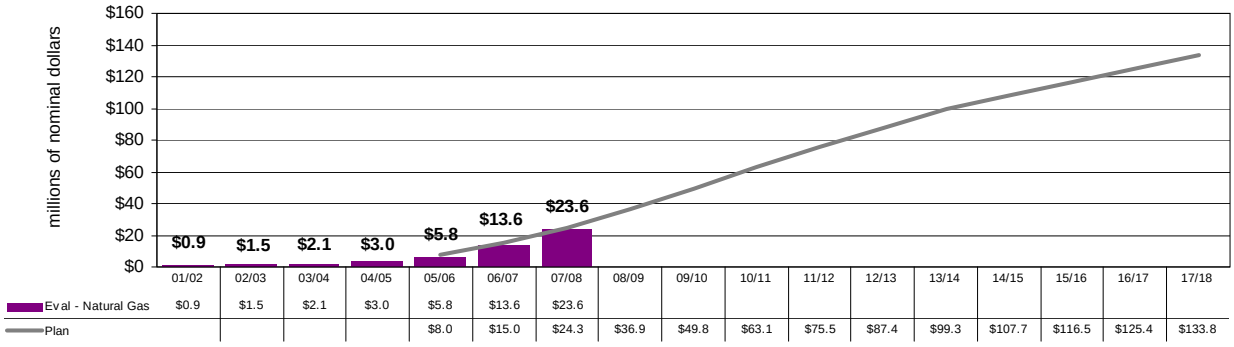
	2007/08 Total	2017/18 Plan^^
COST EFFECTIVENESS MEASURE		
TRC Benefit/Cost Ratio	1.5	1.2
RIM Benefit/Cost Ratio	0.7	0.7

^ Including interactive effects and support costs.
^^ 2017/18 planning estimates are from the approved DSM option in the "2006 Power Smart Plan".

The results indicate that with a TRC benefit/cost ratio of 1.5 was achieved in 2007/08; Power Smart program activity is cost effective. The results also report a RIM benefit/cost ratio in 2007/08, including associated support costs and interactive effects, of 0.7.

Exhibit 6.2.2-E presents the cumulative utility expenditures to date for all Power Smart natural gas activities (customer service initiatives, standards and incentive-based programs.)

Exhibit 6.2.2-E
Utility Costs- Power Smart Portfolio
Cumulative Natural Gas Total Utility Cost vs. 2017/18 Plan
millions of nominal dollars



Note: 2017/18 budget as outlined under the current Integrated Financial Forecast (IFF07-1).

In total, $24 million has been spent to date on all Power Smart natural gas activities as of the end of the 2007/08 fiscal year. These expenditures are 3% lower than budgeted for this period under Manitoba Hydro's Integrated Financial Forecast 2007 and cumulative gas spending represents 17% of the 2017/18 target.

7.0 Conclusion

7.1 2007/08 Power Smart Program Activity

The following is a summary of Power Smart portfolio results at generation for the 2007/08 fiscal year:

- More than ten customer service initiatives and cost recovery programs were offered in 2007/08, providing an estimated 3.9 GW.h and 1.6 MW of electric savings. Natural gas savings associated with these initiatives were 2.1 million m^3.
    - An estimated 12K customers participated in these initiatives in 2007/08, representing 15% of the total Customer Service Initiative based Power Smart program participation to date.
    - Other benefits of such initiatives include improving comfort and productivity of customer's homes and workplaces while reducing energy bills, enhancing customer relations and being a good corporate citizen.
- A potential load reduction of 28 GW.h and 7 MW in 2007/08 (at generation) is estimated to have occurred as a result of changes to energy efficiency codes and standards.
- Power Smart incentive-based programs achieved savings of 189 GW.h and 232 MW in 2007/08. Natural gas savings associated with these incentive-based efficiency programs was 8.2 million m^3. After interactive effects the integrated result was 7.4 million m^3.
    - An estimated 71K customers participated in these initiatives in 2007/08, representing 31% of the total incentive-based Power Smart program participation to date.
    - Customer self generation programs achieved 93 GW.h/year of energy and 16 MW of demand savings at a cost of $1.4 million.
    - All evaluated efficiency programs passed the primary economic evaluator used by Manitoba Hydro, the Total Resource Cost (TRC) test. This contributed to an overall TRC, including support costs, of 2.3 for electricity programs, 2.1 for natural gas programs and 2.3 for combined electricity and natural gas results.
    - The overall RIM benefit/cost ratio for 2007/08 efficiency programs, including incremental support costs was 1.3 for electricity programs and 0.7 for natural gas programs.
    - The overall levelized utility cost for 2007/08 efficiency programs, including incremental support costs, was 1.9¢/kW.h for electricity programs and 8.7¢/m^3 for natural gas programs.
- Overall, results of the entire Power Smart portfolio in 2007/08 were 221 GW.h and 241 MW as well as 9.5 million m^3 of integrated natural gas savings.

- An estimated 83K customers participated in Power Smart programs in 2007/08.
- Electricity savings from the Power Smart portfolio in 2007/08 provided greenhouse gas reductions of approximately 149K tonnes of carbon dioxide equivalent emissions.
- Natural gas savings from the Power Smart portfolio in 2007/08 has resulted in reductions of approximately 18K tonnes of greenhouse gas emissions.

- Overall, 2007/08 was a highly successful year for Manitoba Hydro's Power Smart portfolio. Manitoba Hydro's Power Smart initiatives have had many successes to date, as outlined by some recent projects:
  - The Power Smart Commercial Spray Valve program organized a full conversion of the Victoria Hospital's pre-rinse spray valves, which helped save the hospital just under $70K per year on their utility bills by reducing their natural gas consumption by approximately 200K m3 annually. Additionally, the conversion helped the hospital save approximately $84K in annual water costs.
  - The Portage la Prairie School Division continued its long-standing history of retrofitting to Power Smart levels by completing lighting retrofits at eleven of its facilities.
  - Vale Inco in Thompson Manitoba completed a major upgrade of their Birchtree mine compressed air system, which is one of the largest compressed air systems in Manitoba. The project will save Vale Inco over 7 GW.h per year in annual energy usage which is equivalent to over $150K per year.
  - Manitoba Hydro won 18 awards in 13 advertising and communications categories at the annual Better Communications Competition.
  - Hydro has increased the maximum Residential Earth Power Loan amount from $15K to $20K; and with support from the Affordable Energy Fund, has reduced the interest rate from 6.5% to 4.9% for the first 5 years of the loan.

7.2 Power Smart Program Activity- Results to Date

The accumulating energy and demand savings and related utility expenditures of Power Smart programs over the last fifteen years are summarized as follows:

- In addition to the many benefits to Manitobans, customer service initiatives and cost recovery programs provide an estimated 19.5 GW.h and 5.7 MW electric savings as well as 15.3 million m^3 of natural gas savings.
  - An estimated 78K customers have participated in these initiatives up to 2007/08.

- Savings to date due to customer service initiatives and cost recovery programs translate into an annual reduction of approximately $8 million in 2007/08 and a cumulative reduction of over $27 million in customer energy bills.

- A potential load reduction of 352 GW.h and 89 MW in 2007/08 is estimated to have occurred as a result of changes to energy efficiency codes and standards.

- Power Smart incentive-based programs have achieved to date savings of 989 GW.h/year and 393 MW. Natural gas incentive-based efficiency programs achieved savings of 15.6 million m^3 to 2007/08; however after interactive effects of electricity programs the integrated result is 12 million m^3 of natural gas.

    - Customer self generation programs result for energy and demand savings were 93 GW.h/year and 16 MW.

    - Actual savings of 199 MW for rate/load management programs were 26% lower than the planned targets of 270 MW.

    - The overall TRC benefit/cost ratios, for all efficiency programs to date, including support costs, were: 2.5 for electric programs, 1.5 for natural gas programs and 2.4 for combined electricity and natural gas results.

    - The overall RIM benefit/cost ratios for all efficiency programs to date, including support costs, were: 1.1 for electricity programs, and 0.7 for natural gas programs.

    - An estimated 228K customers have participated in Power Smart incentive-based programs to date.

    - Power Smart incentive-based program savings to date translate into an annual reduction of approximately $44 million in 2007/08 and a cumulative reduction of over $304 million in customer energy bills.

- Overall, results of the entire Power Smart portfolio achieved to 2007/08 were 1360 GW.h and 488 MW. Natural gas integrated savings achieved to date were 27 million m^3.

    - Electricity savings from the Power Smart portfolio overall have provided greenhouse gas reductions of approximately 918K tonnes of carbon dioxide equivalent emissions, which is comparable to removing approximately 262K cars off the road in the United States for one full year.

    - Natural gas savings from the Power Smart portfolio to date have resulted in emission reductions of approximately 52K tonnes of greenhouse gas emissions, which is equivalent to removing approximately 15K vehicles off the road in Manitoba for one full year.

    - Since 1989, approximately 306K customers have participated in Power Smart customer service initiatives, cost recovery or incentive-based programs.

- The Power Smart portfolio savings to date translate into an annual reduction of approximately $52 million in 2007/08 and a cumulative reduction of over $331 million in participating customer energy bills.

7.3 Progress towards 2017/18 Plan: Power Smart Portfolio

Manitoba Hydro's Power Smart portfolio continues to be very successful with the Power Smart brand continuing to maintain strong market awareness in Manitoba. By the end of 2007/08, the Power Smart portfolio of programs saved 1360 GW.h, 488 MW and 27 million m^3 of natural gas.

Manitoba Hydro's Power Smart incentive-based programs continue to be very successful, influencing pricing and product availability for various energy efficient technologies in the Manitoba marketplace, and moving the corporation closer to its 2017/18 targeted load reduction of 1705 GW.h/year, 641 MW and 53 million m^3 at a cost which is within budgets projected under the Integrated Financial Forecast.

- By the end of 2007/08, Power Smart incentive-based electricity programs (energy efficiency, customer self-generation and rate/load management programs) have achieved a load reduction of 989 GW.h and 393 MW.

- By the end of 2007/08, Power Smart incentive-based natural gas conservation programs have achieved a load reduction of 16 million m^3. After interactive effects, the integrated result was 12 million m^3.

- Total Power Smart expenditures cumulative to March 31st, 2008 are $246 million, consisting of $222 million due to electric initiatives and $24 million due to natural gas initiatives.

APPENDIX A

Sources of Evaluation and Planning Estimates

Many sources are used to identify the evaluation estimates of load savings and utility costs resulting from Power Smart programs. These include:

Sources of Evaluation

Impact Evaluation Reports

Impact evaluation reports are prepared for Power Smart programs to identify net program load savings and costs as well as the cost-effectiveness of these savings. Net savings and costs differ from gross savings and costs as they take into consideration factors such as free riders, free drivers, heating/cooling interactive effects, and persistence effects.

A number of variables potentially affect the cost effectiveness of Power Smart programs. These variables are electric energy, demand or natural gas reduction, hours of operation, measure persistence, average measure life, measure reinvestment, and changes in marginal cost values.

Data Tracking Results

Load savings and utility costs taken from the data tracking results are gross evaluation estimates because an impact evaluation of the program has not yet been completed.

Life-to-Date Expenditure Report

The utility costs cumulative to 2007/08 are accounting figures from the Life-to-Date Expenditure Report for the period of April 1, 1989 to March 31, 2008.

When measuring cost effectiveness of a program, the economic costs, rather than accounting costs, are used.

Economic costs include all costs directly associated with the savings achieved in the 2007/08 year. Thus, the utility costs will include an apportioning of original program start-up costs and the value of incentives related to the measures installed under the 2007/08 programs.

Engineering Estimates

As experts in various technologies, engineering expertise is used to quantify usage and savings data. Computer simulation and modeling may also be used.

Sales & Market Data

Includes in-depth market knowledge of specialists, product specifications and ratings, sales and replacement data.

Sources of Planning Estimates

2007/08 Electric Planning Estimates

The 2007/08 electric planning estimates were taken from the approved option (Recommended Option) from the “2006 Power Smart Plan”.

In all cases the “2006 Power Smart” plan volumes and estimates were used regardless of delays in programs launches and modifications.

Consistent usage of the same plan helps reduce the probability of errors and provides a verifiable public target to compare against. Ensuring the same source information helps ensure a realistic and objective evaluation of the programs/portfolio was conducted and improves the reliability and verifiability of the Power Smart Annual Review.

2007/08 Natural Gas Planning Estimates

The 2006/07 natural gas planning estimates were taken from the approved option (Recommended Option) from the “2006 Power Smart Plan”.

In all cases the “2006 Power Smart” plan volumes and estimates were used regardless of delays in program launches and modifications.

Consistent usage of the same plan helps reduce the probability of errors and provides a verifiable public target to compare against. Maintaining the same source information helps ensure a realistic and objective evaluation of the programs/portfolio was conducted and improves the reliability and verifiability of the Power Smart Annual Review.

2017/18 Planning Estimates

The 2017/18 electric planning targets for energy and demand savings are from the approved DSM option in the “2006 Power Smart Plan” report which includes forecasts for 2006/07 through to 2017/18. The 1992/93 through to 2005/06 planning estimates for energy and demand savings are from the respective Power Smart Resource Options reports or Power Smart Plan. Electric long range planning targets did not exist prior to 1992/93.

The 2017/18 natural gas planning targets are from the approved DSM option in the “2006 Power Smart Plan” report which includes forecasts for 2006/07 through to 2017/18. Natural gas long range planning targets did not exist prior to 2005/06.

The 2007/08 to 2017/18 planning estimates for utility costs are included in the current Integrated Financial Forecast report (IFF07-1). The 2006/07 planning estimates are from IFF06-1. The 1990/91 to 2005/06 planning estimates are from IFF90-4, IFF91-4, IFF92-4, IFF93-3, IFF94-2, IFF95-1, IFF96-1, IFF97-1, IFF98-1, IFF99-1, IFF00-1, IFF01-1, IFF02-1, IFF03-1 and IFF05-1 respectively. The 2007/08 planning estimates are from the “2006 Power Smart Plan” report.

APPENDIX B

EXPLANATION OF BENEFIT-COST RATIOS USED IN DSM ECONOMIC TESTS

1) Total Resource Cost (TRC) Test

The TRC Test assesses the benefits and costs associated with a program irrespective of who realizes the benefits and who pays the costs with any economic transfers between the Corporation and the participating customer being excluded. A TRC benefit/cost ratio greater than 1.0 indicates that the energy efficiency program is cost-effective.

The TRC ratio is calculated based on the following formula:

$$TRC = \frac{PV\ (Marginal\ Benefits)}{PV\ (Total\ Program\ Administration\ Costs + Incremental\ Product\ Costs)}$$

Where:

- For electricity, the Marginal Benefits includes the revenue realized by Manitoba Hydro from conserved electricity being sold in the export market, the avoided cost of new infrastructure (e.g. electric transmission facilities) and measurable non-energy benefits (e.g. water savings).

- For natural gas, the Marginal Benefits includes Manitoba Hydro's avoided cost of purchasing natural gas, avoided transportation costs, the value of reduced greenhouse gas emissions (GHGs) and measurable non-energy benefits (e.g. water savings).

- Total Program Administration Costs includes the administrative costs involved in program planning, design, marketing, implementation and evaluation. It includes all costs associated with offering the POWER SMART program, except for customer incentive costs.

- Incremental Product Costs includes the total incremental costs associated with implementing an energy efficient opportunity. It is the difference in costs between the energy efficient technology and the standard technology that would have been installed in the absence of the program. Any maintenance cost differences associated with the technology options is also considered as part of the incremental cost.

2) Rate Impact Measure (RIM) Test

The Rate Impact Measure (RIM) Test is used to provide an indication of the long term directional and magnitude impact of an energy efficient program on energy rates. The test is a benefit/cost ratio that represents the economic impact of a program from the ratepayer's perspective. All program related savings and costs incurred by the utility, including revenue loss and incentive payments, are taken into account in this assessment. A RIM greater than 1.0 indicates an overall positive impact on rates.

The RIM ratio is calculated based on the following formula:

$$RIM = \frac{PV\ (Utility\ Marginal\ Benefits)}{PV\ (Revenue\ Loss + Utility\ Program\ Administration\ Costs + Incentives)}$$

Where:

- For electricity, the Utility Marginal Benefits includes the revenue realized by Manitoba Hydro from conserved electricity being sold in the export market and the avoided cost of new infrastructure (e.g. electric transmission facilities).

- For natural gas, the Utility Marginal Benefits includes Manitoba Hydro's avoided cost of purchasing natural gas, avoided transportation costs and the value of reduced greenhouse gas emissions (GHGs).

- Revenue Loss includes Manitoba Hydro's lost revenue associated with participants' reduced energy consumption (i.e. customer energy bill reductions).

- Utility Program Administration Costs includes administrative costs incurred by Manitoba Hydro for program planning, design, marketing, implementation and evaluation. It includes all costs associated with offering the POWER SMART program, except for customer incentive costs.

- Incentives include the funds transferred from Manitoba Hydro to the participant associated with implementing the POWER SMART measure.

APPENDIX C

Total Power Smart Participation

Power Smart Participants- Annual Increments*†	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	*Total to 2007/08*
Residential																				
Residential CSI																				
Home Comfort & Energy Savings Program																				
Residential Loan Program													*4,873*	*3,386*	*4,211*	*5,114*	*6,325*	*7,222*	*7,427*	*38,558*
Mail In/On-Line Energy Assessments													*570*	*532*	*338*	*378*	*234*	*455*	*421*	*2,928*
Home Comfort & Energy Savings Program Subtotal													5,443	3,918	4,549	5,492	6,559	7,677	7,848	*41,486*
ecoENERGY Program[i]													411	1,094	4,085	5,298	6,939	5,001	3,171	*25,999*
WISE Home Program													297	506	570	900	859	612	312	*4,056*
Residential Earth Power Program																				
Residential Earth Power Loan														*35*	*92*	*185*	*139*	*85*	*224*	*760*
Earth Power Consumer Workshops																*150*	*475*	*63*	*0*	*688*
Residential Earth Power Program Subtotal													0	35	92	335	614	148	224	*1,448*
Energy Saver Presentations[vi]													58	1,156	453	467	337	610	392	*3,473*
New Homes Workshops													40	305	116	158	119	116	0	*854*
Residential CSI SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0	6,249	7,014	9,865	12,650	15,427	14,164	11,947	*77,316*
Residential CSI Discontinued Programs																				
R-2000 Home Program[ii]													12	19	32	*n/a*	*n/a*	*n/a*	*n/a*	*63*
Residential CSI Discontinued Programs SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0	12	19	32	0	0	0	0	*63*
RESIDENTIAL CSI TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	6,261	7,033	9,897	12,650	15,427	14,164	11,947	*77,379*
Residential Incentive-Based Programs																				
New Home Program																36	126	217	204	*583*
Home Insulation Program																459	1,419	5,211	4,551	*11,640*
Compact Fluorescent Lighting Program																21,663	26,623	17,296	28,933	*94,515*
Seasonal LED Program																	1,900	10,880	8,144	*20,924*
Energy Efficient Light Fixtures Program																		1,047	2,380	*3,427*
Programmable Thermostat Program																		4,948	2,230	*7,178*
Power Smart Appliance Program																		10,374	15,436	*25,810*
Power Smart HE Furnace Program																	1,228	7,028	6,630	*14,886*
Lower Income Energy Efficiency Program																			139	*139*
Residential Incentive-Based Programs SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22,158	31,296	57,001	68,647	*179,102*
Residential Incentive-Based Discontinued Programs																				
Outdoor Timer	6,169	8,954	8,134	4,812	4,160												n/a	n/a	n/a	*32,229*
Refrigerator/Freezer Buy-Back Pilot			474														n/a	n/a	n/a	*474*
Energy Efficient Water Tank/ Water Savings Measures of the 'No Worry Plan'								201	709	681							n/a	n/a	n/a	*1,591*
Residential Incentive-Based Discontinued Programs SUBTOTAL	*6,169*	*8,954*	*8,608*	*4,812*	*4,160*	*0*	*0*	*201*	*709*	*681*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*34,294*
Residential Incentive-Based TOTAL	*6,169*	*8,954*	*8,608*	*4,812*	*4,160*	*0*	*0*	*201*	*709*	*681*	*0*	*0*	*0*	*0*	*0*	*22,158*	*31,296*	*57,001*	*68,647*	*213,396*
Residential TOTAL	6,169	8,954	8,608	4,812	4,160	0	0	201	709	681	0	0	6,261	7,033	9,897	34,808	46,723	71,165	80,594	*290,775*
Commercial																				
Commercial CSI																				
Religious Buildings Initiative													14	6	25	13	34	63	40	*195*
Power Smart Recreation Facility Survey													30	5	6	5	4	5	6	*61*
Commercial CSI SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0	44	11	31	18	38	68	46	*256*
Commercial CSI Discontinued Programs																				
Power Smart Energy Manageriii												18		20			*n/a*	*n/a*	n/a	*38*
Commercial CSI Discontinued Programs SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	18	0	20	0	0	0	0	0	*38*
Commercial CSI TOTAL	0	0	0	0	0	0	0	0	0	0	0	18	44	31	31	18	38	68	46	*294*

Power Smart Participants- Annual Increments*†	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	*Total to*
Commercial Incentive-Based Programs																				
Commercial Custom Measures***																		4	3	*7*
Building Envelope***																		172	179	*351*
Commercial HVAC***																		99	112	*211*
Internal Retrofit Program[iv]				8	15	21	30	24	49	60	37	52	42	55	31	135	425	59	32	*1,075*
Commercial Rinse & Save																		656	202	*858*
Commercial Lighting Program[iv]				129	634	556	488	264	235	384	178	122	152	184	373	742	871	999	1,116	*7,427*
Commercial Building Optimization Program																				*0*
Commercial Earth Power Program***																		28	15	*43*
Parking Lot Controllers***																		253	296	*549*
Commercial Refrigeration																		12	27	*39*
Agricultural Heat Pads										18	22	*7*	*11*	*14*	*10*	*12*	*9*	5	6	*114*
City of Winnipeg Agreement[iv]														4	5	11	274	9	7	*310*
Commercial Incentive-Based Programs SUBTOTAL	0	0	0	137	649	577	518	288	284	462	237	181	205	257	419	900	1,579	2,296	1,995	*10,984*
Commercial Incentive-Based Discontinued Programs																				
Sentinel Lighting Conversion			65	63	70												n/a	n/a	n/a	*199*
Roadway Lighting				73	71	55											n/a	n/a	n/a	*199*
Commercial Construction & Renovation[iv/***]								46	41	40	54	42	56	76	88	102	232		n/a	*777*
Livestock Waterer					129	96	57										n/a	n/a	n/a	*282*
Agricultural Demand Controller					24	10											n/a	n/a	n/a	*34*
Infrared Heat Lamps					1,016												n/a	n/a	n/a	*1,016*
Commercial Incentive-Based Discontinued Programs SUBTOTAL	0	0	65	136	1,310	161	57	46	41	40	54	42	56	76	88	102	232	0	0	2,507
Commercial Incentive-Based TOTAL	0	0	65	273	1,959	738	575	334	325	502	291	223	261	333	507	1,002	1,811	2,296	1,995	13,491
Commercial TOTAL	0	0	65	273	1,959	738	575	334	325	502	291	241	305	364	538	1,020	1,849	2,364	2,041	*13,785*
Industrial																				
Industrial Incentive-Based Programs																				
Performance Optimization[vi]					3	1	4	4	4	8	2	7	15	22	28	44	46	44	66	*298*
Industrial Natural Gas Optimization Program																			10	*10*
Industrial Incentive-Based Programs SUBTOTAL	0	0	0	0	3	1	4	4	4	8	2	7	15	22	28	44	46	44	76	*308*
Industrial Incentive-Based Discontinued Programs																				
High Efficiency Motor[iv]			24	157	199	228	181	178	191	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			*1,158*
Industrial Incentive-Based Discontinued Programs SUBTOTAL	0	0	24	157	199	228	181	178	191	0	0	0	0	0	0	0	0	0	0	*1,158*
Customer Self Generation Programs																				
Customer Load Displacement Pilot																		1	1	*1*
Customer Self Generation Programs TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	*1*
Rate/Load Management Programs																				
Curtailable Rates[v]											2	2	2	3	4	4	4	4	4	*5*
Rate/Load Management Programs TOTAL	0	0	0	0	0	0	0	0	0	0	2	2	2	3	4	4	4	4	4	*5*
Industrial TOTAL	*0*	*0*	*24*	*157*	*202*	*229*	*185*	*182*	*195*	*8*	*4*	*9*	*17*	*25*	*32*	*48*	*50*	*49*	*81*	*1,472*
CSI PROGAMS ACTIVE & DISCONTINUED SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	18	6,305	7,064	9,928	12,668	15,465	14,232	11,993	*77,673*
INCENTIVE PROGAMS ACTIVE & DISCONTINUED SUBTOTAL	6,169	8,954	8,697	5,242	6,321	967	760	717	1,229	1,191	295	232	278	358	539	23,208	33,157	59,346	70,723	228,359
ALL PROGRAMS ACTIVE & DISCONTINUED TOTAL	**6,169**	**8,954**	**8,697**	**5,242**	**6,321**	**967**	**760**	**717**	**1,229**	**1,191**	**295**	**250**	**6,583**	**7,422**	**10,467**	**35,876**	**48,622**	**73,578**	**82,716**	***306,032***

* Participant numbers include free riders but exclude free drivers and market transformation.

† Customers may participate in more than one Power Smart Program.

[i] The program offering in-home energy assessments prior to 2007/08 was known as the EnerGuide for Houses program

[ii] Starting in 2004/05 the R2000 Program was grouped into the Power Smart New Home Program

[iii] Power Smart Energy Manager Program participation is measured by schools. Schools that joined the program in 2000/01 participated for 4 years and schools that joined in 2002/03 participated for 2 years.

[iv] Participation is measured by completed projects.

[v] Annual participation represents the number of customers who participate each year. Since most customers participate year after year, the cumulative number represents the actual number of customers who have participated to date.

[vi] Formerly known as the Home Energy Saver Workshop

*** Starting in 2006/07 the Commercial Construction & Renovation Program was split into individual programs: HVAC, Building Envelope, Parking Lot Controllers, Custom and Earth Power.

APPENDIX D

Synopsis of Discontinued Power Smart Incentive-Based Programs

Residential Programs

Outdoor Timer

Encouraged the use of outdoor timers to control block heaters and interior car warmers at existing homes.

Residential Showerhead Pilot

Encouraged the installation of energy efficient showerheads in existing homes.

Refrigerator/Freezer Buy-Back Pilot Project

Encouraged the removal of older, inefficient second refrigerators and freezers in existing homes.

Energy Efficient Water Tank Measures Component of the "No Worry Plan"

Encouraged residential customers with electric hot water heaters to purchase, finance or lease the highest available energy efficient heater when replacing their electric heaters or installing new ones.

Energy Efficient Water Saving Measures Component of the "No Worry Plan"

Encouraged customers of the "No Worry Plan" Hot Water Tank Program to install energy saving devices (faucet aerators, heat traps, energy efficient shower heads, pipe wrap) as part of a bonus package when installing their new water tanks.

Commercial Programs

Roadway Lighting

Converted existing incandescent and mercury vapour street lighting to efficient high pressure sodium.

Sentinel Lighting Conversion

Encouraged the conversion of yard lighting and sentinel lighting from mercury vapour and incandescent lighting to efficient high pressure sodium.

Livestock Waterer

Encouraged dairy and cattle operations to install energy efficient waterers to reduce demand and energy consumption.

Agricultural Demand Controller

Encouraged large agricultural operations to install demand controllers to reduce peak demand consumption.

Infrared Heat Lamps

Encouraged swine farrowing operations to use energy efficient heat lamps in place of standard heat lamps to reduce energy and demand consumption.

Commercial Showerhead Pilot

Encouraged commercial operations to retrofit shower facilities with energy efficient showerheads.

Industrial Programs

High Efficiency Motors

Encouraged the installation of high efficiency motors in industrial and commercial operations.

APPENDIX E

Curtailable Rates Program Information & Methodology

- The Curtailable Rates Program provides incentives to large industrial customers who curtail their electrical load when called upon by Manitoba Hydro. Incentives are provided by way of a credit on the customer's monthly energy bill.

- 2007/08 reported demand savings for the Curtailable Rates Program are based on a methodology where curtailments throughout the year are analyzed to determine the amount of curtailable load that can be expected to be on the system at the time a curtailment is called. This methodology has been in place since 2000/01. For previous methodology details, refer to the appropriate Power Smart Annual Review.

- Curtailable Rates Program targets are from the current approved "2006 Power Smart Plan" report, which did not include an adjustment for efficiency and thus, in comparison to the actual savings, artificially inflated the targets.

- Reported savings resulting from the Curtailable Rates Program are adjusted for efficiency. This adjustment is made to equate load available for curtailment to that of an actual generator. Curtailments are not as efficient since there is potential risk customers may not curtail at all or may not curtail in time for Manitoba Hydro's system peak. The efficiency factor is based on the curtailment option selected by the customer.

- Savings resulting from the Curtailable Rates Program are available as long as the service offering continues, whether or not actual curtailments are made at the time of system peak or at any other time. Curtailments may be made: to re-establish contingency reserves; to maintain planning reserve obligations; to protect firm load when reserves are insufficient to avoid curtailing firm load; and to meet Manitoba Hydro's non-spinning reserves to the extent necessary. The expected availability of this load and not the timing of its dispatch determine the future benefits of demand savings for this program.

- Under the 2007/08 Power Smart Annual Review, the Curtailable Rates Program has been treated as an incentive-based program. This is consistent with treatment in the current approved "2006 Power Smart Plan" report. As a rate/load management program, certain economic indicators such as TRC and RIM are not reported.

APPENDIX F

Summary of Evaluation and Planning Reports

Following are a listing and brief description of the reports used in this Review:

Evaluation Reports:

Energy Efficient Light Fixtures Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February 2008.

Energy savings were calculated using an engineering analysis. Per bulb kW and kW.h were based upon consumer reported usage. The calculations of program benefits and costs were based upon an average expected product life of 20 years and persistence of 95%.

Seasonal LED Lighting Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February, 2008.

2005/06 Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, January, 2006.

Energy and demand savings were calculated using an engineering analysis. Per string kW and kW.h savings were based upon customer reported hours of use. An average expected product life of 20 years was estimated based upon manufacturer information and engineering analysis. The calculations of program benefits and costs were based upon the assumption that energy efficient measures would have a persistence level of 94% for re-installation over the planning period.

High Efficiency Gas Furnace/Boiler Program

2007/08 Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, March, 2009.

2006/07 Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, January, 2008.

2005/06 Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, August, 2006.

Energy savings were calculated using an engineering analysis. Per project m^3 savings were based upon a net energy savings of 293 m^3 per installation. The calculations of program benefits and costs were based upon an average expected product life of 25 years.

Home Insulation Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February, 2008.

2005/06 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, August, 2006.

2004/05 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2005.

Energy and demand savings were calculated using an engineering analysis. Per project kW and kW.h savings were based upon an engineering analysis of ASHRAE based formula for heat/cooling loss. The calculations of program benefits and costs were based upon an average expected product life of 30 years.

Power Smart Appliance Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February 2008.

Energy savings were calculated using an engineering analysis. Per appliance kW, kW.h, and m3 were based upon Natural Resources Canada's annual energy consumption rating found on the EnerGuide label. Energy use is determined according to standardized test procedures that all manufacturers must apply. The calculations of program benefits and costs were based upon an average expected product life of 16 years for clothes washers, 30 years for freezers and 22 years for refrigerators.

Residential Compact Fluorescent Lighting Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, November 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February 2008.

2005/06 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, August, 2006. 2004/05 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2005.

Energy and demand savings were calculated using an engineering analysis. Per lamp kW and kW.h savings were based upon customer reported hours of use. An average expected product life of 4.5 years was estimated based upon the distribution of products actually installed under the program year. The calculations of program benefits and costs were based upon the assumption that energy efficient measures would have a persistence level of 82% for residential markets, 92% for the school program participants, and 90% for the

bulk purchase participants for re-installation over the	planning period.
Residential New Homes Program	
2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October 2008. 2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February 2008. 2005/06 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October 2006. 2004/05 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October 2006.	Energy (GW.h), demand (MW) and natural gas (m^3) savings were calculated using engineering estimates. For technologies that are included in other Power Smart programs, efforts were made to use the same per sale impact assumptions. An average expected life of 30 years was estimated based upon the distribution of products actually installed under the program year. Products costs for products with an expected life of less than 30 years were adjusted to represent 30 years. The calculations of program benefits and costs were based upon the assumption that energy efficient measures would be replaced or reinvested over a 30 year planning period.
Lower Income Energy Efficiency Program	
2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, January, 2009.	Energy (GW.h), demand (MW) and natural gas (m^3) savings were calculated using engineering estimates.
Residential Programmable Thermostat Pilot Program	
2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, December 2008. 2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February 2008.	Energy savings were calculated using an engineering analysis. Per thermostat kW.h and m3 savings were based upon customer reported use of the thermostat. The calculations of program benefits and costs were based upon an average expected product life of 25 years, and a persistence level of 70%.
Commercial Building Optimization Program	
2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, November, 2008. 2006/07 Impact Evaluation	Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February, 2008. No energy and demand savings were calculated for 2007/08.

Commercial Earth Power Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, March, 2008.

Energy and demand savings were calculated using an engineering analysis. Per project kW and kW.h savings were based upon simulation analysis and manufacturers test results. The average expected life assumed was calculated at 20 years.

Commercial Custom Measures Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February, 2008.

Energy and demand savings were calculated using an engineering analysis. Per project kW and kW.h savings were based upon simulation analysis and manufacturers test results. The average expected life assumed was calculated at 30 years.

Commercial HVAC Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February, 2008.

Energy and demand savings were calculated using an engineering analysis based off an average size furnace, boiler or chiller capacity. Savings were based upon simulation analysis and manufacturers test results using an average life expectancy of 25 years for furnace or boilers and 30 years for chillers.

Commercial Building Envelope Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, November, 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February, 2008.

Insulation: Energy and demand savings were calculated using an engineering analysis. Per project kW and kW.h savings were based upon the modified ASHRAE method for heating and cooling loads. The calculations of program benefits and costs were based upon an average expected product life of 25 years.

Windows: Energy and demand savings were calculated using an engineering analysis. Per project kW and kW.h savings were based upon tested performance of individual window units entered into the modified ASHRAE method for calculating heating and cooling loads. The calculations of program benefits and costs were based upon an average expected product life of 25 years.

Commercial Parking Lot Controllers

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, March, 2008.

Energy and demand savings were calculated using an engineering analysis. Per project kW and kW.h savings were based upon simulation analysis and manufacturers test results and the amount of circuits installed. The average expected life assumed was calculated at 15 years.

Commercial Refrigeration Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February, 2008. Energy and demand savings were calculated based on the

Pacific Gas and Electric Company Work papers for June 13, 2005 and adjusted for the Manitoba market using engineering analysis.

Per project savings were calculated based on the quantity of the measure installed, the customer reported hours of use and type of heating system. Products costs for products with an expected life of less than 10 years were adjusted to represent 10 years.

Internal Retrofit Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, January, 2008.

2005/06 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, September, 2006.

2004/05 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, November, 2005.

2003/04 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, June 2004.

2002/03 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, January, 2004.

2001/02 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2002.

2000/01 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, October 2001.

1999/2000 Impact Evaluation, Marketing Programs, Power Smart Marketing Services, August, 2000.

1998/99 Impact Evaluation, Marketing Programs, Power Smart Marketing Services, September, 1999.

1997/98 Impact Evaluation, Marketing Programs, Power Smart Marketing Services, September, 1998.

1996/97 Impact Evaluation, Market Planning, Power Smart Energy Services, December, 1997.

1995/96 Impact Evaluation, Planning & Evaluation, Business and Energy Services, November, 1996.

Energy and demand savings were calculated using an engineering analysis. An average expected project life of 30 years (2000/01-2005/06), 27 years (1996/97-1999/00) and 15 years (1995/96) was estimated based upon the distribution of products actually installed under the program year, except for T8 lighting systems where a 20 year life was assumed. Under the 2000/01-2005/06 evaluations, product costs for products with an expected life of less than 30 years were adjusted to represent 30 years.

Energy Efficient Lighting Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, November, 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February, 2008.

2005/06 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, November, 2006.

2004/05 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, November, 2005.

2003/04 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, December 14, 2004.

2002/03 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, November, 2004.

2001/02 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, August 9, 2004.

2000/01 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, November, 2001.

1999/2000 Impact Evaluation, Marketing Programs, Power Smart Marketing Services, October, 2000.

1998/99 Impact Evaluation, Marketing Programs, Power Smart Marketing Services, September, 1998.

1997/98 Impact Evaluation, Marketing Programs, Power Smart Marketing Services, September, 1998.

1996/97 Impact Evaluation, Market Planning, Power Smart Energy Services, December, 1997.

1995/96 Impact Evaluation, Planning & Evaluation, Business and Energy Services, October, 1996.

Energy and demand savings were calculated using an engineering analysis. Per project kW and kW.h savings were based upon customer reported activities for the various lighting technologies. An average expected project life of 20 years (1999/97-2006/07) and 18 years (1995/96) was estimated based upon the distribution of products actually installed under the program year, with

the exception of compact fluorescent screw-in bulbs which are assumed to have a two year product life.

Agricultural Heat Pad Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, April, 2009.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February, 2008.

2005/06 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, August 2006.

2004/05 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, October 2005.

2003/04 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, December, 2004.

2002/03 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, March 9, 2003.

2001/02 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, March 9, 2003.

2000/01 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, November, 2001.

1999/2000 Impact Evaluation, Marketing Programs, Power Smart Marketing Services, October, 2000.

1998/99 Impact Evaluation, Marketing Programs, Power Smart Marketing Services, September, 1999.

Energy and demand savings were calculated using an engineering analysis. Per heat pad kW and kW.h savings were based upon customer reported activities. An average expected product life of 15 years was estimated based upon the distribution of products actually installed under the program year. The calculations of program benefits and costs were based upon the assumption that energy efficient measures would be replaced or reinvested over a 30 year planning period. Savings due to market transformation driven sales in prior years were retroactively added in 1998/99 through 2005/06.

City of Winnipeg Power Smart Agreement

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales.

2005/06 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales.

2004/05 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales.

2003/04 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales.

2002/03 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales.

Electric and natural gas savings are determined via engineering calculations included in the individual Energy Measure Agreement completed for each project. This calculation is based on the difference between the existing/baseline system and the selected option. The average expected life assumed varied depending upon the technology installed under the program year. Depending on the type of project, electric energy savings are either stipulated or involve monitoring/verification. When necessary, savings figures are adjusted accordingly.

Commercial Rinse & Save Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February, 2008.

Energy savings were calculated using an engineering analysis. Per valve kW.h savings were based upon water usage (hours of operation and flow rates) water temperature, and the efficiency of heating equipment. The calculations of program benefits and costs were based upon an average expected product life of 10 years and a persistence level of 95% for re-installation.

Performance Optimization Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February, 2008.

2005/06 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2006.

2004/05 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, March, 2006.

2003/04 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, December 14, 2004.

2002/03 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February 5, 2003.

2001/02 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February 5, 2003.

2000/01 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, November, 2001.

1999/2000 Impact Evaluation, Marketing Programs, Power Smart Marketing Services, October, 2000.

1998/99 Impact Evaluation, Marketing Programs, Power Smart Marketing Services, September, 1999.

1997/98 Impact Evaluation, Marketing Programs, Power Smart Marketing Services, September, 1998.

1996/97 Impact Evaluation, Market Planning, Power Smart Energy Services, August, 1997.

1995/96 Impact Evaluation, Planning & Evaluation, Business Energy Services, January, 1997.

Energy and demand savings were calculated based upon pre- and post-metering of projects. The expected project life is project and technology dependent.

Industrial Natural Gas Optimization Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2008.

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, March, 2008.

Customer Load Displacement Program

2007/08 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, September, 2008

2006/07 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, March, 2008

Energy and demand savings were measured via a revenue meter installed at the customer's generator. The amount of annual energy generated determined the program energy savings.

Commercial Construction & Renovation Program

2005/06 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, September 2006.

2004/05 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, November, 2005.

2003/04 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, October, 2004

2002/03 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, July 22, 2004.

2001/02 Impact Evaluation Memo, Power Smart Planning & Market Research, Consumer Marketing & Sales, February 10, 2003.

2000/01 Impact Evaluation, Power Smart Planning & Market Research, Consumer Marketing & Sales, December, 2001.

1999/2000 Interim Evaluation Report, memo from T. Thiessen (Market Planning, Marketing Programs) to K. Krentz (Marketing Programs, Power Smart Marketing Services), January 2, 2001.

1998/99 Impact Evaluation, Marketing Programs, Power Smart Marketing Services, September, 1999.

1997/98 Impact Evaluation, Marketing Programs, Power Smart Marketing Services, September, 1998.

1996/97 Impact Evaluation, Market Planning, Power Smart Energy Services, December, 1997.

Energy and demand savings were calculated using an engineering analysis. Per project kW and kW.h savings were based upon simulation analysis and manufacturers test results. The average expected life assumed varied depending upon the technology installed under the program year. The calculations of program benefits and costs were based upon the assumption that energy efficient measures would be replaced or reinvested over a 30 year planning period, with the exception of Air Barrier, High Efficiency Air Conditioning, and High Efficiency Window technologies.

'No Worry Plan' Hot Water Tank Program

1999/2000 Impact Evaluation of the Energy Efficiency Component, memo from L. Morrison (Market Planning, Marketing Programs) to C. Hyrich (Marketing Programs, Power Smart Marketing Services), December 13, 2000.

1997/98 Impact Evaluation of the Energy Efficiency Component, Marketing Programs, Power Smart Marketing Services, September, 1998.

1996/97 Impact Evaluation of the Energy Efficiency Component, Market Planning Power Smart Energy Services, December, 1997.

Energy and demand savings were calculated using an engineering analysis. Per project kW and kW.h savings were based upon industry findings. An average expected life of 30 years was used for the hot water tanks and heat traps and an average expected life of 15 years was used for all other technologies installed under the 1999/2000 energy efficiency component. The

calculations of program benefits and costs were based upon the assumption that energy efficiency measures would be replaced or reinvested over a 30-year planning period.

High Efficiency Motor Program

1996/97 Impact Evaluation, Market Planning, Power Smart Energy Services, November, 1997.

1995/96 Impact Evaluation, Planning & Evaluation, Business and Energy Services, November, 1996.

Energy and demand savings were calculated using an engineering analysis. Per motor kW and kW.h savings were based upon customer reported activities. An average expected product life of 15 years was estimated based upon the distribution of products actually installed under the 1996/97 program year. The calculations of program benefits and costs were based upon the assumption that energy efficient measures would be replaced or reinvested over a 30 year planning period.

Outdoor Timer Market Transformation

1996/97 Activity, memo from M.R. Esposito (Market Planning, Power Smart Energy Services) to T. Johnson (Marketing Programs, Power Smart Energy Services), October 31, 1997.

1995/96 Activity, memo from L.K. Morrison (Planning & Evaluation, Business & Energy Services) to T. Johnson (Program Development, Business & Energy Services), November 7, 1996.

Energy and demand savings were calculated using an engineering analysis. Per timer kW and kW.h savings were based upon customer reported activities. An average expected product life of 9 years was estimated. The calculations or program benefits and costs were based upon the assumption that energy efficient measures would be replaced or reinvested over a 30 year planning period.

Energy Efficient Livestock Waterer Program

1996/97 Impact Evaluation, Market Planning, Power Smart Energy Services, August, 1997.

1995/96 Impact Evaluation, Planning & Evaluation, Business and Energy Service, October, 1996.

Energy and demand savings were determined based upon metered results. The program's effect on energy efficient waterer sales was determined based upon a trend analysis. An average expected product life of 20 years was estimated. The calculations of program benefits and costs were based upon the average expected life of the waterers.

Roadway Lighting Conversion Program

1994/95 Impact Evaluation, Planning & Evaluation, Energy Management, September, 1995.

Energy and demand savings were calculated using an engineering analysis. An average expected product life of 20 years was estimated. The calculations of program benefits and costs were based upon the assumption that

energy efficient measures would be replaced or reinvested over a 30-year planning period.	
Sentinel Lighting Conversion Program 1993/94 Impact Evaluation, Planning & Evaluation, Energy Management, September, 1994.	Energy and demand savings were calculated using an engineering analysis. An average expected product life of 20 years was estimated. The calculations of program benefits and costs were based upon the assumption that energy efficient measures would be replaced or reinvested over a 30 year planning period.
Agricultural Demand Controller Program 1993/94 Impact Evaluation, Planning & Evaluation, Energy Management, September, 1994.	Energy and demand savings were calculated using a billing analysis. An average expected product life of 15 years was estimated. The calculations of program benefits and costs were based upon the assumption that energy efficient measures would be replaced or reinvested over a 30 year planning period.
Infrared Heat Lamp Program 1991/92 Impact Evaluation Summary Report, Planning & Evaluation, Energy Management, December, 1992.	Energy and demand savings were calculated using an engineering analysis. Per heat lamp kW and kW.h savings were based upon customer reported activities. An average expected product life of 1 year was estimated. The calculations of program benefits and costs were based upon the assumption that energy efficient measures would be replaced or reinvested over a 30 year planning period.
Refrigerator/Freezer Buy-Back Pilot Project 1991 Impact Evaluation Summary Report, Planning & Evaluation, Energy Management, October, 1992.	Energy and demand savings were calculated using an engineering analysis. Per fridge/freezer kW and kW.h savings were based upon customer reported activities and EnerGuide ratings. An average expected remaining product life of 6 years was estimated. The calculations of program benefits and costs were based upon the average expected remaining life of the old refrigerators and freezers.
Planning Reports	
“2006 Power Smart Plan”, Power Smart Planning & Market Research, Consumer Marketing & Sales, November 2006.	“2004 Power Smart Plan”, Power Smart Planning & Market Research, Consumer Marketing & Sales, October 2004.
“2005 Power Smart Plan - Natural Gas Supplement”, Power Smart Planning & Market Research, Consumer Marketing & Sales, May 2005.	“Power Smart RESOURCE OPTIONS for the 2001 Corporate Plan”, Marketing Programs, Consumer Marketing & Sales, June 20, 2001.

"Power Smart RESOURCE OPTIONS for the 2000 Corporate Plan", Marketing Programs, Power Smart Marketing Services, July 4, 2004.

"Power Smart RESOURCE OPTIONS for the 1999 Corporate Plan", Marketing Programs, Power Smart Energy Services, April 30, 1999.

"Power Smart RESOURCE OPTIONS for the 1998 Corporate Plan", Marketing Programs, Power Smart Energy Services, July 20, 1998.

"Power Smart RESOURCE OPTIONS for the 1997 Corporate Plan", Market Planning, Business & Energy Services, May 8, 1997.

"Power Smart RESOURCE OPTIONS for the 1996 Corporate Plan", Planning & Evaluation, Energy Management, May 8, 1996.

"Power Smart RESOURCE OPTIONS for the 1995 Corporate Plan", Planning & Evaluation, Energy Management, May 23, 1995.

APPENDIX G

2007/08 Annual Energy Savings - GW.h
Electric Incentive Based Programs

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	At Generation 2007/08	At Generation 2017/18
RESIDENTIAL																																		
Aboriginal Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Appliances	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	4.6
CFL	7.5	7.5	7.5	7.5	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	0.0
ECM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EELF	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
Hard to Reach/Low Income	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
Home Insulation	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	0.0	0.0	6.6	6.6
LED	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1
New Homes	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.2	1.2
RBB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Thermostats	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Water Saver Package	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	20.8	20.8	20.8	20.8	20.8	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	9.5	9.5	9.5	9.5	7.7	7.7	7.5	7.5	7.5	7.3	6.8	6.8	6.8	6.8	0.0	0.0	23.7	15.1
COMMERCIAL																																		
Aboriginal Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural Heat Pads	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	5.4
CBOP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Wpg PSA	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
Commercial Chillers (HVAC)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.2	0.2
Commercial Geothermal Heating	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	3.8
Commercial Insulation	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4
Commercial Kitchen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Lighting	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.7	20.6
Commercial Refrigeration	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0
Commercial Washers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Air Conditioning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Custom	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	0.0	0.0	2.6	2.6
Commerical Parking Lot Controllers	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	2.9
Commerical Windows	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
Internal Retrofit	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	1.2	1.2
Network Energy Manager	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PS Shops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valve	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Subtotal	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	34.5	34.5	34.3	34.3	34.3	27.0	27.0	27.0	27.0	27.0	5.3	5.3	5.3	5.3	5.3	3.5	3.5	3.5	3.5	3.5	0.0	0.0	41.4	39.3
INDUSTRIAL																																		
Bioenergy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industrial Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Performance Optimization	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.7	29.7
Quality Motor Repair	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.7	29.7
DISCONTINUED/COMPLETED PROGRAMS																																		
Agricultural Demand Controller	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Comprehensive	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Air Barrier	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1
Dispatch-Standby	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Existing Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
High Efficiency Motors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infrared Heat Lamp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Livestock Waterer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Outdoor Timer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Saver Cord	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roadway Lighting	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sentinel Lighting	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Of Use Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vending Sensors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Heater Renta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1
EFFICIENCY PROGRAMS SUBTOTAL	84.2	84.2	84.2	84.2	84.2	76.7	76.7	76.7	76.7	76.7	74.9	74.9	74.6	74.6	74.6	40.3	36.5	36.5	36.5	36.5	13.0	13.0	12.8	12.8	12.8	10.9	10.3	10.3	10.3	10.3	0.0	0.0	94.9	84.3
CUSTOMER SELF GENERATION																																		
Customer Load Displacement Pilo	84.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.6	0.0
Subtotal	84.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.6	0.0
RATE/LOAD MANAGEMENT PROGRAMS																																		
Curtailable Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GW.h IMPACTS (at meter)	168.4	84.2	84.2	84.2	84.2	76.7	76.7	76.7	76.7	76.7	74.9	74.9	74.6	74.6	74.6	40.3	36.5	36.5	36.5	36.5	13.0	13.0	12.8	12.8	12.8	10.9	10.3	10.3	10.3	10.3	0.0	0.0	187.5	84.3
GW.h IMPACTS (at generation)	188.6	96.0	96.0	96.0	96.0	87.5	87.5	87.5	87.5	87.5	84.3	84.3	84.0	84.0	84.0	46.0	41.6	41.6	41.6	41.6	14.8	14.8	14.6	14.6	14.6	12.4	11.8	11.8	11.8	11.8	0.0	0.0		

NOTE: Subtotals may not be exact due to rounding

Persisting Energy Savings - GW.h
Electric Incentive Based Programs

	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	At Generation 2007/08	At Generation 2017/18
RESIDENTIAL																					
Aboriginal Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Appliances	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6	4.0	4.0
CFL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	15.4	20.6	20.6	23.5	0.0
ECM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EELF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2
Hard to Reach/Low Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Home Insulation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	4.2	10.7	10.7	12.2	12.2
LED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	1.3	1.5	1.5
New Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	1.9	1.9	2.1	2.1
RBB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Thermostats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3
Water Saver Package	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6
Subtotal	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	10.5	21.0	39.1	39.1	44.6	21.0
COMMERCIAL																					
Aboriginal Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural Heat Pads	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	5.5	6.7	9.2	11.6	12.9	15.4	16.4	17.0	17.0	19.4	19.4
CBOP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Wpg PSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.7	7.3	10.7	10.7	12.1	11.9
Commercial Chillers (HVAC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	3.7	4.1	4.1	4.7	4.7
Commercial Geothermal Heating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.1	1.8	2.9	3.2	4.0	5.1	7.8	8.8	11.1	15.3	15.3	17.4	17.4
Commercial Insulation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.7	0.7
Commercial Kitchen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Lighting	0.0	0.0	0.0	2.9	17.0	35.9	55.0	61.2	67.4	85.4	90.8	94.9	100.2	105.6	116.2	132.6	153.1	175.8	175.8	200.4	200.3
Commercial Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.4	1.4
Commercial Washers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Air Conditioning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4
Commerical Custom	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	2.6	10.0	10.8	11.7	12.2	12.8	12.8	12.9	13.1	13.1	15.0	15.0
Commerical Parking Lot Controllers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6	3.7	4.1	4.4	5.9	6.8	8.8	11.5	20.0	27.9	27.9	31.8	31.8
Commerical Windows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.6	0.7	0.9	1.0	1.4	1.8	2.3	3.2	3.9	3.9	4.5	4.5
Internal Retrofit	0.0	0.0	0.0	0.2	1.2	2.7	3.3	3.8	4.3	4.9	5.4	5.9	6.1	6.9	9.4	12.2	14.4	17.0	17.0	6.6	18.6
Network Energy Manager	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PS Shops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valve	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.9	2.2	0.0
Subtotal	0.0	0.0	0.0	3.1	18.2	38.6	58.3	66.6	75.2	102.5	119.4	126.7	138.3	149.7	170.4	198.9	242.3	288.9	288.9	316.6	326.1
INDUSTRIAL																					
Bioenergy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industrial Retrofit	0.0	0.0	0.0	0.1	0.7	9.7	32.7	32.7	32.7	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.0	36.4	36.3
Performance Optimization	0.0	0.0	0.0	0.0	0.0	2.4	7.2	35.1	43.5	85.9	107.7	110.8	142.9	170.5	181.5	207.6	238.6	249.3	249.3	274.3	273.2
Quality Motor Repair	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.1	0.7	12.1	39.9	67.8	76.2	118.9	140.8	143.9	176.0	203.6	214.5	240.7	271.7	282.4	282.3	310.7	309.5
DISCONTINUED/COMPLETED PROGRAMS																					
Agricultural Demand Controller	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Comprehensive	0.0	0.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.6	1.6
Commerical Air Barrier	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.8	0.8	0.8	0.9	0.9
Dispatch-Standby	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Existing Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
High Efficiency Motors	0.0	0.0	0.4	4.8	7.7	10.3	13.3	17.9	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	24.5	24.5
Infrared Heat Lamp	0.0	0.0	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	4.2	4.2
Livestock Waterer	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0
Outdoor Timer	5.0	8.9	15.3	20.6	24.8	29.2	30.9	34.7	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	41.6	41.6
Power Saver Cord	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roadway Lighting	0.0	0.0	3.9	13.5	23.2	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	34.0	34.0
Sentinel Lighting	0.0	0.0	2.3	4.7	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	8.5	8.5
Time Of Use Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vending Sensors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Heater Rental	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Subtotal	5.0	8.9	27.0	48.8	68.2	82.3	87.0	95.7	101.3	101.5	101.6	101.8	101.9	102.0	102.0	102.1	102.1	102.1	102.1	116.4	115.9
EFFICIENCY PROGRAMS SUBTOTAL	5.0	8.9	27.4	52.3	87.5	133.3	185.6	230.4	253.2	323.5	362.3	373.0	416.8	455.8	487.6	552.2	637.0	712.6	712.5	788.3	772.5
CUSTOMER SELF GENERATION																					
Customer Load Displacement Pilot	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	120.1	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	120.1	0.0	0.0	0.0
RATE/LOAD MANAGEMENT PROGRAMS																					
Curtailable Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GW.h IMPACTS (at meter)	5.0	8.9	27.4	52.3	87.5	133.3	185.6	230.4	253.2	323.5	362.3	373.0	416.8	455.8	487.6	552.2	647.3	832.7	712.5	788.3	772.5
GW.h IMPACTS (at generation)	5.7	10.2	31.2	59.6	99.7	151.5	210.0	260.0	285.6	364.0	407.4	419.4	468.0	511.5	547.2	619.8	726.6	933.1	801.0		

NOTE: Subtotals may not be exact due to rounding

Persisting Energy Savings - GW.h
Electric Incentive Based Programs

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39
RESIDENTIAL																															
Aboriginal Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Appliances	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CFL	20.6	12.5	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ECM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EELF	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hard to Reach/Low Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Home Insulation	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	9.0	6.5	6.5	6.5	6.5
LED	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Homes	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.2	1.2	1.2	1.2
RBB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Thermostats	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Saver Package	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Subtotal	39.1	31.1	23.8	18.5	18.5	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	15.0	15.0	14.8	14.7	13.5	13.5	13.3	13.3	13.3	13.1	13.1	13.1	11.3	8.2	8.2	8.2	8.2
COMMERCIAL																															
Aboriginal Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural Heat Pads	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	20.2	17.7	16.7	16.7	12.2	12.2
CBOP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Wpg PSA	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.4	10.1	10.1	10.1	10.1	10.0	9.5	3.8	3.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Commercial Chillers (HVAC)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	1.6	0.4	0.4	0.4	0.4
Commercial Geothermal Heating	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	10.2	9.2	9.2	5.1	5.1	5.1
Commercial Insulation	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Kitchen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Lighting	175.8	175.8	175.8	175.7	175.7	175.7	175.7	175.7	175.7	175.7	175.7	175.7	175.7	175.7	175.7	175.7	175.7	154.2	154.2	154.2	154.2	154.2	154.2	154.2	154.2	144.6	128.7	128.7	128.7	128.7	128.7
Commercial Refrigeration	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Washers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Air Conditioning	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
Commerical Custom	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	11.6	11.5	11.5	11.5	11.5	11.5
Commerical Parking Lot Controllers	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	19.5	19.5	19.5	19.5	18.9	18.9	18.9	18.9	16.9	14.7	14.7	14.7	14.7	14.7
Commerical Windows	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.6	3.6	3.6	3.4	3.2	3.2	3.2	2.7	1.8	1.1	1.1	1.2	0.7	0.7	0.7	0.7	0.7
Internal Retrofit	17.0	17.0	17.0	17.0	17.0	16.6	16.5	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	13.9	11.1	8.9	8.9	8.9	8.9
Network Energy Manager	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PS Shops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valve	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	288.9	288.9	288.9	288.8	288.8	288.4	288.3	289.4	286.3	286.1	285.7	285.7	285.7	284.6	288.8	288.3	282.6	248.2	245.0	245.0	245.0	244.0	243.1	241.7	241.7	223.1	195.5	191.0	186.8	182.3	182.3
INDUSTRIAL																															
Bioenergy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industrial Retrofit	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Performance Optimization	249.3	249.3	249.3	249.3	249.3	249.3	249.3	249.3	248.4	248.4	248.4	248.4	248.4	248.6	248.6	248.6	248.6	233.4	233.2	233.2	233.2	233.2	233.2	233.2	233.2	221.3	195.1	179.3	179.3	179.3	179.3
Quality Motor Repair	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	282.3	282.3	282.3	282.3	282.3	282.3	282.3	282.3	281.4	281.4	281.4	281.4	281.4	281.6	281.6	281.6	281.6	266.4	266.2	266.2	266.2	266.2	266.2	266.2	266.2	254.3	228.1	212.3	212.3	212.3	212.3
DISCONTINUED/COMPLETED PROGRAMS																															
Agricultural Demand Controller	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Comprehensive	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Commerical Air Barrier	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.6
Dispatch-Standby	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Existing Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
High Efficiency Motors	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Infrared Heat Lamp	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Livestock Waterer	0.4	0.4	0.4	0.4	0.4	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Outdoor Timer	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5
Power Saver Cord	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roadway Lighting	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9
Sentinel Lighting	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Time Of Use Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vending Sensors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Heater Renta	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Subtotal	102.1	102.1	102.1	102.1	102.1	102.1	101.9	101.8	101.7	101.7	101.7	101.7	101.7	101.7	101.7	101.7	101.7	101.7	101.7	101.7	101.7	101.7	101.7	101.7	101.7	101.6	101.6	101.6	101.6	101.6	101.6
EFFICIENCY PROGRAMS SUBTOTAL	712.5	704.4	697.1	691.8	691.7	691.3	691.0	692.0	687.8	687.6	687.2	687.2	687.2	686.3	687.1	686.6	680.7	631.0	626.4	626.4	626.3	625.2	624.3	622.7	622.7	592.1	536.5	513.1	508.9	504.4	504.4
CUSTOMER SELF GENERATION																															
Customer Load Displacement Pilo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RATE/LOAD MANAGEMENT PROGRAMS																															
Curtailable Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GW.h IMPACTS (at meter)	712.5	704.4	697.1	691.8	691.7	691.3	691.0	692.0	687.8	687.6	687.2	687.2	687.2	686.3	687.1	686.6	680.7	631.0	626.4	626.4	626.3	625.2	624.3	622.7	622.7	592.1	536.5	513.1	508.9	504.4	504.4
GW.h IMPACTS (at generation)	801.0	791.7	783.4	777.3	777.2	776.7	776.4	777.5	772.8	772.5	772.1	772.1	772.1	771.1	772.0	771.5	764.7	708.7	703.5	703.4	703.3	702.1	701.0	699.2	699.2	664.7	602.4	576.4	571.6	566.5	566.5

NOTE: Subtotals may not be exact due to rounding

Total Annual Energy Savings - GW.h
Electric Incentive Based Programs

	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	At Generation 2007/08	At Generation 2017/18
RESIDENTIAL																					
Aboriginal Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Appliances	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	7.6	8.7	8.7
CFL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	15.4	20.6	28.1	32.0	0.0
ECM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EELF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0	1.2	1.2
Hard to Reach/Low Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6
Home Insulation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	4.2	10.7	16.5	18.8	18.8
LED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	2.3	2.6	2.6
New Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	1.9	2.9	3.3	3.3
RBB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Thermostats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.4
Water Saver Package	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6
Subtotal	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	10.5	21.0	39.1	59.9	68.3	36.1
COMMERCIAL																					
Aboriginal Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural Heat Pads	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	5.5	6.7	9.2	11.6	12.9	15.4	16.4	17.0	21.8	24.8	24.8
CBOP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Wpg PSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.7	7.3	10.7	11.2	12.8	12.5
Commercial Chillers (HVAC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	3.7	4.1	4.3	4.9	4.9
Commercial Geothermal Heating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.1	1.8	2.9	3.2	4.0	5.1	7.8	8.8	11.1	15.3	18.6	21.2	21.2
Commercial Insulation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.9	2.1	2.1
Commercial Kitchen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Lighting	0.0	0.0	0.0	2.9	17.0	35.9	55.0	61.2	67.4	85.4	90.8	94.9	100.2	105.6	116.2	132.6	153.1	175.8	193.9	221.1	220.9
Commercial Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.0	3.5	1.4
Commercial Washers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Air Conditioning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4
Commerical Custom	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	2.6	10.0	10.8	11.7	12.2	12.8	12.8	12.9	13.1	15.4	17.5	17.5
Commerical Parking Lot Controllers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6	3.7	4.1	4.4	5.9	6.8	8.8	11.5	20.0	27.9	30.5	34.7	34.7
Commerical Windows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.6	0.7	0.9	1.0	1.4	1.8	2.3	3.2	3.9	4.5	5.1	5.1
Internal Retrofit	0.0	0.0	0.0	0.2	1.2	2.7	3.3	3.8	4.3	4.9	5.4	5.9	6.1	6.9	9.4	12.2	14.4	17.0	18.0	7.8	19.8
Network Energy Manager	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PS Shops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valve	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	2.9	3.3	0.0
Subtotal	0.0	0.0	0.0	3.1	18.2	38.6	58.3	66.6	75.2	102.5	119.4	126.7	138.3	149.7	170.4	198.9	242.3	288.9	326.2	359.1	365.4
INDUSTRIAL																					
Bioenergy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industrial Retrofit	0.0	0.0	0.0	0.1	0.7	9.7	32.7	32.7	32.7	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.0	36.4	36.3
Performance Optimization	0.0	0.0	0.0	0.0	0.0	2.4	7.2	35.1	43.5	85.9	107.7	110.8	142.9	170.5	181.5	207.6	238.6	249.3	276.4	304.0	303.0
Quality Motor Repair	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.1	0.7	12.1	39.9	67.8	76.2	118.9	140.8	143.9	176.0	203.6	214.5	240.7	271.7	282.4	309.4	340.4	339.2
DISCONTINUED/COMPLETED PROGRAMS																					
Agricultural Demand Controller	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Comprehensive	0.0	0.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.6	1.6
Commerical Air Barrier	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.8	0.8	0.8	0.9	0.9
Dispatch-Standby	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Existing Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
High Efficiency Motors	0.0	0.0	0.4	4.8	7.7	10.3	13.3	17.9	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	24.5	24.5
Infrared Heat Lamp	0.0	0.0	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	4.2	4.2
Livestock Waterer	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0
Outdoor Timer	5.0	8.9	15.3	20.6	24.8	29.2	30.9	34.7	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	41.6	41.6
Power Saver Cord	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roadway Lighting	0.0	0.0	3.9	13.5	23.2	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	34.0	34.0
Sentinel Lighting	0.0	0.0	2.3	4.7	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	8.5	8.5
Time Of Use Rates	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vending Sensors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Heater Rental	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Subtotal	5.0	8.9	27.0	48.8	68.2	82.3	87.0	95.7	101.3	101.5	101.6	101.8	101.9	102.0	102.0	102.1	102.1	102.1	102.2	116.4	116.0
EFFICIENCY PROGRAMS SUBTOTAL	5.0	8.9	27.4	52.3	87.5	133.3	185.6	230.4	253.2	323.5	362.3	373.0	416.8	455.8	487.6	552.2	637.0	712.6	797.7	884.3	856.8
CUSTOMER SELF GENERATION																					
Customer Load Displacement Pilot	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	120.1	84.2	92.6	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	120.1	84.2	92.6	0.0
RATE/LOAD MANAGEMENT PROGRAMS																					
Curtailable Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GW.h IMPACTS (at meter)	5.0	8.9	27.4	52.3	87.5	133.3	185.6	230.4	253.2	323.5	362.3	373.0	416.8	455.8	487.6	552.2	647.3	832.7	881.9	976.9	856.8
GW.h IMPACTS (at generation)	5.7	10.2	31.2	59.6	99.7	151.5	210.0	260.0	285.6	364.0	407.4	419.4	468.0	511.5	547.2	619.8	726.6	933.1	989.6		

NOTE: Subtotals may not be exact due to rounding

Total Annual Energy Savings - GW.h
Electric Incentive Based Programs

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39
RESIDENTIAL																															
Aboriginal Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Appliances	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	4.2	0.4	0.4	0.4	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CFL	28.1	20.0	12.7	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ECM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EELF	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hard to Reach/Low Income	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Home Insulation	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	14.8	12.2	12.2	6.5	6.5
LED	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Homes	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.2	2.2	1.2	1.2
RBB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Thermostats	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Saver Package	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Subtotal	59.9	51.8	44.5	39.3	31.8	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	28.3	24.5	24.3	24.2	22.9	21.1	21.0	20.8	20.8	20.6	20.5	19.9	18.1	15.0	15.0	8.2	8.2
COMMERCIAL																															
Aboriginal Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural Heat Pads	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	20.2	17.7	16.7	16.7	12.2	12.2
CBOP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Wpg PSA	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.0	10.6	10.4	10.4	10.4	10.3	9.8	4.1	3.4	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Commercial Chillers (HVAC)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	1.8	0.6	0.6	0.4	0.4
Commercial Geothermal Heating	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	16.3	16.3	12.9	12.9	12.9	12.9	12.9	12.9	10.2	9.2	9.2	5.1	5.1	5.1
Commercial Insulation	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Kitchen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Lighting	193.9	193.9	193.9	193.8	193.8	193.8	193.8	193.8	193.8	193.8	193.8	193.8	193.8	193.8	193.8	193.8	193.8	172.3	172.3	154.2	154.2	154.2	154.2	154.2	154.2	144.6	128.7	128.7	128.7	128.7	128.7
Commercial Refrigeration	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.3	3.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Washers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Air Conditioning	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
Commerical Custom	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	13.8	13.8	13.8	13.8	11.5	11.5
Commerical Parking Lot Controllers	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	27.9	27.9	27.9	19.5	19.5	19.5	19.5	18.9	18.9	18.9	18.9	16.9	14.7	14.7	14.7	14.7	14.7
Commerical Windows	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.1	4.1	4.1	3.9	3.7	3.7	3.7	3.2	2.3	1.6	1.1	1.2	0.7	0.7	0.7	0.7	0.7
Internal Retrofit	18.0	18.0	18.0	18.0	18.0	17.7	17.6	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	15.0	12.2	9.9	9.9	8.9	8.9
Network Energy Manager	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PS Shops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valve	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	326.2	326.2	326.2	326.1	326.1	325.7	325.6	326.7	323.6	320.6	320.2	320.0	320.0	318.9	315.8	315.3	309.6	275.2	272.0	250.3	250.3	249.2	248.3	246.9	245.2	226.5	199.0	194.5	190.3	182.3	182.3
INDUSTRIAL																															
Bioenergy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industrial Retrofit	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Performance Optimization	276.4	276.4	276.4	276.4	276.4	276.4	276.4	276.4	275.4	275.4	275.4	275.4	275.4	275.6	248.6	248.6	248.6	233.4	233.2	233.2	233.2	233.2	233.2	233.2	233.2	221.3	195.1	179.3	179.3	179.3	179.3
Quality Motor Repair	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	309.4	309.4	309.4	309.4	309.4	309.4	309.4	309.4	308.4	308.4	308.4	308.4	308.4	308.6	281.6	281.6	281.6	266.4	266.2	266.2	266.2	266.2	266.2	266.2	266.2	254.3	228.1	212.3	212.3	212.3	212.3
DISCONTINUED/COMPLETED PROGRAMS																															
Agricultural Demand Controller	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Comprehensive	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Commerical Air Barrier	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6
Dispatch-Standby	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Existing Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
High Efficiency Motors	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Infrared Heat Lamp	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Livestock Waterer	0.4	0.4	0.4	0.4	0.4	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Outdoor Timer	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5
Power Saver Cord	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roadway Lighting	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9
Sentinel Lighting	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Time Of Use Rates	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vending Sensors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Heater Rental	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Subtotal	102.2	102.2	102.2	102.2	102.2	102.2	102.0	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.7	101.7	101.6	101.6	101.6	101.6	101.6
EFFICIENCY PROGRAMS SUBTOTAL	797.7	789.6	782.3	776.9	769.4	769.0	768.7	769.6	765.5	762.5	762.1	761.9	761.9	760.9	727.5	723.1	717.2	667.5	662.9	639.4	639.3	638.0	637.1	635.5	633.6	602.4	546.8	523.4	519.2	504.4	504.4
CUSTOMER SELF GENERATION																															
Customer Load Displacement Pilot	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RATE/LOAD MANAGEMENT PROGRAMS																															
Curtailable Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GW.h IMPACTS (at meter)	797.7	789.6	782.3	776.9	769.4	769.0	768.7	769.6	765.5	762.5	762.1	761.9	761.9	760.9	727.5	723.1	717.2	667.5	662.9	639.4	639.3	638.0	637.1	635.5	633.6	602.4	546.8	523.4	519.2	504.4	504.4
GW.h IMPACTS (at generation)	897.0	887.7	879.4	873.3	864.7	864.2	863.9	865.0	860.3	856.8	856.4	856.1	856.1	855.1	818.0	813.1	806.3	750.3	745.1	718.2	718.1	716.7	715.6	713.8	711.6	676.5	614.2	588.2	583.4	566.5	566.5

NOTE: Subtotals may not be exact due to rounding

APPENDIX H

2007/08 Annual Energy Savings - MW
Electric Incentive Based Programs

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	At Generation 2007/08	At Generation 2017/18
RESIDENTIAL																																		
Aboriginal Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Appliances	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
CFL	1.5	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0
ECM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EELF	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Hard to Reach/Low Income	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Home Insulation	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	0.0	0.0	3.2	3.2
LED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
New Homes	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3	0.3
RBB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Thermostats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Saver Package	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	5.5	5.5	5.5	5.5	5.5	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.4	3.4	3.4	3.4	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.1	3.1	3.1	0.0	0.0	6.2	4.5
COMMERCIAL																																		
Aboriginal Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural Heat Pads	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
CBOP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Wpg PSA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Commercial Chillers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Geothermal Heating	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4
Commercial Insulation	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
Commercial Lighting	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	3.3
Commercial Refrigeration	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Commerical Air Conditioning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Custom	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.2	0.2
Commerical Parking Lot Controllers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Windows	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Internal Retrofit	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.2	0.2
New Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valve	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	5.8	5.8	5.8	5.8	5.8	5.3	5.3	5.3	5.3	5.3	1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.0	0.0	7.4	6.6
INDUSTRIAL																																		
Bioenergy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industrial Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Performance Optimization	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	3.4
Quality Motor Repair	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	3.4
DISCONTINUED/COMPLETED PROGRAMS																																		
Agricultural Demand Controller	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Comprehensive	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Air Barrier	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dispatch-Standby	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Existing Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
High Efficiency Motors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infrared Heat Lamp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Livestock Waterer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Outdoor Timer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Saver Cord	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roadway Lighting	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sentinel Lighting	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Of Use Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vending Sensors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Heater Renta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EFFICIENCY PROGRAMS SUBTOTAL	15.1	15.1	15.1	15.1	15.1	13.5	13.5	13.5	13.5	13.5	12.8	12.8	12.8	12.8	12.8	9.2	8.7	8.7	8.7	8.7	4.3	4.3	4.2	4.2	4.2	3.5	3.4	3.4	3.4	3.4	0.0	0.0	17.1	14.5
CUSTOMER SELF GENERATION																																		
Customer Load Displacement Pilo	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7	0.0
Subtotal	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7	0.0
RATE/LOAD MANAGEMENT PROGRAMS																																		
Curtailable Rates	180.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	198.7	0.0
Subtotal	180.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	198.7	0.0
MW IMPACTS (at meter)	210.0	15.1	15.1	15.1	15.1	13.5	13.5	13.5	13.5	13.5	12.8	12.8	12.8	12.8	12.8	9.2	8.7	8.7	8.7	8.7	4.3	4.3	4.2	4.2	4.2	3.5	3.4	3.4	3.4	3.4	0.0	0.0	231.5	14.5
MW IMPACTS (at generation)	231.5	17.1	17.1	17.1	17.1	15.3	15.3	15.3	15.3	15.3	14.5	14.5	14.4	14.4	14.4	10.5	9.9	9.9	9.9	9.9	4.9	4.9	4.8	4.8	4.8	4.0	3.9	3.9	3.9	3.9	0.0	0.0		

NOTE: Subtotals may not be exact due to rounding

Persisting Energy Savings - MW
Electric Incentive Based Programs

	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	At Generation 2007/08	At Generation 2017/18
RESIDENTIAL																					
Aboriginal Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Appliances	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.6	0.6
CFL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	3.1	4.2	4.2	4.7	0.0
ECM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EELF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hard to Reach/Low Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Home Insulation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.0	5.2	5.2	5.9	5.9
LED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
New Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.5	0.5
RBB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Thermostats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Saver Package	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Subtotal	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	2.6	5.5	10.5	10.5	12.0	7.2
COMMERCIAL																					
Aboriginal Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural Heat Pads	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.0	1.2	1.6	2.0	2.2	2.6	2.7	2.8	2.8	3.2	3.2
CBOP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Wpg PSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	1.4	1.8	1.8	2.1	2.0
Commercial Chillers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Geothermal Heating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8	1.1	1.5	1.7	2.0	2.4	3.8	4.2	5.4	7.4	7.4	8.5	8.5
Commercial Insulation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2
Commercial Lighting	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.9	-3.3	-3.3
Commercial Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2
Commerical Air Conditioning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Custom	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.5	0.5	0.5	0.9	0.9	0.9	1.0	1.0	1.1	1.1
Commerical Parking Lot Controllers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Windows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.4	0.5	0.6	0.8	1.1	1.5	1.7	1.7	1.9	1.9
Internal Retrofit	0.0	0.0	0.0	0.0	0.3	0.6	0.6	0.7	0.9	1.0	1.1	1.2	1.3	1.4	1.7	2.2	2.4	2.8	2.8	3.2	3.0
New Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valve	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.5	2.9	6.3	9.8	11.8	13.5	18.3	20.7	22.3	24.3	26.6	31.1	35.2	41.9	48.9	48.9	55.8	55.4
INDUSTRIAL																					
Bioenergy	0.0	0.0	0.0	0.0	0.0	0.3	1.1	4.6	5.8	37.4	39.1	39.5	48.4	52.9	54.1	57.6	61.7	63.2	63.2	69.5	69.4
Industrial Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Performance Optimization	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Quality Motor Repair	0.0	0.0	0.0	0.3	0.4	1.6	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.8	4.5
Subtotal	0.0	0.0	0.0	0.3	0.4	1.9	5.4	8.9	10.1	41.7	43.5	43.8	52.7	57.3	58.4	62.0	66.0	67.5	67.5	74.3	73.9
DISCONTINUED/COMPLETED PROGRAMS																					
Agricultural Demand Controller	0.0	0.0	0.0	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1
Commercial Comprehensive	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Commerical Air Barrier	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Dispatch-Standby	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Existing Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
High Efficiency Motors	0.0	0.0	0.1	0.7	1.3	1.8	2.3	3.0	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	4.3	4.3
Infrared Heat Lamp	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7
Livestock Waterer	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Outdoor Timer	0.3	0.5	0.9	1.2	1.5	1.9	2.0	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.7	2.7
Power Saver Cord	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roadway Lighting	0.0	0.0	0.9	3.1	5.4	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.9	7.9
Sentinel Lighting	0.0	0.0	0.5	1.1	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0	2.0
Time Of Use Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vending Sensors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Heater Rental	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.3	0.5	3.2	7.7	11.8	14.3	15.0	16.1	17.0	17.0	17.0	17.1	17.1	17.1	17.2	17.2	17.2	17.2	17.2	19.6	19.4
EFFICIENCY PROGRAMS SUBTOTAL	0.3	0.5	3.3	8.6	15.2	22.5	30.2	36.8	40.6	77.1	81.3	83.3	94.3	101.1	106.8	117.0	130.6	144.2	144.2	161.6	156.0
CUSTOMER SELF GENERATION																					
Customer Load Displacement Pilot	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	14.3	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	14.3	0.0	0.0	0.0
RATE/LOAD MANAGEMENT PROGRAMS																					
Curtailable Rates	0.0	0.0	0.0	0.0	40.7	46.4	24.7	32.7	80.0	48.2	58.0	57.1	68.0	110.3	148.5	153.8	189.1	183.3	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	40.7	46.4	24.7	32.7	80.0	48.2	58.0	57.1	68.0	110.3	148.5	153.8	189.1	183.3	0.0	0.0	0.0
MW IMPACTS (at meter)	0.3	0.5	3.3	8.6	55.9	68.9	54.9	69.5	120.6	125.3	139.3	140.4	162.3	211.4	255.4	270.8	334.0	341.7	144.2	161.6	156.0
MW IMPACTS (at generation)	0.3	0.6	3.7	9.8	62.1	76.6	61.4	77.6	133.8	139.2	154.7	156.0	180.2	234.2	282.8	300.0	370.0	379.0	161.6		

NOTE: Subtotals may not be exact due to rounding

Persisting Energy Savings - MW
Electric Incentive Based Programs

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39
RESIDENTIAL																															
Aboriginal Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Appliances	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CFL	4.2	2.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ECM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EELF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hard to Reach/Low Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Home Insulation	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.3	3.1	3.1	3.1	3.1	3.1
LED	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Homes	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
RBB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Thermostats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Saver Package	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Subtotal	10.5	8.9	7.4	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.9	5.8	5.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	4.8	3.5	3.5	3.5	3.5	3.5
COMMERCIAL																															
Aboriginal Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural Heat Pads	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.6	2.5	2.5	2.0	2.0
CBOP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Wpg PSA	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Chillers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Geothermal Heating	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	4.9	4.5	2.4	2.4	2.4	2.3
Commercial Insulation	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Lighting	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Refrigeration	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Air Conditioning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Custom	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	0.6	0.6	0.6	0.6	0.6
Commerical Parking Lot Controllers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Windows	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.5	1.5	1.4	1.3	1.3	1.3	1.1	0.7	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3
Internal Retrofit	2.8	2.8	2.8	2.8	2.8	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	1.8	1.6	1.6	1.6	1.6
New Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valve	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	48.9	48.9	48.9	48.9	48.9	48.8	48.7	48.9	48.7	48.7	48.5	48.5	48.5	48.5	48.8	48.7	47.6	42.5	42.1	42.1	42.1	41.9	41.5	41.2	41.2	37.1	33.0	30.6	30.6	30.1	30.0
INDUSTRIAL																															
Bioenergy	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	59.5	55.9	53.8	53.8	53.8	53.8
Industrial Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Performance Optimization	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Quality Motor Repair	4.3	4.3	4.3	4.3	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Subtotal	67.5	67.5	67.5	67.5	67.3	67.3	67.3	67.3	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	65.4	65.3	65.3	65.3	65.3	65.3	65.3	65.3	63.6	60.1	57.9	57.9	57.9	57.9
DISCONTINUED/COMPLETED PROGRAMS																															
Agricultural Demand Controller	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Commercial Comprehensive	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Commerical Air Barrier	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
Dispatch-Standby	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Existing Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
High Efficiency Motors	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Infrared Heat Lamp	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Livestock Waterer	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Outdoor Timer	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Power Saver Cord	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roadway Lighting	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Sentinel Lighting	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Time Of Use Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vending Sensors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Heater Renta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	17.2	17.2	17.2	17.2	17.2	17.2	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.0	17.0	17.0	17.0	17.0	17.0
EFFICIENCY PROGRAMS SUBTOTAL	144.1	142.5	141.0	139.9	139.8	139.6	139.5	139.6	139.3	139.2	139.1	139.1	139.1	139.1	139.0	138.9	137.7	130.7	130.2	130.2	130.2	130.0	129.5	129.2	129.2	123.4	114.9	109.0	109.0	108.5	108.4
CUSTOMER SELF GENERATION																															
Customer Load Displacement Pilo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RATE/LOAD MANAGEMENT PROGRAMS																															
Curtailable Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW IMPACTS (at meter)	144.1	142.5	141.0	139.9	139.8	139.6	139.5	139.6	139.3	139.2	139.1	139.1	139.1	139.1	139.0	138.9	137.7	130.7	130.2	130.2	130.2	130.0	129.5	129.2	129.2	123.4	114.9	109.0	109.0	108.5	108.4
MW IMPACTS (at generation)	161.6	159.7	158.0	156.8	156.6	156.4	156.3	156.4	156.1	156.1	155.9	155.9	155.9	155.9	155.7	155.7	154.3	146.4	145.9	145.8	145.8	145.6	145.1	144.7	144.7	138.2	128.6	121.9	121.9	121.4	121.2

NOTE: Subtotals may not be exact due to rounding

Total Annual Energy Savings - MW
Electric Incentive Based Programs

	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	At Generation 2007/08	At Generation 2017/18
RESIDENTIAL																					
Aboriginal Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Appliances	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.0	1.2	1.2
CFL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	3.1	4.2	5.7	6.5	0.0
ECM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EELF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
Hard to Reach/Low Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Home Insulation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.0	5.2	8.0	9.1	9.1
LED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2
New Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.7	0.8	0.8
RBB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Thermostats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Saver Package	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Subtotal	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	2.6	5.5	10.5	16.0	18.2	11.7
COMMERCIAL																					
Aboriginal Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural Heat Pads	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.0	1.2	1.6	2.0	2.2	2.6	2.7	2.8	3.2	3.7	3.7
CBOP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Wpg PSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	1.4	1.8	2.0	2.3	2.2
Commercial Chillers (HVAC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Geothermal Heating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8	1.1	1.5	1.7	2.0	2.4	3.8	4.2	5.4	7.4	8.7	9.9	9.9
Commercial Insulation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.9	0.9
Commercial Lighting	0.0	0.0	0.0	0.5	2.6	5.7	9.2	10.8	11.6	15.1	16.4	17.4	18.5	19.7	21.7	24.2	27.7	31.1	34.1	38.8	38.8
Commercial Refrigeration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8	1.0	0.2
Commerical Air Conditioning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Custom	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.5	0.5	0.5	0.9	0.9	0.9	1.0	1.1	1.3	1.3
Commerical Parking Lot Controllers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Windows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.4	0.5	0.6	0.8	1.1	1.5	1.7	1.8	2.0	2.0
Internal Retrofit	0.0	0.0	0.0	0.0	0.3	0.6	0.6	0.7	0.9	1.0	1.1	1.2	1.3	1.4	1.7	2.2	2.4	2.8	3.0	3.4	3.2
New Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valve	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.5	2.9	6.3	9.8	11.8	13.5	18.3	20.7	22.3	24.3	26.6	31.1	35.2	41.9	48.9	55.5	63.2	62.1
INDUSTRIAL																					
Bioenergy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industrial Retrofit	0.0	0.0	0.0	0.3	0.4	1.6	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.8	4.5
Performance Optimization	0.0	0.0	0.0	0.0	0.0	0.3	1.1	4.6	5.8	37.4	39.1	39.5	48.4	52.9	54.1	57.6	61.7	63.2	66.2	72.9	72.7
Quality Motor Repair	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.3	0.4	1.9	5.4	8.9	10.1	41.7	43.5	43.8	52.7	57.3	58.4	62.0	66.0	67.5	70.6	77.6	77.3
DISCONTINUED/COMPLETED PROGRAMS																					
Agricultural Demand Controller	0.0	0.0	0.0	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1
Commercial Comprehensive	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Commerical Air Barrier	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Dispatch-Standby	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Existing Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
High Efficiency Motors	0.0	0.0	0.1	0.7	1.3	1.8	2.3	3.0	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	4.3	4.3
Infrared Heat Lamp	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7
Livestock Waterer	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Outdoor Timer	0.3	0.5	0.9	1.2	1.5	1.9	2.0	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.7	2.7
Power Saver Cord	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roadway Lighting	0.0	0.0	0.9	3.1	5.4	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.9	7.9
Sentinel Lighting	0.0	0.0	0.5	1.1	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0	2.0
Time Of Use Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vending Sensors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Heater Rental	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.3	0.5	3.2	7.7	11.8	14.3	15.0	16.1	17.0	17.0	17.0	17.1	17.1	17.1	17.2	17.2	17.2	17.2	17.2	19.6	19.4
EFFICIENCY PROGRAMS SUBTOTAL	0.3	0.5	3.3	8.6	15.2	22.5	30.2	36.8	40.6	77.1	81.3	83.3	94.3	101.1	106.8	117.0	130.6	144.2	159.2	178.6	170.5
CUSTOMER SELF GENERATION																					
Customer Load Displacement Pilot	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	14.3	14.3	15.7	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	14.3	14.3	15.7	0.0
RATE/LOAD MANAGEMENT PROGRAMS																					
Curtailable Rates	0.0	0.0	0.0	0.0	40.7	46.4	24.7	32.7	80.0	48.2	58.0	57.1	68.0	110.3	148.5	153.8	189.1	183.3	180.6	198.7	0.0
Subtotal	0.0	0.0	0.0	0.0	40.7	46.4	24.7	32.7	80.0	48.2	58.0	57.1	68.0	110.3	148.5	153.8	189.1	183.3	180.6	198.7	0.0
MW IMPACTS (at meter)	0.3	0.5	3.3	8.6	55.9	68.9	54.9	69.5	120.6	125.3	139.3	140.4	162.3	211.4	255.4	270.8	334.0	341.7	354.1	393.0	170.5
MW IMPACTS (at generation)	0.3	0.6	3.7	9.8	62.1	76.6	61.4	77.6	133.8	139.2	154.7	156.0	180.2	234.2	282.8	300.0	370.0	379.0	393.1		

NOTE: Subtotals may not be exact due to rounding

Total Annual Energy Savings - MW
Electric Incentive Based Programs

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39
RESIDENTIAL																															
Aboriginal Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Appliances	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CFL	5.7	4.1	2.6	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ECM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EELF	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hard to Reach/Low Income	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Home Insulation	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.1	5.9	5.9	3.1	3.1	
LED	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Homes	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.5	0.5	0.3	0.3	
RBB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Thermostats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Saver Package	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Subtotal	16.0	14.3	12.9	11.8	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	9.8	9.3	9.3	9.2	9.1	8.9	8.9	8.9	8.9	8.9	8.8	7.9	6.6	6.6	3.5	3.5	
COMMERCIAL																															
Aboriginal Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural Heat Pads	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.6	2.5	2.5	2.0	2.0
CBOP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Wpg PSA	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.7	1.7	1.7	1.6	0.5	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Chillers (HVAC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Geothermal Heating	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	7.5	7.5	6.3	6.3	6.3	6.3	6.3	6.3	4.9	4.5	2.4	2.4	2.4	2.3
Commercial Insulation	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Lighting	34.1	34.1	34.1	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	30.4	30.4	27.5	27.5	27.5	27.5	27.5	27.5	25.7	23.2	23.2	23.2	23.2	23.2
Commercial Refrigeration	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0	0.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Air Conditioning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Custom	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.8	0.8	0.8	0.6	0.6	
Commerical Parking Lot Controllers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commerical Windows	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.2	0.8	0.6	0.5	0.5	0.3	0.3	0.3	0.3	0.3
Internal Retrofit	3.0	3.0	3.0	3.0	3.0	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.5	2.0	1.8	1.8	1.6	1.6
New Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valve	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	55.5	55.5	55.5	55.4	55.4	55.3	55.3	55.4	55.2	54.5	54.4	54.3	54.3	54.2	54.1	54.0	52.8	47.8	47.4	43.2	43.2	43.0	42.5	42.2	41.5	37.4	33.4	30.9	30.9	30.1	30.0
INDUSTRIAL																															
Bioenergy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industrial Retrofit	4.3	4.3	4.3	4.3	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Performance Optimization	66.2	66.2	66.2	66.2	66.2	66.2	66.2	66.2	66.1	66.1	66.1	66.1	66.1	66.2	63.1	63.1	63.1	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	59.5	55.9	53.8	53.8	53.8	53.8
Quality Motor Repair	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	70.6	70.6	70.6	70.6	70.4	70.4	70.4	70.4	70.3	70.3	70.3	70.3	70.3	70.3	67.2	67.2	67.2	65.4	65.3	65.3	65.3	65.3	65.3	65.3	65.3	63.6	60.1	57.9	57.9	57.9	57.9
DISCONTINUED/COMPLETED PROGRAMS																															
Agricultural Demand Controller	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Commercial Comprehensive	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Commerical Air Barrier	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Dispatch-Standby	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Existing Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
High Efficiency Motors	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Infrared Heat Lamp	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Livestock Waterer	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Outdoor Timer	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Power Saver Cord	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roadway Lighting	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Sentinel Lighting	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Time Of Use Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vending Sensors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Heater Renta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	17.2	17.2	17.2	17.2	17.2	17.2	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.0	17.0	17.0	17.0	17.0	17.0
EFFICIENCY PROGRAMS SUBTOTAL	159.2	157.5	156.1	155.0	153.3	153.1	153.0	153.1	152.8	152.1	152.0	151.9	151.9	151.9	148.2	147.6	146.4	139.4	138.9	134.5	134.5	134.2	133.8	133.5	132.8	126.9	118.4	112.4	112.4	108.5	108.4
CUSTOMER SELF GENERATION																															
Customer Load Displacement Pilot	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RATE/LOAD MANAGEMENT PROGRAMS																															
Curtailable Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW IMPACTS (at meter)	159.2	157.5	156.1	155.0	153.3	153.1	153.0	153.1	152.8	152.1	152.0	151.9	151.9	151.9	148.2	147.6	146.4	139.4	138.9	134.5	134.5	134.2	133.8	133.5	132.8	126.9	118.4	112.4	112.4	108.5	108.4
MW IMPACTS (at generation)	178.7	176.8	175.1	173.9	171.9	171.7	171.6	171.7	171.4	170.6	170.4	170.3	170.3	170.3	166.2	165.6	164.2	156.3	155.8	150.7	150.7	150.4	149.9	149.5	148.7	142.1	132.5	125.8	125.8	121.4	121.2

NOTE: Subtotals may not be exact due to rounding

APPENDIX I

2007/08 Annual Gas Savings - million m^3
Natural Gas Incentive Based Programs

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
RESIDENTIAL											
Home Insulation	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Low Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Homes	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Residential Furnace	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Thermostat	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Subtotal	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
COMMERCIAL											
City of Winnipeg PSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Building Optimization	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Heating	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Commercial Insulation	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Commericial Windows	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Power Smart Shops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valves	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0
Subtotal	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.0
INDUSTRIAL											
Industrial Natural Gas Optimization Program	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Bioenergy Optimization Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
INCENTIVE-BASED SUBTOTAL	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.0
LESS: INTERACTIVE EFFECTS	-0.8	-0.8	-0.8	-0.8	-0.8	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2
NET IMPACT: INCENTIVE-BASED	7.5	7.5	7.5	7.5	7.5	8.2	8.2	8.2	8.2	8.2	7.8
CUSTOMER SERVICE INITIATIVES	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
NET IMPACT: OVERALL	9.6	9.6	9.6	9.6	9.6	10.3	10.3	10.3	10.3	10.3	9.9

NOTE: Subtotals may not be exact due to rounding

2007/08 Annual Gas Savings - million m^3
Natural Gas Incentive Based Programs

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39
RESIDENTIAL																					
Home Insulation	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.0	0.0
Low Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Homes	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Residential Furnace	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thermostat	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	1.8	1.8	1.8	1.8	1.8	0.0	0.0
COMMERCIAL																					
City of Winnipeg PSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Building Optimization	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Heating	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Insulation	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commericial Windows	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Smart Shops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valves	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDUSTRIAL																					
Industrial Natural Gas Optimization Program	1.7	1.7	1.7	1.7	1.5	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bioenergy Optimization Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	1.7	1.7	1.7	1.7	1.5	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCENTIVE-BASED SUBTOTAL	8.0	8.0	8.0	8.0	7.8	7.8	7.8	7.8	7.8	6.3	6.3	6.3	6.3	6.3	1.8	1.8	1.8	1.8	1.8	0.0	0.0
LESS: INTERACTIVE EFFECTS	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NET IMPACT: INCENTIVE-BASED	7.8	7.8	7.8	7.8	7.6	7.5	7.5	7.5	7.5	6.3	6.3	6.3	6.3	6.3	1.8	1.8	1.8	1.8	1.8	0.0	0.0
CUSTOMER SERVICE INITIATIVES	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.0	0.0	0.0
NET IMPACT: OVERALL	9.9	9.9	9.9	9.9	9.7	9.6	9.6	9.6	9.6	8.0	8.0	8.0	8.0	8.0	3.5	3.5	3.5	3.5	1.8	0.0	0.0

NOTE: Subtotals may not be exact due to rounding

Persisting Natural Gas Savings - million m^3
Natural Gas Incentive Based Programs

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
RESIDENTIAL																	
Home Insulation	0.0	0.0	0.0	0.0	0.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Low Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Homes	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Residential Furnace	0.0	0.0	0.0	0.0	0.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Thermostat	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Subtotal	0.0	0.0	0.0	0.0	1.0	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
COMMERCIAL																	
City of Winnipeg PSA	0.0	0.1	0.1	0.4	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Commercial Building Optimization	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Heating	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Commercial Insulation	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Commericial Windows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Smart Shops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valves	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0
Subtotal	0.0	0.1	0.1	0.4	0.7	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.5	1.5
INDUSTRIAL																	
Industrial Natural Gas Optimization Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bioenergy Optimization Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCENTIVE-BASED SUBTOTAL	0.0	0.1	0.1	0.4	1.7	7.4	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.5	6.5
LESS: INTERACTIVE EFFECTS	0.0	0.0	0.0	-1.2	-2.5	-2.9	-2.9	-2.9	-2.3	-1.8	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4
NET IMPACT: INCENTIVE-BASED	0.0	0.1	0.1	-0.8	-0.8	4.5	4.4	4.4	5.0	5.5	5.9	5.9	5.9	5.9	5.9	5.1	5.1
CUSTOMER SERVICE INITIATIVES	1.2	2.4	4.3	7.7	11.3	13.2	13.2	13.2	13.2	13.2	13.2	13.1	13.0	12.9	12.9	12.9	12.9
NET IMPACT: OVERALL	1.2	2.5	4.4	6.9	10.5	17.7	17.6	17.6	18.2	18.7	19.1	19.0	18.9	18.8	18.8	18.0	18.0

NOTE: Subtotals may not be exact due to rounding

Persisting Natural Gas Savings - million m^3
Natural Gas Incentive Based Programs

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39
RESIDENTIAL																					
Home Insulation	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.8	1.8	1.8	1.8
Low Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Homes	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1
Residential Furnace	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thermostat	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.4	2.3	2.3	2.3	2.3	1.8	1.8	1.9	1.9
COMMERCIAL																					
City of Winnipeg PSA	0.8	0.8	0.8	0.8	0.7	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Building Optimization	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Heating	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Insulation	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commericial Windows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Smart Shops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valves	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	1.5	1.5	1.5	1.5	1.4	1.1	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDUSTRIAL																					
Industrial Natural Gas Optimization Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bioenergy Optimization Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCENTIVE-BASED SUBTOTAL	6.5	6.5	6.5	6.5	6.4	6.1	5.8	5.8	5.7	5.7	5.7	5.7	5.1	2.3	2.3	2.3	2.3	1.8	1.8	1.9	1.9
LESS: INTERACTIVE EFFECTS	-1.4	-1.4	-1.4	-1.4	-1.5	-1.4	-0.9	0.0	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
NET IMPACT: INCENTIVE-BASED	5.1	5.1	5.1	5.1	4.9	4.7	4.9	5.8	5.5	5.5	5.5	5.5	4.9	2.1	2.1	2.1	2.1	1.6	1.6	1.7	1.7
CUSTOMER SERVICE INITIATIVES	12.9	12.9	12.9	12.9	12.8	12.7	12.4	12.1	11.9	12.0	12.0	12.0	12.0	10.7	9.7	8.0	5.1	1.8	0.0	0.0	0.0
NET IMPACT: OVERALL	18.0	18.0	18.0	18.0	17.7	17.4	17.3	17.9	17.4	17.5	17.5	17.5	16.9	12.8	11.8	10.1	7.2	3.4	1.6	1.7	1.7

NOTE: Subtotals may not be exact due to rounding

Total Annual Gas Savings - million m^3
Natural Gas Incentive Based Programs

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
RESIDENTIAL																	
Home Insulation	0.0	0.0	0.0	0.0	0.3	2.2	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Low Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Homes	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Residential Furnace	0.0	0.0	0.0	0.0	0.6	2.6	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Thermostat	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Subtotal	0.0	0.0	0.0	0.0	1.0	5.1	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
COMMERCIAL																	
City of Winnipeg PSA	0.0	0.1	0.1	0.4	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Commercial Building Optimization	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Heating	0.0	0.0	0.0	0.0	0.0	0.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Commercial Insulation	0.0	0.0	0.0	0.0	0.0	0.3	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Commericial Windows	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Power Smart Shops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valves	0.0	0.0	0.0	0.0	0.0	0.8	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.3	0.0
Subtotal	0.0	0.1	0.1	0.4	0.7	2.3	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	4.8	4.5
INDUSTRIAL																	
Industrial Natural Gas Optimization Program	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Bioenergy Optimization Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
INCENTIVE-BASED SUBTOTAL	0.0	0.1	0.1	0.4	1.7	7.4	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	14.8	14.5
LESS: INTERACTIVE EFFECTS	0.0	0.0	0.0	-1.2	-2.5	-2.9	-3.7	-3.7	-3.1	-2.6	-2.2	-1.5	-1.5	-1.5	-1.5	-1.5	-1.6
NET IMPACT: INCENTIVE-BASED	0.0	0.1	0.1	-0.8	-0.8	4.5	11.9	11.9	12.5	13.0	13.4	14.1	14.1	14.1	14.1	13.3	12.9
CUSTOMER SERVICE INITIATIVES	1.2	2.4	4.3	7.7	11.3	13.2	15.3	15.3	15.3	15.3	15.3	15.2	15.1	15.0	15.0	15.0	15.0
NET IMPACT: OVERALL	1.2	2.5	4.4	6.9	10.5	17.7	27.2	27.2	27.8	28.3	28.7	29.3	29.2	29.1	29.1	28.3	27.9

NOTE: Subtotals may not be exact due to rounding

Total Annual Gas Savings - million m^3
Natural Gas Incentive Based Programs

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39
RESIDENTIAL																					
Home Insulation	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.5	3.5	1.8	1.8
Low Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Homes	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Residential Furnace	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thermostat	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.7	5.6	4.1	4.1	4.1	3.6	3.6	1.9	1.9
COMMERCIAL																					
City of Winnipeg PSA	0.8	0.8	0.8	0.8	0.7	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Building Optimization	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Heating	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial Insulation	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commericial Windows	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Smart Shops	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spray Valves	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	4.5	4.5	4.5	4.5	4.4	4.1	3.8	3.8	3.7	3.7	3.7	3.7	3.7	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDUSTRIAL																					
Industrial Natural Gas Optimization Program	1.7	1.7	1.7	1.7	1.5	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bioenergy Optimization Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	1.7	1.7	1.7	1.7	1.5	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCENTIVE-BASED SUBTOTAL	14.5	14.5	14.5	14.5	14.2	13.9	13.6	13.6	13.5	12.0	12.0	12.0	11.4	8.6	4.1	4.1	4.1	3.6	3.6	1.9	1.9
LESS: INTERACTIVE EFFECTS	-1.6	-1.6	-1.6	-1.6	-1.7	-1.7	-1.2	-0.3	-0.5	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
NET IMPACT: INCENTIVE-BASED	12.9	12.9	12.9	12.9	12.5	12.2	12.4	13.3	13.0	11.8	11.8	11.8	11.2	8.4	3.9	3.9	3.9	3.4	3.4	1.7	1.7
CUSTOMER SERVICE INITIATIVES	15.0	15.0	15.0	15.0	14.9	14.8	14.5	14.2	14.0	13.7	13.7	13.7	13.7	12.4	11.4	9.7	6.8	3.5	0.0	0.0	0.0
NET IMPACT: OVERALL	27.9	27.9	27.9	27.9	27.4	27.0	26.9	27.5	27.0	25.5	25.5	25.5	24.9	20.8	15.3	13.6	10.7	6.9	3.4	1.7	1.7

NOTE: Subtotals may not be exact due to rounding

APPENDIX J

Utility Cost (1000s in 2007$)
Electric Incentive Based Programs

	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Cumulative Total 2007/08	Cumulative Total 2017/18
RESIDENTIAL																					
Aboriginal Residential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	13	0	18	18
Appliances	0	0	0	0	0	0	0	0	0	0	0	0	0	19	13	10	92	1,488	1,892	3,515	3,515
ECM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	762	986	788	903	3,458	3,458
EELF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150	481	630	630
Hard to Reach/Low Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	99	204	345	345
Home Insulation	0	0	0	0	241	367	229	214	386	43	4	43	68	67	131	724	1,078	1,838	1,482	6,915	6,915
LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82	377	350	809	809
New Homes	0	0	0	37	144	91	206	117	60	31	1	18	126	279	213	291	583	872	626	3,695	3,695
RBB	0	0	50	12	0	0	0	0	0	0	0	0	0	16	27	5	64	24	0	196	196
Residential Geothermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	4	7	68	33	121	121
Water Saver Package	0	0	166	0	0	0	2	59	24	14	4	0	0	0	0	0	0	0	0	269	269
Subtotal	0	0	216	49	385	458	437	389	470	89	9	61	194	381	413	1,795	2,941	5,717	5,972	19,975	19,975
COMMERCIAL																					
Aboriginal Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agricultural Heating Pad	0	0	0	0	0	0	3	64	33	86	86	45	57	65	58	124	71	64	59	815	815
CBOP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	175	57	39	271	271
City of Wpg PSA	0	0	0	0	0	0	0	0	0	0	0	0	0	74	405	66	3,440	1,260	183	5,428	5,428
Commercial Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	170	197	70	436	436
Commercial Geothermal Heating	0	0	0	0	14	46	75	63	212	111	127	105	160	272	612	263	492	610	344	3,504	3,504
Commercial Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	208	249	457	457
Commercial Kitchen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Lighting	0	0	103	1,100	2,357	2,781	2,729	1,134	965	1,909	852	624	968	1,146	2,587	5,098	6,148	7,049	7,285	44,834	44,834
Commercial Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	226	300	287	813	813
Commercial Washers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	54	54
Commerical Air Conditioning	0	0	0	0	0	2	3	76	72	0	0	0	7	51	0	131	10	0	0	352	352
Commerical Custom	0	0	0	0	18	63	101	75	0	207	502	125	140	77	150	11	8	116	183	1,776	1,776
Commerical Parking Lot Controllers	0	0	0	0	37	126	202	107	96	181	20	49	194	106	275	347	1,029	889	571	4,229	4,229
Commerical Windows	0	0	0	0	7	25	40	121	161	59	41	72	64	148	115	231	307	381	371	2,144	2,144
Internal Retrofit	0	0	111	264	441	531	154	200	165	218	108	277	131	269	591	674	575	761	584	6,054	6,054
Network Energy Manager	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	136	138	138
PS Shops	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
PSEM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	77	78	78
Spray Valve	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	27	64	64
Subtotal	0	0	215	1,363	2,875	3,574	3,306	1,840	1,705	2,770	1,735	1,297	1,721	2,208	4,793	6,945	12,651	11,930	10,522	71,450	71,450
INDUSTRIAL																					
Bioenergy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial Retrofit	0	0	60	303	324	583	1,001	339	311	80	10	4	0	0	0	0	0	36	0	3,051	3,051
Performance Optimization	0	0	83	178	227	468	474	427	622	377	250	387	978	3,088	1,160	1,573	1,640	1,052	3,145	16,130	16,130
Quality Motor Repair	0	0	0	21	49	19	4	0	0	0	0	0	0	0	0	0	0	0	0	93	93
Subtotal	0	0	142	502	601	1,070	1,478	766	933	457	261	391	978	3,088	1,160	1,573	1,640	1,088	3,145	19,274	19,274
DISCONTINUED/COMPLETED PROGRAMS																					
Agricultural Demand Controller	0	0	30	596	203	0	0	0	0	0	0	0	0	0	0	0	0	0	0	829	829
Commercial Comprehensive	0	62	114	33	3	114	0	0	0	0	0	0	0	0	0	0	0	0	0	326	326
Commerical Air Barrier	0	0	0	0	8	26	43	93	74	3	10	32	21	17	18	6	4	0	5	359	359
Dispatch-Standby	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Homes	0	62	26	115	0	0	4	0	0	0	0	0	0	0	0	13	45	0	0	264	264
High Efficiency Motors	0	21	295	715	572	455	417	452	609	44	3	0	0	0	0	0	0	0	0	3,583	3,583
Infrared Heat Lamp	0	17	272	31	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	325	325
Livestock Waterer	0	0	0	0	0	146	126	88	22	4	0	0	0	0	0	0	0	0	0	386	386
Outdoor Timer	188	274	234	183	89	52	18	3	9	4	0	0	0	0	0	0	0	0	0	1,054	1,054
Power Saver Cord	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
Roadway Lighting	0	107	1,415	1,997	1,823	1,386	17	0	44	0	0	0	0	0	0	0	0	0	0	6,789	6,789
Sentinel Lighting	0	30	1,248	1,046	1,073	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,397	3,397
Time Of Use Rates	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vending Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heater Rental	0	0	0	0	0	0	18	378	375	71	5	0	0	0	0	0	0	0	0	846	846
Subtotal	188	572	3,634	4,716	3,777	2,179	642	1,014	1,133	127	18	32	21	17	18	20	48	0	5	18,160	18,160
EFFICIENCY PROGRAMS SUBTOTAL	188	572	4,207	6,630	7,638	7,281	5,864	4,010	4,240	3,442	2,023	1,781	2,913	5,693	6,383	10,333	17,281	18,735	19,644	128,858	128,858
RATE/LOAD MANAGEMENT PROGRAMS																					
Curtailable Rates	0	0	0	82	603	1,480	1,331	1,305	1,129	1,443	1,784	2,288	3,015	4,546	5,953	5,968	6,653	6,509	6,454	50,542	50,542
Subtotal	0	0	0	82	603	1,480	1,331	1,305	1,129	1,443	1,784	2,288	3,015	4,546	5,953	5,968	6,653	6,509	6,454	50,542	50,542
CUSTOMER SELF GENERATION																					
Customer Load Displacement Pilot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	144	1,657	1,601	3,401	3,401
Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	144	1,657	1,601	3,401	3,401
UTILITY COST OF PROGRAMS	188	572	4,207	6,712	8,240	8,761	7,195	5,315	5,369	4,886	3,807	4,068	5,928	10,239	12,336	16,301	24,078	26,901	27,698	182,802	182,802

NOTE: Subtotals may not be exact due to rounding

Total Resource Cost (1000s in 2007$)
Electric Incentive Based Programs

	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Cumulative Total 2007/08	Cumulative Total 2017/18
RESIDENTIAL																					
Aboriginal Residential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	13	0	18	18
Appliances	0	0	0	0	0	0	0	0	0	0	0	0	0	19	13	10	92	2,532	3,971	6,638	6,638
ECM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	1,285	995	750	935	3,984	3,984
EELF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	132	509	642	642
Hard to Reach/Low Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	99	204	345	345
Home Insulation	0	0	0	0	241	367	229	214	386	43	4	43	68	67	131	751	1,132	2,198	1,945	7,820	7,820
LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	224	241	517	517
New Homes	0	0	0	37	144	91	206	117	60	31	1	18	126	279	213	352	767	1,174	846	4,462	4,462
RBB	0	0	26	12	0	0	0	0	0	0	0	0	0	16	27	5	64	24	0	172	172
Residential Geothermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	4	7	77	38	134	134
Water Saver Package	0	0	182	0	0	0	2	59	24	22	4	0	0	0	0	0	0	24	0	317	349
Subtotal	0	0	208	49	385	458	437	389	470	96	9	61	194	381	413	2,407	3,159	7,248	8,690	25,053	25,085
COMMERCIAL																					
Aboriginal Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agricultural Heating Pad	0	0	0	0	0	0	3	64	33	39	28	20	22	30	26	77	42	41	37	462	462
CBOP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	175	57	39	271	271
City of Wpg PSA	0	0	0	0	0	0	0	0	0	0	0	0	0	74	405	66	3,440	1,263	206	5,455	5,455
Commercial Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	304	285	132	721	721
Commercial Geothermal Heating	0	0	0	0	14	46	75	158	562	308	521	206	326	693	1,623	686	1,591	4,478	1,862	13,149	13,149
Commercial Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	250	328	578	578
Commercial Kitchen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Lighting	0	0	103	1,270	2,518	2,928	2,903	1,557	1,222	3,610	1,211	1,174	1,684	1,606	4,950	9,454	12,486	9,835	10,071	68,581	76,970
Commercial Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	226	395	462	1,083	1,268
Commercial Washers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	54	54
Commerical Air Conditioning	0	0	0	0	0	2	3	76	72	0	0	0	3	19	0	11	9	0	0	194	195
Commerical Custom	0	0	0	0	18	63	101	188	0	933	1,494	310	311	433	1,411	78	49	377	921	6,689	6,689
Commerical Parking Lot Controllers	0	0	0	0	37	126	202	183	200	461	58	88	272	158	395	517	1,330	1,211	798	6,035	6,977
Commerical Windows	0	0	0	0	7	25	40	122	141	79	42	98	71	153	200	306	1,481	369	349	3,482	3,482
Internal Retrofit	0	0	111	264	441	531	154	201	170	219	108	285	131	270	596	675	621	1,026	670	6,473	10,070
Network Energy Manager	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	136	138	138
PS Shops	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
PSEM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	77	78	78
Spray Valve	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	27	63	63
Subtotal	0	0	215	1,534	3,036	3,720	3,480	2,550	2,399	5,648	3,462	2,182	2,820	3,436	9,605	11,870	21,754	19,624	16,173	113,509	126,622
INDUSTRIAL																					
Bioenergy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial Retrofit	0	0	60	361	358	1,958	3,456	339	311	130	10	4	0	0	0	0	0	36	34	7,057	7,877
Performance Optimization	0	0	83	178	227	1,057	1,122	3,513	1,648	10,140	286	908	7,050	10,257	2,694	6,434	4,032	2,616	6,674	58,919	70,875
Quality Motor Repair	0	0	0	21	49	19	4	0	0	0	0	0	0	0	0	0	0	0	0	93	93
Subtotal	0	0	142	560	635	3,034	4,582	3,852	1,959	10,270	296	912	7,050	10,257	2,694	6,434	4,032	2,652	6,708	66,069	78,845
DISCONTINUED/COMPLETED PROGRAMS																					
Agricultural Demand Controller	0	0	30	1,011	357	0	0	0	0	0	0	0	0	0	0	0	0	0	582	1,981	2,185
Commercial Comprehensive	0	62	145	33	3	114	0	0	0	0	0	0	0	0	0	0	0	59	0	417	417
Commerical Air Barrier	0	0	0	0	8	26	43	108	76	5	15	60	38	31	35	16	18	0	31	510	510
Dispatch-Standby	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Homes	0	0	87	115	0	0	4	0	0	0	0	0	0	0	0	13	45	0	0	264	264
High Efficiency Motors	0	21	304	796	707	531	465	584	684	44	3	0	0	0	0	0	0	0	468	4,607	6,325
Infrared Heat Lamp	0	17	148	32	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	215	223
Livestock Waterer	0	0	0	0	0	152	162	87	22	4	0	0	0	0	0	0	0	0	0	428	428
Outdoor Timer	868	724	1,055	780	592	635	269	556	266	731	515	877	630	530	0	251	553	257	727	10,814	15,667
Power Saver Cord	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
Roadway Lighting	0	107	1,951	3,509	3,313	2,492	17	0	44	0	0	0	0	0	0	0	0	0	0	11,432	11,432
Sentinel Lighting	0	30	1,248	1,046	1,073	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,397	3,397
Time Of Use Rates	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vending Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heater Rental	0	0	0	0	0	0	18	378	375	75	5	0	0	0	0	0	0	0	0	850	851
Subtotal	868	960	4,968	7,322	6,058	3,953	977	1,714	1,468	859	538	938	669	562	35	281	617	317	1,809	34,915	41,699
EFFICIENCY PROGRAMS SUBTOTAL	868	960	5,533	9,465	10,114	11,165	9,477	8,505	6,295	16,874	4,306	4,093	10,734	14,636	12,747	20,991	29,562	29,841	33,380	239,547	272,251
RATE/LOAD MANAGEMENT PROGRAMS																					
Curtailable Rates	0	0	0	82	116	205	71	48	45	33	33	32	9	9	13	16	9	7	9	738	738
Subtotal	0	0	0	82	116	205	71	48	45	33	33	32	9	9	13	16	9	7	9	738	738
CUSTOMER SELF GENERATION																					
Customer Load Displacement Pilot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	555	6,372	4,623	11,549	11,549
Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	555	6,372	4,623	11,549	11,549
TOTAL RESOURCE COST OF PROGRAMS	868	960	5,533	9,546	10,230	11,370	9,547	8,554	6,340	16,907	4,339	4,125	10,743	14,645	12,761	21,008	30,125	36,220	38,012	251,834	284,539

NOTE: Subtotals may not be exact due to rounding

Administration Cost (1000s in 2007$)
Electric Incentive Based Programs

	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Cumulative Total 2007/08	Cumulative Total 2017/18
RESIDENTIAL																					
Aboriginal Residential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	5
Appliances	0	0	0	0	0	0	0	0	0	0	0	0	0	19	13	10	92	543	590	1,268	1,268
ECM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	610	732	565	658	2,585	2,585
EELF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59	380	439	439
Hard to Reach/Low Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	0	165	207	207
Home Insulation	0	0	0	0	241	367	229	214	386	43	4	43	68	67	131	262	413	277	206	2,951	2,951
LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	224	241	517	517
New Homes	0	0	0	37	144	91	206	117	60	31	0	18	126	279	213	281	519	749	517	3,387	3,387
RBB	0	0	26	12	0	0	0	0	0	0	0	0	0	16	27	5	64	0	0	149	149
Residential Geothermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	4	7	47	23	90	90
Water Saver Package	0	0	158	0	0	0	2	59	24	14	4	0	0	0	0	0	0	0	0	260	260
Subtotal	0	0	183	49	385	458	437	389	470	89	8	61	194	381	413	1,171	1,928	2,464	2,781	11,861	11,861
COMMERCIAL																					
Aboriginal Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agricultural Heating Pad	0	0	0	0	0	0	3	64	33	39	28	20	22	30	26	77	42	41	27	452	452
CBOP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	175	57	39	271	271
City of Wpg PSA	0	0	0	0	0	0	0	0	0	0	0	0	0	58	235	6	459	81	28	866	866
Commercial Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68	20	13	102	102
Commercial Geothermal Heating	0	0	0	0	14	46	75	34	72	26	12	37	76	137	273	141	194	194	206	1,537	1,537
Commercial Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	137	138	275	275
Commercial Kitchen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Lighting	0	0	103	810	903	748	604	413	537	401	295	316	387	783	1,069	1,810	1,763	2,086	1,986	15,015	15,015
Commercial Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	226	210	188	625	625
Commercial Washers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commerical Air Conditioning	0	0	0	0	0	2	3	75	72	0	0	0	3	19	0	11	2	0	0	186	186
Commerical Custom	0	0	0	0	18	63	101	47	0	86	84	76	91	57	61	8	1	76	33	801	801
Commerical Parking Lot Controllers	0	0	0	0	37	126	202	75	72	65	5	30	148	84	207	272	476	172	113	2,083	2,083
Commerical Windows	0	0	0	0	7	25	40	75	72	8	1	23	12	40	30	58	51	149	156	748	748
Internal Retrofit	0	0	111	215	193	171	59	63	66	59	42	86	47	99	117	170	183	220	259	2,162	2,162
Network Energy Manager	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PS Shops	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PSEM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spray Valve	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	15	28	28
Subtotal	0	0	215	1,026	1,173	1,181	1,087	847	923	683	468	588	787	1,307	2,016	2,553	3,640	3,456	3,201	25,150	25,150
INDUSTRIAL																					
Bioenergy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial Retrofit	0	0	60	268	273	201	375	339	311	44	10	4	0	0	0	0	0	36	0	1,921	1,921
Performance Optimization	0	0	83	178	227	329	242	283	256	196	210	197	277	1,863	385	184	325	383	484	6,102	6,102
Quality Motor Repair	0	0	0	21	49	19	4	0	0	0	0	0	0	0	0	0	0	0	0	93	93
Subtotal	0	0	142	467	549	549	620	622	567	240	221	202	277	1,863	385	184	325	419	484	8,116	8,116
DISCONTINUED/COMPLETED PROGRAMS																					
Agricultural Demand Controller	0	0	30	429	146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	605	605
Commercial Comprehensive	0	62	86	33	3	114	0	0	0	0	0	0	0	0	0	0	0	0	0	298	298
Commerical Air Barrier	0	0	0	0	8	26	43	75	72	1	1	16	10	9	9	4	1	0	1	276	276
Dispatch-Standby	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Homes	0	62	26	115	0	0	0	0	0	0	0	0	0	0	0	13	45	0	0	260	260
High Efficiency Motors	0	21	259	328	254	222	238	258	326	44	3	0	0	0	0	0	0	0	0	1,953	1,953
Infrared Heat Lamp	0	17	147	31	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	200
Livestock Waterer	0	0	0	0	0	127	109	78	22	4	0	0	0	0	0	0	0	0	0	340	340
Outdoor Timer	141	210	178	149	62	52	18	3	9	4	0	0	0	0	0	0	0	0	0	826	826
Power Saver Cord	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
Roadway Lighting	0	107	1,415	1,997	1,823	1,386	17	0	44	0	0	0	0	0	0	0	0	0	0	6,789	6,789
Sentinel Lighting	0	30	1,248	1,046	1,073	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,397	3,397
Time Of Use Rates	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vending Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heater Rental	0	0	0	0	0	0	18	378	375	71	5	0	0	0	0	0	0	0	0	846	846
Subtotal	141	508	3,389	4,128	3,374	1,928	442	792	848	124	9	16	10	9	9	17	46	0	1	15,791	15,791
EFFICIENCY PROGRAMS SUBTOTAL	141	508	3,930	5,669	5,481	4,115	2,587	2,650	2,808	1,136	705	866	1,268	3,560	2,823	3,926	5,939	6,339	6,466	60,918	60,918
RATE/LOAD MANAGEMENT PROGRAMS																					
Curtailable Rates	0	0	0	82	116	205	71	48	45	33	33	32	9	9	13	16	9	7	9	738	738
Subtotal	0	0	0	82	116	205	71	48	45	33	33	32	9	9	13	16	9	7	9	738	738
CUSTOMER SELF GENERATION																					
Customer Load Displacement Pilot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ADMINISTRATION COSTS OF PROGRAMS	141	508	3,930	5,751	5,597	4,321	2,657	2,699	2,853	1,169	738	898	1,277	3,569	2,836	3,942	5,948	6,347	6,476	61,656	61,656

NOTE: Subtotals may not be exact due to rounding

Incentive Cost (1000s in 2007$)
Electric Incentive Based Programs

	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Cumulative Total 2007/08	Cumulative Total 2017/18
RESIDENTIAL																					
Aboriginal Residential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Appliances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	945	1,302	2,247	2,247
ECM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	151	254	223	244	873	873
EELF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	101	132	132
Hard to Reach/Low Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	39	39
Home Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	462	665	1,561	1,276	3,963	3,963
LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	153	109	292	292
New Homes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	64	123	109	307	307
RBB	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	24
Residential Geothermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	10	31	31
Water Saver Package	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9
Subtotal	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	623	1,013	3,057	3,190	7,917	7,917
COMMERCIAL																					
Aboriginal Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agricultural Heating Pad	0	0	0	0	0	0	0	0	0	47	58	26	35	35	32	47	29	23	32	363	363
CBOP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
City of Wpg PSA	0	0	0	0	0	0	0	0	0	0	0	0	0	16	171	60	2,981	1,179	155	4,562	4,562
Commercial Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	176	56	334	334
Commercial Geothermal Heating	0	0	0	0	0	0	0	28	141	84	115	67	84	135	338	122	298	416	138	1,967	1,967
Commercial Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	111	182	182
Commercial Kitchen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Lighting	0	0	0	289	1,455	2,033	2,125	721	428	1,508	557	308	581	363	1,518	3,287	4,385	4,963	5,298	29,819	29,819
Commercial Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	99	189	189
Commercial Washers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commerical Air Conditioning	0	0	0	0	0	0	0	1	0	0	0	0	4	32	0	120	8	0	0	166	166
Commerical Custom	0	0	0	0	0	0	0	28	0	121	418	50	49	21	89	3	7	40	150	975	975
Commerical Parking Lot Controllers	0	0	0	0	0	0	0	32	25	116	15	19	46	22	68	75	554	716	458	2,146	2,146
Commerical Windows	0	0	0	0	0	0	0	46	89	51	40	49	52	108	85	173	256	256	215	1,420	1,420
Internal Retrofit	0	0	0	49	248	360	94	136	99	159	65	191	84	170	475	504	392	0	0	3,026	3,026
Network Energy Manager	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Commercial Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PS Shops	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PSEM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spray Valve	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	12	36	36
Subtotal	0	0	0	338	1,703	2,393	2,219	992	782	2,086	1,268	710	935	902	2,776	4,391	9,012	7,954	6,724	45,185	45,185
INDUSTRIAL																					
Bioenergy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Industrial Retrofit	0	0	0	35	51	382	626	0	0	36	0	0	0	0	0	0	0	0	0	1,130	1,130
Performance Optimization	0	0	0	0	0	139	232	144	366	181	40	189	701	1,224	775	1,389	1,315	669	2,662	10,028	10,028
Quality Motor Repair	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	0	0	0	35	51	521	858	144	366	217	40	189	701	1,224	775	1,389	1,315	669	2,662	11,158	11,158
DISCONTINUED/COMPLETED PROGRAMS																					
Agricultural Demand Controller	0	0	0	167	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	224	224
Commercial Comprehensive	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	28
Commerical Air Barrier	0	0	0	0	0	0	0	18	2	2	9	16	11	7	9	2	3	0	5	83	83
Dispatch-Standby	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Homes	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	4
High Efficiency Motors	0	0	35	388	319	232	179	194	282	0	0	0	0	0	0	0	0	0	0	1,630	1,630
Infrared Heat Lamp	0	0	125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	125	125
Livestock Waterer	0	0	0	0	0	19	17	11	0	0	0	0	0	0	0	0	0	0	0	46	46
Outdoor Timer	47	64	56	33	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	228	228
Power Saver Cord	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roadway Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sentinel Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vending Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heater Rental	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Heater Rental	0	0	0	0	0	0	18	378	375	75	5	0	0	0	0	0	0	0	0	850	851
Subtotal	47	64	244	588	404	251	218	601	659	77	14	16	11	7	9	2	3	0	5	3,218	3,219
EFFICIENCY PROGRAMS SUBTOTAL	47	64	277	961	2,158	3,165	3,295	1,737	1,807	2,380	1,322	915	1,647	2,133	3,560	6,405	11,343	11,680	12,581	67,478	67,479
RATE/LOAD MANAGEMENT PROGRAMS																					
Curtailable Rates	0	0	0	0	487	1,274	1,261	1,257	1,084	1,410	1,751	2,256	3,005	4,537	5,940	5,952	6,645	6,502	6,444	49,804	49,804
Subtotal	0	0	0	0	487	1,274	1,261	1,257	1,084	1,410	1,751	2,256	3,005	4,537	5,940	5,952	6,645	6,502	6,444	49,804	49,804
CUSTOMER SELF GENERATION																					
Customer Load Displacement Pilot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	144	1,647	1,483	3,274	3,274
Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	144	1,647	1,483	3,274	3,274
INCENTIVE COST OF PROGRAMS	47	64	277	961	2,645	4,439	4,556	2,994	2,891	3,790	3,073	3,171	4,652	6,670	9,500	12,357	18,132	19,829	20,508	120,556	120,557

NOTE: Subtotals may not be exact due to rounding

Utility Cost (1000s in 2007$)
Natural Gas Incentive Based Programs

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Cumulative Total 2007/08	Cumulative Total 2017/18
RESIDENTIAL									
Home Insulation	0	0	0	0	373	1,820	2,916	5,109	5,109
Low Income	0	0	0	0	78	0	161	238	238
New Homes	0	12	74	91	61	92	135	466	466
Residential Furnace	0	0	0	0	577	1,304	2,077	3,957	3,957
Thermostat	0	0	0	0	0	191	128	319	319
Subtotal	0	12	74	91	1,088	3,407	5,417	10,089	10,089
COMMERCIAL									
City of Winnipeg PSA	0	0	0	0	0	0	0	0	0
Commercial Building Optimization	0	0	0	0	75	226	155	456	456
Commercial Heating	0	0	0	0	104	598	1,622	2,324	2,324
Commercial Insulation	0	0	0	0	0	414	808	1,222	1,222
Commericial Windows	0	0	0	0	0	127	275	402	402
Power Smart Shops	0	0	0	0	0	0	1	1	1
PSEM	0	0	0	0	0	0	116	116	116
Spray Valves	0	0	0	0	0	127	54	181	181
Subtotal	0	0	0	0	179	1,492	3,031	4,702	4,702
INDUSTRIAL									
Industrial Natural Gas Optimization Program	0	0	0	0	101	36	283	421	421
Bioenergy Optimization Program	0	0	0	0	0	0	13	13	13
Subtotal	0	0	0	0	101	36	296	434	434
INCENTIVE-BASED SUBTOTAL	0	12	74	91	1,368	4,936	8,744	15,225	15,225
Support Cost	196	216	234	515	1,202	1,592	1,562	5,517	5,517
Contingency	0	0	0	0	0	0	0	0	0
TOTAL ACCOUNTING UTILITY COST	196	229	308	606	2,569	6,528	10,307	20,742	20,742

NOTE: Subtotals may not be exact due to rounding

Total Resource Cost (1000s in 2007$)
Natural Gas Incentive Based Programs

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Cumulative Total 2007/08	Cumulative Total 2017/18
RESIDENTIAL									
Home Insulation	0	0	0	0	776	4,234	3,631	8,640	8,640
Low Income	0	0	0	0	78	0	161	238	238
New Homes	0	12	74	168	115	261	413	1,042	1,042
Residential Furnace	0	0	0	0	2,039	6,121	4,575	12,735	12,735
Thermostat	0	0	0	0	0	225	144	370	370
Subtotal	0	12	74	168	3,007	10,840	8,923	23,025	23,025
COMMERCIAL									
City of Winnipeg PSA	0	0	0	0	0	0	0	0	0
Commercial Building Optimization	0	0	0	0	75	226	155	456	456
Commercial Heating	0	0	0	0	104	919	2,422	3,444	3,444
Commercial Insulation	0	0	0	0	0	558	1,327	1,885	1,885
Commericial Windows	0	0	0	0	0	127	330	457	457
Power Smart Shops	0	0	0	0	0	0	1	1	1
PSEM	0	0	0	0	0	0	116	116	116
Spray Valves	0	0	0	0	0	125	54	179	179
Subtotal	0	0	0	0	179	1,955	4,405	6,540	6,540
INDUSTRIAL									
Industrial Natural Gas Optimization Program	0	0	0	0	101	36	1,837	1,974	1,974
Bioenergy Optimization Program	0	0	0	0	0	0	13	13	13
Subtotal	0	0	0	0	101	36	1,850	1,987	1,987
INCENTIVE-BASED SUBTOTAL	0	12	74	168	3,287	12,832	15,179	31,551	31,551
Support Cost & Contingency	196	216	234	515	1,202	1,592	1,562	5,517	5,517
TOTAL RESOURCE COST	196	229	308	683	4,489	14,424	16,741	37,069	37,069

NOTE: Subtotals may not be exact due to rounding

Administration Cost (1000s in 2007$)
Natural Gas Incentive Based Programs

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Cumulative Total 2007/08	Cumulative Total 2017/18
RESIDENTIAL									
Home Insulation	0	0	0	0	169	521	748	1,438	1,438
Low Income	0	0	0	0	78	0	138	216	216
New Homes	0	12	74	75	20	31	49	260	260
Residential Furnace	0	0	0	0	260	286	440	985	985
Thermostat	0	0	0	0	0	109	93	201	201
Subtotal	0	12	74	75	528	946	1,467	3,101	3,101
COMMERCIAL									
City of Winnipeg PSA	0	0	0	0	0	0	0	0	0
Commercial Building Optimization	0	0	0	0	75	226	155	456	456
Commercial Heating	0	0	0	0	104	280	291	674	674
Commercial Insulation	0	0	0	0	0	74	74	148	148
Commericial Windows	0	0	0	0	0	80	84	164	164
Power Smart Shops	0	0	0	0	0	0	1	1	1
PSEM	0	0	0	0	0	0	116	116	116
Spray Valves	0	0	0	0	0	52	30	82	82
Subtotal	0	0	0	0	179	712	751	1,641	1,641
INDUSTRIAL									
Industrial Natural Gas Optimization Program	0	0	0	0	101	36	90	228	228
Bioenergy Optimization Program	0	0	0	0	0	0	13	13	13
Subtotal	0	0	0	0	101	36	103	241	241
INCENTIVE-BASED SUBTOTAL	0	12	74	75	807	1,694	2,321	4,983	4,983
Support Cost & Contingency	196	216	234	515	1,202	1,592	1,562	5,517	5,517
PROGRAM ADMINISTRATION COST	196	229	308	590	2,009	3,286	3,883	10,500	10,500

NOTE: Subtotals may not be exact due to rounding

Incentive Cost (1000s in 2007$)
Natural Gas Incentive Based Programs

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Cumulative Total 2007/08	Cumulative Total 2017/18
RESIDENTIAL									
Home Insulation	0	0	0	0	204	1,299	2,168	3,671	3,671
Low Income	0	0	0	0	0	0	22	22	22
New Homes	0	0	0	16	40	62	87	206	206
Residential Furnace	0	0	0	0	316	1,019	1,637	2,972	2,972
Thermostat	0	0	0	0	0	82	36	118	118
Subtotal	0	0	0	16	560	2,462	3,950	6,989	6,989
COMMERCIAL									
City of Winnipeg PSA	0	0	0	0	0	0	0	0	0
Commercial Building Optimization	0	0	0	0	0	0	0	0	0
Commercial Heating	0	0	0	0	0	319	1,331	1,650	1,650
Commercial Insulation	0	0	0	0	0	341	734	1,075	1,075
Commericial Windows	0	0	0	0	0	46	191	237	237
Power Smart Shops	0	0	0	0	0	0	0	0	0
PSEM	0	0	0	0	0	0	0	0	0
Spray Valves	0	0	0	0	0	75	24	99	99
Subtotal	0	0	0	0	0	781	2,280	3,060	3,060
INDUSTRIAL									
Industrial Natural Gas Optimization Program	0	0	0	0	0	0	193	193	193
Bioenergy Optimization Program	0	0	0	0	0	0	0	0	0
Subtotal	0	0	0	0	0	0	193	193	193
INCENTIVE-BASED SUBTOTAL	0	0	0	16	560	3,242	6,423	10,242	10,242
TOTAL PROGRAM INCENTIVES	0	0	0	16	560	3,242	6,423	10,242	10,242

NOTE: Subtotals may not be exact due to rounding