

2014-2015

Power Smart Annual Review

Power Smart Planning, Evaluation & Research Department
Customer Care & Energy Conservation Business Unit



March 2016



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Message from Manitoba Hydro's CEO

Manitoba Hydro is recognized both internationally and in Canada as a leader in developing and delivering demand side management programs that are innovative, progressive and meet the demands of Manitobans.

Our achievements have been recognized during our 25-year track record of Power Smart program successes – including a recent prestigious award for the highest natural gas savings per customer in North America. Manitobans have also come to know us as a leader in promoting and delivering energy efficiency programs with 80 per cent of customers giving us high satisfaction ratings in this area.

Manitoba Hydro's \$52 million investment in Power Smart programs in 2014/15 has helped 45,000 participating Manitobans save nearly \$14 million on their energy bills this past fiscal year alone. In addition to the impressive savings realized by our customers, the reduction of greenhouse gas emissions resulting from this past year's Power Smart programs is equivalent to removing 40,000 cars from the road.

The benefits to Manitobans don't stop there. The use of innovative green energy initiatives in our province will continue to expand as a result of Manitoba Hydro's growing investment in Power Smart initiatives. Our programs are helping to advance green technologies such as geo-thermal, bio-energy and passive solar heating in Manitoba. These and other Power Smart initiatives which are underway or planned for the years ahead aim to reduce the predicted growth in Manitobans' electric usage by 60 percent over the next 15 years.

At Manitoba Hydro we are committed to increasing our support for and investment in green energy and alternative energy options; working together with government, industry and partners to drive a new green energy future for Manitoba. We are proud of the leadership role we have played in demand side management in Canada and around the world and look forward to building on that success in the years to come.

A handwritten signature in black ink, appearing to read 'K. Shepherd', written over a light grey rectangular background.

Kelvin Shepherd
President & Chief Executive Officer,
Manitoba Hydro

EXECUTIVE SUMMARY

The 2014/15 Power Smart Annual Review reports the energy and demand savings, customer energy cost savings, customer participation and associated greenhouse gas emissions reduction achieved through Manitoba Hydro's Power Smart initiative, including an assessment against the 2014/15 planned targets outlined in the 2014 Power Smart Plan.

The California Evaluation Framework is used as a guide in Manitoba Hydro's DSM evaluations and related activities. This framework, which is widely used in the DSM evaluation industry, provides a consistent, systemized, cyclic approach for planning and conducting evaluations of energy efficiency programs. When verifying the energy and demand savings of its DSM programs, Manitoba Hydro uses the International Performance Measurement and Verification Protocol (IPMVP) and the Uniform Methods Project (UMP) as guides. Both of these resources provide an overview of current best practices for verifying the impacts of DSM activities in program impact evaluations.

The Power Smart initiative, including persisting savings, has achieved 2,728 GWh and 749 MW in electric savings (at generation), and 103 million cubic metres in natural gas savings. This level of savings represents 10.8% of electric load and 6.4% of natural gas volume in 2014/15 (excluding natural gas volume from power stations and special contracts).

As a result of electric and natural gas Power Smart efforts in 2014/15, approximately 2.0 million tonnes of greenhouse gas emissions reduction was achieved. This combined reduction is equivalent to 10% of Manitoba's provincial emissions and equates to taking an estimated 407 thousand cars off the road for one year.

The electric savings resulting from the Power Smart initiative, including persisting savings, equate to nearly half of Winnipeg's residential and commercial power needs. The natural gas savings, including persisting savings, equate to 1.7 times the residential and commercial natural gas needs of Brandon.

In general, Manitoba Hydro pursues all economic DSM opportunities with the DSM costs paid by customers either directly or through electric and natural gas rates. The economics of electric DSM opportunities are assessed against the marginal value of electricity which varies considerably by time of day, season and year; however, the long term average value of electricity was 7.52¢/kWh. The planned levelized total cost of capturing the electric DSM opportunities pursued in 2014/15, which includes both the customer's and Manitoba Hydro's investment, ranged from 1.0¢ to 8.2¢/kWh. Manitoba Hydro's planned levelized cost involved in pursuing these various DSM opportunities ranged from 0.7¢ to 5.4¢/kWh. The actual levelized costs of the initiatives will be assessed over a longer period.

Natural gas DSM opportunities are assessed against the alternative of purchasing natural gas which was 25.5¢/cubic metre based on 2014/15 forecast prices. Some higher cost programs are also pursued to ensure lower income customers have access to energy conservation programming, or in compliance with Manitoba Public Utility Board orders. The planned levelized total cost of the natural gas DSM opportunities pursued in 2014/15, which includes both the customer's and Manitoba Hydro's investment, ranged from 6.3¢ to 53.0¢/cubic metre. Manitoba Hydro's planned levelized cost of these opportunities ranged from 3.7¢ to 119.9¢/cubic metre. The actual levelized costs of the initiatives will be assessed over a longer period.

In 2014/15 alone, the electric Power Smart program was successful in capturing 273 GWh and 223 MW in electric savings (at generation). The energy efficiency portfolio exceeded targets, mainly due to the strong success of the Residential LED Lighting Program which had significantly higher participation in the program than expected. The commercial portfolio also saw strong success with the Commercial Building Envelope Program exceeding its planned electric savings due to higher participation. The customer self-generation programs achieved 76 GWh and 18 MW in electric energy savings. Some of the forecast electric savings from these programs were deferred to subsequent years, resulting from customer decisions related to the timing of capital investments for planned projects. The deferral recognizes capital spending constraints imposed on customers as a result of current market conditions within their sectors and does not reflect on the economies associated with the individual projects. Savings from energy efficiency codes and standards were 58 GWh and 16 MW in 2014/15. Some of the forecast electric savings from codes and standards were not achieved due to inefficient commercial lighting products still available in the market in 2014/15. These commercial lighting codes and standards electric savings will be achieved in future years, once the inefficient lighting products are no longer available for purchase in the market.

For the natural gas Power Smart program, 11.8 million cubic metres of savings were achieved, surpassing the target. This success was mainly due to the Commercial Building Envelope Program's positive performance with higher participation and greater savings per square foot than planned, and the Industrial Natural Gas Optimization Program with several large projects with high energy savings being completed in 2014/15. Manitoba

Hydro's net natural gas savings after taking into account interactive effects were 10.1 million cubic metres, which essentially met the target.

Due to the success of the electric Power Smart programs in 2014/15, natural gas interactive effects were higher than planned by 0.7 million cubic metres. If the natural gas interactive effects had been at the forecasted level, the natural gas Power Smart program would have exceeded forecast energy savings by 6%. The savings achieved by the Power Smart portfolio in 2014/15 represent 82% of the twenty-year average annual electric load growth and 1.1% of electric load in 2014/15. As well, it represents 0.7% of natural gas volume in 2014/15 excluding interactive effects, and 6% of natural gas volume in 2014/15 including interactive effects (both scenarios exclude gas volume resulting from power stations and special contracts), further reducing natural gas consumption in Manitoba.

Total Power Smart expenditures in 2014/15 were \$52 million, which consisted of \$34 million from the Power Smart electric operations, \$10 million from the Power Smart natural gas operations, \$5 million from the Affordable Energy Fund and \$3 million from the Furnace Replacement Fund.

To date, \$574 million have been invested in the Power Smart initiative; \$436 million from the Power Smart electric operations, \$98 million from the Power Smart natural gas operations, \$29 million from the Affordable Energy Fund and \$11 million from the Furnace Replacement Fund.

The customer bill reduction due to 2014/15 Power Smart results, including persisting savings, amounts to an annual reduction of \$120 million, with \$87 million in

reduced electricity bills and \$33 million in reduced natural gas bills. By customer sector, \$35 million was saved in the residential sector, \$50 million in the commercial sector and \$35 million in the industrial sector. Customer bill reduction relates only to incentive-based programs and DSM support programs.

Cumulative customer bill reduction is approximately \$918 million, consisting of \$724 million on electric bills and \$194 million on natural gas bills.

In 2014/15 alone, including support costs and interactive effects, the combined total resource cost (TRC) ratio for electric and natural gas incentive-based programs was 2.1. For electric incentive-based programs, including support costs, the TRC ratio was 2.6, the rate impact measure (RIM) ratio was 1.0, the levelized utility cost (LUC) was 1.8¢/kWh and the levelized resource cost (LRC) was 3.1¢/kWh. For natural gas incentive-based programs, including support costs and interactive effects, the TRC ratio was 1.0, the RIM ratio was 0.5, the LUC was 18.4¢/m³ and the LRC was 30.5¢/m³.

Awareness of the Power Smart brand continues to remain

2014/15 Program Costs

The cost of DSM opportunities varies considerably with some opportunities being economic and others, uneconomic. In general, Manitoba Hydro pursues all economic DSM opportunities with the DSM costs being paid by customers either directly or through electric and natural gas rates.

The following figure identifies the various electric DSM programs that were pursued during 2014/15, as well as the associated planned levelized costs. The economics of electric

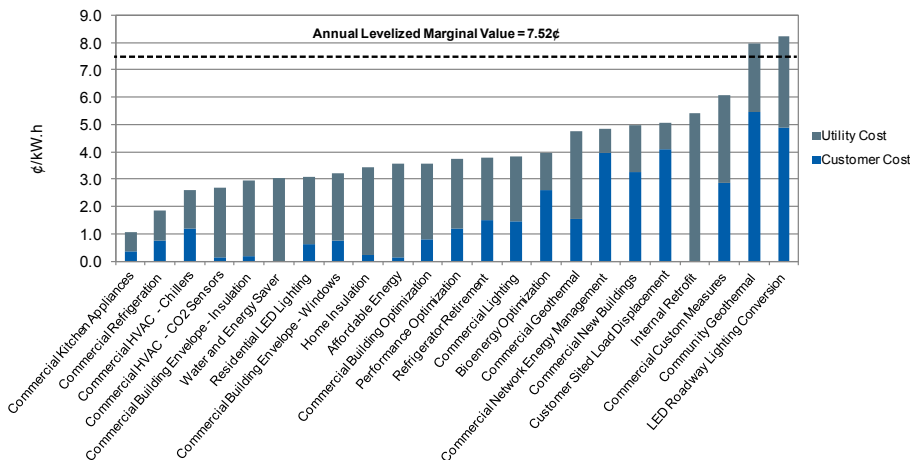
high with 93% of Manitoba respondents saying that they recognize the brand name. Customers continue to report the strongest association between Power Smart and energy efficiency, with the vast majority (80%) of respondents agreeing that the brand projects this message. Customers continue to strongly agree that the Power Smart brand is greatly associated with helping customers save money on their energy bills, with 74% of respondents providing a 7 or higher out of 10, and one-third (35%) saying they had participated in a Manitoba Hydro Power Smart program.

The vast majority of customers report they are very satisfied with Manitoba Hydro's 'Efforts to Encourage Customers to be More Energy Efficient', with 80% reporting a satisfaction level of 7 or higher on a 1-10 satisfaction scale.

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

DSM opportunities are assessed against the marginal value of electricity which varies considerably by time of day, season and year, however the long term average value of electricity was 7.52¢/kWh. The planned levelized total cost of the electric DSM opportunities, which includes both the customer's and Manitoba Hydro's investment, ranged from 1.0¢ to 8.2¢/kWh. Manitoba Hydro's planned levelized cost involved in pursuing these various DSM opportunities ranged from 0.7¢ to 5.4¢/kWh. The actual levelized costs of the initiatives will be assessed over a longer period.

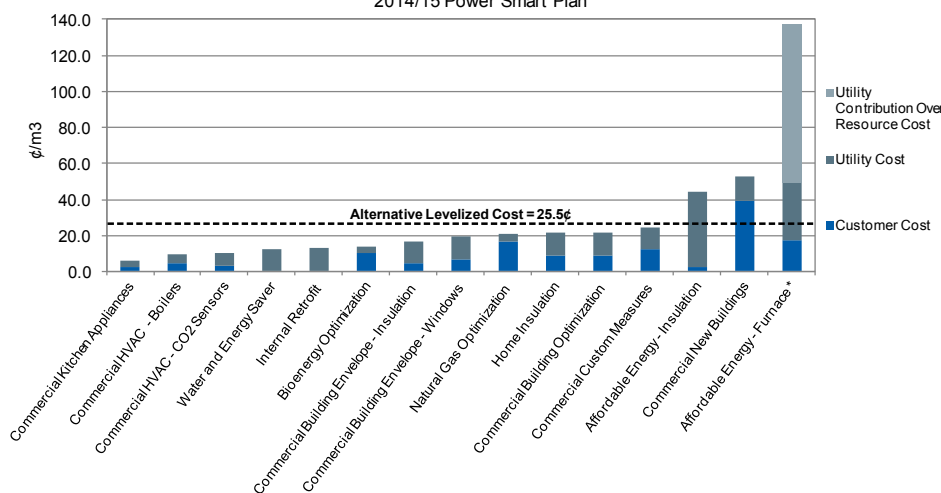
Exhibit E.1
Electric Levelized Costs
 2014/15 Power Smart Plan
 at Generation



The following figure identifies the various natural gas DSM programs and associated planned levelized costs that were pursued during 2014/15. In general, Manitoba Hydro pursues all economic natural gas DSM opportunities with the economics being assessed against the alternative of purchasing natural gas which was 25.5¢/cubic metre based on 2014/15 forecast prices. Some higher-cost programs are also pursued to ensure lower income customers have access to energy conservation programming, or in

compliance with Manitoba Public Utility Board orders. The planned levelized total cost of the natural gas DSM opportunities, which includes both the customer's and Manitoba Hydro's investment, ranged from 6.3¢ to 53.0¢/cubic metre. Manitoba Hydro's planned levelized cost of these opportunities ranged from 3.7¢ to 119.9¢/cubic metre. The actual levelized costs of the initiatives will be assessed over a longer period.

Exhibit E.2
Natural Gas Levelized Costs
 2014/15 Power Smart Plan



NOTE: Since Manitoba Hydro pays the full cost of installing a high efficiency furnace instead of only the incremental cost, the utility cost is higher than the total resource cost of the program. The light grey bar represents the utility investment beyond the resource cost.

Utility contribution to resource cost	31.4 cents
Customer contribution to resource cost	17.6 cents
Total resource cost	49.0 cents
Utility contribution over resource cost	88.5 cents
Total cost	137.5 cents

2014/15 Electricity Results

In 2014/15 alone, the Power Smart portfolio was successful in capturing 273 GW.h and 223 MW of electric savings. The electric Power Smart energy efficiency programs were successful and surpassed planned electric savings. Both the Residential LED Lighting Program and the Commercial Building Envelope Program exceeded planned savings due to higher participation. The customer self-generation programs achieved 76 GW.h and 18 MW of savings. Some of the forecast savings were deferred to subsequent years resulting from customer decisions related to the timing of

capital investments for planned projects. Savings from energy efficiency codes and standards were 58 GW.h and 16 MW. Some of the forecast savings were deferred to future years due to inefficient commercial lighting products still available in 2014/15.

The following tables outline the electricity savings achieved by the Power Smart portfolio and associated costs during 2014/15, and provide a comparison between achieved results and planned targets.

Exhibit E.3

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

	2014/15 Actual	2014/15 Plan [^]	Total*
INCENTIVE-BASED PROGRAMS			
<i>Residential Programs</i>	40	32	358
<i>Commercial Programs</i>	82	79	853
<i>Industrial Programs</i>	16	17	594
<i>Customer Self-Generation Programs</i>	76	152	133
	214	281	1,938
CODES & STANDARDS	58	79	758
DSM SUPPORT PROGRAMS	1	3	32
OVERALL IMPACT	273	363	2,728

[^] Plan estimates are from the 2014 Power Smart Plan.

* Savings include actual + persisting results, up to and including 2014/15.

Note: Figures may not add due to rounding.

Exhibit E.4

Annual Average Winter MW Savings (at generation) - Power Smart Portfolio

	2014/15 Actual	2014/15 Plan [^]	Total*
INCENTIVE-BASED PROGRAMS			
<i>Residential Programs</i>	11	9	87
<i>Commercial Programs</i>	20	21	175
<i>Industrial Programs</i>	2	3	111
<i>Customer Self-Generation Programs</i>	18	26	24
<i>Rate/Load Management Programs</i>	157	161	157
	207	220	553
CODES & STANDARDS	16	22	185
DSM SUPPORT PROGRAMS	0	1	11
OVERALL IMPACT	223	243	749

[^] Plan estimates are from the 2014 Power Smart Plan.

* Savings include actual + persisting results, up to and including 2014/15.

Note: Figures may not add due to rounding.

MW savings are based on the average of the winter AM & PM system peak savings.

For the Curtailable Rates Program, MW savings reported is expected curtailable load on system at the time a curtailment occurs.

Exhibit E.5

2014/15 Power Smart Portfolio Electricity Costs

Power Smart Portfolio	2014/15 Actual	2014/15 Plan [^]	Total*
<i>millions of nominal dollars</i>			
INCENTIVE-BASED PROGRAMS			
<i>Residential Programs</i>	7.6	8.2	54.1
<i>Commercial Programs</i>	13.0	23.9	168.8
<i>Industrial Programs</i>	2.0	5.9	38.7
<i>Customer Self-Generation Programs</i>	1.2	3.6	12.1
<i>Rate/Load Management Programs</i>	5.9	6.0	87.8
	29.8	47.6	361.5
SUPPORT COSTS, DSM SUPPORT PROGRAMS & STANDARDS	4.1	4.7	74.5
TOTAL ELECTRICITY PROGRAM COSTS	33.9	52.3	436.0

[^] Plan estimates are from the 2014 Power Smart Plan.
^{*} Savings include actual + persisting results, up to and including 2014/15.
Note: Figures may not add due to rounding.

In 2014/15 alone, electric Power Smart expenditures were 65% of budget. Electric efficiency programs experienced a \$15.4 million variance as a result of lower incentive costs than planned for a number of Commercial and Industrial programs due to either lower participation or smaller

projects than anticipated. As well, electric customer self-generation programs had a \$2.4 million variance. This is due to delays in the implementation of a number of customer self-generation projects which resulted in 90% less incentive costs than forecasted.

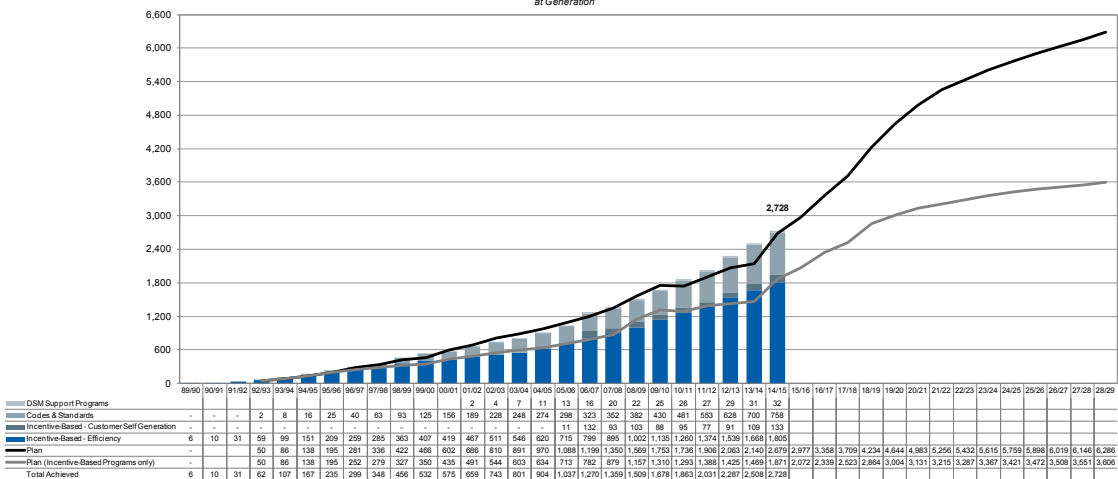
Total Electricity Results (2014/15 Results & Persisting Savings)

To date, the Power Smart portfolio has saved a total of 2,728 GW.h and 749 MW, which were 2% and 1% more than planned to the end of 2014/15. The variance in electric savings for the 2014/15 year alone is due to the ramping up of programs taking longer than projected. Savings to date represent 43% and 46% of the forecasted

energy and demand savings at the benchmark year of 2028/29. To date, \$436 million has been invested in Power Smart electric activities.

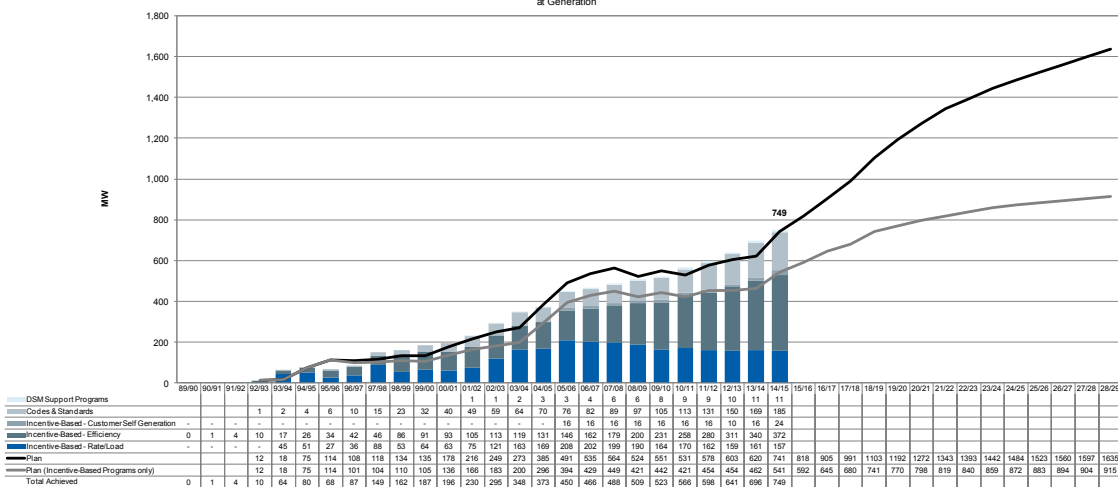
The following graphs present the energy and average winter demand savings achieved to date along with their corresponding targets.

Exhibit E.6
Electric Energy Savings - Power Smart Portfolio
 Total Savings Achieved vs. Plan
 at Generation



Note: Figures may not add due to rounding.

Exhibit E.7
Average Winter Demand Savings - Power Smart Portfolio
 Total Savings Achieved vs. Plan
 at Generation



Note: Figures may not add due to rounding.

2014/15 Natural Gas Results

In 2014/15 alone, the Power Smart portfolio realized natural gas savings of 11.8 million cubic metres, 5% more than planned. Net natural gas savings after interactive effects were 10.1 million cubic metres, 1% less than planned. Due to the success of the electric Power Smart programs in 2014/15, natural gas interactive effects were higher than

planned by 0.7 million cubic metres. If natural gas interactive effects had been at the forecasted level, the natural gas Power Smart program would have exceeded its savings target by 6%.

The following tables provide a comparison between achieved results and planned targets.

Exhibit E.8

Annual Natural Gas Savings - Power Smart Portfolio

	2014/15 Actual	2014/15 Plan [^]	Total*
<i>millions of cubic metres</i>			
INCENTIVE-BASED PROGRAMS			
<i>Residential Programs</i>	2.6	2.9	31.4
<i>Commercial Programs</i>	4.4	3.2	31.0
<i>Industrial Programs</i>	1.5	1.2	14.9
	8.5	7.3	77.3
CODES & STANDARDS	2.9	3.3	19.0
DSM SUPPORT PROGRAMS	0.3	0.5	21.1
	11.8	11.2	117.4
INTERACTIVE EFFECTS			
Incentive-Based Interactive Effects	(1.7)	(1.0)	(14.7)
	10.1	10.2	102.7
NET IMPACT OVERALL	10.1	10.2	102.7

[^] Plan estimates are from the 2014 Power Smart Plan.

* Savings include actual + persisting results, up to and including 2014/15.

Note: Figures may not add due to rounding.

Exhibit E.9

2014/15 Power Smart Portfolio Natural Gas Costs

Power Smart Portfolio	2014/15 Actual	2014/15 Plan [^]	Total*
<i>millions of nominal dollars</i>			
INCENTIVE-BASED PROGRAMS			
<i>Residential Programs</i>	3.2	3.0	37.8
<i>Commercial Programs</i>	5.4	4.7	36.4
<i>Industrial Programs</i>	0.6	0.6	4.6
<i>Customer Self-Generation Programs</i>	0	0	0.1
	9.3	8.4	78.9
SUPPORT COSTS, DSM SUPPORT PROGRAMS & STANDARDS	1.1	1.7	19.0
TOTAL NATURAL GAS PROGRAM COSTS	10.4	10.2	97.9

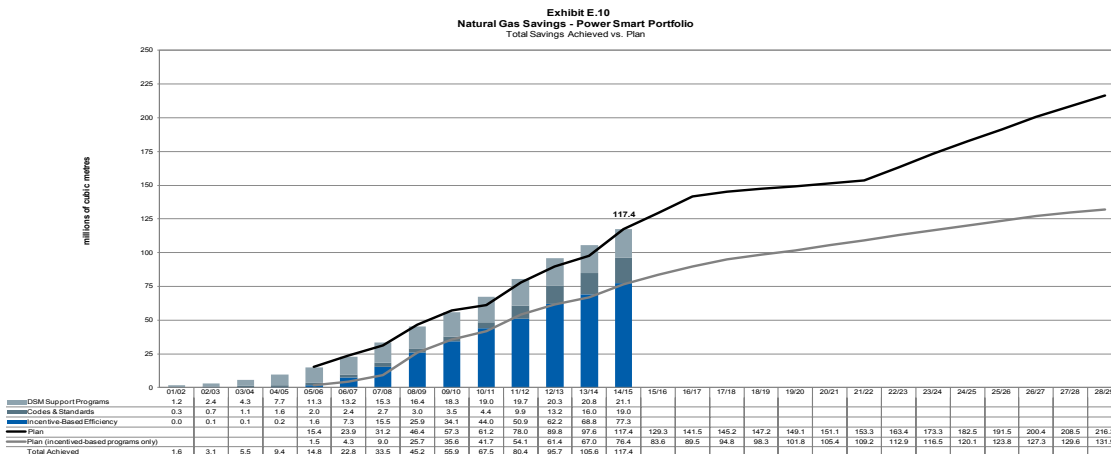
[^] Plan estimates are from the 2014 Power Smart Plan.

* Savings include actual + persisting results, up to and including 2014/15.

Note: Figures may not add due to rounding.

Total Natural Gas Results (2014/15 Results & Persisting Savings)

To date, the Power Smart program has saved 117.4 million cubic metres of natural gas before interactive impacts resulting from the electric Power Smart programs, meeting its target. The following graph outlines natural gas savings achieved to date before interactive effects, along with the corresponding targets.



Note: Figures may not add due to rounding.

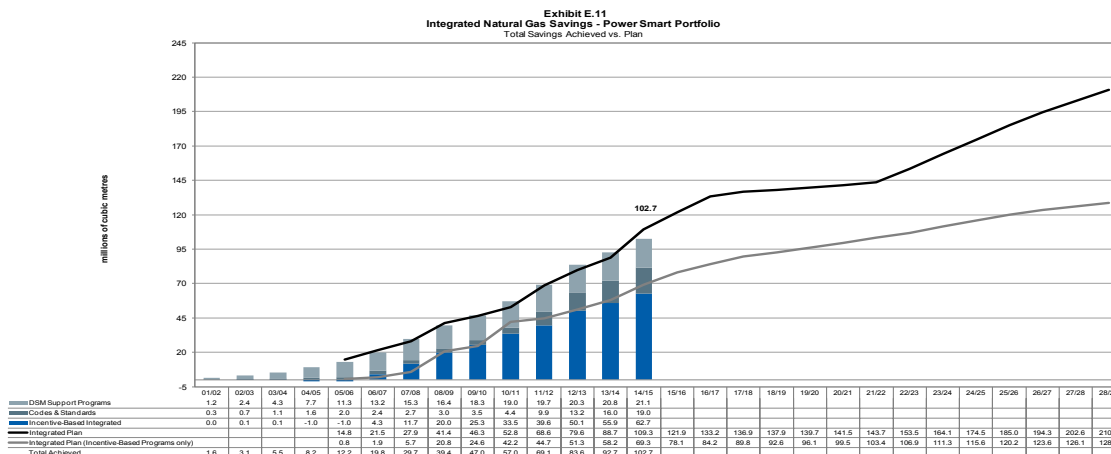
Natural Gas Integrated Results

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.

Including interactive effects from electric programs, the natural gas Power Smart portfolio saved 102.7 million

cubic metres of natural gas, 6% less than planned to the end of 2014/15. To date, savings represent 49% of the forecasted savings at the benchmark year of 2028/29, and \$98 million has been invested in Power Smart natural gas activities.

The following graph presents integrated natural gas savings achieved to date and the corresponding targets.



Note: Figures may not add due to rounding.

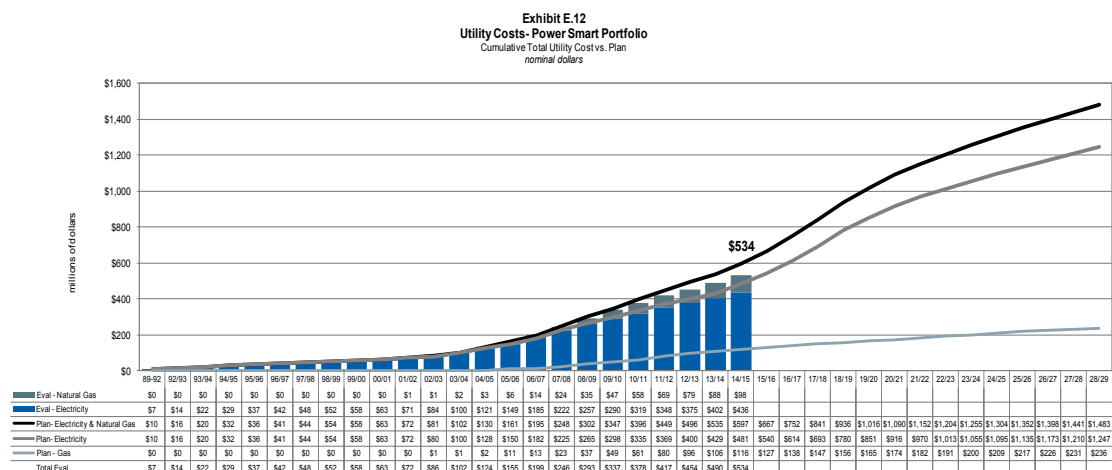


Power Smart Utility Costs

Total Power Smart expenditures in 2014/15 were \$44 million, of which \$34 million was spent on electric initiatives and \$10 million was spent on natural gas initiatives. Cumulative Power Smart expenditures were \$534 million, or 11% less than the budgeted amount of \$597 million. The spending variance can be credited to electric and natural gas efficiency spending, which were both below budget by

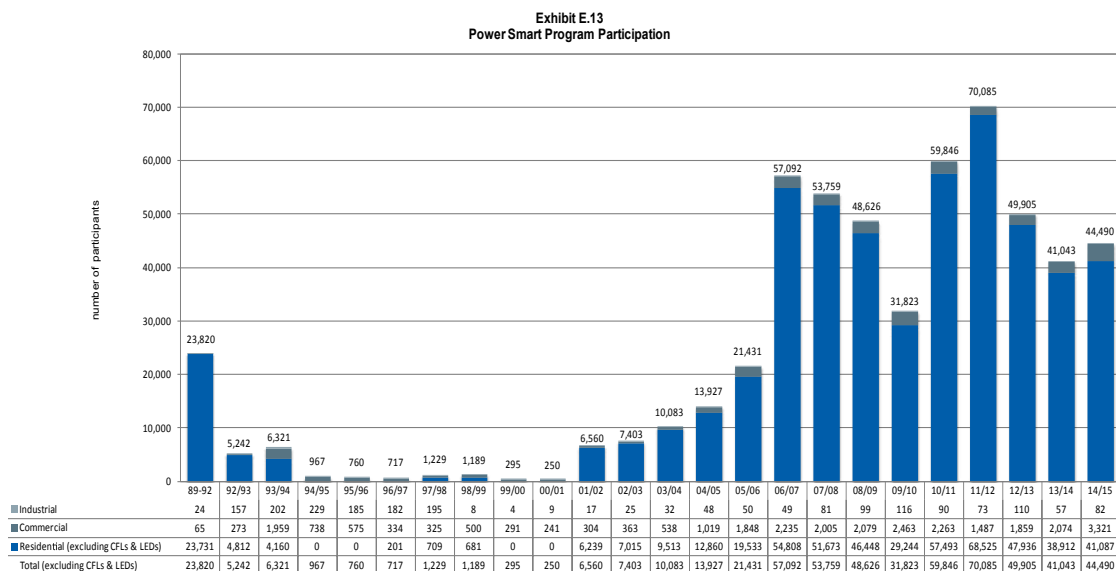
8% and 16% respectively. These costs do not include the Affordable Energy Fund or Furnace Replacement Budget.

Cumulative Power Smart expenditures of \$534 million represent 36% of the overall cumulative 2028/29 budget, as reported in the IFF14. The following graph depicts actual annual expenditures against planned.



Customer Participation

The following graph illustrates that participation levels in Manitoba Hydro's Power Smart programs remain strong.



Note: Includes electric and natural gas participants of DSM support programs, cost recovery and incentive-based programs. Participation for codes and standards is excluded. Curtailable Rates Program participation is included in the industrial sector. Customers may participate in more than one Power Smart program. The 343,381 sales under the Residential Compact Fluorescent Lighting Program during 2004/05-2010/11 are excluded. The 433,556 sales under the Residential LED Lighting Program during 2014/15 are excluded. Figures may not add due to rounding.

During 2014/15, there were nearly 44,500 participants in Power Smart DSM support programs and incentive-based programs. In addition, approximately 434,000 LED bulbs were purchased by Manitobans through the Residential LED Lighting Program. Excluding the Residential Compact Fluorescent Lighting (CFL) and Residential LED Lighting Programs, there have been nearly 557,000 participants cumulatively.

Participation of the Residential CFL and Residential LED

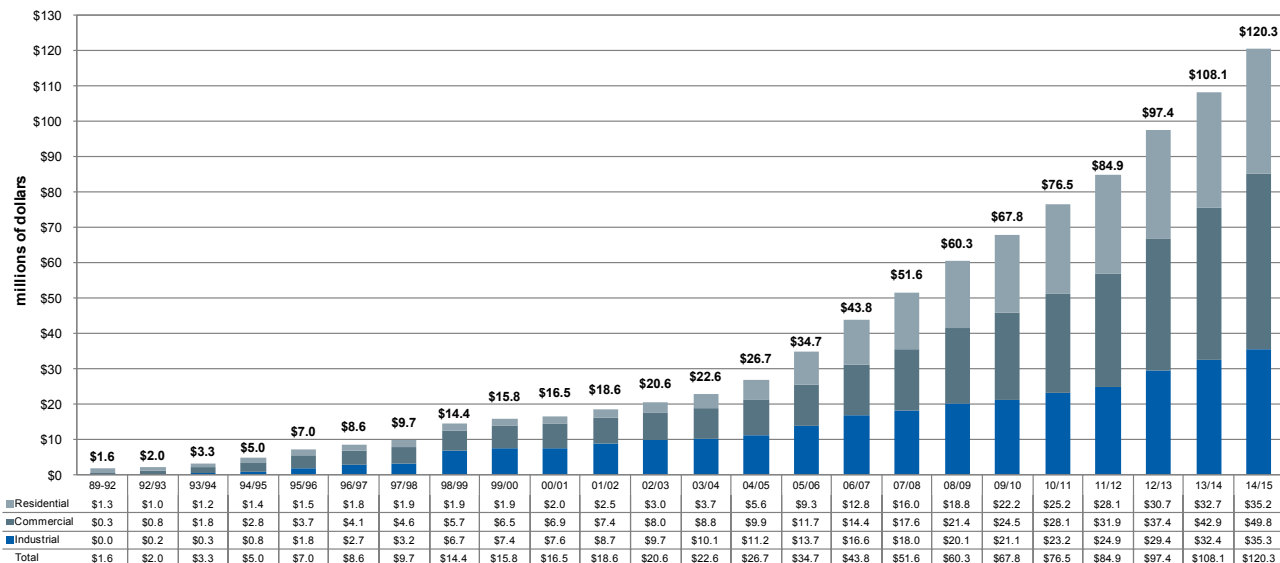
Lighting Programs has been excluded from the chart above in order to provide a better indication of participation trends. The Residential CFL and Residential LED Lighting Programs both provide low-cost options for achieving energy efficiency. The Residential CFL Program represents 26% of residential and overall Power Smart program participation. The Residential LED Lighting Program represents 33% of residential and overall Power Smart participation.

Customer Bill Reduction

The annual bill reduction for participating customers due to annual and persisting savings in 2014/15 of over \$120 million is comprised of \$87 million of savings on electric

bills and \$33 million of savings on natural gas bills. Cumulatively, \$918 million has been saved on electricity and natural gas bills.

Exhibit E.14
Combined Electricity & Natural Gas Customer Bill Reduction (Nominal\$)
 Total Annual Reductions by Sector
 millions of dollars



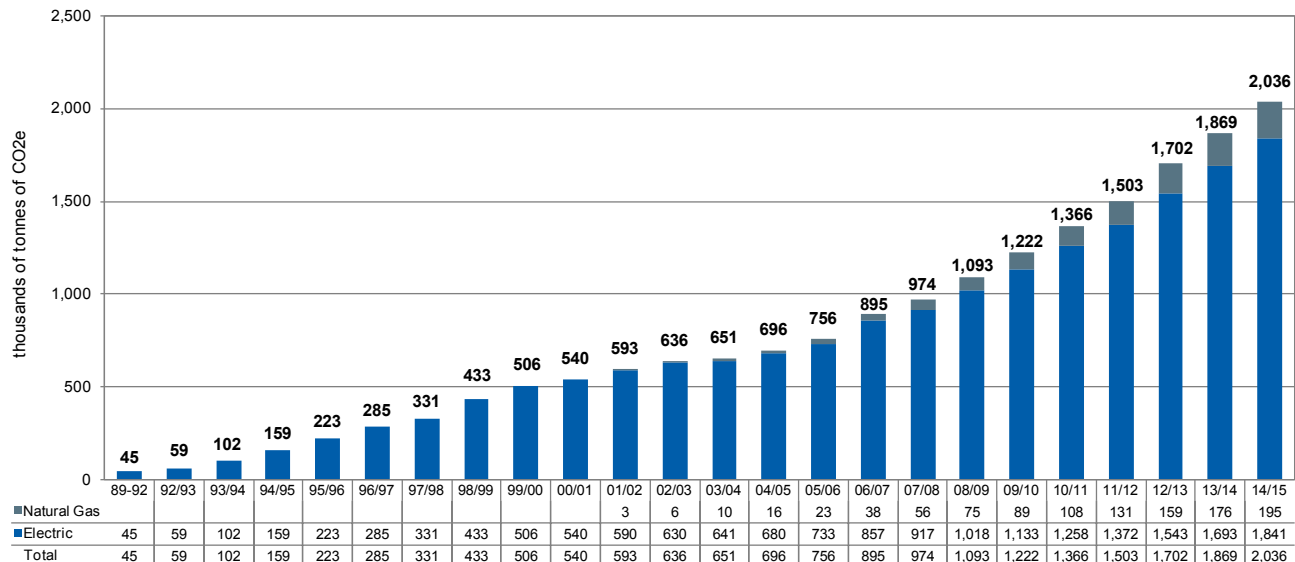
Note: Includes electric and natural gas participants.
 Bill reductions exclude savings due to codes & standards.
 Demand savings resulting from the Curtailable Rates Program are excluded from this analysis.
 Natural gas bill reduction includes primary and distribution rates only.
 Figures may not add due to rounding.

Greenhouse Gas Emissions Reduction

The 2,728 GWh of savings from electric Power Smart programs and 103 million cubic metres of savings from natural gas Power Smart programs equate to a greenhouse gas emissions reduction of approximately 2.0 million tonnes of carbon dioxide equivalent emissions. This is comparable to removing nearly 407 thousand vehicles from the road for one full year. The majority of the greenhouse gas emissions reduction results from electric Power Smart program activity through indirect emissions reduction

from Manitoba Hydro export sales displacing coal and natural gas fuelled generation outside of Manitoba. This reduction in global emissions is equivalent to 9% of Manitoba's provincial emissions. The remaining emissions reduction is direct reduction that occurs as a result of lower natural gas consumption in Manitoba. This reduction of emissions in Manitoba has directly reduced the provincial emissions by 1%.

Exhibit E.15
Total Annual Greenhouse Gas Emissions Reduction
Due to Electric & Natural Gas Savings
thousands of tonnes of CO₂e



Note: Figures may not add due to rounding.

Additional Measurable Non-Energy Benefits

In 2014/15, the following Power Smart programs achieved additional measurable non-energy benefits in the form of water savings: Affordable Energy Program, Water & Energy Saver Program and Commercial Kitchen

Appliances Program. The following table depicts in-year and cumulative water savings achieved by the Power Smart programs.

Exhibit E.16

Water Savings by Power Smart Program

	2014/15 Actual	2014/15 Total
<i>millions of litres</i>		
RESIDENTIAL PROGRAMS		
Water & Energy Saver	168	1,081
Affordable Energy	9	84
COMMERCIAL PROGRAMS		
Commercial Kitchen Appliances	80	112
DISCONTINUED/ COMPLETED PROGRAMS		
Commercial Rinse & Save	-	653
Residential Appliances	-	299
Commercial Clothes Washers	-	33
Power Smart Shops	-	10
TOTAL	257	2,272

Note: Figures may not add due to rounding.

As well as water savings, The Power Smart programs have achieved additional non-energy benefits. To date, the Refrigerator Retirement Program has recycled over 6,500 metric tons of materials (metals, mercury, oil, etc.). By recycling these materials, future production of these materials has been avoided, nearly 14 metric tons of CFCs have been collected and destroyed, and emissions have been reduced by more than 90,000 metric tons of CO₂e cumulatively. Another example is the Performance Optimization Program. This program reduces maintenance costs (approximately 30% reduction for air compressor projects) and increases production levels.

In addition to this, Power Smart programs have provided socio-economic benefits through direct job creation within the province. The Affordable Energy Program (two positions within the North End Community Renewal Corporation and Brandon Neighbourhood Renewal Corporation, plus local labour in First Nations communities, private contractors and social enterprise contrac-

The Affordable Energy Fund

The Affordable Energy Fund was established in 2006/07 through the Winter Heating Cost Control Act. The purpose of the fund is to provide support for programs and services that achieve specific objectives. These objectives include encouraging energy efficiency and conservation through programs and services for rural and northern Manitobans, lower income customers and seniors, as well

tors); Refrigerator Retirement Program (fifteen to twenty positions, depending on the season, including office staff, warehouse staff and drivers); Residential LED Lighting Program (six part-time in-store ambassador positions have been created at Summerhill Group); Water & Energy Saver Program (three full-time office positions, as well as up to forty part-time installer positions have been created at Ecofitt); and Commercial Rinse & Save Program (numerous installer positions) have all created additional jobs for Manitobans. Also, Power Smart programs yield increased tax dollars resulting from the wages associated with jobs created specifically for the programs.

Another example of how Power Smart programs are creating opportunities for Manitobans, specifically within First Nations communities, is with the Community Geothermal Program. To date, Manitoba Hydro has provided training for approximately forty-five members of the Ground Source Heat Pump Association, seventeen of which have received full installer accreditation.

as encouraging the use of alternative energy sources such as renewable energy.

The balance of the Affordable Energy Fund on March 31, 2015, not including funding committed to subsidizing the interest rate for existing loans, was \$6.15 million.

Exhibit E.17 outlines Affordable Energy Fund expenditures in 2014/15 and cumulatively.

Exhibit E.17

Summary of Affordable Energy Fund Expenditures

	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	Cumulative
<i>thousands of nominal dollars</i>										
Affordable Energy Program	256	219	893	1,672	2,666	3,131	3,332	3,122	4,616	19,907
Geothermal Support										
Waverley West Demonstration Project*	619	252	5	0	-1	-1	-1	-1	-1	871
Earth Power Loan Subsidy	0	19	69	105	108	108	91	0	0	500
Province of MB Cooperative Advertising	0	0	18	0	0	0	0	0	0	18
Interest Expense to Bill 11	0	0	0	0	0	0	0	28	22	50
Geothermal Support Total	619	270	92	104	108	107	91	27	21	1,440
Community Support & Outreach	0	0	35	130	133	139	114	123	130	805
Oil & Propane Heated Homes	0	75	85	31	32	24	0	4	0	250
Special Projects										
Res. Energy Assessment Services (ecoENERGY Audits)	0	61	241	85	119	39	0	0	0	545
Oil & Propane Furnace Replacement	0	0	6	36	42	17	10	23	25	160
Res. Solar Water Heating Program	0	0	89	119	56	11	10	0	0	284
Power Smart Residential Loan	0	0	0	130	312	354	510	365	216	1,888
PAYS Program	0	0	0	0	0	0	0	0	44	44
Oil & Propane Heated Homes - Add'l Funding	0	0	0	0	0	10	26	19	45	100
Special Projects Total	0	61	336	371	529	431	556	407	330	3,021
Community Energy Development										
ecoENERGY Program Funding - Add'l Funding	0	0	0	0	0	2,817	1,241	0	0	4,059
Community Energy Development Total	0	0	0	0	0	2,817	1,241	0	0	4,059
DSM INITIATIVES SUBTOTAL	875	625	1,441	2,308	3,468	6,649	5,334	3,685	5,097	29,481
Manitoba Electric Bus	0	0	0	0	0	700	75	225	114	1,114
Energy & Resource Fund	0	0	0	750	0	0	0	0	0	750
Fort Whyte EcoVillage	0	0	0	0	0	120	0	0	0	120
Diesel Community Green Pilot Demonstration**	0	0	0	0	0	3	-3	0	83	83
Métis Generation Fund	0	0	0	0	0	0	0	500	0	500
TOTAL EXPENDITURES	875	625	1,441	3,058	3,468	7,472	5,406	4,410	5,294	32,048

* Negative costs represent loop lease payments from customer to Manitoba Hydro.

** Reversal of an incorrect charge that took place in 2011/12 is indicated by the negative cost.

Furnace Replacement Budget

The Furnace Replacement Budget was established in 2007/08 as a result of Public Utilities Board Order 99/07.

The purpose of the budget is to establish and administer a Furnace Replacement Program for lower income customers. In 2014/15 alone, customers installed 792 furnaces and 21 boilers through the Furnace Replacement Program.

Cumulatively, 3,922 furnaces and 96 boilers have been installed as a result of the program.

The balance of the Furnace Replacement Budget on March 31, 2015 was \$19.19 million.

Exhibit E.18 outlines Furnace Replacement Budget expenditures to date.

Exhibit E.18

Summary of Furnace Replacement Expenditures

	08/09	09/10	10/11	11/12	12/13	13/14	14/15	Cumulative
	<i>thousands of nominal dollars</i>							
Natural Gas Furnace Replacement	264	815	1,312	1,627	2,153	2,012	3,117	11,312
TOTAL EXPENDITURES	264	815	1,312	1,627	2,153	2,012	3,117	11,312

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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 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 integrated natural gas conservation into the Corporation's overall Power Smart initiative. This report provides an integrated approach to evaluating the results. Net energy savings reported are due to the combined electricity and natural gas energy conservation efforts. In this regard, any increased natural gas consumption resulting from electricity efficiency efforts (due to interactive effects) are captured and netted against natural gas conservation efforts. Interactive effects were not accounted for prior to the 2002/03 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). Rate/Load management activities are put in place to reduce energy demands through programs offered to alter the timing of customer demand (i.e. Curtailable Rates Program). Customer self-generation programs are

created to encourage customer on-site generation.

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:

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

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 capturing additional electricity export sales.

The Power Smart DSM initiative is designed to encourage the efficient use of energy in the residential, commercial, agricultural, institutional and industrial customer sectors. More than forty incentive-based programs and many other DSM support programs have been offered over the last twenty-six years, with impact evaluations of all incentive-based programs prepared annually.

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 demand side management (DSM) strategy is to aggressively pursue all cost effective opportunities and to continually monitor the market to identify emerging trends and opportunities which may become viable within the planning horizon. The goal is to

create a sustainable market change where energy efficient technologies and practices become the market standard (market transformation). This Power Smart strategy supports Manitoba Hydro's Corporate Strategic Goals.

Meeting Manitobans' Long-Term Energy Needs

The demand for electricity in Manitoba is continuing to grow and new energy resources are needed to meet this growing demand. Manitoba Hydro's DSM program is one of the resources used to meet this growing demand. Manitoba Hydro's Power Smart Plan aggressively pursues all cost effective DSM which reduces the demand for electricity by participating customers and assists in meeting

Manitoba's long-term energy needs.

From a provincial perspective the demand for natural gas in Manitoba is forecast to be relatively flat. Manitoba Hydro's natural gas DSM programs help to reduce the demand for natural gas in Manitoba, reducing the amount of natural gas being purchased from Alberta.

Operational Excellence

Customer Value - Manitoba Hydro is a leader in promoting energy conservation, providing numerous Power Smart programs to assist customers in meeting their energy needs. Manitoba Hydro's Power Smart programs assist customers in finding sustainable energy solutions to meet their needs, thereby reducing their overall energy bills and impact on the environment.

rate energy efficiency into homes and buildings, creating employment for community members to undertake the retrofits and reducing energy bills.

Protecting the Environment – Manitoba Hydro's DSM programs reduce global greenhouse gas emissions by exporting electricity saved by Manitobans to other regions where electricity is generated by other fossil fuels such as coal.

Aboriginal Relations – Manitoba Hydro's DSM programs work closely with First Nations communities to incorpo-

1.3 Power Smart Brand & Perception

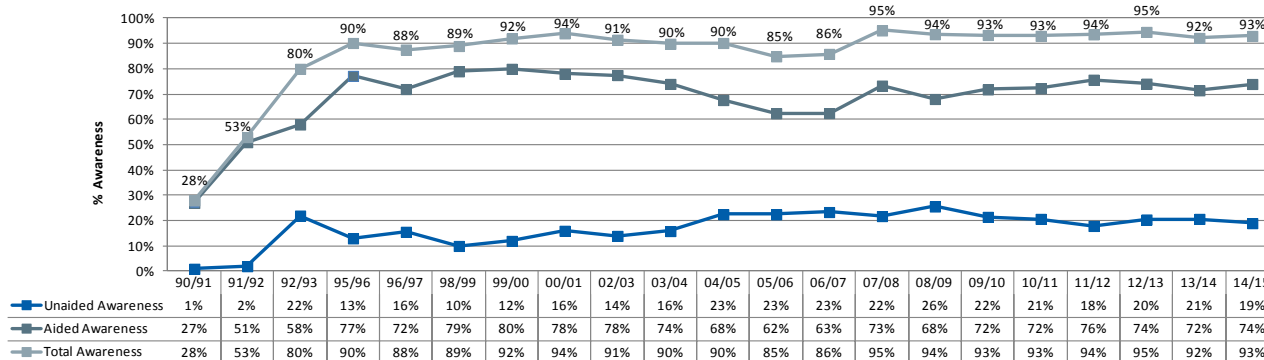
Power Smart is the brand name used by Manitoba Hydro since 1991 to promote its energy efficiency programs and services.

Manitoba Hydro continues to successfully maintain the Power Smart brand's profile with 93% of respondents currently indicating they recognize the brand name. This includes 19% of respondents who independently recall (unaided recall) the Power Smart brand name, and 74% of respondents who say they recognize the brand name when the Power Smart brand name is identified (aided recall).

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

Approximately one-third (35%) of respondents said they had participated in a Manitoba Hydro Power Smart Program.

**Exhibit 1.3
 Power Smart Brand Awareness**



Note: Power Smart awareness was not measured in 93/94, 94/95, 97/98 or 01/02. Figures may not add due to rounding.

Customers continue to strongly agree that the Power Smart brand and programs 'Encourage Customers to be more Energy Efficient' (80% answered 7 or higher on a 1-10 agreement scale), 'Help Customers Save Money on their Energy Bills' (74%), and 'Help Conserve the Environment' (72%). Respondents continue to report more moderate levels of agreement that the Power Smart brand and programs 'Ensure there will be Electricity Available

for Manitobans in the Future' (62%) and 'Contribute to Manitobans paying among the Lowest Prices for electricity in North America' (49%).

The vast majority of customers report they are very satisfied with Manitoba Hydro's 'Efforts to Encourage Customers to be More Energy Efficient' with 80% reporting a satisfaction level of 7 or higher on a 1-10 satisfaction scale.

1.4 Purpose of Report

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

Manitoba Hydro's Power Smart DSM targets for electric energy and average winter demand savings at generation are 6,286 GW.h and 1,635 MW by 2028/29, as outlined in the 2014 Power Smart Plan. These targets represent the expected impact of efficiency codes and standards, DSM support programs and incentive-based program activities. Manitoba Hydro's Power Smart program activity is expected to contribute the greatest portion of the savings, with projected energy and demand savings of 3,606 GW.h and 915 MW by 2028/29.

Manitoba Hydro's Power Smart DSM target for natural gas savings is 211 million cubic metres by 2028/29, as outlined in the 2014 Power Smart Plan. This target represents the expected impact of incentive-based efficiency program activities, DSM support programs, interactive effects from electricity programs, as well as savings resulting from efficiency codes and standards. Manitoba Hydro's Power Smart program activity is expected to contribute the greatest portion of the savings, with projected savings of 129 million cubic metres by 2028/29.

While this report highlights all activities and results from the overall Power Smart portfolio, the emphasis will be on incentive-based programs. Annual results for 2014/15 will be measured against the planned savings specified in the 2014 Power Smart Plan.

More specifically, this will report:

- Energy and demand savings achieved by incentive-based Power Smart programs;
- Utility costs associated with all Power Smart programs and initiatives;
- Cost-effectiveness of incentive-based Power Smart programs.

Refer to APPENDIX A - 'Sources of Evaluation and Planning Estimates' for details of the information considered when preparing program plan estimates and program evaluation results. Refer to APPENDIX B - 'Explanation of Benefit-Cost Ratios used in DSM Economic Metrics' for formulas used to assess cost-effectiveness.

1.5 Demand Side Management Evaluation

Manitoba Hydro evaluates its DSM programs on an annual basis to validate electric and natural gas savings. Manitoba Hydro's DSM evaluation objectives are to provide timely, credible, actionable and cost-effective evaluations.

The California Evaluation Framework is used as a guide in Manitoba Hydro's DSM evaluations and related activities. This framework, which is widely used in the DSM evaluation industry, provides a consistent, systemized, cyclic approach for planning and conduction evaluations of energy efficiency programs. When verifying the energy and demand savings of its DSM programs, Manitoba Hydro uses the International Performance Measurement and Verification Protocol (IPMVP) and the Uniform Methods

Project (UMP) as guides. Both of these resources provide an overview of current best practices for verifying the impacts of DSM activities in program impact evaluations.

Manitoba Hydro takes a comprehensive approach to evaluating its DSM programs. Impact evaluations are undertaken internally on an annual basis on all DSM programs to document Manitoba Hydro's DSM efforts and to determine the electric and natural gas savings and cost-effectiveness of the DSM programs. Manitoba Hydro's internal evaluations are complemented through third-party impact evaluations of select programs on a regular basis. These evaluations provide third-party reviews of DSM programs and also validate achieved energy and demand savings and cost-effectiveness results.

2.0 Power Smart Portfolio Review

Manitoba Hydro's Power Smart efforts include DSM support programs, 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.

2.1 Power Smart DSM Support Programs & Cost Recovery Programs

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

- Enabling customers to improve the comfort and productivity of their work and home environments while reducing their energy bills;
- Lower electricity rates;
- Assisting businesses in becoming 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.

2.1.1 Launch Date of DSM Support Programs & Cost Recovery Programs

Exhibit 2.1.1-A identifies the launch dates of all current and discontinued DSM support programs and cost recovery programs.

Exhibit 2.1.1-A

Launch Date of DSM Support Programs & Cost Recovery Programs

INITIATIVE	LAUNCH DATE
RESIDENTIAL	
Power Smart Residential Loan Program	February, 2001
Residential Earth Power Program	April, 2002
Power Smart Residential PAYS Program	November, 2012
COMMERCIAL	
Power Smart Recreation Facility Survey	May, 1998
Religious Buildings Initiative	May, 2001
Power Smart for Business PAYS Program	September, 2013
DISCONTINUED/COMPLETED PROGRAMS	
ecoENERGY Program [^]	March, 2001
Wisdom in Saving Energy (W.I.S.E.) Home Program	June, 2001
Power Smart Energy Manager - Pilot	September, 2001
Energy Saver Presentations ^{^^}	January, 2002
New Home Program Workshop	January, 2002
R-2000 Home Program Component of the New Home Program [*]	February, 2002
Power Smart Design Standards ^{**}	September, 2002
Solar Hot Water Heating	November, 2008

[^] Formerly called EnerGuide.

^{^^} Formerly called Home Energy Saver Workshops.

^{*} Starting in 2004/05, the R-2000 Home Program was grouped under the New Home Program.

^{**} As of 2009/10, Power Smart Design Standards is a component of the commercial incentive-based New Buildings Program.

Exhibit 2.1.1-B provides an overview of the annual and total number of participants for DSM support programs and cost recovery programs. Refer to APPENDIX C - 'Total Power Smart Participation' for a detailed list of historical participation.

Exhibit 2.1.1-B

DSM Support Programs & Cost Recovery Programs Participation

INITIATIVE	2014/15	Cumulative
Number of Participants		
RESIDENTIAL		
Financing Programs		
Power Smart Residential Loan*	5,678	81,026
Power Smart Residential PAYS Program	260	553
Residential Earth Power Loan		
Geothermal Loan	16	1,245
Solar Hot Water Heating	0	14
Mail-In/Online Energy Assessments	278	4,878
	6,232	87,716
COMMERCIAL		
Power Smart for Business PAYS Program	15	21
Power Smart Recreation Facility Survey	3	73
Religious Buildings Initiative	2	237
	20	331
DISCONTINUED/COMPLETED PROGRAMS		
ecoENERGY Program^	n/a	54,272
Wisdom in Saving Energy (W.I.S.E.) Home Program	n/a	5,391
Energy Saver Presentations^^	n/a	3,956
New Home Program Workshop	n/a	854
Earth Power Consumer Workshops**	n/a	688
R-2000 Home Program Component of the New Home Program^^^	n/a	63
Power Smart Energy Manager - Pilot	n/a	38
Solar Water Heating	n/a	36
	n/a	65,298
TOTAL	6,252	153,345

* Participation includes completed projects.
** Includes residential and commercial participants.
^ Formerly called EnerGuide. Participation includes 'D' & 'E' audits. As Manitoba Hydro highly subsidized the evaluation cost of Amerispec and EnerGuy participants, they are included in the participation figures for 2011/12 and 2012/13.
^^ Formerly called Home Energy Saver Workshops.
^^^ In 2004/05, the R-2000 Home Program was grouped under the New Home Program.
Note: This table includes electric and natural gas Power Smart participants. Customers may participate in more than one Power Smart program. Participation is measured by completed projects, includes free riders, and excludes free drivers and market transformation.

2.1.2 DSM Support Programs & Cost Recovery Programs Activity

DSM support programs and cost recovery programs provide numerous benefits to Manitobans. Depending on the nature of the program, savings resulting from specific programs will 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 coordinators. Regular assessments include a qualitative evaluation of the benefits, with service levels adjusted accordingly. The following outlines the Power Smart DSM support programs and cost recovery programs that were running in 2014/15.

Power Smart Residential Assistance

A number of tools are offered to residential customers to encourage and assist homeowners to make energy efficient renovations and energy use decisions that increase comfort and reduce home energy bills. The following services are offered under this initiative:

- Customers can complete a mail-in or online survey to evaluate energy use in their home. Regardless of the method of participation, the customer receives a customized report that includes easy-to-read graphs summarizing overall energy use, a breakdown of the house characteristics contributing to heating costs, a list of recommended upgrades and a Power Smart

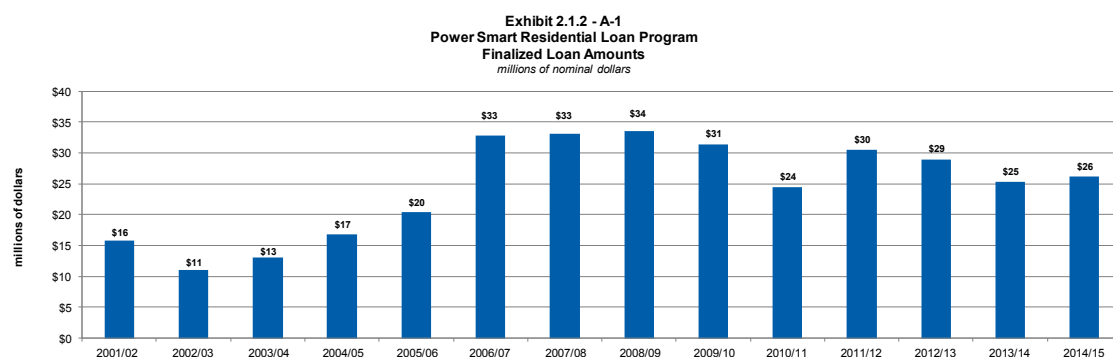
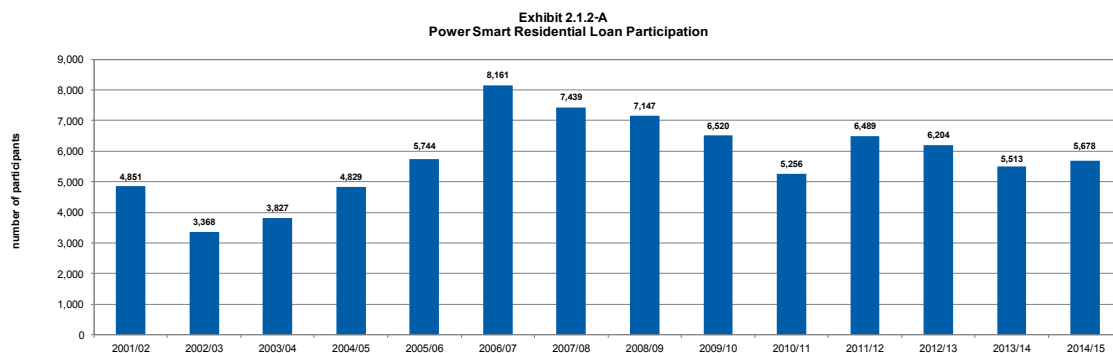
target comparing energy consumption of their home to a home upgraded with the recommended Power Smart measures;

- Detailed brochures and renovation booklets providing information for selecting and installing Power Smart measures and, tips for achieving low cost or no-cost energy savings in the home;
- Customers can email a Power Smart Energy Expert with energy conservation-related questions; and
- Convenient on-bill financing to complete energy efficient renovations as outlined below.

Power Smart Residential Loan

The Power Smart Residential Loan Program offers convenient on-bill financing to encourage homeowners to complete energy efficient renovations to increase comfort and reduce home heating bills. Eligible upgrades include heating systems, ventilation, insulation, windows, doors and water heating equipment. Participants can borrow up to \$7,500 (\$5,500 for natural gas furnaces) and repay the amount on their energy bill.

Since its inception, the Power Smart Residential Loan Program has had more than 81,000 participants, borrowing more than \$343 million in total. To date, just over \$63 million in loans remain outstanding. Exhibit 2.1.2-A displays participation under the Power Smart Residential Loan Program, and Exhibit 2.1.2-A-1 summarizes finalized loan amounts.



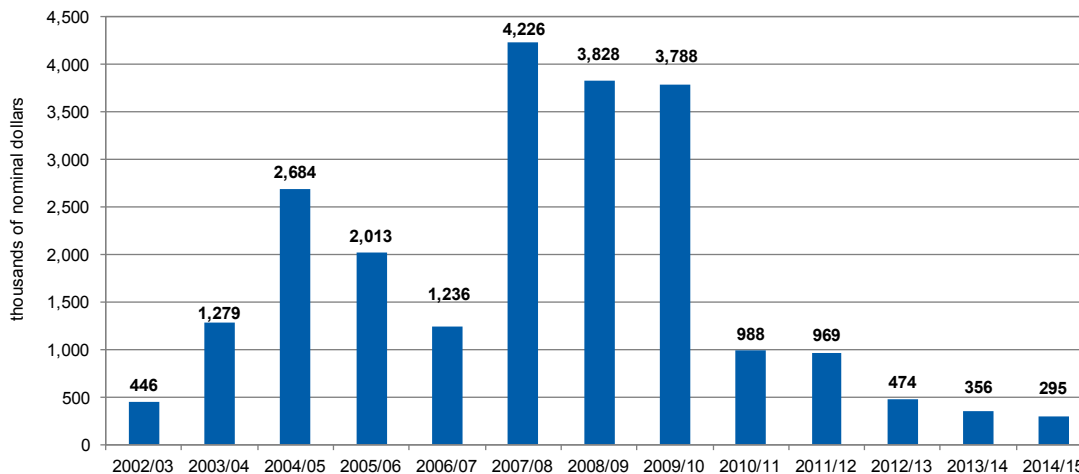
Residential Earth Power Program

It is estimated that over 9,000 residential geothermal heat pump installations have taken place in the province to date. Encouraging and supporting these installations is the Residential Earth Power Program, whose primary objective is to maximize the adoption of geothermal heat pump technology in order to offset the use of conventional electric heating systems. The program offers convenient financing through the Residential Earth Power Loan. Participants can borrow up to \$20,000 over a 15 year period. Since its inception in 2002, over 1,240 customers have participated in the program, equating to more than \$22 million in financing.

In recent years, the number of installations has been declining and has currently hit a plateau because of low natural gas prices due to an increased supply through the emergence of shale gas exploration.

The loan also offers financing for residential solar water heating systems. For a maximum term of 15 years, up to \$7,500 can be borrowed. To date, there have been a total of 14 solar installations, which is equivalent to \$92,700 in financing.

Exhibit 2.1.2-B
Residential Earth Power Loan
Annual Loan Amounts
thousands of nominal dollars



Power Smart Residential PAYS Program

In June 2012, the Province of Manitoba passed Bill 24 - The Energy Savings Act. In response, Manitoba Hydro launched the Power Smart Residential PAYS Program on November 5, 2012.

The Power Smart Residential PAYS Program offers extended financing terms for energy efficient upgrades. Customers can use their estimated annual utility bill savings

from installing a particular efficient measure, to pay for that measure (or part thereof). Customers have the option to transfer the monthly payment to the next homeowner or tenant, who will also benefit from the upgrade.

In its first three years, the Power Smart Residential PAYS Program has had 553 participants, borrowing over \$3.6 million.

Exhibit 2.1.2-C
Power Smart Residential PAYS Participation

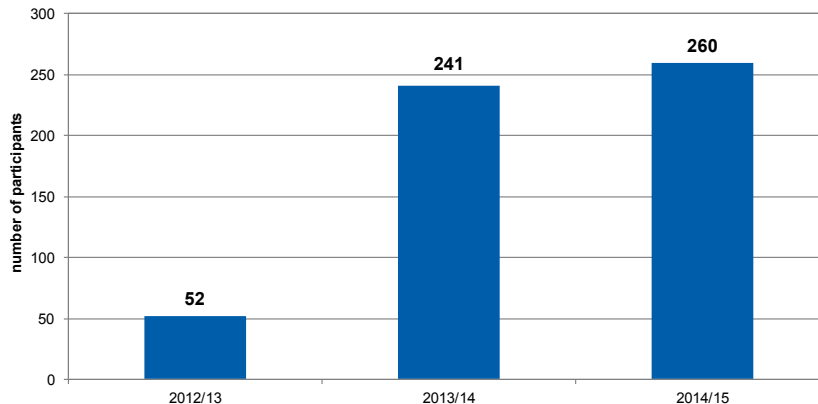
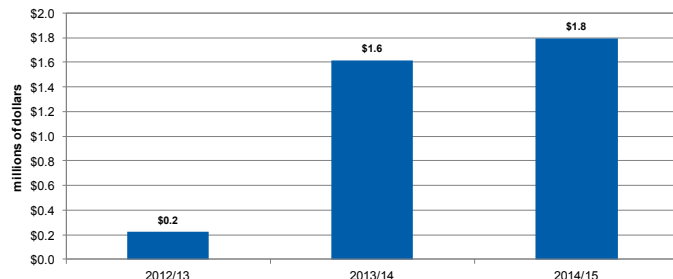


Exhibit 2.1.2-C-1
Power Smart Residential PAYS Program
Finalized Loan Amounts
millions of nominal dollars



Power Smart for Business PAYS Financing Program

Manitoba Hydro launched the Power Smart for Business PAYS Program September 3, 2013. This financing program offers extended financing terms for commercial and industrial energy efficient upgrades. The upgrades eligible for financing under the program will result in a monthly

repayment that is based on estimated annual savings generated by the upgrade and averaged out on a monthly basis over a year. As of March 31, 2015 the Power Smart for Business PAYS Program has had 21 participants, borrowing approximately \$495,000.

Power Smart Recreation Facilities 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 completed by facility operators and an evaluation report is prepared. The report compares the energy use of the facility with similar facilities in Manitoba and provides a list of possible energy saving

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 energy use. This guide has been updated and is now called *Energy Efficiency Guide for Ice Arenas and Curling Rinks*. An online version of the guide became available in January 2014.

2.2 Energy Codes, Performance Standards & Energy Efficiency Regulations

Energy codes and performance standards are important tools for advancing energy efficiency at every stage of market transformation, starting with initial evaluations of energy efficiency improvement opportunities, through to the design and implementation of incentive-based and non-incentive-based conservation programs intended to accelerate the adoption of energy efficient measures. And finally, as core ingredients for efficiency regulations aimed at removing laggard technologies from the market.

Performance standards provide the fundamental basis on which to measure, report and compare energy performance. As such, they form a core building block for evaluating the performance of energy efficient measures and comparing performance between competing products and technologies. Energy codes establish the criteria for understanding, quantifying and managing the energy performance of buildings and energy-consuming equipment operating within them. Performance standards are generally a key component of energy codes, providing the basis on which to measure energy performance, while energy codes establish the metrics for evaluating building design and overall performance. Together, these two mechanisms are used to develop programs that support the optimal or minimum use of energy in the marketplace, limited only by technical potential and economic constraints.

Energy efficiency regulations are typically implemented towards the end of the market transformation process as energy efficient technologies mature and become generally accepted within the industry. Regulations are designed to remove technologies from the market that lag behind an established performance baseline agreed to by industry and government regulators. While the level of efficiency

achieved through energy efficiency regulations is typically less than the optimal or minimum level of energy consumption achieved through directed incentive-based and non-incentive-based programming, regulation continues to be an effective and permanent method for removing products from the market with lower than desired energy performance.

Manitoba Hydro has adopted a proactive strategy that supports the development and acceptance of industry-wide performance standards and energy codes, through active participation in standards organizations such as the Canadian Standards Association Strategic Steering Committee on Performance, Energy Efficiency and Renewables (SCOPEER) and work with energy code steering committees at both federal and provincial levels. In many instances, Manitoba Hydro representatives are leaders within these working groups, driving forward development and acceptance of new performance standards and energy codes. Further to this, Manitoba Hydro adopts the use of these standards and codes in the design and implementation of its conservation programs, enhancing the overall effectiveness and market acceptance of these efforts. Finally, Manitoba Hydro works closely with federal, provincial and municipal regulators to identify and remove technologies from the market that lag behind accepted performance thresholds, providing support for the development and adoption of energy efficiency regulations. These efforts prevent products and measures with poor energy performance from gaining a foothold in the market and compromising efforts to transform markets to a more energy efficient state.

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. Examples of such

factors are industry/customer awareness and appetite for acceptance, availability of competing products, state of product life cycles, cost barriers, training barriers, state of existing codes and standards, etc.

2.3.1 Launch Date & Participation of Incentive-Based Power Smart Programs

Exhibit 2.3.1-A identifies the launch dates of current and past Power Smart incentive-based programs.

for a detailed summary of historical participation.

Exhibit 2.3.1-B provides the annual and total participation of each incentive-based program.

For a description of current incentive-based Power Smart programs, see list in Section 2.3.2. APPENDIX D provides a synopsis of discontinued Power Smart programs.

Refer to APPENDIX C - 'Total Power Smart Participation'

Exhibit 2.3.1-A

Launch Date of Incentive-Based Programs

PROGRAM	LAUNCH DATE
RESIDENTIAL	
Home Insulation	May, 2004
Affordable Energy	December, 2007
Affordable Energy Fund - Propane & Oil Furnace/Boiler	May, 2009
Water & Energy Saver	September, 2010
Refrigerator Retirement	June, 2011
Community Geothermal	June, 2013
Residential LED Lighting	October, 2014
Drain Water Heat Recovery	December, 2014
Solar Hot Water Tank Pilot	December, 2014
COMMERCIAL	
Commercial Lighting	April, 1992
Internal Retrofit	July, 1995
Commercial Custom Measures	December, 1995
Commercial Building Envelope	December, 1995
Commercial Geothermal	December, 1995
Commercial HVAC	September, 2003
Commercial Building Optimization	April, 2006
Commercial Refrigeration	April, 2006
Commercial Kitchen Appliances	January, 2008
Commercial Network Energy Management	May, 2008
Commercial New Buildings	April, 2009
Commercial CO2 Sensors	April, 2009
LED Roadway Lighting	February, 2013
INDUSTRIAL	
Performance Optimization	June, 1993
Natural Gas Optimization	September, 2006
CUSTOMER SELF-GENERATION	
Bioenergy Optimization	March, 2006
Load Displacement	April, 2014
RATE/LOAD MANAGEMENT	
Curtable Rates	November, 1993

Exhibit 2.3.1-A (Continued)

Launch Date of Incentive-Based Programs

PROGRAM	LAUNCH DATE
RESIDENTIAL DISCONTINUED/COMPLETED	
Outdoor Timer	October, 1989
Refrigerator/Freezer Buy-Back Pilot	1991/92
Residential Showerhead Pilot	1991/92
EE Water Savings Measures Component of the 'No Worry Plan'	November, 1996
EE Water Tank Measures Component of the 'No Worry Plan'	November, 1996
New Home	February, 2004
Compact Fluorescent Lighting	September, 2004
Seasonal LED Lighting	November, 2005
High Efficiency Furnace/Boiler	November, 2005
Residential Appliances	June, 2006
Programmable Thermostat Pilot	October, 2006
Energy Efficient Light Fixtures	October, 2006
Solar Hot Water Heating (Incentive Component)	November, 2008
COMMERCIAL DISCONTINUED/COMPLETED	
Roadway Lighting	April, 1991
Sentinel Lighting Conversion	April, 1991
Commercial Showerhead Pilot	1991/92
Infrared Heat Lamps	1991/92
Agricultural Demand Controller	July, 1992
Livestock Waterer	October, 1994
Commercial Construction - Air Barrier Component	December, 1995
Commercial Construction - Air Conditioning Component	December, 1995
Commercial Parking Lot Controllars	December, 1995
Agricultural Heat Pads	April, 1998
City of Winnipeg Power Smart Agreement	September, 2002
Commercial Rinse & Save	July, 2006
Commercial Clothes Washers	July, 2008
Power Smart Energy Manager*	November, 2008
Power Smart Shops*	February, 2009
INDUSTRIAL DISCONTINUED/COMPLETED	
High Efficiency Motor	September, 1991

* During 2014/15, this program was undergoing redesign.

Exhibit 2.3.1-B

Incentive-Based Power Smart Program Participation

PROGRAM	2014/15*	Cumulative
<i>Number of Participants</i>		
RESIDENTIAL		
Residential LED Lighting	433,556	433,556
Water & Energy Saver	20,521	139,377
Refrigerator Retirement	9,195	34,912
Home Insulation	2,563	36,653
Affordable Energy	2,432	10,894
Community Geothermal	93	175
Drain Water Heat Recovery	51	51
	468,411	655,618
COMMERCIAL		
LED Roadway Lighting	911	936
Commercial Lighting	798	13,934
Commercial Building Envelope	458	2,993
Commercial Refrigeration	453	1,787
Commercial Kitchen Appliances	384	472
Internal Retrofit	161	1,485
Commercial HVAC	105	718
Commercial New Buildings	16	50
Commercial Geothermal	7	135
Commercial Custom Measures	6	83
Commercial Building Optimization	1	16
Commercial Network Energy Management	1	12
	3,301	22,621
INDUSTRIAL		
Performance Optimization	65	786
Natural Gas Optimization	12	95
	77	881
DISCONTINUED/COMPLETED	0	501,251 [^]
EFFICIENCY PROGRAMS SUBTOTAL	471,789	1,180,371
CUSTOMER SELF-GENERATION		
Bioenergy Optimization**	2	25
	2	25
RATE/LOAD MANAGEMENT		
Curtable Rates**	3	5
	3	5
TOTAL	471,794	1,180,401

* Participation is defined as one household for residential programs, and one project for commercial/industrial programs.
** Participation represents the number of customers who participate each year. The cumulative number represents the actual number of customers who have participated to date.
^ This includes 343,381 sales under the Residential Compact Fluorescent Lighting Program and 433,556 sales under the Residential LED Lighting Program.
Notes: This table includes electric and natural gas Power Smart participants.
Customers may participate in more than one Power Smart program and are counted multiple times (except for Bioenergy Optimization and Curtable Rates, where only unique participants are counted).
Participation is measured by number of completed projects, includes free riders, and excludes free drivers and market transformation.

2.3.2 Residential Programs

The residential programs have been established to serve residential customers throughout the province.

Water & Energy Saver Program

The Water & Energy Saver Program offers free Water & Energy Saver kits to residential customers. Each kit contains a low-flow showerhead, low-flow faucet aerators, water heater pipe wrap and a refrigerator/freezer thermometer.

Affordable Energy Program

The Affordable Energy Program is designed to bring Power Smart and energy efficient measures to qualifying lower income households. The program leverages Manitoba Hydro Power Smart programs, the Affordable Energy Fund, the federal government's ecoENERGY Program (until the program ended in March 2011), 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 LEDs and low-flow showerheads, installation of electric drain water heat recovery units, insulation upgrades and natural gas furnace upgrades. The program has now completed over 10,000 homes, achieving cumulative annual energy savings of nearly 15 GWh and natural gas savings of more than 7 million cubic metres. These energy savings have reduced participating customer's bills by approximately \$1 million in electricity bills and more than \$2 million in natural gas bills each year.

Residential LED Lighting Program

The Residential LED Lighting Program encourages customers to install ENERGY STAR® certified LED bulbs throughout their home with retail point-of-sale rebates and comprehensive lighting education initiatives.

Community Geothermal Program

The Power Smart Community Geothermal Program launched in June 2013. The program utilizes the existing framework of a pilot conducted with AKI Energy, a non-profit social enterprise group, whereby geothermal heat pump systems are installed on a mass scale throughout First Nations communities. Bulk purchasing heat pumps helps mitigate the high capital cost barrier to installing geothermal systems. Manitoba Hydro's Residential PAYS Program allows community members to pay for the majority of the geothermal system through the energy savings realized by converting their heating/air conditioning systems to a geothermal system. In cases where customers will not achieve enough savings to justify the cost of the geothermal system, Manitoba Hydro will provide a financial incentive. Through partnership with AKI Energy, the program also creates employment opportunities for First Nations communities. Band members are trained to take part in the installation and ongoing maintenance of the geothermal systems. The training is funded by the First Nations communities themselves. As of March 31, 2015, the program has had four First Nations communities participating, with 175 installations to date.

Refrigerator Retirement Program

The Refrigerator Retirement Program provides residential customers with free in-home pick-up of their old, inefficient refrigerators and freezers, paying customers a \$50 incentive for each appliance retired. This province-wide program is set run until March 2017.

Home Insulation Program

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

First Nations Power Smart Program

Through the First Nations Power Smart Program, First Nations communities can improve the energy efficiency and comfort of their homes. The program provides each First Nations community a Manitoba Hydro energy efficiency specialist to recommend the installation of energy efficient measures. Participants are also provided insulation and basic energy efficiency upgrades. Community members are trained to conduct the upgrades and deliver the Power Smart program. And on request, energy saving seminars can be arranged for the community.

Drain Water Heat Recovery Pilot Program

Drain Water Heat Recovery (DWHR) units were added to the available Power Smart measures in October 2014, as a pilot program offered to participants of the Affordable Energy Program. Working with Manitoba Housing and BUILD (Building Urban Industries for Local Development), the pilot program aimed to reduce energy consumption in homes with electric water heaters through the installation of DWHR systems. DWHR systems capture lost heat from hot water going down the drain, using it to pre-heat cold water entering your water heater. This results in less energy needed to heat water to the desired temperature.

2.3.3 Commercial Programs

The commercial programs have been established to serve commercial, institutional and industrial customers.

Commercial Lighting Program

The Commercial Lighting 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, and to ensure optimal lighting design based on use.

Residential Solar Hot Water Tank Pilot

In December 2014, Manitoba Hydro launched a Residential Solar Hot Water Tank Pilot, with the conversion of 9 homes from electric hot water tank systems to solar hot water tank systems in Peguis First Nation. The program, which was led through a partnership with AKI Energy, an Aboriginal social enterprise, focuses on reducing the cost of hot water heating for First Nations communities, providing much needed bill reductions for families. The other key aspect of the program is the provision of real and transferable job training, and employment for local community members receiving technical and hands-on solar hot water tank system installation training.

Commercial Building Envelope Program

The Commercial Building Envelope Program encourages building owners to install window systems and/or upgrade insulation levels that meet Power Smart levels in their renovation plans. Upgrading a building's envelope can reduce air leakage which will result in lowering energy costs to heat and cool the building, while providing improved thermal comfort for occupants and improve indoor air quality.

Commercial Building Optimization Program

The Commercial Building Optimization Program encourages commercial customers with existing buildings to use an investigation and adjustment process known as retro-commissioning to help return their buildings to their intended operating methods.

Internal Retrofit Program

The Internal Retrofit Program promotes energy efficient retrofits in Manitoba Hydro facilities, including generating stations, commercial buildings, and corporate housing. The program provides technical support and financial assistance in the design and implementation of various energy efficient measures such as lighting, building envelope, HVAC, and custom measures. The program can fund up to 100% of material and labour costs associated with the upgrade.

Commercial HVAC Program

The Commercial HVAC Program encourages the use of high efficiency heating, ventilation and cooling systems, such as near-condensing and condensing boilers, CO2 sensors and energy efficient water-cooled chillers.

Commercial Geothermal

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

Commercial Refrigeration Program

This program encourages grocery 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.

Network Energy Management Program

The Network Energy Management Program encourages the installation of network management software. The software shuts down PCs when they are inactive while still allowing network administrators to perform regular maintenance tasks, such as software upgrades and security patches.

Custom Measures Program

The 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 to serve customers undertaking energy efficient projects that are not specifically supported by the other existing Power Smart programs.

LED Roadway Lighting Program

The LED Roadway Lighting Program began as a pilot program in February 2013, then formally launched in June 2014. The goal of the program is to convert all existing High Pressure Sodium lighting to LED over the next six years.

Commercial Kitchen Appliances Program

The Commercial Kitchen Appliances Program encourages customers to upgrade to ENERGY STAR® qualified steamers and fryers, and energy efficient low-flow pre-rinse spray valves.

New Buildings Program

The New Buildings Program provides technical guidance and financial incentives for designing, constructing and operating new, energy efficient buildings in Manitoba.

2.3.4 Industrial Programs

The industrial programs have been established to serve the industrial customers throughout the province to encourage the optimization and efficiency of their processes.

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.

Natural Gas Optimization Program

This program provides industrial and large commercial customers with the technical support and financial incentives necessary to identify, investigate and implement systematic efficiency improvements in the natural gas-fired systems throughout their facilities.

2.3.5 Rate/Load Management Programs

Curtailable Rates Program

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

2.3.6 Customer Self-Generation Programs

Bioenergy Optimization Program

The Bioenergy Optimization Program was launched in 2008 to encourage customers to install, operate and maintain customer-sited load displacement generation systems that employ combined heat and power (CHP) and renewable fuels, specifically biomass. The target market consists of customers that have readily available, low-cost sources of biomass, a continual need for heat and power, and the capability to operate and maintain biomass-to-energy conversion systems.

Load Displacement Program

The Load Displacement Program encourages customers to install, operate and maintain customer-sited load displacement generation systems that employ combined heat and power (CHP) and rely on the use of waste streams and by-products, locally available, low-cost sources of biomass fuel and other renewable energy sources. The target market consists of several large-sized customers or customer sectors that are striving to optimize their operations and improve environmental performance.

3.0 Power Smart Success Stories

Manitoba Hydro Wins E Source Achievement Award

Manitoba Hydro won a prestigious Achievement Award in 2014/15 for generating energy savings for natural gas customers. Awarded by E Source, an independent U.S. firm that provides research and advisory services to utilities on demand-side management (DSM) and improving customer service, Manitoba Hydro was ranked as achieving the highest natural gas savings per customer among 53 utilities across North America.

Customers across Manitoba continue to reap the benefits

of Manitoba Hydro's Power Smart initiatives, such as the Home Insulation Program. The average residential customer participating in the Power Smart Home Insulation Program saved nearly 530 cubic metres in natural gas or \$154 on their energy bill per year based on the current rates.

The E Source award confirms Manitoba Hydro's commitment to aggressive energy conservation.

LED Lighting Campaign Wins 2015 ENERGY STAR® Award

The Power Smart Residential LED Lighting Program was the recipient of the 2015 ENERGY STAR Promotional Campaign of the Year Award for its Fall 2014 retail rebate campaign. Promotion of this prestigious award included a news release, an award presentation and a television interview at a Manitoba Home Depot location. Each year Natural Resources Canada recognizes participants who have demonstrated particular excellence through its annual ENERGY STAR Market Transformation Awards. Winners earn the prized recognition of being the best in their class, as well as use of a special ENERGY STAR winner's symbol.

As a result of the 2014 program's success, Manitoba Hydro launched a second campaign in Spring 2015. Approximately fifty thousand households participated in the two campaigns, saving customers more than \$1.8 million a year on their electricity bills.

Given the immense consumer interest and success in the LED retail promotions, an additional retail rebate campaign occurred in Fall 2015, and one is planned for Spring 2016. As well, Manitoba Hydro has continued with its energy efficient lighting education efforts.

Manitoba Hydro Continues Successful Partnership with Manitoba Housing Association with 200 Additional Retrofits

Insulation retrofits continue with this unique partnership between Manitoba Hydro and the Manitoba Housing Association to benefit lower income tenants. During the 2014/15 year, approximately 200 insulation retrofits were completed by BUILD, a social enterprise centre that provides employment to local residents and those facing barriers to employment. The insulation upgrades directly

reduce tenants' utility bills and increase home comfort.

In addition to insulation, 51 drain water heat recovery units were installed in Manitoba Housing Association homes which will reduce tenants' water heating costs. This partnership continues to provide lower income tenants with energy efficiency upgrades with the use of social enterprise centres.

Manitoba Hydro Taking it to the Streets with the Neighbourhood Power Smart Project

Manitoba Hydro continued its aggressive marketing strategy through neighbourhood partnerships to further reach lower income customers. This approach proactively engages residents through door-to-door canvassing and provides residents with a resource in their community to assist with the Affordable Energy Program. Working with the North End Community Renewal Corporation (NECRC) and Brandon Neighbourhood Renewal Corporation (BNRC), Manitoba Hydro's Neighbourhood Power Smart Project has proved to be another effective marketing channel for this hard to reach market. During the

2014/15 year, over 125 applications were received through this community-led initiative where community canvassers promote the Affordable Energy Program door-to-door. Residents received a free in-home energy review, free basic energy saving measures such as CFLs, pipe wrap, showerheads, faucet aerators, caulking and draft stoppers, along with free insulation. Employment is generated for local residents through community groups along with social enterprises such as Building Urban Industries for Local Development (BUILD) and Brandon Energy Efficiency Program (BEEP).

Nearly 500 Homes in First Nations Communities Benefit from Manitoba Hydro Partnership

The First Nations Power Smart Program continued its successful partnership with First Nations communities in 2014/15. Over 470 homes were provided free basic energy saving measures such as CFLs, pipe wrap, showerheads, faucet aerators, caulking, and draft stoppers, as well as free insulation. These energy efficient upgrades reduce utility bills and provide a more comfortable residence for household members. The energy efficiency

upgrades are installed by community members, generating local employment opportunities as well as providing economic development. Through a dedicated First Nations Energy Advisor, efforts continue to pursue energy efficiency upgrades in all qualifying homes in First Nations communities. Over 1,500 First Nations homes have been retrofitted since the program began in 2008.

Joining Forces on Solar Hot Water Heating

Manitoba Hydro and Aki Energy joined forces on a solar hot water tank pilot project in the Peguis First Nation community. The pilot targeted installing solar hot water tanks in twenty homes with higher water heating energy consumption.

The project cost was primarily supported through Manitoba Hydro's PAYS financing program. In December

2014, solar installation training was provided by Northern Lights Solar Solutions to four Peguis community members, and the first set of panels was installed later that week. Installations have been completed in nine homes, with the remaining installations to occur during Summer 2016.

Canadian Tire Drives Energy Efficiency

With technical and financial support from Manitoba Hydro, Canadian Tire Corporation significantly enhanced energy efficiency in its new Cloud Nine Digital Innovation Centre in Winnipeg's Air Canada Centre by incorporating high efficiency cooling systems.

The energy efficient project involved designing and installing a data center with hot aisle containment and air handlers with electronically commutated motors (ECM), allowing air volume control to adjust to variable data center loads. The project is estimated to provide annual energy savings of over 450,000 kWh, decreasing customer

energy costs by approximately \$20,000 per year, while reducing greenhouse gas emissions by over 350 tonnes of CO₂e annually, which is equivalent to taking nearly 75 cars off the road.

Canadian Tire, who operates 1,700 retail and gasoline outlets across Canada, built the data center to amalgamate six small data centers currently operated by the corporation. The facility will also host Canadian Tire's new 'App Factory,' where developers will come up with and test new apps and other technologies to improve the experience for customers in-store and online.

Power Smart Helps Royal Canadian Mint Save Dollars and Cents

With technical assistance and financial support from Power Smart, the Royal Canadian Mint significantly enhanced energy efficiency, productivity and employee comfort, while ensuring continued safety at their Lagimodiere Boulevard facility in Winnipeg.

A comprehensive lighting system upgrade was undertaken which included a range of lighting technologies including T8 and T5 linear fluorescent lighting fixtures, hard-wired and screw-in LED lamps, as well as intelligent occupancy

sensors to eliminate unneeded lighting when spaces are not in use. The installation of these lighting technologies is estimated to provide the Royal Canadian Mint with annual energy savings of over 2.3 GWh, resulting in utility bill reduction of \$100,000 per year, while reducing greenhouse gas emissions by nearly 2,000 tonnes of CO₂e annually, which is equivalent to taking nearly 400 cars off the road each year.

4.0 Market Results

In the past, the success of Manitoba Hydro’s Power Smart initiative was evaluated based on DSM incentive-based program activity alone. However, the true impact of Power Smart also includes the impact of the programs on the market as a whole, or market transformation. Although, market transformation is more difficult to measure. Manitoba Hydro has made significant in-roads in developing program-specific methodologies for measuring Power

Smart’s impact. Wherever possible, Manitoba Hydro has attempted to obtain sales/technology-specific data to calculate a program’s true impact. 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 the influence of market transformation within the Manitoba marketplace.

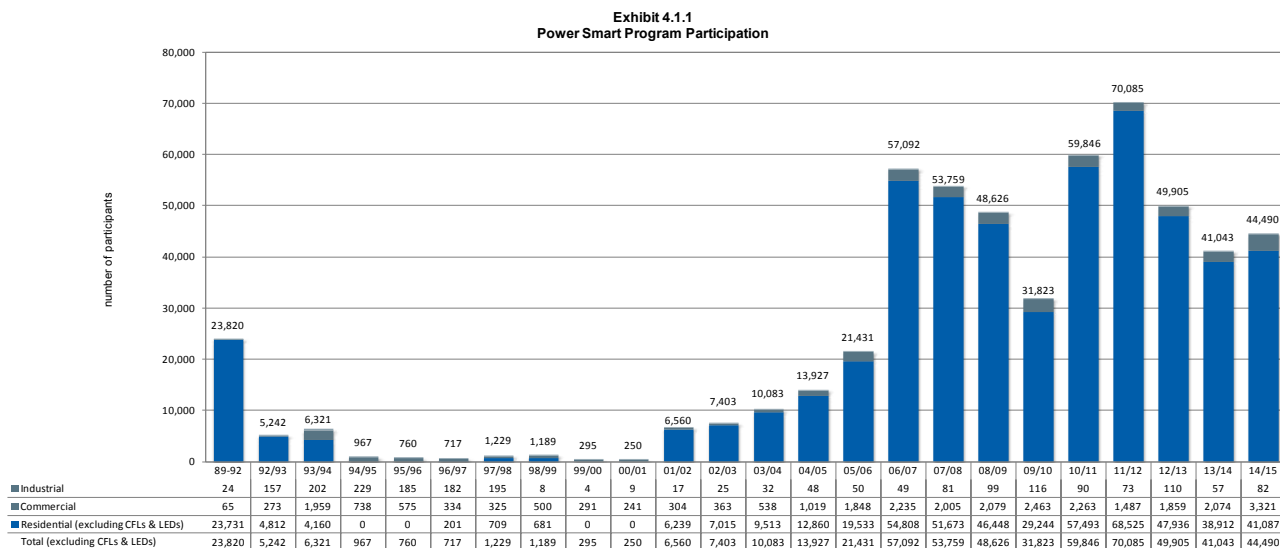
4.1 Power Smart Portfolio Results

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

4.1.1 Participation in Power Smart Programs

The following graph outlines total Power Smart participation in incentive-based programs, DSM support programs and cost-recovery programs, with participation presented

by sector (i.e. residential, commercial and industrial programs).



Note: Includes electric and natural gas participants of DSM support programs, cost recovery and incentive-based programs. Participation for codes and standards is excluded. Curtable Rates Program participation is included in the industrial sector. Customers may participate in more than one Power Smart program. The 343,381 sales under the Residential Compact Fluorescent Lighting Program during 2004/05-2010/11 are excluded. The 433,556 sales under the Residential LED Lighting Program during 2014/15 are excluded. Figures may not add due to rounding.

As displayed in the preceding graph, participation in Manitoba Hydro's Power Smart programs continues to be strong. During 2014/15 there were nearly 44,500 participants in Power Smart DSM support programs and incentive-based programs. In addition, approximately 434,000 LED bulbs were purchased through the Residential LED Lighting Program. Excluding the Residential Compact Fluorescent Lighting (CFL) Program and Residential LED Lighting Program, there have been nearly 557,000 participants cumulatively.

Participation of the Residential CFL Program and Residential LED Program has been excluded from the previous chart in order to provide a better indication of participation trends. The Residential CFL Program and Residential LED Lighting Program both provide low-cost options for achieving energy efficiency. The Residential CFL Program represents 26% of residential and overall Power Smart program participation. The Residential LED Lighting Program represents 33% of residential and overall Power Smart participation. Refer to APPENDIX C for historical Power Smart participation.

4.1.2 Power Smart Portfolio - Impact of Electric Programs

The following tables outline the electricity savings achieved by the Power Smart portfolio during 2014/15

and provide a comparison between achieved results and planned targets, where applicable.

Exhibit 4.1.2 - A

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

	2014/15 Actual	2014/15 Plan [^]	Total*
INCENTIVE-BASED PROGRAMS			
<i>Residential Programs</i>	40	32	358
<i>Commercial Programs</i>	82	79	853
<i>Industrial Programs</i>	16	17	594
<i>Customer Self-Generation Programs</i>	76	152	133
	214	281	1,938
CODES & STANDARDS	58	79	758
DSM SUPPORT PROGRAMS	1	3	32
OVERALL IMPACT	273	363	2,728

[^] Plan estimates are from the 2014 Power Smart Plan.

* Savings include actual + persisting results, up to and including 2014/15.

Note: Figures may not add due to rounding.

Exhibit 4.1.2 - B

Annual Average Winter MW Savings (at generation) - Power Smart Portfolio

	2014/15 Actual	2014/15 Plan [^]	Total*
INCENTIVE-BASED PROGRAMS			
<i>Residential Programs</i>	11	9	87
<i>Commercial Programs</i>	20	21	175
<i>Industrial Programs</i>	2	3	111
<i>Customer Self-Generation Programs</i>	18	26	24
<i>Rate/Load Management Programs</i>	157	161	157
	207	220	553
CODES & STANDARDS	16	22	185
DSM SUPPORT PROGRAMS	0	1	11
OVERALL IMPACT	223	243	749

[^] Plan estimates are from the 2014 Power Smart Plan.

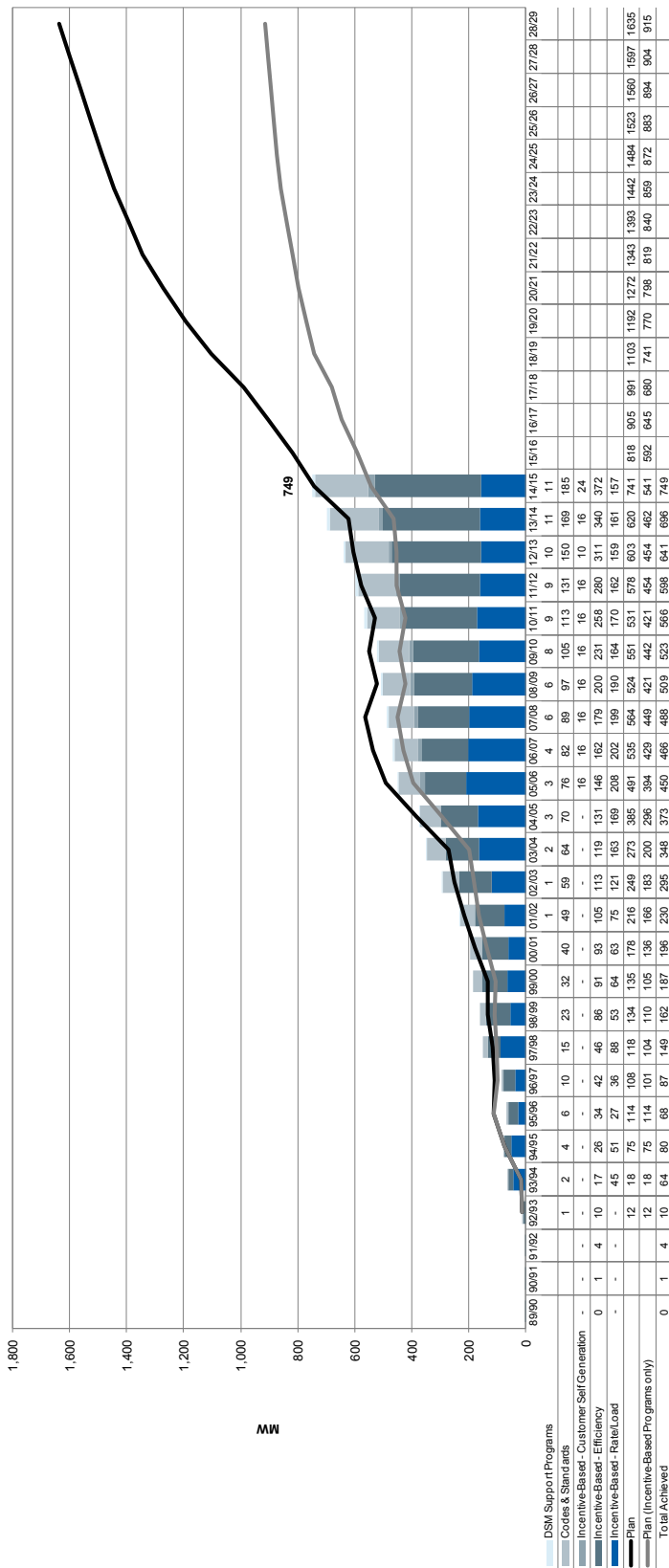
* Savings include actual + persisting results, up to and including 2014/15.

Note: MW savings are based on the average of the winter AM & PM system peak savings.

For the Curtailable Rates Program, MW savings reported is expected curtailable load on system at the time a curtailment occurs. Figures may not add due to rounding.

The following graphs present the electric energy and demand savings achieved to date by the Power Smart portfolio and the corresponding targets.

Exhibit 4.1.2-D
Average Winter Demand Savings - Power Smart Portfolio
 Total Savings Achieved vs. Plan
 at Generation



Note: Figures may not add due to rounding.

To date, the entire Power Smart portfolio has saved 2,728 GW.h and 749 MW (at generation), 2% and 1% above their respective targets.

4.1.3 Power Smart Portfolio - Impact of Natural Gas Programs

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

Exhibit 4.1.3 - A

Annual Natural Gas Savings - Power Smart Portfolio

	2014/15 Actual	2014/15 Plan [^]	Total*
<i>millions of cubic metres</i>			
INCENTIVE-BASED PROGRAMS			
<i>Residential Programs</i>	2.6	2.9	31.4
<i>Commercial Programs</i>	4.4	3.2	31.0
<i>Industrial Programs</i>	1.5	1.2	14.9
	8.5	7.3	77.3
CODES & STANDARDS	2.9	3.3	19.0
DSM SUPPORT PROGRAMS	0.3	0.5	21.1
	11.8	11.2	117.4
INTERACTIVE EFFECTS			
Incentive-Based Interactive Effects	(1.7)	(1.0)	(14.7)
NET IMPACT OVERALL	10.1	10.2	102.7

[^] Plan estimates are from the 2014 Power Smart Plan.

* Savings include actual + persisting results, up to and including 2014/15.

Note: Figures may not add due to rounding.

The Power Smart portfolio provided natural gas savings of 11.8 million cubic metres in 2014/15, which was 5% more than planned.

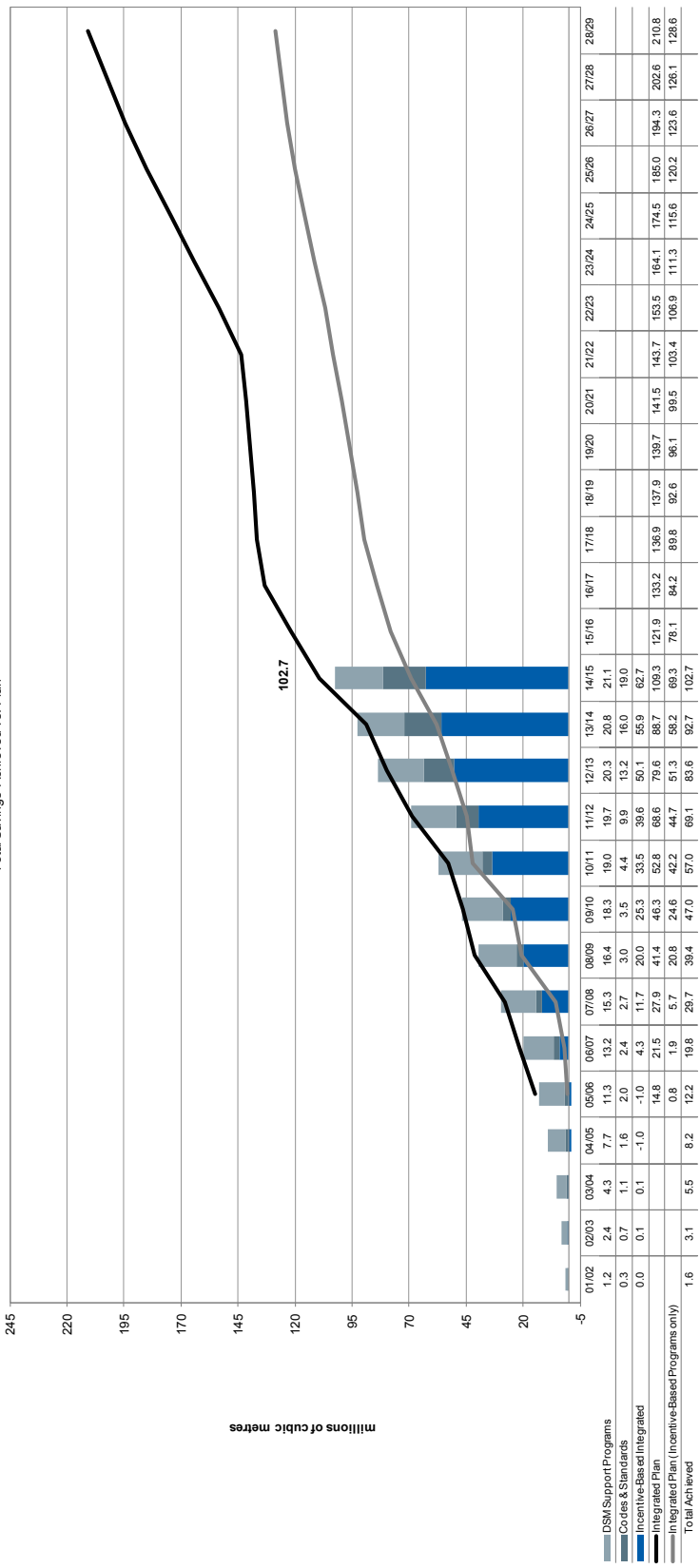
Some electric Power Smart programs result in an increase or decrease in natural gas consumption (interactive effects). For example, a more energy efficient lighting system emits less heat, requiring more energy to heat the space. In cases where the heat is produced through electric heating sources, interactive effects are 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 taken into account when determining the natural gas savings. These interactive effects represent the increase in natural gas consumption for gas-heated homes resulting from the installation of energy efficient lighting systems.

After interactive effects, the Power Smart portfolio achieved net natural gas savings of 10.1 million cubic metres in 2014/15, 1% less than planned.

To date, after interactive effects, the Power Smart portfolio has saved nearly 103 million cubic metres of natural gas, 6% below target.

Exhibit 4.1.3-B
Integrated Natural Gas Savings - Power Smart Portfolio
 Total Savings Achieved vs. Plan



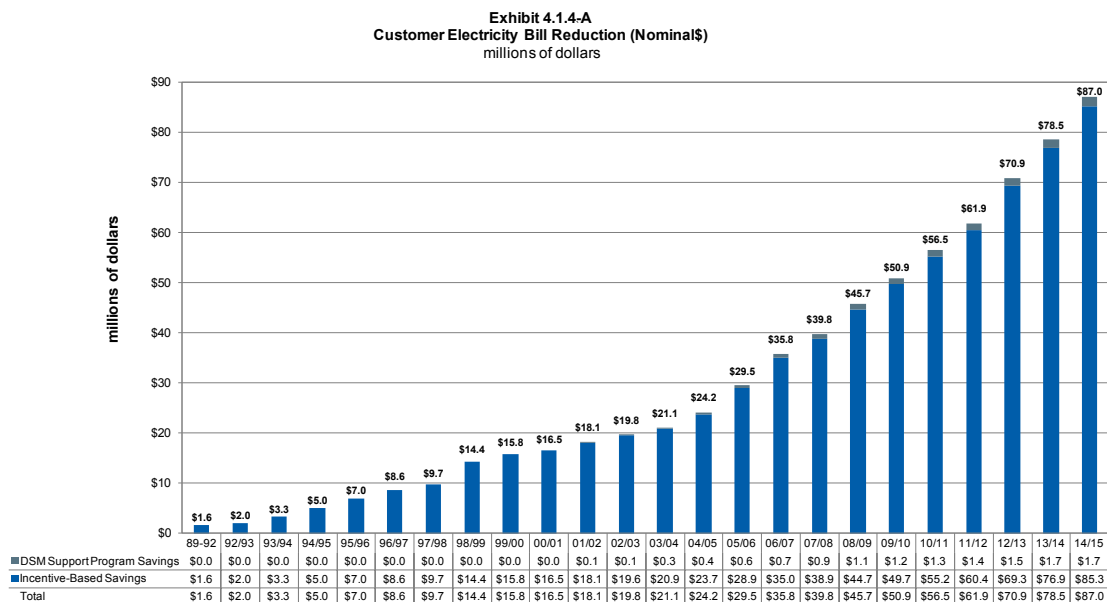
Note: Figures may not add due to rounding.

4.1.4 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 4.1.4-A are the annual customer bill reductions resulting from DSM support program and incentive-based Power Smart program electric savings to date.

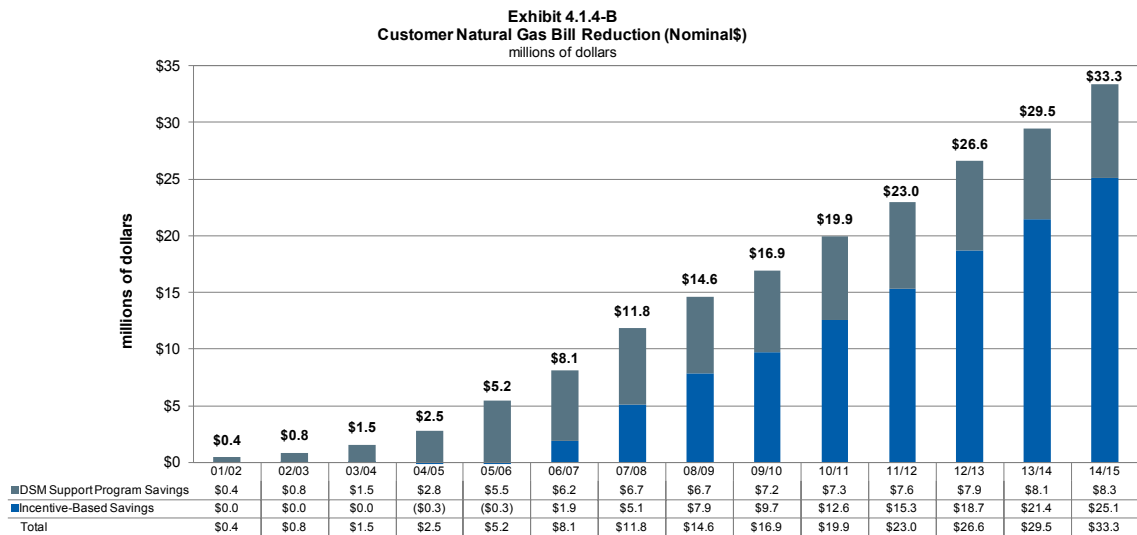


Note: Bill reductions exclude savings due to codes & standards.
 Demand savings resulting from the Curtailable Rates Program are excluded from this analysis.
 Figures may not add due to rounding.

Power Smart DSM support programs and incentive-based programs saved participating customers approximately \$87 million in 2014/15 and \$724 million cumulatively on their electricity bills.

Natural Gas Bill Reduction

Customers also save on their natural gas bills when participating in applicable Power Smart initiatives. Exhibit 4.1.4-B displays annual customer bill reductions resulting from Power Smart natural gas savings to date (net of interactive effects).



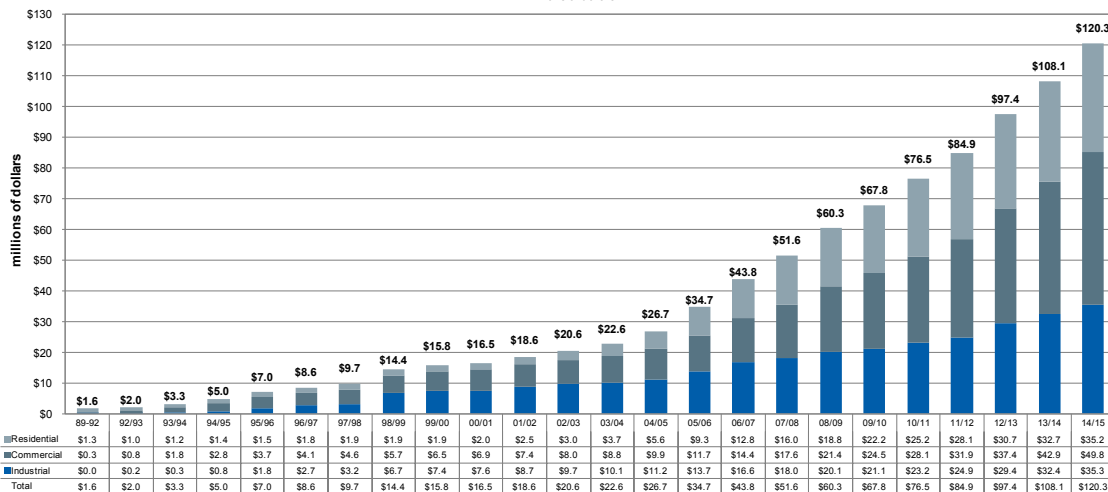
Note: Bill reduction excludes savings due to codes & standards. Interactive effects in 2014/15 resulted in a \$2.8 million increase in customer bills, which is captured within incentive-based savings. Natural gas bill reduction includes primary and distribution rates only. Figures may not add due to rounding.

As a result of Power Smart initiatives, participating customers saved over \$33 million in 2014/15, and more than \$194 million cumulatively on their natural gas bills.

Combined Bill Reduction

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

Exhibit 4.1.4-C
Combined Electricity & Natural Gas Customer Bill Reduction (Nominal\$)
 Total Annual Reductions by Sector
 millions of dollars



Note: Bill reduction excludes savings due to codes & standards.
 Demand savings resulting from the Curtailable Rates Program are excluded from this analysis.
 Natural gas bill reduction includes primary and distribution rates only.
 Figures may not add due to rounding.

Power Smart DSM support programs and incentive-based programs saved participating customers over \$120 million in 2014/15 alone. These savings are distributed relatively evenly between industrial, commercial and residential customers.

Cumulatively, participating customers have saved nearly \$918 million on electricity and natural gas bills. These cumulative bill reductions are split between industrial, commercial and residential customers 33%, 38% and 29% respectively.

4.1.5 Power Smart Program Impact on Greenhouse Gas Emissions

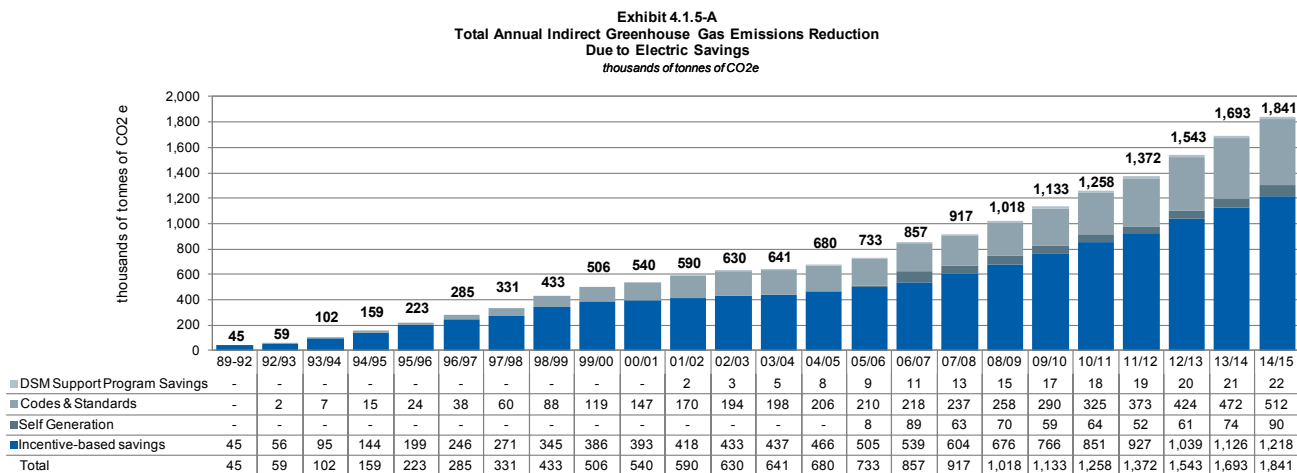
The energy efficiency measures and improvements installed through Manitoba Hydro’s Power Smart programs reduce the amount of greenhouse gas and other air polluting emissions indirectly from power generation, and directly from the transmission and distribution of natural

gas, and will continue to do so over their product lives. Both electricity and natural gas consumption reductions have a positive impact on global 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 reduction 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 emissions reduction. Exhibit 4.1.5-A shows the equivalent reduction in carbon dioxide emissions resulting from Power Smart electric program activity to date.



Note: Figures may not add due to rounding.

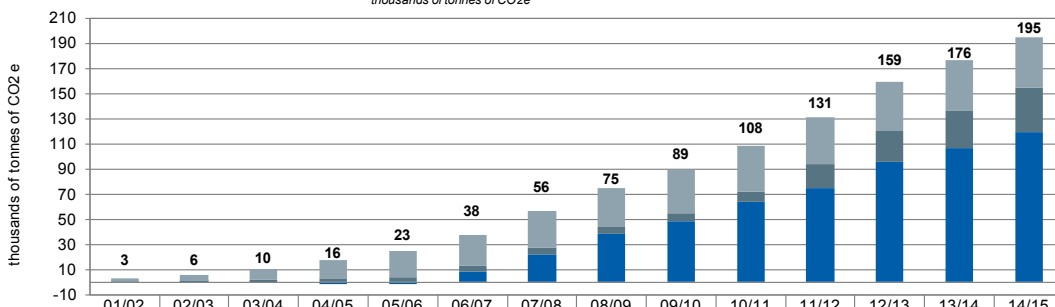
The 2,728 GWh of savings resulting from electric Power Smart program activity and codes and standards initiatives to date have displaced greenhouse gas emissions by nearly 1,841 thousand tonnes of carbon dioxide equivalent

emissions. This reduction in global emissions is equivalent to 9% of Manitoba’s provincial emissions. This is comparable to removing 368 thousand cars off the road for one full year.

Impact of Natural Gas Savings

Power Smart natural gas programs result in direct emissions reduction at the location of the participating customer. The following chart displays direct greenhouse

Exhibit 4.1.5-B
Total Annual Direct Greenhouse Gas Emissions Reduction
Due to Natural Gas Savings
thousands of tonnes of CO₂e



	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
DSM Support Program Savings	2	5	8	15	21	25	29	31	35	36	37	39	39	40
Codes & Standards	1	1	2	3	4	5	5	6	7	8	19	25	30	36
Incentive-based savings	0	0	0	-2	8	22	38	48	48	64	75	95	106	119
Total	3	6	10	16	23	38	56	75	89	108	131	159	176	195

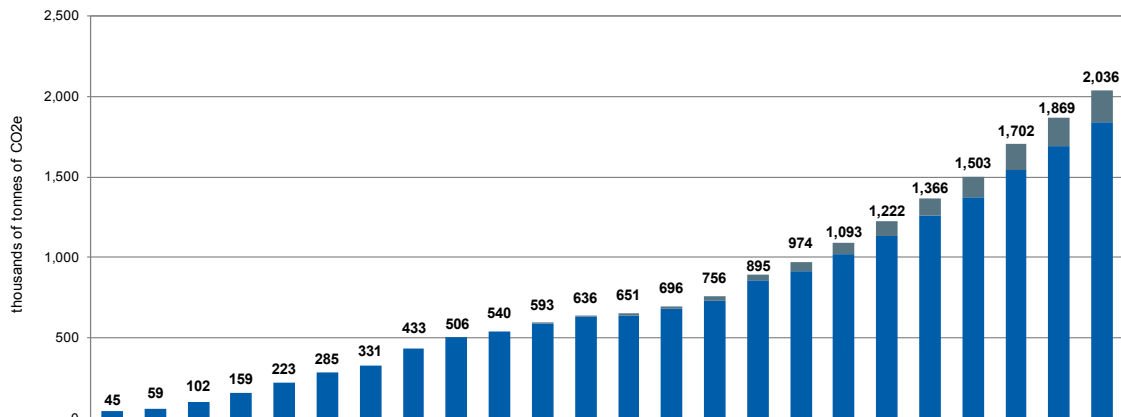
Note: Figures may not add due to rounding.

The 103 million cubic metres of reduced natural gas consumption (after interactive effects) from Power Smart programs to date has displaced approximately 195 thousand tonnes of greenhouse gas emissions. This reduction of emissions in Manitoba has directly reduced the provincial emissions by 1%. This is equivalent to removing nearly 39 thousand vehicles off the road for one full year.

Combined Impact of Electricity and Natural Gas Savings

The following graph presents the greenhouse gas emissions reduction that has resulted from all electric and natural gas Power Smart program activity to date.

Exhibit 4.1.5-C
Total Annual Greenhouse Gas Emissions Reduction
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	08/09	09/10	10/11	11/12	12/13	13/14	14/15
Natural Gas											3	6	10	16	23	38	56	75	89	108	131	159	176	195
Electric	45	59	102	159	223	285	331	433	506	540	590	630	641	680	733	857	917	1,018	1,133	1,258	1,372	1,543	1,693	1,841
Total	45	59	102	159	223	285	331	433	506	540	593	636	651	696	756	895	974	1,093	1,222	1,366	1,503	1,702	1,869	2,036

Note: Figures may not add due to rounding.

The 2,728 GWh of savings from electricity and 103 million cubic metres of savings from natural gas Power Smart programs have resulted in greenhouse gas emissions reduction of approximately 2.0 million tonnes of carbon

dioxide equivalent emissions. The combined reduction in global emissions is equivalent to 10% of Manitoba's provincial emissions. This is comparable to removing nearly 407 thousand vehicles off the road for one full year.

4.1.6 Additional Measurable Non-Energy Benefits

Additional Measurable Non-Energy Benefits

In 2014/15, the following Power Smart programs achieved additional measurable non-energy benefits in the form of water savings: Affordable Energy Program, Water & Energy Saver Program and Commercial Kitchen

Appliances Program.

The following table depicts in-year and cumulative water savings in litres achieved by the Power Smart programs.

Exhibit 4.1.6

Water Savings by Power Smart Program

	2014/15 Actual	2014/15 Total*
<i>millions of litres</i>		
RESIDENTIAL PROGRAMS		
Water & Energy Saver	168	1,081
Affordable Energy Program	9	84
COMMERCIAL PROGRAMS		
Commercial Kitchen Appliances	80	112
Commercial Clothes Washers	-	33
Commercial Rinse and Save	-	653
Power Smart Shops	-	10
DISCONTINUED/ COMPLETED PROGRAMS		
Residential Appliances Program	-	299
TOTAL	257	2,272

*Savings include actual + persisting savings, up to and including 2014/15.

As well as water savings, the Power Smart programs have achieved additional non-energy benefits. To date, the Refrigerator Retirement Program has recycled over 6,500 metric tons of materials (metals, mercury, oil, etc.). By recycling these materials, future production of these materials has been avoided, nearly 14 metric tons of CFCs have been collected and destroyed and emissions have been reduced by more than 90,000 metric tons of CO₂e cumulatively. Another example is the Performance Optimization Program. This program reduces maintenance

costs (approximately 30% reduction for air compressor projects) and increases production.

In addition to this, Power Smart programs have provided socio-economic benefits through job creation within the province. The Affordable Energy Program (two positions within the North End Community Renewal Corporation and Brandon Neighbourhood Renewal Corporation, plus local labour in First Nations communities, private contractors and social enterprise contractors); Refrigerator Retirement Program (fifteen to twenty positions,

depending on the season, including office staff, warehouse staff and drivers); Residential LED Lighting Program (six part-time in-store ambassador positions have been created at Summerhill Group); Water & Energy Saver Program (three full-time office positions, as well as up to forty part-time installer positions have been created at Ecofitt); Commercial Rinse & Save Program (numerous installer positions); and Power Smart Energy Manager Program (Power Smart Energy Manager positions created within school divisions) have all created additional jobs for

Manitobans. Also, Power Smart programs yield increased tax dollars resulting from the wages associated with jobs created specifically for the programs.

Another example of how Power Smart programs are creating opportunities for Manitobans is with their geothermal programs. To date, Manitoba Hydro has provided training for approximately forty-five members of the Ground Source Heat Pump Association, seventeen of which have received full installer accreditation.

4.2 DSM Support Programs & Cost-Recovery Programs

4.2.1 Annual Energy & Demand Savings from DSM Support Programs & Cost-Recovery Programs

Exhibits 4.2.1-A through 4.2.1-C provide an overview of the estimated electricity and natural gas savings achieved to 2014/15 through DSM support programs and cost-recovery programs, for those programs where energy savings can be reasonably measured or estimated using engineering calculations.

Exhibit 4.2.1 - A

Annual GW.h Savings - Electric DSM Support Programs & Cost-Recovery Programs

	2014/15 Actual	2014/15 Plan [^]	Total*	2028/29 Plan [^]
RESIDENTIAL				
Power Smart Residential Loan	0.4	0.5	9.3	16.3
Power Smart Residential PAYS	0.1	0.4	1.4	6.5
Residential Earth Power Loan	0.1	1.1	13.3	31.2
	0.7	2.0	24.0	54.1
COMMERCIAL				
Power Smart for Business PAYS Program	-	0.2	0.1	2.4
	-	0.2	0.1	2.4
DISCONTINUED/EXPLORATORY PROGRAMS				
	-	-	3.8	3.8
	-	-	3.8	3.8
TOTAL (at customer meter)	0.7	2.2	27.9	60.3
TOTAL (at generation)	0.8	2.6	31.9	68.7

[^] Plan estimates are from the 2014 Power Smart Plan.
^{*} Savings include actual + persisting results, up to and including 2014/15.
Note: Figures may not add due to rounding.

Exhibit 4.2.1 - B

Average Winter MW Savings - Electric DSM Support Programs & Cost-Recovery Programs

	2014/15 Actual	2014/15 Plan [^]	Total*	2028/29 Plan [^]
RESIDENTIAL				
Power Smart Residential Loan	0.2	0.3	5.2	8.9
Power Smart Residential PAYS	0.0	0.1	0.4	1.8
Residential Earth Power Loan	0.0	0.3	3.9	8.2
	0.3	0.6	9.4	18.8
COMMERCIAL				
Power Smart for Business PAYS Program	-	0.1	0.0	0.6
	-	0.1	0.0	0.6
DISCONTINUED/EXPLORATORY PROGRAMS				
	-	-	0.2	0.2
	-	-	0.2	0.2
TOTAL (at customer meter)	0.3	0.7	9.7	19.6
TOTAL (at generation)	0.3	0.8	11.0	22.3

[^] Plan estimates are from the 2014 Power Smart Plan.

* Savings include actual + persisting results, up to and including 2014/15.

Note: Figures may not add due to rounding.

Exhibit 4.2.1 - C

Annual m³ Savings - Natural Gas DSM Support Programs & Cost-Recovery Programs

	2014/15 Actual	2014/15 Plan [^]	Total*	2028/29 Plan [^]
<i>millions of cubic metres</i>				
RESIDENTIAL				
Power Smart Residential Loan	0.3	0.3	15.5	19.8
Residential Earth Power Loan	0.1	0.2	3.0	4.9
Power Smart Residential PAYS Program	(0.0)	0.0	(0.0)	0.1
	0.3	0.5	18.4	24.9
COMMERCIAL				
Power Smart for Business PAYS Program	-	-	-	0.1
	-	-	-	0.1
DISCONTINUED/EXPLORATORY PROGRAMS				
	-	-	2.7	2.7
	-	-	2.7	2.7
TOTAL	0.3	0.5	21.1	27.6

[^] Plan estimates are from the 2014 Power Smart Plan.
^{*} Savings include actual + persisting results, up to and including 2014/15.
Note: Figures may not add due to rounding.

4.3 Energy Efficiency Codes & Standards

In addition to DSM activities, some utilities, including Manitoba Hydro, are actively 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 energy-consuming technologies, and to encourage adoption of energy efficiency standards and regulations.

Manitoba Hydro prepares an annual forecast that highlights the expected influence of codes and standards, and since 1995, this forecast has been used to adjust Manitoba Hydro's system load forecast.

In many cases, legislation and regulations are the most effective and permanent form of market transformation, as it ensures customers do not revert to less efficient technologies/practices once the incentives and/or promotional activities are discontinued. Traditionally, changing legislation can be complex when faced with lack of market acceptance. These changes impact building design and construction, as well as industry manufacturing processes, and therefore do not always receive strong industry support without preceding market intervention (i.e. legislation and regulations).

4.3.1 Development of Standards

Manitoba Hydro is a key player on the CSA Strategic Steering Committee on Performance, Energy Efficiency and Renewables (SCOPEER). This committee is responsible for changes to national minimum energy performance standards, which are subsequently entrenched in energy efficiency legislation. A key facet of the work undertaken by SCOPEER in cooperation with NRCan relates to the harmonization of minimum energy performance standards with the US and other countries, creating a more substantive and global initiative to enhance the performance of energy consuming equipment. This work is coordinated through the Regulatory Cooperation Council (RCC) that coordinates harmonization activities in regulations between Canada and the US. This work which has resulted in significant energy efficiency improvements of numerous appliances and technologies that are uniformly applied in both Canada and the US, easing compliance and importing of goods into North America. For example, as a result of SCOPEER working with Canadian manufacturers, refrigerator manufacturers now market products which exceed the current minimum efficiency standards for inter-provincial exporting.

Manitoba Hydro is actively working with the Canadian Standards Association in developing strategic solutions for measuring the energy performance of common industrial systems. These in-site standards will be designed for use on the factory floor, enabling industrial users to measure the energy performance on their industrial processes during commissioning and therefore to ensure that energy performance is maintained over time. While these standards are not yet entrenched in regulation, they serve as precursors to a future generation of standards that address

the interaction between equipment, which provide large opportunities for energy efficiency improvements.

The national commitment to update the 1997 National Energy Code for Buildings (NECB) was initiated in Manitoba by the Energy Code Advisory Committee (ECAC) which was led by Manitoba Hydro. Manitoba Hydro also chaired the national Building Energy Code Collaborative (BECC), which was formed in response to the recommendations provided by ECAC. As a result of the work done by BECC, formal support was provided by jurisdictions across Canada to undertake the work to update the 1997 NECB and a national working group was formed to conduct the detailed work for updating the code. Manitoba's Minister of Labour provided formal support that signaled Manitoba's intention to adopt the document once published, however the Province still moved forward with their own energy strategy and convened a sub-committee of the Building Standards Board of Manitoba to recommend Manitoba-based energy and water efficiency recommendations that could be implemented in advance of the release of the 1997 NECB.

In January 2011, the energy efficiency amendments developed for the Manitoba building code were approved by the Building Standards Board of Manitoba and the Minister of Labour. However, with the NECB already through its public consultation phase and targeting a release date of fall 2011, it was decided to hold back on regulating the specific Manitoba amendments so that a review and implementation of the NECB could be implemented. The sub-committee that developed the Manitoba amendments was reconvened in fall 2012 with the task of reviewing the

NECB and determining its applicability to the Manitoba market. Once again, Manitoba Hydro played a key role with several Power Smart staff contributing to this process. The sub-committee provided a recommendation that was formally adopted with minor adjustments in December 2013 for implementation and enforcement in December 2014.

Manitoba Hydro staff continues to contribute to the national process for the development of the 2015 edition of the NECB and several Customer Engineering Services staff members formally attend regular code development meetings to ensure Manitoba Hydro objectives are met.

4.3.2 Development of Energy Codes

Initially, an energy code for residential homes was proposed by the federal government and was to be adopted by the Province of Manitoba in 1997 as part of the building code. 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 this, Manitoba Hydro initiated and sponsored amendments to the insulation tables for new houses in the Manitoba building code as an interim measure to improve upon eroding insulation practices throughout Manitoba. 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.

Manitoba Hydro staff are also members of the Manitoba Building Standards Board Sub-Committee on Energy and Water Efficiency, which is responsible for recommending that the Province adopt the 2011 NECB and creation of additional recommendations specific to Manitoba that will be incorporated as amendments.

Manitoba Hydro continues to assess the New Buildings program. Commercial building code savings realized over the term beyond that of the New Buildings program have also been accounted for. Manitoba Hydro has used a placeholder post-2020 Building Code which reflects current regulatory intentions beyond the 2011 NECB described above.

In July 2006, the requirements under insulation tables for new houses in the Manitoba Building Code were simplified. Manitoba Hydro played a key role in ensuring that efficiency requirements were not significantly diluted. As a result, Manitoba's minimum requirements for insulation in new homes were the highest in Canada.

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

Manitoba Hydro's most recent involvement with provincial codes was with the Manitoba amendments made to Part 9 (Residential) of the Building Code that came into effect December 1, 2010. The amendments stipulated minimum performance requirements for newly-constructed homes in the areas of insulation, windows, heating systems

and plumbing fixtures. Manitoba Hydro played a key role in developing the recommendations through technical review of proposed efficiency levels, and perhaps even more critically, through preparing the industry for accepting the code recommendations by offering the Power Smart New Home Program. With the final approved efficiency levels consisting largely of the technologies which made up the Power Smart Gold standard, testament can be given to the importance of voluntary incentive-based programs in accelerating market acceptance and penetration of energy efficient technologies, thereby making the transition to building codes more seamless. With enforcement occurring for all building permits issued after December, 2010, savings related to the code amendment have been realized since 2011/12.

4.3.3 Development of Energy Regulations

As of January, 2010, The Manitoba Energy Act regulations state that all natural gas furnaces sold in Manitoba must be at least 92% annual fuel utilization efficiency (AFUE). Meanwhile, federal regulations require a minimum efficiency of only 90%. As a result, Manitoba Hydro's Natural Gas Furnace Program had a direct impact on market

Most recently, the committee that recommended the amendments in 2010 was reconvened late in 2013 and worked through to the fall of 2014 to review Section 9.36 of the Building Code which was the first National effort at incorporating energy efficiency into the code. Given that Manitoba had already proceeded with incorporating energy efficiency into building code, the adjustments that were recommended were relatively minor with the exception of the addition of the requirement to install a drain water heat recovery system. The revised code comes into force on April 1st, 2016 and Manitoba will be the first jurisdiction in Canada to required drain water heat recovery as an energy savings measure.

transformation in Manitoba. For this reason, the additional 2% in energy savings relative to the federal regulations have been claimed from all furnaces sold in Manitoba's residential and commercial market from January, 2010 forward.

4.3.4 Annual Energy & Demand Savings Resulting from Energy Efficiency Codes & Standards

The following section outlines the estimated energy and demand savings resulting from codes and standards improvements in the Manitoba marketplace. savings due to codes and standards are not included in the calculation of cost-effectiveness metrics based on actual activity (i.e. savings due to codes and standards are not included in the Power Smart Annual Review metrics).

Savings resulting from future codes and standards are included in planned cost-effectiveness metrics. However,

Exhibit 4.3.4-A

Savings Resulting from Energy Efficiency Codes & Standards

CODE CATEGORY & COMPONENTS	CODE & MANITOBA HYDRO'S INFLUENCE	SAVINGS (AT GENERATION)	
		2014/15	Cumulative
Residential Insulation	-Manitoba Building Code Regulation 4/2008 (Oct. 2008) increased minimum required level of insulation from R12 to R20	3.6 GW.h	33.2 GW.h
		1.9 MW	16.0 MW
		318,131 m ³	2,025,101 m ³
Residential Appliances: Ranges, dishwashers, clothes washers, clothes dryers, refrigerators, freezers	-Member of Strategic Steering Committee on Performance, Energy Efficiency & Renewables (SCOPEER) -Savings based on Energy Star efficiency improvements	28.8 GW.h	445.1 GW.h
		5.0 MW	90.1 MW
		- m ³	3,847,338 m ³
Other Residential Equipment: Central air conditioning, electric hot water tanks, furnaces, attic insulation, windows, HRVs, efficient showerheads	-CSA Standard C191-00 (July 2004) for electric hot water tanks -CSA Standard C656-05 (Nov. 2006) for central air conditioning -MB Energy Act (Dec. 2009) states furnaces must be ≥92% AFUE (≥94% AFUE for new homes, 2010) -Manitoba Building Code Regulation 142/2010 (Dec. 2010) increased attic insulation from R40 to R50, and specified level of windows, HRVs and efficient shower heads -Manitoba Plumbing Code Regulation 32/2011 (March 2011)	23.1 GW.h	105.0 GW.h
		7.8 MW	31.8 MW
		2,538,959 m ³	12,561,194 m ³
Commercial Lighting: T12 lamps, LED exit signs, fluorescent ballasts	-Member of Strategic Lighting Initiative Committee (SLIC), etc. -National Energy Efficiency Act (1996): Increased min. efficiency requirement of T12 lamps from 40 to 34 watts -National Energy Efficiency Act (Nov. 2004): Min. efficiency requirements only met by LED exit signs -National Energy Efficiency Act (Nov. 2006): Increased min. efficiency requirement of fluorescent ballasts (new construction) -National Energy Efficiency Act (April 2010): Increased min. efficiency requirement of fluorescent ballasts (renovation)	3.1 GW.h	157.1 GW.h
		0.9 MW	44.0 MW
		- m ³	- m ³
Other Commercial Equipment: Furnaces	-MB Energy Act (Dec. 2009) states furnaces must be ≥92% AFUE	- GW.h	- GW.h
		- MW	- MW
		79,460 m ³	541,004 m ³
Industrial Equipment: High Efficiency Motors	-Member of Coordinated Utilities Approach (CUA) -Oct. 1997 code change (min. efficiency increased to 82.5-95.0%) -Last year of claimed savings was 2006/07	- GW.h	17.8 GW.h
		- MW	3.0 MW
		- m ³	- m ³
TOTAL		58.5 GW.h	758.2 GW.h
		15.6 MW	184.9 MW
		2,936,549 m ³	18,974,637 m ³

In 2014/15 alone, as a result of efforts to achieve energy savings through energy efficient codes and standards, approximately 59 GW.h and 16 MW of electric savings (at generation), and 3 million cubic metres of natural gas savings were achieved. This resulted in 45 thousand tonnes of greenhouse gas emissions reduction.

To date, it is estimated that 758 GW.h and 185 MW of electric savings (at generation), and 19 million cubic metres of natural gas savings were achieved, resulting in 548 thousand tonnes of greenhouse gas emissions reduction in 2014/15.

Exhibit 4.3.4 - B
Efficiency Codes & Standards
Cumulative GW.h Savings Achieved
(at Generation)

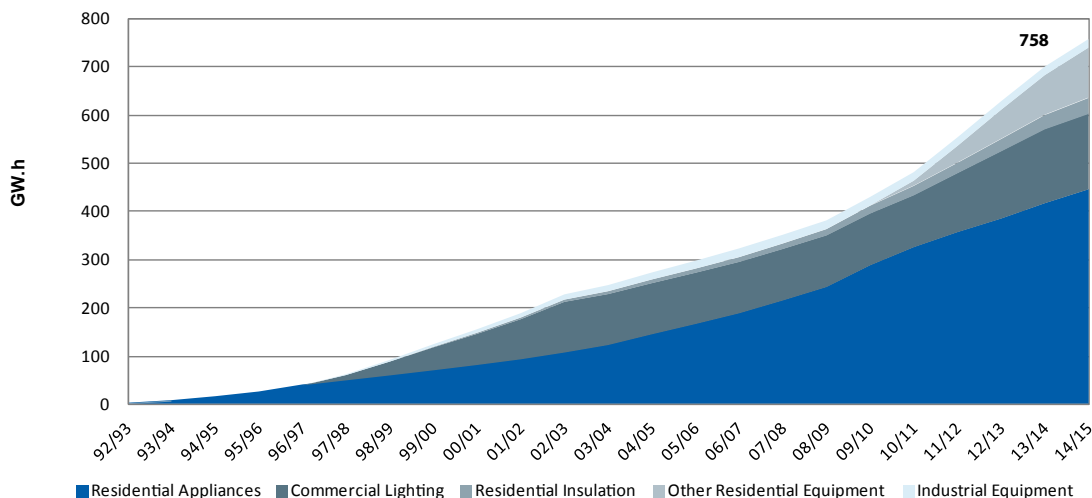


Exhibit 4.3.4 - C
Efficiency Codes & Standards
Cumulative MWSavings Achieved
(at Generation)

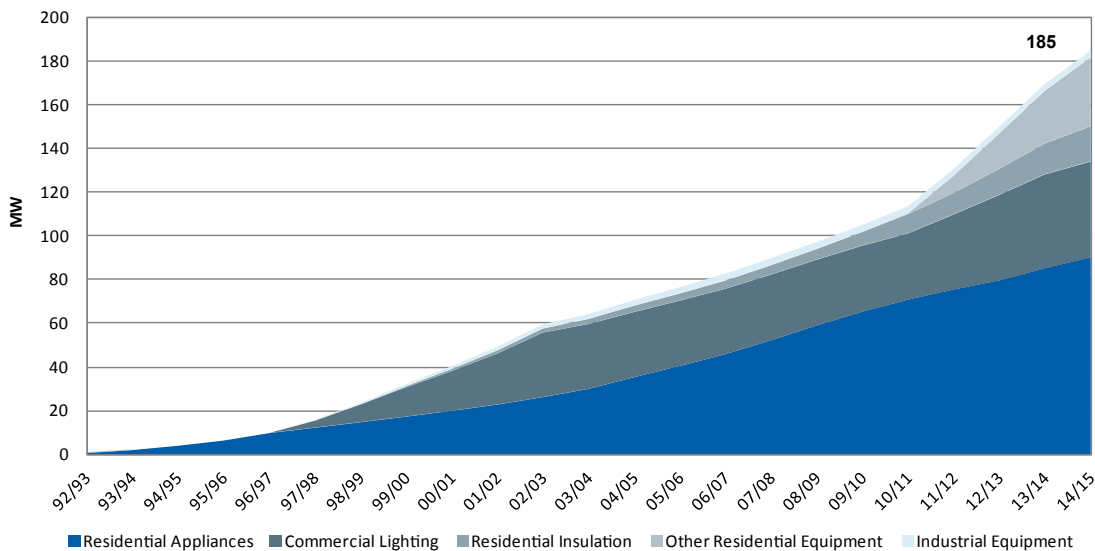
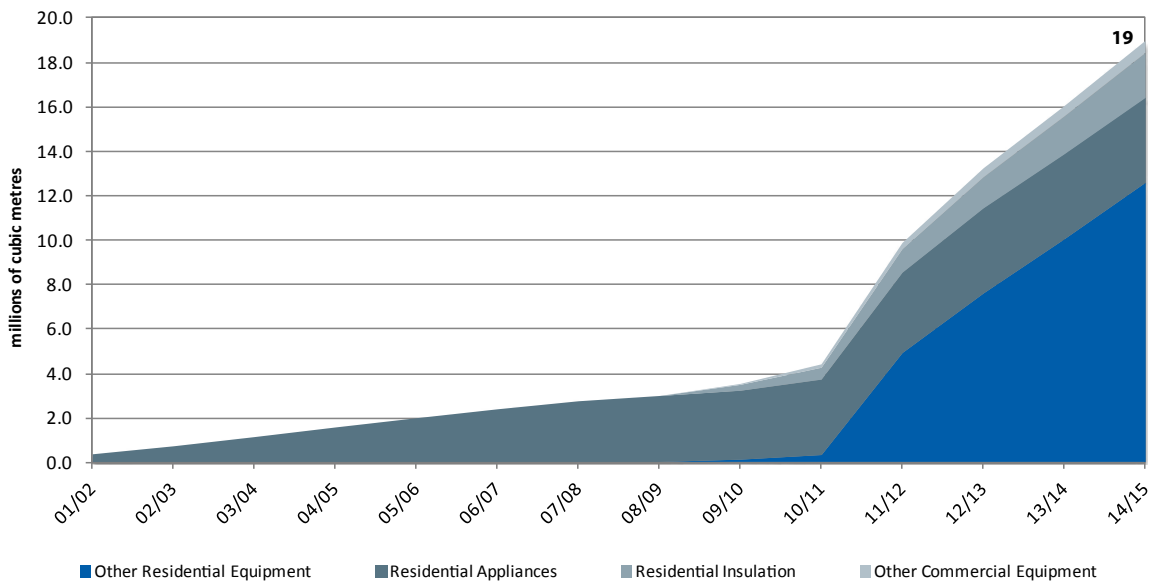


Exhibit 4.3.4 - D
Efficiency Codes & Standards
Cumulative Natural Gas Savings Achieved



Because there are many participants (utilities, governments, manufacturers, environmental groups, etc.) contributing to the formation of energy efficiency codes and 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 savings resulting from energy efficiency codes and standards. In the Power Smart Annual Review, the estimated savings from codes and standards are not included in the calculation of cost effectiveness metrics.

4.4 Incentive-Based Power Smart Programs

Power Smart incentive-based programs are designed to accelerate market awareness and acceptance of energy efficient technologies and practices.

4.4.1 Power Smart Electric Program Results

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

4.4.1.1 Annual Energy Savings

Electric energy savings achieved by incentive-based Power Smart programs in 2014/15 is displayed by sector and program in Exhibits 4.4.1.1-A and B respectively.

Exhibit 4.4.1.1-B also provides electric energy savings achieved to date by incentive-based Power Smart programs.

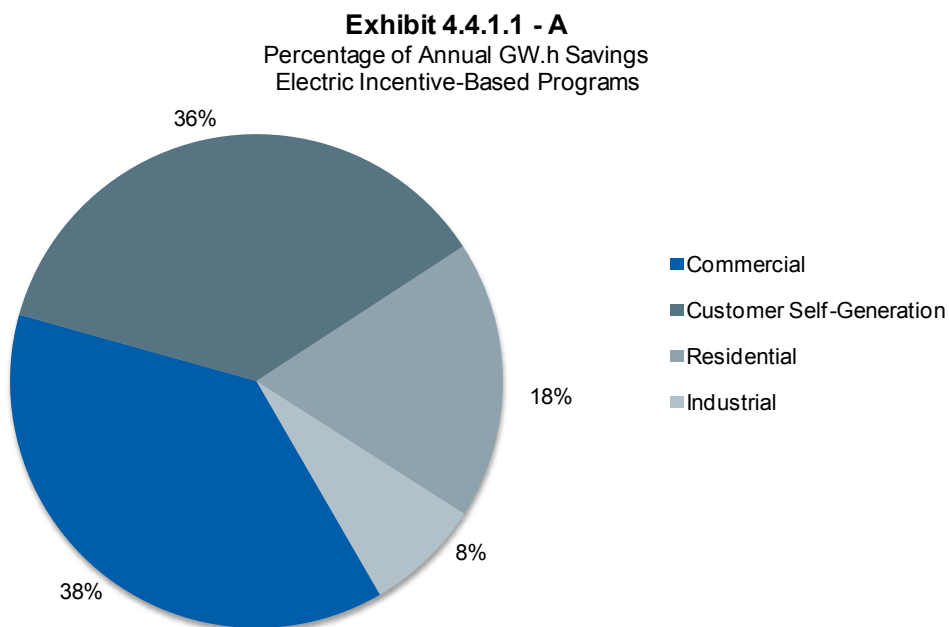


Exhibit 4.4.1.1 - B

Annual GW.h Savings - Electric Incentive-Based Programs

	2014/15 Actual	2014/15 Plan [^]	Total [*]	2028/29 Plan [^]
RESIDENTIAL				
Residential LED Lighting	12.9	2.2	12.9	5.9
Refrigerator Retirement	9.5	11.1	38.9	1.5
Home Insulation	4.4	4.7	53.8	80.6
Affordable Energy	3.2	3.4	15.0	42.9
Water & Energy Saver	3.1	2.9	18.8	28.0
Community Geothermal	1.6	4.0	1.6	59.7
Drain Water Heat Recovery	0.1	-	0.1	-
Residential Discontinued/Exploratory Programs	-	-	172.6	212.5
	34.8	28.5	313.6	431.2
COMMERCIAL				
Commercial Lighting	30.1	32.8	371.8	596.0
Commercial Refrigeration	11.9	10.3	41.8	92.0
Commercial Building Envelope	6.1	4.9	44.2	100.0
Commercial New Buildings	5.6	9.2	13.7	57.1
Commercial Geothermal	2.9	1.6	37.7	136.4
Commercial HVAC	2.5	2.2	12.7	20.4
Internal Retrofit	1.0	1.1	58.4	60.1
LED Roadway Lighting	0.4	5.1	0.4	35.4
Commercial Kitchen Appliances	0.4	0.6	1.1	2.9
Commercial Network Energy Management	0.1	0.4	0.8	5.4
Commercial Custom Measures	0.1	0.9	21.4	42.9
Commercial Building Optimization	-	0.5	2.9	14.4
Commercial Discontinued/Exploratory Programs	10.8	-	141.6	134.5
	71.7	69.6	748.4	1,297.6
INDUSTRIAL				
Performance Optimization	14.5	15.6	485.9	834.9
Industrial Discontinued/Exploratory Programs	-	-	54.5	54.5
	14.5	15.6	540.4	889.4
EFFICIENCY PROGRAMS SUBTOTAL				
	121.0	113.6	1,602.4	2,618.2
CUSTOMER SELF-GENERATION PROGRAMS				
Bioenergy Optimization	69.4	13.0	120.7	113.3
Load Displacement	-	125.0	-	580.6
	69.4	138.0	120.7	693.8
CONSERVATION RATES				
Conservation Rates - Commercial	-	-	-	202.1
Conservation Rates - Residential	-	-	-	140.1
	-	-	-	342.1
FUEL CHOICE				
Fuel Choice	-	-	-	250.7
	-	-	-	250.7
TOTAL (at customer meter)				
	190.4	251.6	1,723.1	3,904.9
TOTAL (at generation)				
	213.7	280.7	1,937.9	4,388.2

[^] Plan estimates are from the 2014 Power Smart Plan.

^{*} Savings include actual + persisting results, up to and including 2014/15.

Note: Figures may not add due to rounding.

Free driver participation is included in the above figures.

In 2014/15 alone, Power Smart electric incentive-based programs, including both efficiency-based programs and customer self-generation, fell short of plan by 61.2 GW.h. While efficiency-based programs exceeded plan by 7.4 GW.h, the customer self-generation program was 68.6 GW.h less than plan.

The variances within Power Smart electric incentive-based programs in 2014/15 are highlighted below:

Residential:

The residential sector, which accounted for 18% of total GW.h savings in 2014/15, contributed 34.8 GW.h, exceeding its planned savings by 6.3 GW.h.

- The Residential LED Lighting Program achieved 12.9 GW.h of savings, above target by 10.7 GW.h or 486%. This positive variance is the result of significantly higher participation than anticipated, as well as higher per bulb savings, lower free ridership and higher persistence rates than planned. Due to the success of a Fall 2014 promotional campaign, the program initiated a second unplanned Fall 2014 campaign, resulting in participation levels exceeding targets by 382%.
- The Community Geothermal Program achieved 1.6 GW.h of savings, less than target by 2.4 GW.h or 60%. The variance is due to participation levels falling 57% short of plan.

Commercial:

The commercial sector, which accounted for 38% of savings in 2014/15, contributed 71.7 GW.h of savings, 2.1 GW.h more than planned.

- The Agricultural Heat Pad Program achieved 10.8 GW.h of savings due to market transformation which is not included in the plan. The program officially

ended on March 31, 2011 and has claimed market transformation sales by collecting manufacturer sales data for Manitoba and subtracting natural conservation of 5%.

- The Commercial Building Envelope Program achieved savings of 6.1 GW.h, exceeding planned savings by 1.2 GW.h. This positive variance was a result of participation on the insulation side of the program exceeding plan by 16%, as well as higher than planned savings per square foot.
- The LED Roadway Lighting Pilot Program achieved 0.4 GW.h of savings, falling short of plan by 4.7 GW.h or 92%. This variance is due to delays in program implementation, resulting in participation levels falling below plan.

Industrial:

- The industrial sector accounted for 8% of total GW.h savings in 2014/15, with 14.5 GW.h resulting from the Performance Optimization Program. Energy savings for the Performance Optimization Program were 1.1 GW.h less than planned.

Customer Self-Generation:

- Customer Self-Generation accounted for 36% of total GW.h savings in 2014/15, all resulting from the Bioenergy Optimization Program. Customer Self-Generation achieved 69.4 GW.h of savings, 50% of plan. Although planned for in 2014/15, the launch of the Load Displacement Program was delayed. Savings from Tolko were instead claimed under the Bioenergy Program; however, they were less than anticipated. Also contributing to the negative variance, the Provincial coal ban was extended, postponing several conversion projects to 2015/16.

4.4.1.2 Average Winter Peak Demand Savings

Demand savings achieved by electric incentive-based Power Smart programs in 2014/15 is displayed by sector and program in Exhibits 4.4.1.2-A and B respectively. Exhibit 4.4.1.2-B also provides demand savings achieved to date by electric incentive-based Power Smart programs. The demand savings are presented as an average of the winter AM and PM system peak savings.

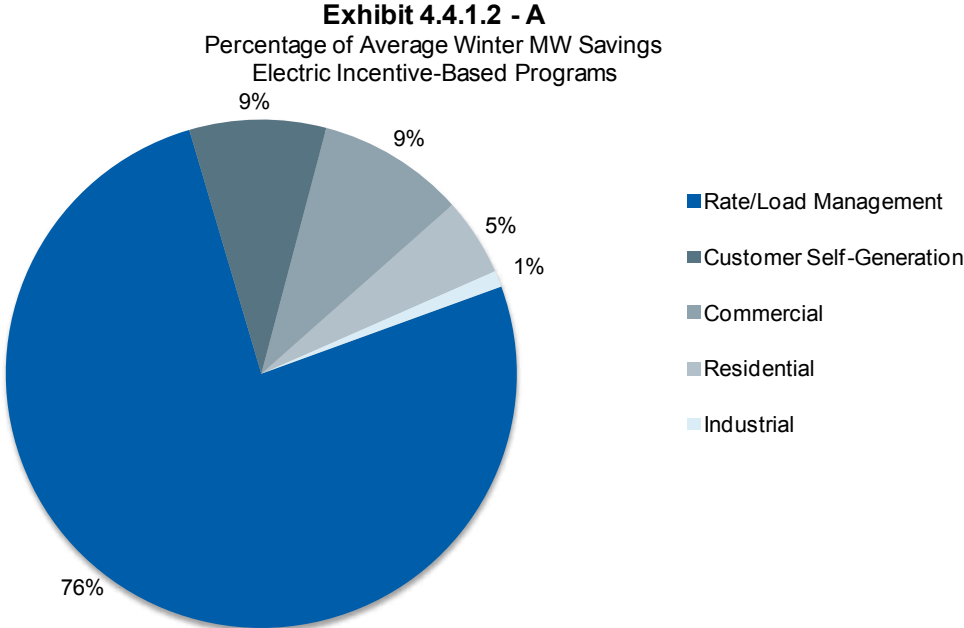


Exhibit 4.4.1.1 - B

Average Winter MW Savings - Electric Incentive-Based Programs

	2014/15 Actual	2014/15 Plan [^]	Total*	2028/29 Plan [^]
RESIDENTIAL				
Residential LED Lighting	3.1	0.5	3.1	1.4
Home Insulation	2.4	2.6	26.9	41.3
Affordable Energy	1.7	1.8	6.9	20.8
Refrigerator Retirement	1.1	1.2	3.8	0.2
Water & Energy Saver	0.6	0.6	3.2	5.0
Community Geothermal	0.4	1.1	0.4	15.7
Drain Water Heat Recovery	0.0	-	0.0	-
Residential Discontinued/Exploratory Programs	-	-	31.7	43.7
	9.3	7.8	75.9	128.0
COMMERCIAL				
Commercial Lighting	8.4	9.1	73.8	136.3
New Buildings Program	2.5	4.1	4.4	23.7
Commercial Building Envelope	2.4	1.9	18.8	40.8
Commercial Refrigeration	1.3	1.2	5.9	11.6
Commercial Geothermal	0.7	0.4	14.3	37.9
Commercial Kitchen Appliances	0.5	0.6	0.7	2.9
Internal Retrofit	0.1	0.2	12.3	12.6
Commercial HVAC	0.1	0.1	0.1	1.3
LED Roadway Lighting	0.1	0.7	0.1	5.2
Commercial Network Energy Management	0.0	0.2	0.2	2.0
Commercial Custom Measures	0.0	0.2	1.8	7.5
Commercial Building Optimization	-	0.1	0.4	2.9
Commercial Discontinued/Exploratory Programs	1.4	-	20.2	19.8
	17.5	18.8	153.1	304.4
INDUSTRIAL				
Performance Optimization	2.0	2.4	93.0	148.1
Industrial Discontinued/Exploratory Programs	-	-	8.2	8.2
	2.0	2.4	101.1	156.2
EFFICIENCY PROGRAMS SUBTOTAL				
	28.7	29.1	330.1	588.7
CUSTOMER SELF-GENERATION PROGRAMS				
Bioenergy Optimization	16.3	1.5	22.2	13.0
Load Displacement	-	21.9	-	85.9
	16.3	23.4	22.2	98.9
RATE/LOAD MANAGEMENT PROGRAMS				
Curtable Rates	142.5	146.2	142.5	146.2
	142.5	146.2	142.5	146.2
CONSERVATION RATES				
Conservation Rates - Commercial	-	-	-	24.3
Conservation Rates - Residential	-	-	-	16.9
	-	-	-	41.2
FUEL CHOICE				
Fuel Choice	-	-	-	66.7
	-	-	-	66.7
TOTAL (at customer meter)				
	187.5	198.7	494.8	941.8
TOTAL (at generation)				
	207.3	219.6	553.4	1057.6

[^] Plan estimates are from the 2014 Power Smart Plan.

* Savings include actual + persisting results, up to and including 2014/15.

Note: Figures may not add due to rounding.

Free driver participation is included in the above figures.

In 2014/15 alone, Power Smart electric incentive-based programs, including both efficiency-based and customer self-generation programs, fell short of planned savings by 11.2 MW.

The variances within Power Smart electric incentive-based programs in 2014/15 are highlighted below:

Residential:

The residential sector, which accounted for 5% of total demand savings in 2014/15, contributed 9.3 MW, exceeding its planned savings by 1.5 MW.

- The Residential LED Lighting Program exceeded planned demand savings by 2.6 MW or 520%. The positive variance is the result of greater participation than anticipated, due to the previously mentioned additional promotional campaign drive.
- The Community Geothermal Program fell short of planned demand savings by 0.7 MW or 64%. This negative variance is the result of significantly lower participation than anticipated.

Commercial:

The commercial sector, which accounted for 9% of total demand savings in 2014/15, contributed 17.4 MW of savings, 1.4 MW below target.

- The New Buildings Program achieved 2.5 MW of demand savings, short of its planned demand savings by 1.6 MW. The variance was a result of 30% lower participation than planned, as well as slightly lower savings per building than planned.

Industrial:

- The industrial sector accounted for 1% of total demand savings in 2014/15 with 2.0 MW resulting from the Performance Optimization Program. Demand savings for the Performance Optimization Program was 0.4 MW less than planned.

Customer Self-Generation:

- Customer Self-Generation accounted for 9% of total demand savings in 2014/15, all resulting from the Bioenergy Optimization Program. Customer Self-Generation achieved 16.3 MW of savings, 70% of plan. Although planned for in 2014/15, the launch of the Load Displacement Program was delayed. Savings from Tolko were instead claimed under the Bioenergy Program; however, they were less than anticipated. Also contributing to the negative variance, the Provincial coal ban was extended, postponing several conversion projects to 2015/16.

Rate/Load Management:

- The Curtailable Rates Program, which accounted for 76% of total demand savings in 2014/15, contributed 142.5 MW of savings, 3.0 MW less than planned. For further details, please see APPENDIX E - "Curtailable Rates Program Information & Methodology".

4.4.1.3 Electric Total Resource Cost - Benefit/Cost Analysis

Exhibits 4.4.1.3-A and B show the electric benefit/cost analysis results under the total resource cost (TRC) metric by program. The calculation of the benefit/cost ratio was based on a 30-year evaluation period. Refer to APPENDIX B - 'Explanation of Benefit/Cost Ratios used in DSM Economic Metrics' for formulas and criteria used to determine cost-effectiveness.

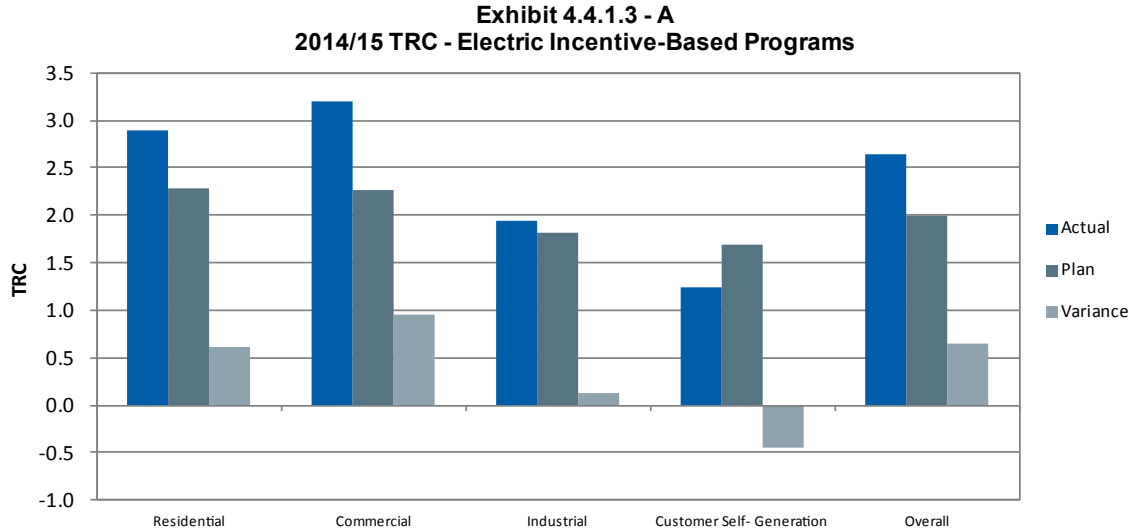


Exhibit 4.4.1.3 - B

Total Resource Cost Benefit/Cost Analysis - Electric Incentive-Based Programs

	2014/15 Actual	2014/15 Plan^^	Total**	2028/29 Plan^^
			<i>TRC</i>	
RESIDENTIAL				
Residential LED Lighting	12.6	1.1	12.6	2.7
Water & Energy Saver †	9.8	5.8	10.6	4.1
Home Insulation	4.2	4.4	5.0	3.9
Affordable Energy* †	1.7	4.0	1.7	3.8
Drain Water Heat Recovery	1.4	-	1.4	0.0
Refrigerator Retirement	1.3	1.5	1.6	1.6
Community Geothermal	0.8	1.0	0.8	1.2
	2.9	2.3	3.5	2.1
COMMERCIAL				
Commercial Kitchen Appliances †	40.2	22.9	6.6	29.2
Commercial Building Envelope	5.3	3.6	5.4	3.7
Commercial New Buildings	4.0	2.8	4.2	2.5
Commercial Lighting	4.0	2.6	2.7	2.4
Commercial HVAC	3.4	3.7	2.4	2.4
Commercial Refrigeration	2.6	1.4	3.3	3.7
Commercial Custom Measures	1.3	1.6	1.7	1.6
Commercial Geothermal	1.0	1.7	1.9	2.0
Internal Retrofit	0.8	1.2	2.1	1.2
Commercial Network Energy Management	0.7	1.4	0.8	2.2
LED Roadway Lighting	0.5	0.8	0.5	1.2
Commercial Building Optimization	n/a	1.1	1.4	2.4
	3.2	2.3	2.7	2.3
INDUSTRIAL				
Performance Optimization	1.9	1.8	3.0	2.1
	1.9	1.8	3.0	2.1
DISCONTINUED/EXPLORATORY PROGRAMS †	51.6	-	2.6	3.2
	51.6	-	2.6	3.2
CUSTOMER SELF-GENERATION PROGRAMS				
Bioenergy Optimization	1.4	1.6	2.2	1.7
Load Displacement	n/a	1.7	0.0	1.4
	1.2	1.7	2.1	1.4
CONSERVATION RATES				
Conservation Rates - Residential	-	-	-	9.3
Conservation Rates - Commercial	-	-	-	12.5
	-	-	-	11.0
FUEL CHOICE				
Fuel Choice	-	-	-	4.3
	-	-	-	4.3
OVERALL: PROGRAM COSTS	2.9	2.1	2.8	2.3
OVERALL: PROGRAM COSTS + SUPPORT COSTS^	2.6	1.9	2.4	2.2

* Includes all Affordable Energy Fund expenditures and external funding.
** "Total" values represent the results of the program/portfolio since its inception.
† Includes water savings benefits.
^ Support costs contain DSM support programs, basic information services and program support costs.
^^ Plan estimates are from the 2014 Power Smart Plan.
Note: Free driver participation is included in the above figures.

4.4.1.4 Electric Rate Impact Measure - Benefit/Cost Analysis

Exhibits 4.4.1.4-A and B identify the electric benefit/cost ratios under the rate impact measure (RIM) metric by program. The calculation of the benefit/cost ratio is based on a 30-year evaluation period. Refer to APPENDIX B - 'Explanation of Benefit/Cost Ratios used in DSM Economic Metrics' for formulas and criteria used to determine cost-effectiveness.

**Exhibit 4.4.1.4 - A
 2014/15 RIM - Electric Incentive-Based Programs**

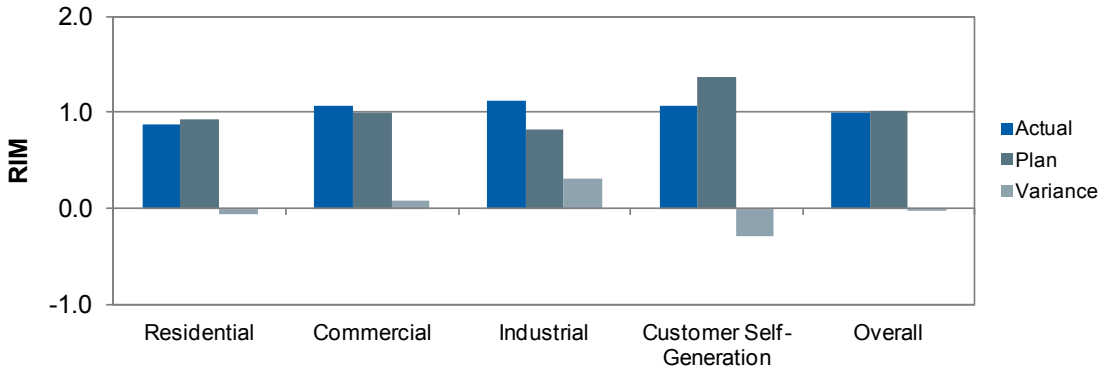


Exhibit 4.4.1.4 - B

Rate Impact Cost Benefit/Cost Analysis - Electric Incentive-Based Programs

	2014/15 Actual	2014/15 Plan^^	Total*	2028/29 Plan^^
	<i>RIM</i>			
RESIDENTIAL				
Home Insulation	1.2	1.2	1.5	1.2
Water & Energy Saver	0.9	0.8	1.0	0.7
Affordable Energy**	0.9	1.9	0.9	1.1
Community Geothermal	0.8	0.8	0.8	0.9
Residential LED Lighting	0.8	0.6	0.8	0.8
Drain Water Heat Recovery	0.6	-	0.6	-
Refrigerator Retirement	0.6	0.6	0.7	0.6
	0.9	0.9	1.1	0.9
COMMERCIAL				
Commercial Kitchen Appliances	1.8	1.6	1.3	1.7
Commercial New Buildings	1.5	1.4	1.4	1.4
Commercial Building Envelope	1.3	1.2	1.5	1.2
Commercial Geothermal	1.3	0.9	1.6	1.0
Commercial Custom Measures	1.3	1.1	1.3	1.1
Commercial Refrigeration	1.0	0.6	1.1	0.9
Commercial Lighting	1.0	0.9	1.0	0.9
Commercial Network Energy Management	0.8	0.8	0.5	1.1
Internal Retrofit	0.8	1.2	2.1	1.2
Commercial HVAC	0.7	0.7	0.9	0.8
LED Roadway Lighting	0.3	0.6	0.3	0.8
Commercial Building Optimization	-	0.6	0.7	0.9
	1.1	1.0	1.2	1.0
INDUSTRIAL				
Performance Optimization	1.0	0.8	1.3	0.9
	1.1	0.8	1.3	0.9
DISCONTINUED/EXPLORATORY PROGRAMS				
	1.2	-	0.9	1.1
	1.2	-	0.9	1.1
CUSTOMER SELF-GENERATION PROGRAMS				
Bioenergy Optimization	1.2	1.0	1.3	1.0
Load Displacement	-	1.5	-	1.2
	1.1	1.4	1.3	1.1
CONSERVATION RATES				
Conservation Rates - Residential	-	-	-	0.8
Conservation Rates - Commercial	-	-	-	1.1
	-	-	-	0.9
FUEL CHOICE				
Fuel Choice	-	-	-	1.0
	-	-	-	1.0
OVERALL PROGRAM COSTS	1.0	1.0	1.2	1.0
OVERALL PROGRAM COSTS + SUPPORT COSTS^	1.0	1.0	1.1	1.0

* "Total" values represent the results of the program/portfolio since its inception.

** Includes all Affordable Energy Fund expenditures, excludes external funding.

^ Support costs contain DSM support programs, basic information services and program support costs.

^^ Plan estimates are from the 2014 Power Smart Plan.

Note: Benefit/Cost analysis is not calculated for rate/load management programs.
Free driver participation is included in the above figures.

4.4.1.5 Electric Average Levelized Utility Cost - ¢/kW.h Saved

Exhibits 4.4.1.5-A and B highlight the average levelized utility cost of 2014/15 electric incentive-based programs in ¢/kW.h saved. The calculation of ¢/kW.h saved is based upon current program kWh savings at generation over a 30-year evaluation period. Refer to APPENDIX B - ‘Explanation of Benefit/Cost Ratios used in DSM Economic

Metrics’ for formulas and criteria used to determine cost-effectiveness. The program and sector utility costs presented do not include costs associated with DSM support programs, standards activities or the customer costs of DSM measures.

Exhibit 4.4.1.5 - A
2014/15 Average Levelized Utility Cost
 Electric Incentive-Based Programs
 at generation

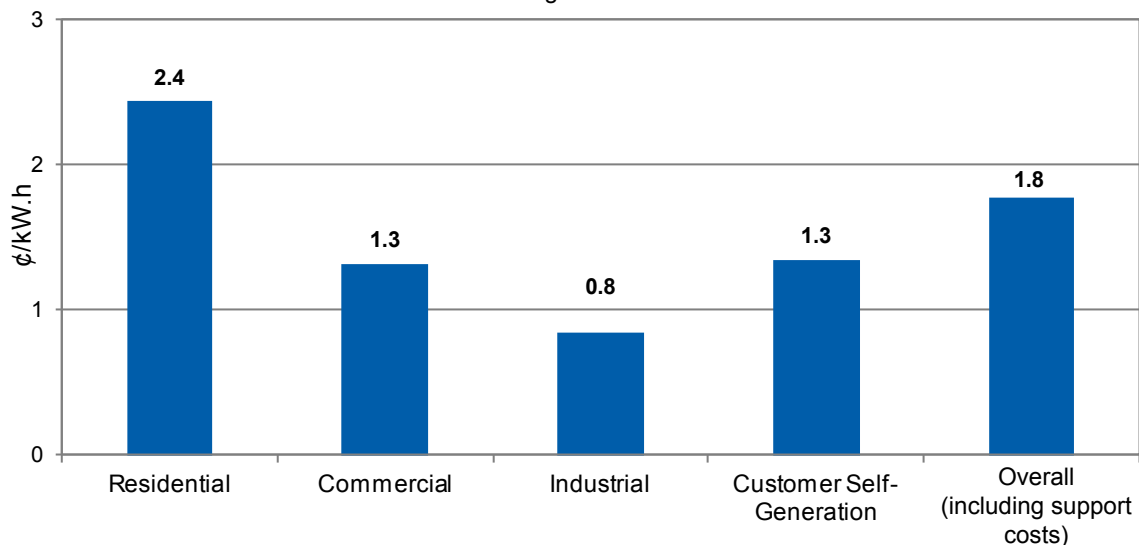


Exhibit 4.4.1.5 - B

Average Levelized Utility Cost at Generation - ¢/kW.h Saved by Power Smart Programs

	2014/15 Actual	2014/15 Total**	2028/29 Plan^^
	<i>LUC (¢/kW.h)</i>		
RESIDENTIAL			
Drain Water Heat Recovery	6.8	6.8	-
Affordable Energy*	6.8	4.9	3.4
Community Geothermal	2.8	3.1	2.5
Home Insulation	2.4	2.3	3.2
Residential LED Lighting	2.1	2.1	2.4
Refrigerator Retirement	1.9	1.8	2.3
Water & Energy Saver	1.2	1.1	3.0
Discontinued/Exploratory Programs	-	1.4	0.3
	2.4	1.8	2.2
COMMERCIAL			
LED Roadway Lighting	13.6	13.4	3.3
Internal Retrofit	6.2	4.0	5.4
Commercial Network Energy Management	3.6	8.3	0.9
Commercial Lighting	1.8	1.7	2.4
Commercial Building Envelope	1.5	2.0	2.6
Commercial Custom Measures	1.4	0.9	3.2
Commercial New Buildings	1.2	1.4	1.7
Commercial HVAC	0.9	1.4	1.5
Commercial Refrigeration	0.6	0.9	1.1
Commercial Kitchen Appliances	0.6	2.9	0.7
Commercial Geothermal	0.4	1.2	3.2
Commercial Building Optimization	-	3.0	2.8
Discontinued/Exploratory Programs	0.0	1.8	2.7
	1.3	1.8	2.4
INDUSTRIAL			
Performance Optimization	0.8	0.5	2.6
Discontinued/Exploratory Programs	-	1.3	-
	0.8	0.7	2.6
CUSTOMER SELF-GENERATION PROGRAMS			
Bioenergy Optimization	0.6	1.0	1.4
Load Displacement	-	-	1.0
	1.3	1.0	1.0
OVERALL: PROGRAM COSTS			
	1.5	1.3	1.6
OVERALL: PROGRAM COSTS + SUPPORT COSTS^			
	1.8	1.5	1.8

* Includes all Affordable Energy Fund expenditures, excludes external funding.
** "Total" values represent the results of the program/portfolio since its inception.
^ Support costs contain DSM support programs, basic information services and program support costs.
^^ Plan estimates are from the 2014 Power Smart Plan.
Note: Average levelized utility cost analysis is not provided for rate/load management programs.
Free driver participation is included in the above figures.

4.4.1.6 Electric Levelized Resource Cost- ¢/kW.h Saved

Exhibits 4.4.1.6-A and B highlight the average levelized resource cost of 2014/15 electric incentive-based programs in ¢/kW.h saved. The calculation of ¢/kW.h saved is based upon current program kWh savings at generation over a 30-year evaluation period. Refer to APPENDIX B - ‘Explanation of Benefit/Cost Ratios used in DSM

Economic Metrics’ for formulas and criteria used to determine cost-effectiveness. The program and sector resource costs presented do not include costs associated with DSM support programs or standards activities, however they do include DSM measures.

Exhibit 4.4.1.6 - A
2014/15 Average Levelized Resource Cost
 at Generation

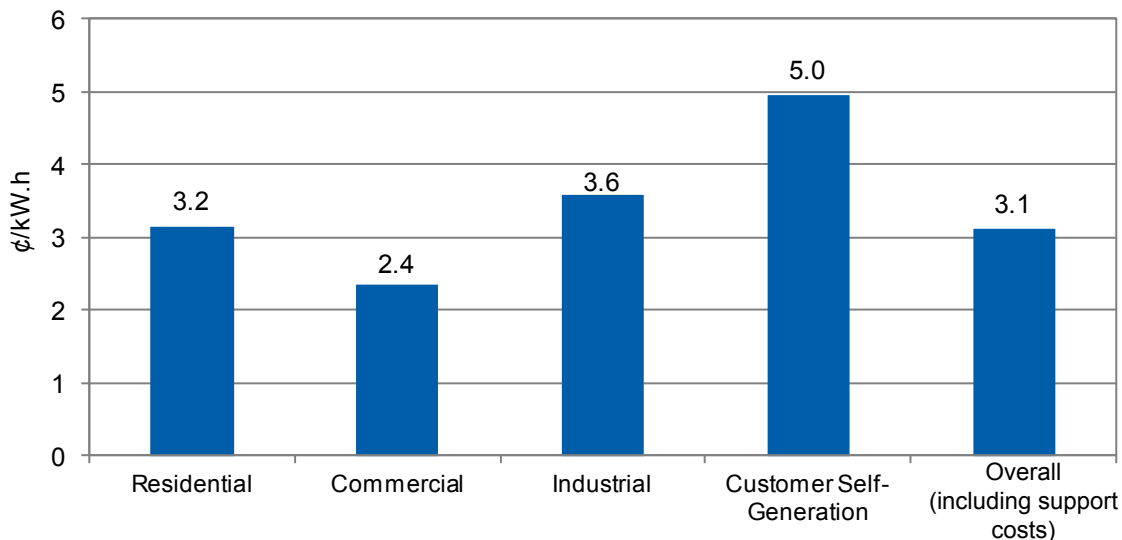


Exhibit 4.4.1.6 - B

Average Levelized Resource Cost at Generation - ¢/kW,h Saved by Power Smart Programs

	2014/15 Actual	2014/15 Total**	2028/29 Plan^^
<i>LRC(¢/kW.h)</i>			
RESIDENTIAL			
Community Geothermal	10.4	10.7	8.0
Affordable Energy*	7.1	7.7	3.6
Drain Water Heat Recovery	6.6	6.6	-
Refrigerator Retirement	4.5	3.3	3.8
Home Insulation	3.1	2.9	3.5
Water & Energy Saver	1.2	1.1	3.0
Residential LED Lighting	0.6	0.6	3.1
Discontinued/Exploratory Programs	-	2.8	3.3
	3.2	3.0	4.6
COMMERCIAL			
LED Roadway Lighting	13.2	13.1	8.2
Commercial Network Energy Management	13.0	9.8	4.9
Commercial Geothermal	8.4	5.8	4.8
Commercial Custom Measures	6.9	3.5	6.1
Internal Retrofit	6.2	4.1	5.4
Commercial New Buildings	2.9	2.5	5.0
Commercial Refrigeration	2.3	2.1	1.8
Commercial Lighting	2.2	2.6	3.8
Commercial Building Envelope	2.0	2.6	3.1
Commercial HVAC	1.5	2.5	2.6
Commercial Kitchen Appliances	0.8	3.7	1.0
Commercial Building Optimization	-	5.0	3.6
Discontinued/Exploratory Programs	0.1	2.0	3.6
	2.4	2.8	4.2
INDUSTRIAL			
Performance Optimization	3.6	2.0	3.8
Discontinued/Exploratory Programs	-	2.2	-
	3.6	2.1	3.8
CUSTOMER SELF-GENERATION PROGRAMS			
Bioenergy Optimization	4.5	3.4	4.0
Load Displacement	-	-	5.0
	5.0	3.4	5.0
OVERALL: PROGRAM COSTS			
	2.9	2.5	3.7
OVERALL: PROGRAM COSTS + SUPPORT COSTS^			
	3.1	3.0	3.9

* Includes all Affordable Energy Fund expenditures, excludes external funding.
** "Total" values represent the results of the program/portfolio since its inception.
^ Support costs contain DSM support programs, basic information services and program support costs.
^^ Plan estimates are from the 2014 Power Smart Plan.
Note: Average levelized resource cost analysis is not provided for rate/load management programs.
Free driver participation is included in the above figures.

4.4.2 Power Smart Natural Gas Program Results

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

4.4.2.1 Annual Natural Gas Energy Savings

Natural gas energy savings achieved by incentive-based Power Smart programs in 2014/15 is displayed by sector and program in Exhibits 4.4.2.1-A and B respectively.

Exhibit 4.4.2.1-B also provides natural gas energy savings achieved to date by incentive-based Power Smart programs.

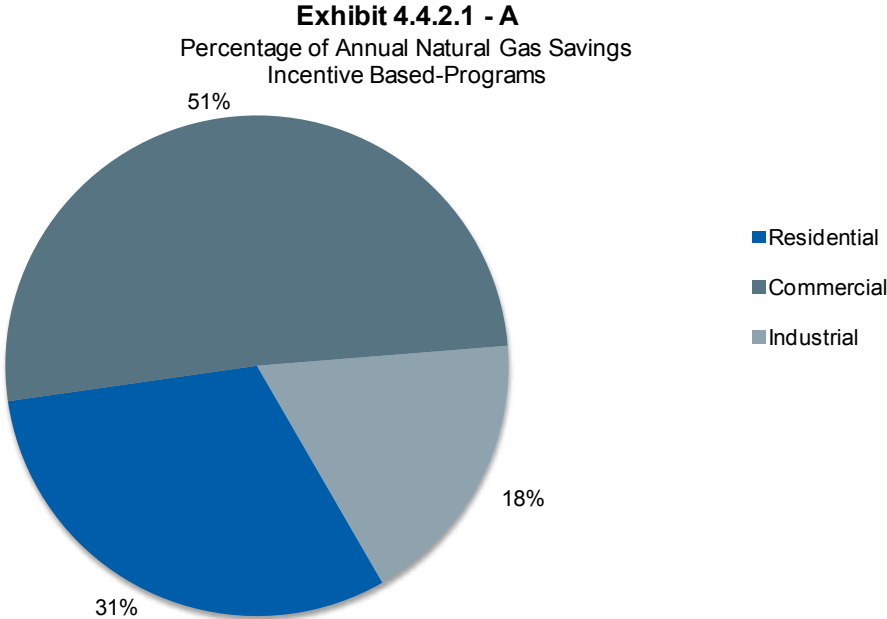


Exhibit 4.4.2.1 - B

Annual Natural Gas Savings - Incentive-Based Programs

	2014/15 Actual	2014/15 Plan [^]	Total*	2028/29 Plan [^]
	<i>millions of cubic metres</i>			
RESIDENTIAL				
Affordable Energy	1.4	1.3	7.2	11.9
Home Insulation	0.7	0.8	12.7	20.9
Water & Energy Saver	0.5	0.8	3.9	5.8
Residential Discontinued/Exploratory Programs	-	-	7.7	14.1
	2.6	2.9	31.4	52.7
COMMERCIAL				
Commercial Building Envelope	2.3	1.3	13.4	28.3
Commercial HVAC	1.5	1.2	11.2	17.2
Commercial Kitchen Appliances	0.3	0.2	0.4	1.1
Commercial New Buildings	0.1	0.3	3.0	4.4
Commercial Custom Measures	0.1	0.1	1.5	3.6
Internal Retrofit	0.0	0.0	0.0	0.0
Commercial Building Optimization	0.0	0.1	0.6	3.7
Commercial Discontinued/Exploratory Programs	-	-	0.9	1.6
	4.4	3.2	31.0	59.9
INDUSTRIAL				
Natural Gas Optimization	1.5	1.2	14.9	18.2
Industrial Discontinued/Exploratory	-	-	-	-
	1.5	1.2	14.9	18.2
EFFICIENCY PROGRAMS SUBTOTAL	8.5	7.3	77.3	130.9
CUSTOMER SELF-GENERATION PROGRAMS				
Bioenergy Optimization	-	0.0	-	1.7
	-	0.0	-	1.7
FUEL CHOICE				
Fuel Choice	-	-	-	(38.8)
	-	-	-	(38.8)
INTERACTIVE EFFECTS SUBTOTAL	(1.7)	(1.0)	(14.7)	(14.0)
NET IMPACT OVERALL	6.8	6.3	62.7	79.7

[^] Plan estimates are from the 2014 Power Smart Plan.
^{*} Savings include actual + persisting results, up to and including 2014/15.
Note: Figures may not add due to rounding.
Free driver participation is included in the above figures.

In 2014/15, Power Smart natural gas incentive-based programs, exceeded plan by 0.5 million cubic meters.

The variances within Power Smart natural gas incentive-based programs in 2014/15 are highlighted below:

Residential:

The residential sector, which contributed 2.6 million cubic meters in savings, accounted for 31% of total savings in 2014/15, falling below planned savings by 0.3 million cubic meters.

- The Affordable Energy Program contributed 1.4 million cubic meters of savings, 8% above plan. This positive variance can be attributed to an adjustment made to natural gas furnace savings calculations.
- The Water and Energy Saver Program achieved 0.5 million cubic meters in savings, falling short of plan by 38%. This negative variance is due to lower than anticipated participation by customers with natural gas water heating.

Commercial:

The commercial sector, contributed 4.4 million cubic meters of savings. It accounted for 52% of total savings in 2014/15, surpassing planned savings by 1.2 million cubic meters.

- The Commercial Building Envelope Program achieved savings of 2.3 million cubic meters, surpassing plan by 1.0 million cubic meters. This variance

is mainly due to participation on the insulation side of the program exceeding targets by 73%, as well as higher than planned savings per square foot.

Industrial:

- The Natural Gas Optimization Program contributed 1.5 million cubic meters of natural gas savings, 25% more than planned. This positive variance can be attributed to several large projects completed in the fiscal year resulting in larger than expected savings.

Some electric Power Smart programs result in an increase or decrease in natural gas consumption, referred to as interactive effects. 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, interactive effects are 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 taken into account when determining the natural gas savings. These interactive effects represent the increase in natural gas consumption in natural gas-heated homes resulting from the installation of energy efficient lighting systems.

In 2014/15, interactive effects increased consumption by 1.7 million cubic meters, reducing incentive-based natural gas savings to 6.8 million cubic meters. Interactive effects were higher than planned by 0.7 million cubic meters.

4.4.2.2 Natural Gas Total Resource Cost - Benefit/Cost Analysis

Exhibits 4.4.2.2-A and B show the natural gas benefit/cost analysis results under the total resource cost (TRC) metric by program. The calculation of the benefit/cost ratio was based on a 30-year evaluation period. Refer to APPENDIX B - 'Explanation of Benefit/Cost Ratios Used in DSM Economic Metrics' for formulas and criteria used to determine cost-effectiveness.

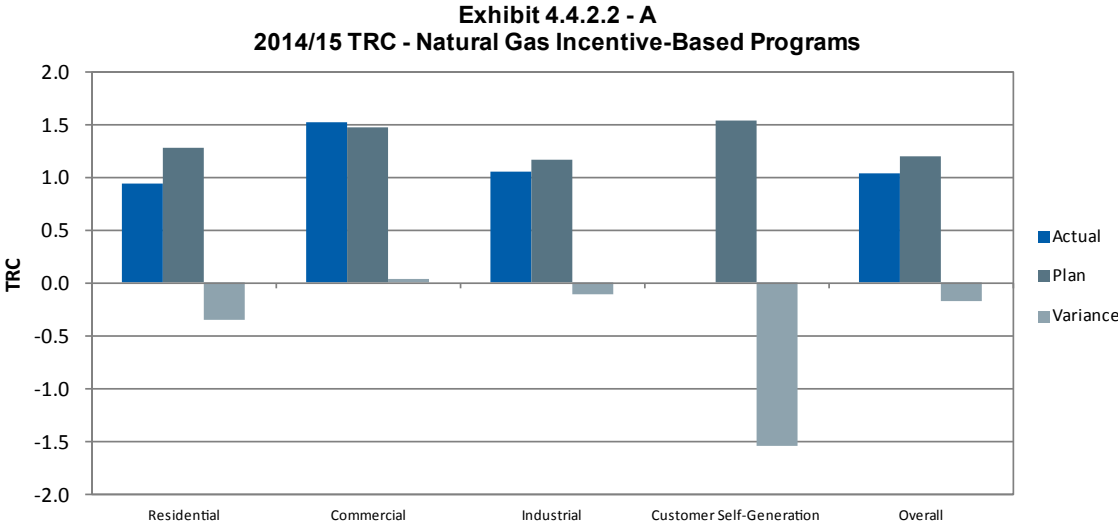


Exhibit 4.4.2.2 - B

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

	2014/15 Actual	2014/15 Plan^^	Total**	2028/29 Plan^^
<i>TRC</i>				
RESIDENTIAL				
Water & Energy Saver †	4.8	6.1	7.0	6.5
Home Insulation	1.0	1.4	1.6	1.4
Affordable Energy* †	0.4	0.7	0.6	0.7
	0.9	1.3	1.4	1.2
COMMERCIAL				
Commercial Kitchen Appliances †	14.6	15.8	7.2	13.5
Commercial HVAC	1.7	2.2	2.7	2.6
Commercial Building Envelope	1.2	1.5	2.1	1.7
Commercial Custom Measures	0.9	1.0	1.2	1.2
Commercial New Buildings	0.8	0.6	2.9	0.5
Internal Retrofit	0.7	0.7	0.7	2.1
Commercial Building Optimization	0.1	0.8	1.0	1.3
	1.5	1.5	2.3	1.6
INDUSTRIAL				
Industrial Natural Gas Optimization	1.1	1.2	1.7	1.2
	1.1	1.2	1.7	1.2
DISCONTINUED/EXPLORATORY PROGRAMS †				
	-	-	2.1	1.0
	-	-	2.1	1.0
CUSTOMER SELF-GENERATION PROGRAMS				
Bioenergy Optimization	-	1.5	-	1.8
	-	1.5	-	1.8
OVERALL: PROGRAM COSTS	1.1	1.3	1.7	1.3
OVERALL: PROGRAM COSTS + SUPPORT COSTS^	1.0	1.2	1.5	1.1

* This includes all apportioned Affordable Energy Fund expenditures, Furnace Replacement Program, as well as external funding. Excluding Furnace Replacement Program, an 'Actual' TRC of 0.3 is achieved. Including only Furnace Replacement Program, an 'Actual' TRC of 0.5 is achieved.

** "Total" values represent the results of the program/portfolio since its inception.

† Includes water savings benefits.

^ Support costs contain DSM support programs, basic information services and program support costs.

^^ Plan estimates are from the 2014 Power Smart Plan.

Note: Increased or decreased natural gas benefits resulting from electric incentive-based programs have been included in the overall calculation. Free driver participation is included in the above figures.

4.4.2.3 Natural Gas Rate Impact Measure - Benefit/Cost Analysis

Exhibits 4.4.2.3-A and B identify the benefit/cost ratios under the rate impact measure (RIM) metric. The calculation of the benefit/cost ratio is based on a 30-year evaluation period. Refer to APPENDIX B - 'Explanation of Benefit/Cost Ratios Used in DSM Economic Metrics' for formulas and criteria used to determine cost-effectiveness.

**Exhibit 4.4.2.3 - A
 2014/15 RIM - Natural Gas Incentive-Based Programs**

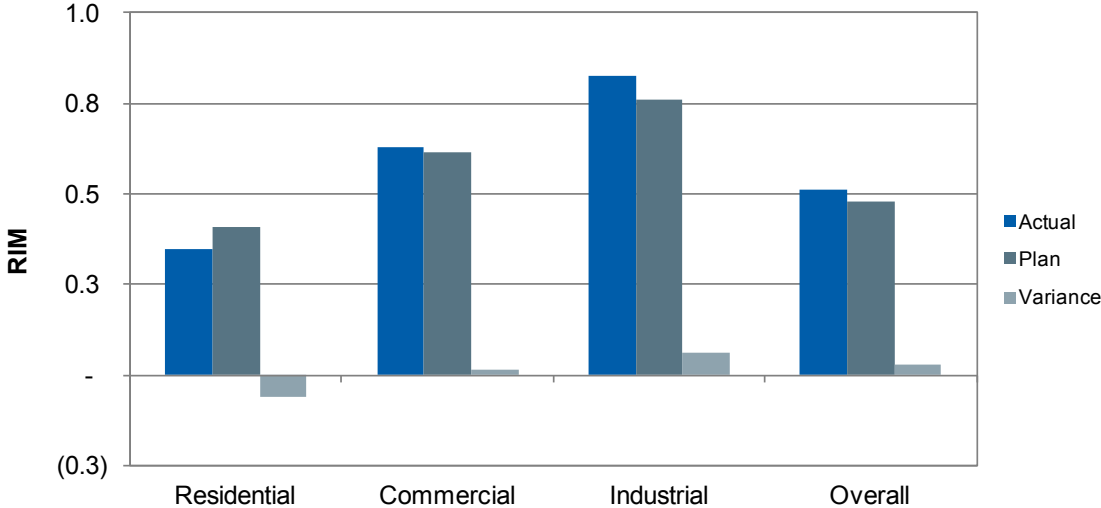


Exhibit 4.4.2.3 - B

Rate Impact Cost Benefit/Cost Analysis - Natural Gas Incentive-Based Programs

	2014/15 Actual	2014/15 Plan^^	Total*	2028/29 Plan^^
	<i>RIM</i>			
RESIDENTIAL				
Water & Energy Saver	0.5	0.5	0.6	0.5
Home Insulation	0.5	0.6	0.7	0.6
Affordable Energy**	0.2	0.3	0.4	0.3
	0.3	0.4	0.5	0.4
COMMERCIAL				
Commercial HVAC	0.7	0.7	0.8	0.7
Commercial Building Envelope	0.6	0.6	0.7	0.6
Commercial Custom Measures	0.6	0.6	0.7	0.6
Commercial Kitchen Appliances	0.6	0.7	0.6	0.7
Commercial New Buildings	0.6	0.6	0.8	0.6
Internal Retrofit	0.6	0.7	0.6	1.9
Commercial Building Optimization	0.1	0.5	0.5	0.6
	0.6	0.6	0.7	0.6
INDUSTRIAL				
Natural Gas Optimization	0.8	0.8	0.9	0.8
	0.8	0.8	0.9	0.8
DISCONTINUED/EXPLORATORY PROGRAMS				
	-	-	0.7	0.8
	-	-	0.7	0.8
CUSTOMER SELF-GENERATION				
Bioenergy Optimization	-	0.7	-	0.8
	-	0.7	-	0.8
OVERALL: PROGRAM COSTS				
	0.5	0.5	0.7	0.6
OVERALL: PROGRAM COSTS incl. INTERACTIVE EFFECTS				
	0.5	0.5	0.7	0.6
OVERALL: PROGRAM COSTS + SUPPORT COSTS incl. INTERACTIVE EFFECTS^				
	0.5	0.5	0.7	0.5

^ Support costs contain DSM support programs, basic information services and program support costs.

^^ Plan estimates are from the 2014 Power Smart Plan.

* "Total" values represent the results of the program/portfolio since its inception.

** This includes all apportioned Affordable Energy Fund expenditures, Furnace Replacement Program, as well as external funding. Excluding Furnace Replacement Program, an 'Actual' RIM of 0.2 is achieved. Including only Furnace Replacement Program, an 'Actual' RIM of 0.1 is achieved.

Note: Free driver participation is included in the above figures.

4.4.2.4 Natural Gas Average Levelized Utility Cost - ¢/m³ Saved

Exhibits 4.4.2.4-A and B highlight the average levelized utility cost of 2014/15 natural gas incentive-based programs in ¢/m³ saved. The calculation of ¢/m³ saved is based upon current program natural gas savings over a 30-year evaluation period. Refer to APPENDIX B - ‘Explanation of Benefit/Cost Ratios used in DSM Economic

Metrics’ for formulas and criteria used to determine cost-effectiveness. The utility costs presented do not include costs associated with future Power Smart incentive-based programs, DSM support programs, standards activities or the customer costs of DSM measures.

**Exhibit 4.4.2.4 - A
 2014/15 Average Levelized Utility Cost (¢/m³)**

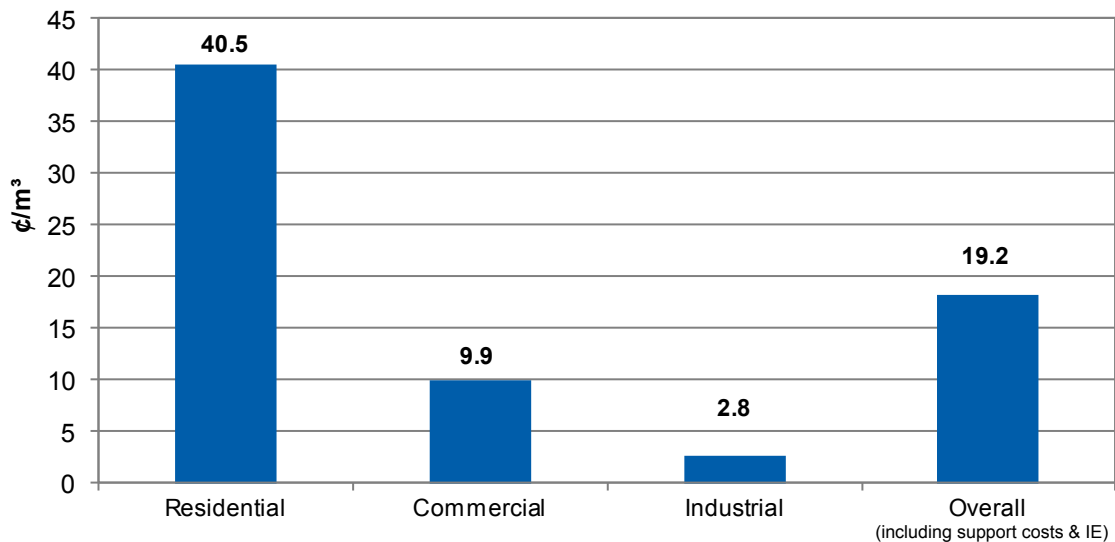


Exhibit 4.4.2.4 - B

Average Levelized Utility Cost - ¢/m³ Saved by Power Smart Programs

	2014/15 Actual	2014/15 Total**	2028/29 Plan^^
	<i>LUC(¢/m³)</i>		
RESIDENTIAL			
Affordable Energy*	88.2	50.8	55.3
Water & Energy Saver	16.2	11.4	12.7
Home Insulation	13.2	11.2	12.6
	40.5	19.5	29.8
COMMERCIAL			
Internal Retrofit	38.1	38.1	13.0
Commercial Custom Measures	15.8	7.3	12.1
Commercial New Buildings**	14.3	5.6	13.5
Commercial Building Envelope	10.6	11.2	12.4
Commercial HVAC`	7.5	7.0	5.8
Commercial Kitchen Appliances	6.3	11.5	3.7
Commercial Building Optimization	n/a	36.7	13.0
	9.9	9.1	10.5
INDUSTRIAL			
Natural Gas Optimization	2.8	2.8	4.6
	2.8	2.8	4.6
CUSTOMER SELF-GENERATION PROGRAMS			
Bioenergy Optimization	-	-	4.2
DISCONTINUED/EXPLORATORY PROGRAMS			
	-	8.8	0.2
OVERALL: PROGRAM COSTS	15.7	10.9	13.8
OVERALL: PROGRAM COSTS incl. INTERACTIVE EFFECTS†	18.0	12.3	14.5
OVERALL: PROGRAM COSTS + SUPPORT COSTS incl. INTERACTIVE EFFECTS^	19.2	14.0	18.5

* This includes all apportioned Affordable Energy Fund expenditures, Furnace Replacement Program, as well as external funding. Excluding Furnace Replacement Program, an 'Actual' LUC of 74.5 ¢/m³ is achieved. Including only Furnace Replacement Program, an 'Actual' LUC of 118.1 ¢/m³ is achieved.

** "Total" values represent the results of the program/portfolio since its inception.

^ Support costs contain DSM support programs, basic information services and program support costs.

^^ Plan estimates are from the 2014 Power Smart Plan.

Note: Free driver participation is included in the above figures.

4.4.2.5 Natural Gas Levelized Resource Cost - ¢/m³ Saved

Exhibits 4.4.2.5-A and B highlight the average levelized resource cost of 2014/15 natural gas incentive-based programs in ¢/m³. The calculation of ¢/m³ saved was based upon current program natural gas savings over a 30-year evaluation period. Refer to APPENDIX B - 'Explanation of Benefit/Cost Ratios used in DSM Eco-

nomics Metrics' for formulas and criteria used to determine cost-effectiveness. The resource costs presented do not include costs associated with future Power Smart incentive-based programs, DSM support programs or standards activities, however they do include the customer costs of DSM measures.

**Exhibit 4.4.2.5 - A
 2014/15 Levelized Resource Cost (¢/m³)**

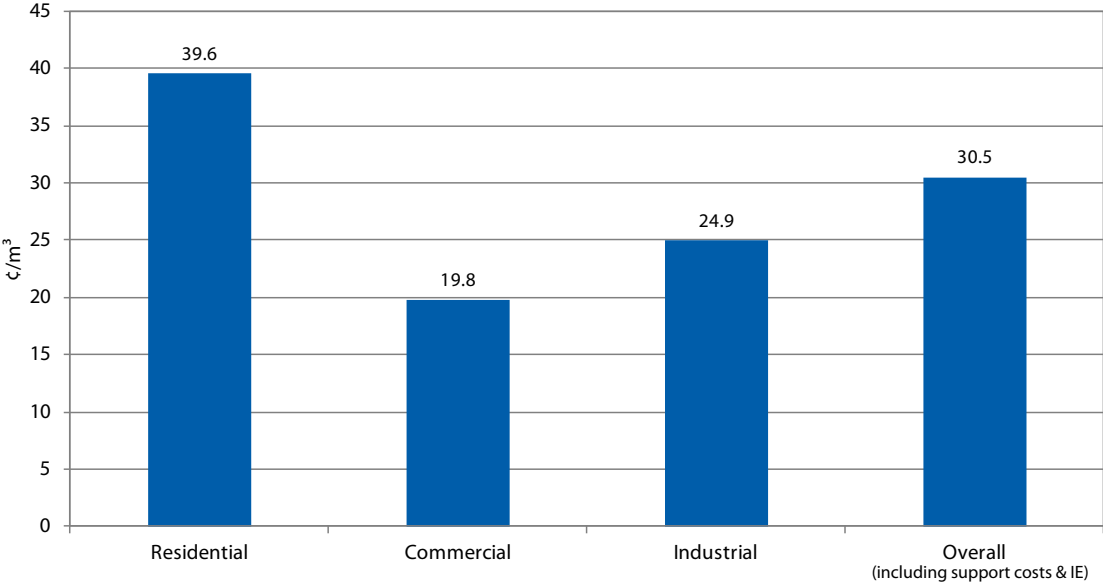


Exhibit 4.4.2.5 - B

Natural Gas Levelized Resource Cost - ¢/m³ Saved by Power Smart Programs

	2014/15 Actual	2014/15 Total**	2028/29 Plan^^
	<i>LRC (¢/m³)</i>		
RESIDENTIAL			
Affordable Energy*	68.5	58.7	45.3
Home Insulation	27.3	21.5	21.2
Water & Energy Saver	16.1	9.1	12.4
	39.6	27.8	29.8
COMMERCIAL			
Internal Retrofit	38.1	38.1	13.0
Commercial New Buildings	34.5	10.9	53.0
Commercial Custom Measures	28.4	25.4	24.3
Commercial Building Envelope	21.3	16.0	17.2
Commercial HVAC	15.6	12.4	10.8
Commercial Kitchen Appliances	7.2	13.6	6.3
Commercial Building Optimization	n/a	37.5	21.7
	19.8	14.7	18.6
INDUSTRIAL			
Natural Gas Optimization	24.9	18.8	21.1
	24.9	18.8	21.1
CUSTOMER SELF-GENERATION PROGRAMS			
Bioenergy Optimization	-	-	14.1
	-	-	14.1
DISCONTINUED/EXPLORATORY PROGRAMS			
	-	21.6	30.8
OVERALL: PROGRAM COSTS			
	25.6	20.2	23.8
OVERALL: PROGRAM COSTS incl. INTERACTIVE EFFECTS			
	29.3	22.7	25.0
OVERALL: PROGRAM COSTS + SUPPORT COSTS incl. INTERACTIVE EFFECTS^			
	30.5	25.1	29.0

* This includes all apportioned Affordable Energy Fund expenditures, Furnace Replacement Program, as well as external funding. Excluding Furnace Replacement Program, an 'Actual' LRC of 74.5 ¢/m³ is achieved. Including only Furnace Replacement Program, an 'Actual' LRC of 43.6 ¢/m³ is achieved.

** "Total" values represent the results of the program/portfolio since its inception.

^ Support costs contain DSM support programs, basic information services and program support costs.

^^ Plan estimates are from the 2014 Power Smart Plan.

Note: Average levelized resource cost analysis is not provided for rate/load management programs.
Free driver participation is included in the above figures.

4.4.3 Power Smart Combined Electric & Natural Gas Program Results

Total Resource Cost - Benefit/Cost Analysis

Exhibits 4.4.3-A and B show the combined electricity and natural gas benefit/cost analysis results under the total resource cost (TRC) metric by program. The calculation of the benefit/cost ratio was based on a 30-year evaluation period.

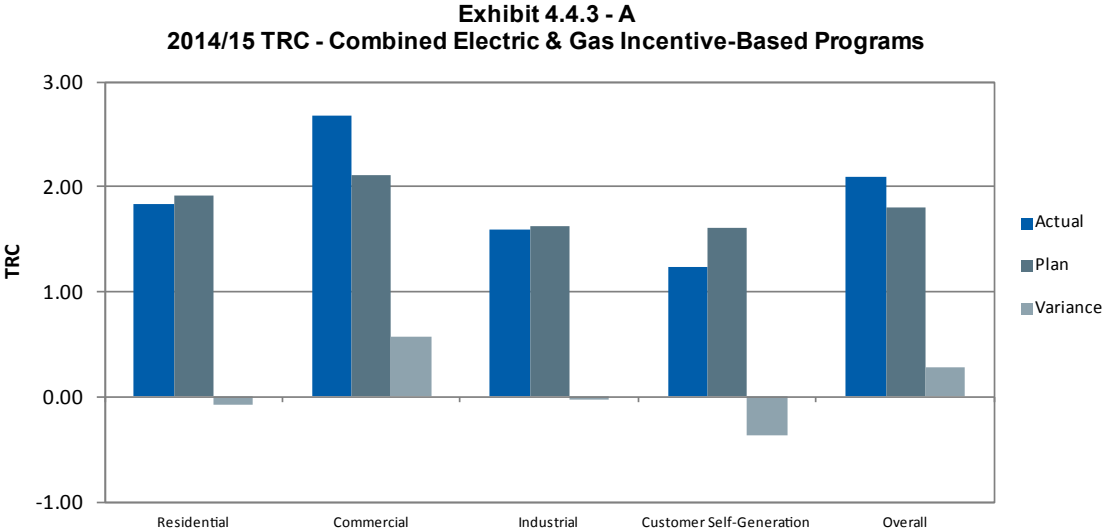


Exhibit 4.4.3 - B

Total Resource Cost Benefit Analysis - Combined Electric & Natural Gas Incentive-Based Programs

	2014/15 Actual	2014/15 Plan^^	Total*	2028/29 Plan^^
			<i>TRC</i>	
RESIDENTIAL				
Residential LED Lighting	9.3	0.8	9.3	1.9
Water & Energy Savert	6.5	5.9	8.3	5.1
Home Insulation	2.4	2.9	2.9	2.4
Drain Water Heat Recovery	1.4	-	1.4	-
Refrigerator Retirement	0.9	1.1	1.1	1.1
Community Geothermal	0.8	1.0	0.8	1.2
Affordable Energy†	0.7	1.4	0.9	1.5
	1.8	1.9	2.2	1.7
COMMERCIAL				
Commercial Kitchen Appliances†	17.8	18.7	6.9	18.4
Commercial Lighting	4.0	2.5	2.6	2.4
Commercial New Buildings	3.4	2.3	3.6	2.0
Commercial Refrigeration	2.8	1.6	3.6	4.0
Commercial Building Envelope	2.1	2.4	3.2	2.5
Commercial HVAC	2.0	2.5	2.6	2.7
Commercial Custom Measures	1.0	1.4	1.5	1.5
Commercial Geothermal	1.0	1.7	1.6	2.0
Internal Retrofit	0.8	1.2	2.0	1.2
Commercial Network Energy Management	0.6	1.4	0.8	2.1
LED Roadway Lighting	0.5	0.8	0.5	1.2
Commercial Building Optimization	0.1	1.0	1.2	1.8
	2.7	2.1	2.5	2.2
INDUSTRIAL				
Performance Optimization	1.9	1.8	3.0	2.1
Natural Gas Optimization	1.1	1.2	1.7	1.2
	1.6	1.6	2.8	2.0
DISCONTINUED/EXPLORATORY PROGRAMS†	37.9	-	2.1	1.9
	37.9	-	2.1	1.9
CUSTOMER SELF-GENERATION PROGRAMS				
Bioenergy Optimization	1.4	1.6	2.1	1.7
Load Displacement	-	1.7	-	1.4
	1.2	1.6	2.1	1.4
CONSERVATION RATES				
Conservation Rates - Residential	-	-	-	9.3
Conservation Rates - Commercial	-	-	-	12.5
	-	-	-	11.0
FUEL CHOICE				
Fuel Choice	-	-	-	4.3
	-	-	-	4.3
OVERALL: PROGRAM COSTS	2.3	2.0	2.4	2.2
OVERALL: PROGRAM COSTS + SUPPORT COSTS^	2.1	1.8	2.1	2.0

* "Total" values represent the results of the program/portfolio since its inception.

† Includes water savings benefits.

^ Support costs contain DSM support programs, basic information services and program support costs.

^^ Plan estimates are from the 2014 Power Smart Plan.

Note: Increased or decreased natural gas benefits resulting from electric incentive-based programs have been included in the above table. Benefit/Cost analysis is not calculated for rate/load management programs. Free driver participation is included in the above figures.

For 2014/15, the combined overall TRC benefit/cost ratio including support costs was 2.1, which surpassed the plan. All evaluated Power Smart programs, with the exception of Refrigerator Retirement, Community Geothermal,

Affordable Energy, Internal Retrofit, Commercial Network Energy Management, LED Roadway Lighting and Commercial Building Optimization, were cost-effective under the TRC metric in 2014/15.

4.5 Fuel Choice

As part of the provincial government’s climate change plan, in 2011 they announced an upcoming tax and ban on heating with coal. In July 2013, they formally announced phasing in North America’s first coal heating ban effective January 1, 2014, with a grace period up to July 1, 2017, if an approved conversion plan was filed by June 30, 2014.

To assist customers, Manitoba Hydro provided information on the fuel source options available to a number of impacted Hutterite Colonies. As a result of these efforts, nineteen colonies switched to biomass, with savings

already accounted for under the Bioenergy Optimization Program. In addition, twenty-six colonies switched to natural gas.

The following table outlines the impacts of the Hutterite colonies that have switched to natural gas, as of their natural gas energized date. It details the avoided electric impacts, as well as the increased natural gas consumption.

The fuel choice impacts are included in the report for information purposes only, and have not been utilized in the tabulation of overall Power Smart program savings or metrics.

Exhibit 4.5
Fuel Choice Impacts

CONVERSION TO NATURAL GAS FROM:	Resulting from Avoided Electric Heat:				Increased Annual Natural Gas Consumption	
	Annual Energy Savings (GW.h savings at meter)		Average Winter Demand Savings (MW savings at meter)		Gas Consumption (millions of m ³)	
	2014/15	Total*	2014/15	Total*	2014/15	Total*
Lignite Coal	61.1	167.9	23.8	65.4	7.2	19.4
Sub-bituminous Coal	3.0	9.1	1.2	3.6	0.2	0.7
Bioenergy (Oat Pellets)	2.3	4.6	0.9	1.8	0.3	0.5
Propane	18.9	56.4	7.4	22.0	2.3	6.8
Total	85.3	238.1	33.2	92.7	10.0	27.4

* Cumulative savings to the end of 2014/15
Note: Figures may not add up due to rounding.

5.0 Total Power Smart Utility Costs

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

Program costs are attributed to a specific program and include program administration costs and incentive costs, while support costs are associated with activities supporting Power Smart programs which cannot be assigned

to any one specific program. These costs include Power Smart promotions (general branding), promoting sustainability and standards, and DSM administration (overall planning and evaluation). Support costs also include costs attributed to running DSM support programs and the basic information portion of the efficiency programs.

5.1 Summary of Total Power Smart Utility Costs

Exhibit 5.1 summarizes the utility costs of the Power Smart programs cumulative to the end of 2014/15. The reported utility costs are presented in nominal dollars and

detail actual accounting expenditures to 2014/15 for all Power Smart initiatives and activities.

Exhibit 5.1

Summary of Utility Costs Cumulative to 2014/15

UTILITY COSTS	Cumulative <i>millions of nominal dollars</i>
TOTAL UTILITY COSTS	
Program Cost	440.4
Support Cost	93.5
TOTAL UTILITY COSTS	533.9

Note: Support costs include both DSM support programs and support activity costs, but do not include Affordable Energy Fund or Furnace Replacement Program expenditures. Figures may not add due to rounding.

As of March 31, 2015, Manitoba Hydro had invested approximately \$534 million in the Power Smart initiative.

The highest component of this expenditure was program

utility costs of \$440 million, which makes up 82% of total expenditures cumulative to 2014/15.

5.2 Utility Costs by Program

Exhibits 5.2-A and B outline the costs to the utility for Power Smart initiatives implemented between April 1, 1989 and March 31, 2015.

Exhibit 5.2 - A

Utility Costs for Support, DSM Support Programs & Standards

	Actual 2014\$	Cumulative nominal \$
	thousands of dollars	
DSM SUPPORT PROGRAMS		
<i>DSM Support Programs & Standards Electric Cost</i>	67	2,727
<i>DSM Support Programs & Standards Natural Gas Cost</i>	-300	-1,781
	-233	946
Discontinued/Completed DSM Support Programs		
<i>Discontinued/Completed DSM Support Programs Electric Cost</i>	0	489
<i>Discontinued/Completed DSM Support Programs Natural Gas Cost</i>	0	3,481
	0	3,970
BASIC INFORMATION SERVICES		
<i>Basic Information Services Electric Cost</i>	1,378	23,440
<i>Basic Information Services Natural Gas Cost</i>	7	5,220
	1,385	28,660
Discontinued/Completed Basic Information Services		
<i>Discontinued/Completed Basic Information Services Electric Cost</i>	0	2,885
<i>Discontinued/Completed Basic Information Services Natural Gas Cost</i>	0	20
	0	2,905
SUPPORT COSTS		
Integrated Plan/Targets		
<i>Integrated Plan/Targets Electric Cost</i>	416	4,330
<i>Integrated Plan/Targets Natural Gas Cost</i>	104	1,087
	520	5,417
DSM Market Potential Study		
<i>DSM Market Potential Study Electric Cost</i>	-3	361
<i>DSM Market Potential Study Natural Gas Cost</i>	-1	266
	-4	627
DSM Administration		
<i>DSM Administration Electric Cost</i>	348	4,811
<i>DSM Administration Natural Gas Cost</i>	87	1,442
	435	6,253
DSM Tracking System		
<i>DSM Tracking System Electric Cost</i>	8	641
<i>DSM Tracking System Natural Gas Cost</i>	2	206
	9	847
Process Evaluations		
<i>Process Evaluations Electric Cost</i>	31	31
<i>Process Evaluations Natural Gas Cost</i>	93	93
	123	123
External Program Reviews		
<i>External Program Reviews Electric Cost</i>	8	9
<i>External Program Reviews Natural Gas Cost</i>	75	81
	84	90
External Impact Evaluations		
<i>External Program Impact Evaluations Electric Cost</i>	80	80
<i>External Program Impact Evaluations Natural Gas Cost</i>	35	35
	115	115
Power Smart Communications		
<i>Power Smart Communications Electric Cost</i>	734	17,059
<i>Power Smart Communications Natural Gas Cost</i>	315	4,913
	1,049	21,972
Power Smart Residential Support		
<i>Power Smart Residential Support Electric Cost</i>	314	743
<i>Power Smart Residential Support Natural Gas Cost</i>	314	1,218
	629	1,961
Earth Energy & Emerging Technologies Residential Support		
<i>Earth Energy & Emerging Technologies Residential Support Electric Cost</i>	47	143
<i>Earth Energy & Emerging Technologies Residential Support Natural Gas Cost</i>	20	46
	67	189
Power Smart for Business		
<i>Power Smart for Business Electric Cost</i>	217	2,092
<i>Power Smart for Business Natural Gas Cost</i>	145	1,179
	362	3,270
Earth Energy & Emerging Technologies Commercial Support		
<i>Earth Energy & Emerging Technologies Commercial Support Electric Cost</i>	34	44
<i>Earth Energy & Emerging Technologies Commercial Support Natural Gas Cost</i>	0	0
	34	44
Power Smart Sales Support		
<i>Power Smart Sales Support Electric Cost</i>	66	66
<i>Power Smart Sales Support Natural Gas Cost</i>	0	0
	66	66

Exhibit 5.2 - A (Continued)

Utility Costs for Support, DSM Support Programs & Standards

	Actual 2014\$	Cumulative nominal \$
	<i>thousands of dollars</i>	
Retrofit Demonstrations		
<i>Retrofit Demonstrations Electric Cost</i>	0	9,548
<i>Retrofit Demonstrations Natural Gas Cost</i>	0	80
	0	9,628
Commercial Audits		
<i>Commercial Audits Electric Cost</i>	25	179
<i>Commercial Audits Natural Gas Cost</i>	17	86
	42	265
Energy Efficiency Screening Studies		
<i>Energy Efficiency Screening Studies Electric Cost</i>	82	272
<i>Energy Efficiency Screening Studies Natural Gas Cost</i>	54	210
	136	481
Sustainabilities & Standards		
<i>Sustainabilities & Standards Electric Cost</i>	236	1,414
<i>Sustainabilities & Standards Natural Gas Cost</i>	103	1,124
	339	2,539
Discontinued/Completed Support Costs		
<i>Discontinued/Completed Support Costs Electric Cost</i>	0	3,157
<i>Discontinued/Completed Support Costs Natural Gas Cost</i>	0	0
	0	3,157
<i>Total Support, DSM Support Programs & Standards Electric Cost</i>	4,090	74,520
<i>Total Support, DSM Support Programs & Standards Natural Gas Cost</i>	1,070	19,007
TOTAL SUPPORT, DSM SUPPORT PROGRAMS & STANDARDS COSTS	5,160	93,527

Note: Figures may not add due to rounding.
The negative value under DSM Market Potential Study is due to costs accrued from the 2013/14 fiscal year. The final invoices received in 2014/15 were lower than anticipated, resulting in a “negative cost” for 2014/15.

Exhibit 5.2 - B

Utility Costs for Incentive-Based Programs

	Actual 2014\$	Cumulative nominal \$
	<i>thousands of dollars</i>	
EFFICIENCY PROGRAMS		
RESIDENTIAL		
Home Insulation		
<i>Home Insulation Electric Cost</i>	1,791	16,452
<i>Home Insulation Natural Gas Cost</i>	1,352	19,067
	3,143	35,520
Affordable Energy		
<i>First Nations Electric Cost</i>	199	839
<i>Affordable Energy Electric Cost</i>	119	1,141
<i>Affordable Energy Natural Gas Cost</i>	1,073	5,034
	1,392	7,014
Water & Energy Saver		
<i>Water & Energy Saver Electric Cost</i>	438	2,675
<i>Water & Energy Saver Natural Gas Cost</i>	813	4,100
	1,251	6,775
Residential LED Lighting Electric Cost	2,662	2,662
Community Geothermal Electric Cost	621	1,064
Refrigerator Retirement Electric Cost	1,693	6,624
Drain Water Heat Recovery Electric Cost	60	60
Solar Hot Water Tank Pilot		
<i>Solar Hot Water Tank Pilot Electric Cost</i>	2	3
<i>Solar Hot Water Tank Pilot Natural Gas Cost</i>	1	4
	3	6
Residential Exploratory Programs		
<i>Residential Exploratory Programs Electric Cost</i>	46	101
<i>Residential Exploratory Programs Natural Gas Cost</i>	0	15
	46	116
Discontinued/Completed Residential Programs		
<i>Discontinued/Completed Residential Programs Electric Cost</i>	11	22,436
<i>Discontinued/Completed Residential Programs Natural Gas Cost</i>	0	9,618
	11	32,055
<i>Total Residential Programs Electric Cost</i>	7,643	54,058
<i>Total Residential Programs Natural Gas Cost</i>	3,239	91,897
RESIDENTIAL EFFICIENCY PROGRAMS SUBTOTAL	10,882	91,897

Note: Figures may not add due to rounding.

Exhibit 5.2 - B (Continued)

Utility Costs for Incentive-Based Programs

	Actual 2014\$	Cumulative nominal \$
	<i>thousands of dollars</i>	
COMMERCIAL		
Commercial Custom Measures		
Commercial Custom Measures Electric Cost	17	2,773
Commercial Custom Measures Natural Gas Cost	154	1,466
	172	4,239
Commercial Building Envelope - Insulation		
Commercial Building Envelope - Insulation Electric Cost	586	3,256
Commercial Building Envelope - Insulation Natural Gas Cost	2,071	11,915
	2,657	15,171
Commercial Building Envelope - Windows		
Commercial Building Envelope - Windows Electric Cost	815	7,364
Commercial Building Envelope - Windows Natural Gas Cost	1,244	6,909
	2,059	14,274
Commercial Geothermal Electric Cost	192	4,846
Commercial HVAC		
Commercial HVAC Electric Cost	381	2,471
Commercial HVAC Natural Gas Cost	1,345	10,790
	1,726	13,262
Internal Retrofit Electric Cost	710	21,554
Commercial Lighting Electric Cost	7,194	89,477
LED Roadway Lighting Electric Cost	726	737
Commercial Refrigeration Electric Cost	905	3,812
Commercial Building Optimization		
Commercial Building Optimization Electric Cost	33	656
Commercial Building Optimization Natural Gas Cost	76	1,511
	109	2,167
New Buildings		
New Buildings Electric Cost	1,346	3,051
New Buildings Natural Gas Cost	336	2,285
	1,682	5,335
Commercial Kitchen Appliances		
Commercial Kitchen Appliances Electric Cost	18	280
Commercial Kitchen Appliances Natural Gas Cost	162	393
	179	673
Commercial Network Energy Management Electric Cost	15	273
Commercial Exploratory Programs		
Commercial Exploratory Programs Electric Cost	6	6
Commercial Exploratory Programs Natural Gas Cost	50	134
	55	140
Discontinued/Completed Commercial Programs		
Discontinued/Completed Commercial Programs Electric Cost	47	28,264
Discontinued/Completed Commercial Programs Natural Gas Cost	5	952
	52	29,216
Total Commercial Programs Electric Cost	12,991	168,820
Total Commercial Programs Natural Gas Cost	5,444	36,355
COMMERCIAL EFFICIENCY PROGRAMS SUBTOTAL	18,435	205,175

Note: Figures may not add due to rounding.

Exhibit 5.2 - B (Continued)

Utility Costs for Incentive-Based Programs

	Actual 2014\$	Cumulative nominal \$
	<i>thousands of dollars</i>	
INDUSTRIAL		
Performance Optimization Electric Cost	1,962	35,790
Natural Gas Optimization Natural Gas Cost	587	4,625
Emergency Preparedness Electric Cost	0	159
	2,550	40,574
Industrial Exploratory Programs		
<i>Industrial Exploratory Programs Electric Cost</i>	39	39
<i>Industrial Exploratory Programs Natural Gas Cost</i>	17	17
	56	56
Discontinued/Completed Industrial Programs		
<i>Discontinued/Completed Industrial Programs Electric Cost</i>	0	2,708
<i>Discontinued/Completed Industrial Programs Natural Gas Cost</i>	0	0
	0	2,708
<i>Total Industrial Programs Electric Cost</i>	2,001	38,696
<i>Total Industrial Programs Natural Gas Cost</i>	604	4,642
INDUSTRIAL EFFICIENCY PROGRAMS SUBTOTAL	2,606	43,337
EFFICIENCY PROGRAMS COSTS		
<i>Total Efficiency Programs Electric Cost</i>	22,635	261,574
<i>Total Efficiency Programs Natural Gas Cost</i>	9,287	78,836
EFFICIENCY PROGRAMS SUBTOTAL	31,923	340,410
LOAD DISPLACEMENT & ALTERNATIVE ENERGY		
Load Displacement		
<i>Load Displacement Electric Cost</i>	674	674
<i>Load Displacement Natural Gas Cost</i>	0	0
	674	674
Bioenergy Optimization		
<i>Bioenergy Optimization Electric Cost</i>	552	11,451
<i>Bioenergy Optimization Natural Gas Cost</i>	0	112
	552	11,563
<i>Total Load Displacement & Alternative Energy Electric Cost</i>	1,226	12,124
<i>Total Load Displacement & Alternative Energy Natural Gas Cost</i>	0	112
LOAD DISPLACEMENT & ALTERNATIVE ENERGY SUBTOTAL	1,226	12,236
LOAD MANAGEMENT		
Curtailable Rate Electric Cost	5,945	87,759
TOTAL PROGRAM COSTS	5,945	87,759
<i>Total Program Electric Cost</i>	29,807	361,457
<i>Total Program Natural Gas Cost</i>	9,287	78,947
TOTAL PROGRAM COSTS	39,094	440,405

Note: Figures may not add due to rounding.

5.3 Utility Costs by Energy Source

Exhibit 5.3 provides a summary of electric and natural gas utility costs. Total Power Smart electric initiatives repre-

sent 77% of total Power Smart expenditures in 2014/15, and 82% of total Power Smart expenditures to date.

Exhibit 5.3

Summary of Electricity & Natural Gas Utility Costs

	Actual 2014\$	Cumulative nominal \$
<i>millions of dollars</i>		
ELECTRICITY		
Program Cost	29.8	361.5
Support Cost	4.1	74.5
	33.9	436.0
NATURAL GAS		
Program Cost	9.3	78.9
Support Cost	1.1	19.0
	10.4	98.0
TOTAL UTILITY COSTS (ELECTRICITY + NATURAL GAS)	44.3	533.9

Note: Support costs include both DSM support programs and support activity costs, but do not include Affordable Energy Fund or Furnace Replacement Program expenditures.
Figures may not add due to rounding.

5.4 The Affordable Energy Fund

The Affordable Energy Fund was established in 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 encourage energy efficiency and conservation through programs and services for rural and northern Manitobans, lower income customers and seniors, as well as promoting the use of alternative energy

sources such as renewable energy.

The balance of the Affordable Energy Fund on March 31, 2015, not including funding committed to subsidizing the interest rate for existing loans, was \$6.15 million.

Exhibit 5.4 provides a summary of Affordable Energy Fund expenditures.

Exhibit 5.4

Summary of Affordable Energy Fund Expenditures

	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	Cumulative
	<i>thousands of nominal dollars</i>									
Affordable Energy Program	256	219	893	1,672	2,666	3,131	3,332	3,122	4,616	19,907
Geothermal Support										
Waverley West Demonstration Project*	619	252	5	0	-1	-1	-1	-1	-1	871
Earth Power Loan Subsidy	0	19	69	105	108	108	91	0	0	500
Province of MB Cooperative Advertising	0	0	18	0	0	0	0	0	0	18
Interest Expense to Bill 11	0	0	0	0	0	0	0	28	22	50
Geothermal Support Total	619	270	92	104	108	107	91	27	21	1,440
Community Support & Outreach	0	0	35	130	133	139	114	123	130	805
Oil & Propane Heated Homes	0	75	85	31	32	24	0	4	0	250
Special Projects										
Res. Energy Assessment Services (ecoENERGY Audits)	0	61	241	85	119	39	0	0	0	545
Oil & Propane Furnace Replacement	0	0	6	36	42	17	10	23	25	160
Res. Solar Water Heating Program	0	0	89	119	56	11	10	0	0	284
Power Smart Residential Loan	0	0	0	130	312	354	510	365	216	1,888
PAYS Program	0	0	0	0	0	0	0	0	44	44
Oil & Propane Heated Homes - Add'l Funding	0	0	0	0	0	10	26	19	45	100
Special Projects Total	0	61	336	371	529	431	556	407	330	3,021
Community Energy Development										
ecoENERGY Program Funding - Add'l Funding	0	0	0	0	0	2,817	1,241	0	0	4,059
Community Energy Development Total	0	0	0	0	0	2,817	1,241	0	0	4,059
DSM INITIATIVES SUBTOTAL	875	625	1,441	2,308	3,468	6,649	5,334	3,685	5,097	29,481
Manitoba Electric Bus	0	0	0	0	0	700	75	225	114	1,114
Energy & Resource Fund	0	0	0	750	0	0	0	0	0	750
Fort Whyte EcoVillage	0	0	0	0	0	120	0	0	0	120
Diesel Community Green Pilot Demonstration**	0	0	0	0	0	3	-3	0	83	83
Métis Generation Fund	0	0	0	0	0	0	0	500	0	500
TOTAL EXPENDITURES	875	625	1,441	3,058	3,468	7,472	5,406	4,410	5,294	32,048

* Negative costs represent loop lease payments from customer to Manitoba Hydro.

** Reversal of an incorrect charge that took place in 2011/12 is indicated by the negative cost.

5.5 Furnace Replacement Budget

The Furnace Replacement Budget was established in 2007/08 as a result of Public Utility Board Order 99/07.

The purpose of the budget is to support the implementation of a natural gas Furnace Replacement Program for lower income customers.

In 2014/15 alone, customers installed 792 furnaces and 21 boilers through the Furnace Replacement Program.

Cumulatively, 3,922 furnaces and 96 boilers have been installed as a result of the program.

The balance of the Furnace Replacement Budget on March 31, 2015 was \$19.19 million.

Exhibit 5.5 outlines Furnace Replacement Budget expenditures.

Exhibit 5.5

Summary of Furnace Replacement Expenditures

	08/09	09/10	10/11	11/12	12/13	13/14	14/15	Cumulative
	<i>thousands of nominal dollars</i>							
Natural Gas Furnace Replacement	264	815	1,312	1,627	2,153	2,012	3,117	11,312
TOTAL EXPENDITURES	264	815	1,312	1,627	2,153	2,012	3,117	11,312

Appendix A

Sources of Evaluation & Planning Estimates

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

Evaluation Estimate Sources

Impact Evaluation Reports:

Impact evaluation reports are prepared annually for the 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.

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

Planning Estimate Sources

2014/15 Planning Estimates:

The 2014/15 electric and natural gas planning estimates were taken from the 2014 Power Smart Plan.

In all cases, the 2014 Power Smart Plan estimates were used regardless of delays in program launches or modifications. Consistent usage of the same plan helps reduce the probability of errors and provides a verifiable public target to compare against. Utilizing the same source information also helps ensure that a realistic and objective evaluation of the programs/portfolio is conducted, and improves the reliability and verifiability of the Power Smart Annual Review.

Life-to-Date Expenditure Report:

The utility costs cumulative to 2014/15 are tracked annually from the Annual DSM Expenditure Report.

Engineering Estimates:

Engineering expertise is used to quantify usage and savings data. Computer simulation and modeling may also be utilized.

Sales & Market Data:

In-depth market knowledge, product specifications and ratings, sales and replacement data, etc. are used to determine market acceptance and uptake.

2028/29 Planning Estimates:

The 2028/29 electric planning targets for energy and demand savings are from the 2014 Power Smart Plan which includes forecasts for 2014/15 through 2028/29. The 1992/93 through 2014/15 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 2028/29 natural gas planning targets are from the 2014 Power Smart Plan which includes forecasts for 2014/15 through 2028/29. Natural gas long range planning targets did not exist prior to 2005/06.

The 2014/15 through 2028/29 planning estimates for utility costs are included in the Integrated Financial Forecast report current during the evaluation year (IFF14). The

planned estimates for utility costs for the years 1990/91 through 2013/14 are included in Integrated Financial Forecast reports IFF90 through IFF13.

Appendix B

Explanation of Benefit/Cost Ratios Used in DSM Metrics

Total Resource Cost (TRC) Metric

The Total Resource Cost (TRC) metric is used to assess economic transfers between Manitoba Hydro and the participating customer are excluded from the calculation. The TRC is calculated based on the following formula:

$$TRC = \frac{PV(\text{Marginal Benefit})}{PV(\text{Total Program Administration} + \text{Incremental Product Cost})}$$

Where:

- For electricity, the marginal benefit includes the revenue realized by Manitoba Hydro from conserved electricity being sold in the export market, the avoided cost of new infrastructure (i.e. electric transmission facilities) and measurable non-energy benefits (i.e. water savings).
- For natural gas, the marginal benefit includes Manitoba Hydro's avoided cost of purchasing natural gas, avoided transportation costs, the value of reduced greenhouse gas emissions and measurable non-energy benefits (i.e. water savings).
- Total program administration costs include 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.
- o Note: The City of Winnipeg Power Smart Agreement evaluation treats commitment payments paid by Manitoba Hydro as administration costs.
- Incremental product costs include the total incremental costs associated with implementing a Power Smart measure. 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 energy efficient technology.

Levelized Utility Cost (LUC) / Rate Impact Measure (RIM) Ratio

The Levelized Utility Cost (LUC) is used to provide an economic cost value for the energy saved by an energy efficiency program. The LUC provides the total cost of the conserved energy based upon the utility's investment on behalf of the ratepayer on a per unit basis levelized over a fixed time period. The cost value allows for a comparison to other supply options and other DSM programs occurring over different time frames.

The Rate Impact Measure (RIM) metric is used in conjunction with the LUC to provide an indication of the long term impact of an energy efficient program on energy rates. This metric is especially valuable in interpreting the LUC of electric energy efficiency programs due to the varying summer/winter values of Manitoba Hydro's marginal cost. This metric 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. The LUC and RIM are calculated based on the following formulas:

$$\text{LUC} = \frac{\text{PV (Utility Program Administration Costs + Incentives)}}{\text{PV (Energy)}}$$

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

Where:

- Utility program administration costs include the costs to Manitoba Hydro associated with 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.
- Energy includes the annual energy savings associated with the energy efficiency measure.
- For electricity, the utility marginal benefit includes the revenue realized by Manitoba Hydro from conserved electricity being sold in the export market and the avoided cost of new infrastructure (i.e. electric transmission facilities).
- For natural gas, the utility marginal benefit includes Manitoba Hydro's avoided cost of purchasing natural gas, avoided transportation costs and the value of reduced greenhouse gas emissions.
- Revenue loss includes Manitoba Hydro's lost revenue associated with the participants' reduced energy consumption (i.e. customer bill reductions)
- Incentives include the funds transferred from Manitoba Hydro to the participant associated with implementing the Power Smart measure.

Levelized Resource Cost (LRC)

The Levelized Resource Cost (LRC) is used to provide an economic cost value for the energy saved through an energy efficiency program. The LRC provides the total resource cost of the conserved energy on a per unit basis levelized over a fixed time period. The cost value allows for

a comparison to other supply options and other DSM programs occurring over different time frames.

The LRC is calculated based on the following formula:

$$\text{LRC} = \frac{\text{PV (Total Program Administration + Incremental Product Cost)}}{\text{PV (Energy)}}$$

Where:

- Total program administration costs include 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 cost is the difference in cost between the energy efficient technology and the standard technology that would have been installed in the absence of the energy efficient technology.
- Energy includes the annual energy savings associated with the energy efficiency measure.

Appendix D

Synopsis of Discontinued Power Smart Incentive-Based Programs

Residential Programs

Outdoor Timer Program

Manitoba Hydro's first Power Smart Program, this program encouraged the use of outdoor timers to control block heaters and interior car warmers at existing homes.

Refrigerator/Freezer Buy-Back Pilot

This pilot program encouraged the removal of older, inefficient second refrigerators and freezers in existing homes.

Residential Shower Head Pilot

This pilot program encouraged the installation of energy efficient shower heads in existing homes.

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

This program encouraged participants of the "No Worry Plan" hot water tank program to install energy saving devices (faucet aerators, heat traps, energy efficient shower heads and pipe wrap) as part of a bonus package when installing new hot water tanks.

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

This program encouraged residential customers with electric hot water heaters to purchase, finance or lease the most energy efficient water heater available when replacing or installing new electric water heaters.

New Home Program

This program provided customers in the residential new construction market with prescriptive Power Smart standards and incentives to implement energy saving features and construction techniques into the construction of new homes.

Compact Fluorescent Lighting Program

This program encouraged residential customers and property managers of multi-unit residential buildings to install energy efficient compact fluorescent light bulbs.

Seasonal LED Lighting Program

This program encouraged customers to replace their existing incandescent seasonal light strings with energy efficient LED light strings.

High Efficiency Furnace/Boiler Program

This program encouraged residential customers to replace their existing natural gas furnaces or boilers with ENERGY STAR-qualified high efficiency natural gas furnaces or boilers.

Residential Appliances Program

This program encouraged residential customers to purchase ENERGY STAR-qualified clothes washers and chest freezers.

Programmable Thermostat Pilot

This pilot program encouraged customers to replace non-programmable thermostats with ENERGY STAR programmable models.

Energy Efficient Light Fixtures Program

The Energy Efficient Light Fixtures Program provided financial incentives to residential customers and property managers of multi-unit residential buildings to encourage the installation of ENERGY STAR® qualified light fixtures, dimmer switches and LED night lights.

ecoENERGY Program

The federal government's ecoEnergy Retrofit Grants Program ran from June 2011 to March 2012. To qualify for a federal grant of up to \$5,000, homeowners were required to have a pre-retrofit energy evaluation on their home, implement the energy efficiency upgrades, and have a post retrofit energy evaluation completed within this time frame. Manitoba Hydro and the Province of Manitoba announced further enhancements for Manitobans including a subsidized price on the pre-retrofit energy evaluations, a top-up grant equating to 20% of the federal grant amount, and a reduction in the Power Smart Residential Loan interest rate. Funding for all subsidies were secured from the Affordable Energy Fund.

Incentive Component of the "Solar Water Heating Program"

In partnership with Natural Resources Canada, this program encouraged homeowners to purchase solar water heating systems.

Commercial Programs

Roadway Lighting Program

This program converted existing incandescent and mercury vapor street lighting to more energy efficient, high pressure sodium lighting.

Sentinel Lighting Program

This program encouraged the conversion of yard lighting and sentinel lighting from mercury vapor and incandescent lighting to the more energy efficient, high pressure sodium lighting.

Commercial Shower Head Pilot

This pilot program encouraged commercial operations to retrofit shower facilities with energy efficient shower heads.

Infrared Heat Lamps

This program encouraged swine farrowing operations to use energy efficient heat lamps in place of standard heat lamps.

Agricultural Demand Controller

This program encouraged large agricultural operations to install demand controllers to reduce peak demand consumption.

Livestock Waterer

This program encouraged dairy and cattle operations to install energy efficient waterers to reduce energy and demand consumption.

Air Barrier Component of the

“Commercial Construction Program”

This program encouraged commercial customers to install greater efficiency air barriers when retrofitting their building's envelope.

Commercial Clothes Washers Program

This program encouraged customers to install energy efficient front-loading clothes washers at their business or facility.

Air Conditioning Component of the

“Commercial Construction Program”

This program encouraged commercial customers to replace their existing air conditioning system with a more energy efficient system.

Commercial Parking Lot Controllers

This program encouraged customers to install the parking lot controller technology to effectively manage electricity usage in their parking lots.

Agricultural Heat Pads

This program encouraged owners of swine barns to replace the traditional heat lamps in their hog farrowing crates with energy efficient heat pads.

Commercial Rinse & Save

The program offered operators of restaurants or food services businesses the free installation of a low-flow pre-rinse spray valve.

Power Smart Energy Manger

This program provided information, training and support for Manitoba school divisions to hire dedicated energy managers.

Power Smart Shops

This program encouraged small independent commercial customers to fully convert their buildings to a Power Smart Shop level of efficiency.

City of Winnipeg Power Smart Agreement

The City of Winnipeg Power Smart Agreement was established as part of the Winnipeg Hydro purchase agreement. It's objective was to encourage and implement energy saving measures in city-owned facilities. The terms of the agreement ended in September 2012.

Industrial Programs

High Efficiency Motors

This program encouraged the installation of high efficiency motors in industrial and commercial operations.

Appendix E

Curtable Rates Program Information & Methodology

- The Curtable 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.
- 2014/15 reported demand savings for the Curtable Rates Program are based on a methodology where curtailments throughout the year are analyzed to determine the amount of curtable 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.
- Curtable Rates Program targets are from the 2014 Power Smart Plan.
- Curtable Rate Program targets and savings 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 Curtable 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:
 - o Re-establish contingency reserves;
 - o Maintain planning reserve obligations;
 - o To protect firm load when reserves are insufficient to avoid curtailing firm load; and to
 - o 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 2014/15 Power Smart Annual Review, the Curtable Rates Program has been treated as an incentive-based program. This is consistent with treatment in the 2014 Power Smart Plan. As a rate-load management program, cost-effectiveness metrics are not reported.

Appendix F

Energy Savings - Incentive-Based Programs

2014/15 Annual Energy Savings - GW.h Electric Incentive-Based Programs

	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	At Generation 2014/15	At Generation 2028/29
RESIDENTIAL	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	14.7	14.7
Residential LED Lighting	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	4.5	4.5	15.0	15.0
High Efficiency Furnace/Burner	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	5.0	5.0
Affordable Energy	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	3.6	3.6
Water & Energy Saver	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	3.5	3.5
Community Geothermal	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.8	1.8
Community Energy	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Solar Hot Water Heater Pilot	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	39.6	39.6
DISCONTINUED/COMPLETED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Compact Fluorescent Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Efficiency Furnace/Burner	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Home	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Outdoor Timer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Programmable Thermostat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Programmable Thermostat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential Appliances	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retrofit/Demonstration	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Seasonal LED Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Heater Rental	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RESIDENTIAL TOTAL	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	39.6	39.6
COMMERCIAL	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	34.4	34.4
Commercial Lighting	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	13.5	13.5
Commercial Refrigeration	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	6.4	6.4
Commercial New Buildings	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	3.0	3.0
Commercial Insulation	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	3.0	3.0
Commercial HVAC - Chillers	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	2.6	2.6
Commercial HVAC - Chillers*	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	2.1	2.1
Commercial Windows*	1.0	1.0	1.0	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	1.1
Internal Retrofit	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
Commercial Kitchen Appliances	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
Commercial HVAC - CO2 Sensors	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Commercial Network Energy Manager	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Commercial Custom Measures	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Commercial Building Optimization	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	69.4	69.4
DISCONTINUED/COMPLETED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agricultural Heat Peds	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	12.3	12.3
Aboriginal Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Energy Controller	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Winnipeg Power Smart Agreement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Clothes Washers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Construction - Air Barrier	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Construction - Air Conditioning	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Construction - Air Conditioning	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Construction - Mechanical	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Infrared Heat Lamp	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Livestock Waterer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Parking Lot Controllers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power Smart Energy Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power Smart Signage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roadway Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sentinel Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Rinse & Save	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COMMERCIAL TOTAL	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	81.8	81.8
INDUSTRIAL	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	15.9	15.9
Performance Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Energy Preparations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISCONTINUED/COMPLETED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Efficient Motors (OMR)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Efficiency Motors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (Basic)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retrofit/Demonstration GSL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INDUSTRIAL TOTAL	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	15.9	15.9
EFFICIENCY PROGRAMS SUBTOTAL	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	137.3	137.3
CUSTOMER SELF-GENERATION PROGRAMS	69.4	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	76.3	1.5
Bioenergy Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Load Displacement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RATE/LOAD MANAGEMENT PROGRAMS	69.4	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	76.3	1.5
Curtable Rates	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GW.h IMPACTS (at meter)	190.4	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	N/A	N/A
GW.h IMPACTS (at generation)	213.7	138.8	138.8	138.8	138.8	138.8	138.8	138.8	138.8	138.8	138.8	138.8	138.8	138.8	138.8	213.7	126.0

Note: Subtotals may not be exact due to rounding.
 * Programs comprise the Commercial Building Envelope Program.



**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	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	At Generation 2014/15	At Generation 2029/29
RESIDENTIAL																												
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	0.0	1.7	4.2	10.7	16.5	22.1	28.4	33.8	38.7	44.9	49.4	56.3	
Water & Energy Saver	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water & Energy Saver	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Affordable Energy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Community Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drain Water Heat Recovery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential LED Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Star Hot Water Heater Pilot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISCONTINUED/COMPLETED																												
Compact Fluorescent Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5
Residential Appliances	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Home	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Energy Efficient Light Fixtures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Efficiency Furnace/Burner	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Efficiency Water Heater	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Heater Rental	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Programmable Thermostat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retire/Demonstration	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigerator/Freezer Buy-Back	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RESIDENTIAL TOTAL	5.0	8.9	15.7	21.0	25.1	29.6	31.3	35.1	37.2	37.5	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6
COMMERCIAL																												
Commercial Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Internal Retrofit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Geothermal	-	-	-	-																								

Persisting Average Winter 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	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2014/15	At Generation 2028/29	
RESIDENTIAL																													
Affordable Energy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Refrigerator Retirement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Water Conservation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Community Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Residential LED Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Solar Hot Water Water Pilot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DISCONTINUED/COMPLETED																													
Outdoor Thermistor Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Residential Appliances	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
New Home	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Light Fixtures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
High Efficiency Furnace/Bobler	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Seasonal LED Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Residential Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Water Conservation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Programmable Thermostat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Refrigerator Recycle Buy Back	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
RESIDENTIAL TOTAL	0.3	0.5	1.0	1.3	1.6	1.9	2.1	2.4	2.5	2.5	2.6	2.6	2.6	2.6	2.5	4.2	5.9	7.8	10.3	15.8	25.8	31.4	31.7	31.7	31.7	36.1	36.1		
COMMERCIAL																													
Commercial Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial Windows*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial Windows*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial New Buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial Custom Measures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial Building Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial Building Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial HVAC - CO2 Sensors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial HVAC - CO2 Sensors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial HVAC - Chillers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DISCONTINUED/COMPLETED																													
Roadway Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Agricultural Heat Pads	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
City of Winnipeg Power Smart Agreement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
City of Winnipeg Power Smart Agreement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agricultural Demand Controller	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Infrared Heat Lamp	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Clothes Washers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Clothes Washers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Showerhead	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power Smart Shops	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Building Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Construction - Air Conditioning	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Inset & Save	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Inset & Save	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power Smart Energy Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COMMERCIAL TOTAL	2.2	5.7	9.0	10.6	10.7	10.8	10.8	11.4	11.8	12.0	12.5	12.9	13.3	13.9	15.3	15.8	16.4	16.9	17.5	18.0	18.1	18.4	18.8	18.7	18.7	13.32	13.32		
INDUSTRIAL																													
Energy Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Emergency Preparedness	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISCONTINUED/COMPLETED																													
Refrigerator Retirement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Efficiency Motors	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial (B+C)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Efficient Motors (DMR)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INDUSTRIAL SUBTOTAL	0.1	1.0	1.7	3.4	6.6	7.4	6.1	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	
INDUSTRIAL TOTAL	0.1	1.0	1.7	3.4	6.6	7.4	6.1	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	
EFFICIENCY PROGRAMS SUBTOTAL	0.3	0.5	3.3	8.6	15.2	23.6	30.3	36.9	40.6	37.1	81.4	88.4	101.2	106.9	117.2	130.9	144.3	159.4	178.1	205.1	229.3	246.6	276.5	301.5	301.5	339.7	380.0		
CUSTOMER SELF-GENERATION PROGRAMS																													
Bioregion Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Load Management	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Load Management	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Curbside Sales	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RATELOAD MANAGEMENT PROGRAMS																													
Curbside Sales	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW IMPACTS (at meter)	0.3	0.5	3.3	8.6	15.2	23.6	30.3	36.9	40.6	37.1	81.4	88.4	101.2	106.9	117.2	130.9	144.3	159.4	178.1	205.1	229.3	246.6	276.5	301.5	301.5	339.7	380.0		
MW IMPACTS (at generation)	0.3	0.5	3.3	8.6	15.2	23.6	30.3	36.9	40.6	37.1	81.4	88.4	101.2	106.9	117.2	130.9	144.3	159.4	178.1	205.1	229.3	246.6	276.5	301.5	301.5	339.7	380.0		
	0.3	0.5	3.3	8.6	15.2	23.6	30.3	36.9	40.6	37.1	81.4	88.4	101.2	106.9	117.2	130.9	144.3	159.4	178.1	205.1	229.3	246.6	276.5	301.5	301.5				

Persisting Average Winter MW
 Electric Incentive-Based Programs

	2017/16	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	2039/40	2040/41	2041/42		
RESIDENTIAL																													
Affordable Energy	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	
Water & Sewer Saver	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	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	
Drum Water Heat Recovery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Residential LED Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Solar Hot Water Heater Pilot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DISCONTINUED/COMPLETED																													
Compact Fluorescent Lighting	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	
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	
Residential Appliances	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	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
New Home	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	
High Efficiency Light Fixtures	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	0.4	0.4	
High Efficiency Furnace/Baher	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	
Seasonal LED Lighting	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Water Heater Recirculation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Programmable Thermostat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Refrigerator Freezer Buy-Back	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 TOTAL	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	
COMMERCIAL																													
Commercial Lighting	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	
Commercial Geothermal	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	
Commercial LED Lighting	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	
Commercial Windows*	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	6.3	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	6.3	
Commercial Refrigeration	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	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Commercial New Buildings	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	
Commercial Kitchen Appliances	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	0.4	0.4	
Commercial Building Optimization	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	
Commercial Network Energy Manager	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	
Commercial Kitchen Appliances	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	
Commercial HVAC - CO2 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	
Commercial HVAC - 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	
COMMERCIAL TOTAL	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	
DISCONTINUED/COMPLETED																													
Agricultural Heat Pads	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	
City of Winnipeg Power Smart Agreement	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	
Sentinel Lighting	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	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	
Agricultural Demand Controller	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	
Commercial LED 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	
Commercial Clothes Washers	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	
Commercial Construction - Air Barrier	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	
Commercial Construction - 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	0.3	0.3	
Commercial Showerhead	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	
Commercial LED Lighting	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Commercial LED 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	
Commercial Construction - Air Conditioning	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial Construction - Air Conditioning	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial Reline & Save	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial LED Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Power Smart Energy Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
COMMERCIAL TOTAL	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	
INDUSTRIAL																													
Performance Optimization	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	
Emergency Preparedness	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DISCONTINUED/COMPLETED																													

**Total Average Winter MW
 Electric Incentive-Based Programs**

	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	2039/40	2040/41	2041/42				
RESIDENTIAL	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9			
Affordable Energy	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9		
Refrigerator Retirement	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	
Residential LED Lighting	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	3.2	
Residential Water Heating	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	3.1	3.1	3.1	3.1	3.1	3.1	
Community Geothermal	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	0.4	0.4	0.4	0.4	0.4
Drain Water Heat Recovery	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Solar Hot Water Pilot	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2
DISCONTINUED/COMPLETED	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4
Compact Fluorescent Lighting	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
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
Energy Efficient Appliances	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Energy Efficient Light Fixtures	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	0.7
High Efficiency Furnace/Ball	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	0.4	0.4	0.4	0.4	0.4
Seasonal LED Lighting	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
Water Heating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Retire/Demonstration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Programmable Thermostat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigerator/Freezer Buy Back	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RESIDENTIAL TOTAL	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
COMMERCIAL	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9
Commercial Lighting	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
Commercial Geothermal	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
Internal Retrofit	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
Commercial Motors*	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	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
Commercial Refrigeration	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Commercial New Buildings	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Commercial Custom Measures	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
Commercial Energy Management	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	0.7
Commercial Building Optimization	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	0.4	0.4	0.4	0.4	0.4
Commercial Network Energy Manager	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
Commercial HVAC - CO2 Sensors	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Commercial HVAC - Chillers	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
DISCONTINUED/COMPLETED	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
Agricultural Heat Pads	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	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
City of Winnipeg Power Smart Agreement	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
Sentinel Lighting	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
Commercial LED Lighting	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
Infrared Heat Lamps	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
Commercial Clothes Washers	0.5</																														

Appendix H

Natural Gas Savings (m³) – Incentive-Based Programs

2014/15 Annual Gas Savings - million m³
 Natural Gas Incentive-Based Programs

	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	2039/40	2040/41	2041/42	
RESIDENTIAL																													
Affordable Energy	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
Commercial 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	0.5	0.5	0.5	0.5
Water & Energy Saver	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
Solar Hot Water Heater Pilot	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
DISCONTINUED/COMPLETED																													
High Efficiency Furnace/Boiler	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
New Home	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Programmable Thermostat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
RESIDENTIAL TOTAL	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	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	
COMMERCIAL																													
Commercial Insulation*	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	
HVAC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Commercial Windows*	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	
Commercial Kitchen Appliances	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Commercial New Buildings	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Commercial Custom Measures	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Commercial Energy Audit 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Commercial Retrofit 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
CEEP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 TOTAL	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	
DISCONTINUED/COMPLETED																													
Power Smart Shops	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
City of Winnipeg Power Smart Agreement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial Home & Store	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
INDUSTRIAL																													
Natural Gas Optimization	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	
INDUSTRIAL TOTAL	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	
EFFICIENCY PROGRAMS SUBTOTAL	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	
CUSTOMER SELF-GENERATION																													
Boiler Energy Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LESS INTERACTIVE EFFECTS	(1.7)	(1.8)	(1.7)	(1.5)	(1.7)	(1.7)	(1.6)	(1.6)	(1.6)	(1.4)	(0.6)	(0.5)	(0.5)	(0.3)	(0.3)	(0.8)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	
NET IMPACT: OVERALL	6.8	6.7	6.8	7.0	6.8	6.9	6.9	7.0	7.0	7.1	7.9	8.0	8.0	8.2	8.2	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0

* Programs comprise Commercial Building Envelope Program.

Persisting Gas Savings - million m3
 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	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	
RESIDENTIAL																													
Home Insulation	-	-	-	-	0.3	2.2	3.9	5.6	7.6	9.0	10.2	11.3	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Affordable Energy	-	-	-	-	-	-	0.0	0.1	0.7	2.3	3.5	4.6	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	
Water & Energy Saver	-	-	-	-	-	-	-	-	-	0.8	1.8	2.8	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	
Solar Hot Water Heater Pilot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DISCONTINUED/COMPLETED																													
High Efficiency Furnace/Boiler	-	-	-	-	0.6	3.6	4.0	5.8	6.9	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	
Natural Gas Water Heaters	-	-	-	-	0.0	0.1	0.2	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	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
Programmable Thermostat	-	-	-	-	0.0	0.7	2.9	4.4	6.3	7.5	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	
RESIDENTIAL TOTAL	-	-	-	-	0.0	1.0	5.0	8.3	11.9	15.8	19.8	23.1	26.4	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	
COMMERCIAL																													
Commercial HVAC	-	-	-	-	-	0.4	2.5	4.8	6.2	6.2	7.2	8.4	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	
Commercial Insulation*	-	-	-	-	-	0.3	1.1	2.1	3.2	5.4	6.8	7.8	8.8	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	
Commercial Water Heaters	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial Windows	-	-	-	-	-	0.0	0.1	0.2	0.5	0.8	1.3	1.6	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	
Commercial Custom Measures	-	-	-	-	-	-	-	-	0.1	0.2	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	0.5	0.5	0.5	0.5	0.5	
Commercial Building Optimization	-	-	-	-	-	-	-	-	0.1	0.2	0.4	0.4	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	
Commercial Kitchen Appliances	-	-	-	-	-	-	-	-	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	
Internal Retrofit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DISCONTINUED/COMPLETED																													
City of Winnipeg Power Smart Agreement	-	0.1	0.1	0.2	0.6	0.7	0.7	0.7	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	0.8	0.8	0.8	0.8	0.8	0.8	0.8	
Commercial Clothes Washers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial Dishwashers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Commercial Rinses & Saws	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
COMMERCIAL TOTAL	-	0.1	0.1	0.2	0.6	1.5	1.8	2.8	3.1	3.2	3.9	4.9	5.9	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	
INDUSTRIAL																													
Natural Gas Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
INDUSTRIAL TOTAL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EFFICIENCY PROGRAMS SUBTOTAL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUSTOMER SELF-GENERATION																													
Bioenergy Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LESS: INTERACTIVE EFFECTS	-	(0.0)	(0.0)	(1.2)	(2.6)	(3.0)	(3.8)	(5.9)	(8.9)	(10.5)	(11.3)	(12.0)	(13.0)	(13.0)	(13.1)	(13.2)	(13.1)	(13.0)	(13.4)	(13.4)	(13.4)	(13.4)	(12.7)	(11.9)	(12.0)	(12.0)	(11.8)		
NET IMPACT: OVERALL	-	0.1	0.1	(1.0)	(1.0)	4.3	11.7	20.0	25.3	33.5	39.6	50.1	55.9	55.9	55.7	55.6	55.7	55.8	55.5	55.1	55.1	55.0	54.8	55.6	56.3	56.2	56.3	56.4	

Note: Subtotals may not be exact due to rounding.
 * Programs comprise Commercial Building Envelope Program.

**Persisting Gas Savings - million m3
 Natural Gas Incentive-Based Programs**

	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42
RESIDENTIAL													
Home Insulation	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Affordable Energy	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
Water & Energy Saver	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
Solar Hot Water Heater Pilot	-	-	-	-	-	-	-	-	-	-	-	-	-
	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1
DISCONTINUED/COMPLETED													
High Efficiency Furnace/Boiler	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
New Home	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
Programmable 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
	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
RESIDENTIAL TOTAL	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8
COMMERCIAL													
Commercial HVAC	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
Commercial Insulation*	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
Commercial New Buildings	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
Commercial Windows*	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
Commercial Custom Measures	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Commercial Building Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Kitchen Appliances	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Internal Retrofit	-	-	-	-	-	-	-	-	-	-	-	-	-
	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1
DISCONTINUED/COMPLETED													
City of Winnipeg Power Smart Agreement	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
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
Commercial Clothes Washers	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Rinse & Save	-	-	-	-	-	-	-	-	-	-	-	-	-
	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
COMMERCIAL TOTAL	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
INDUSTRIAL													
Natural Gas Optimization	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
INDUSTRIAL TOTAL	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
EFFICIENCY PROGRAMS SUBTOTAL	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2
CUSTOMER SELF-GENERATION													
Bioenergy Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-
	(11.8)	(11.8)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(12.0)
LESS: INTERACTIVE EFFECTS	(11.8)	(11.8)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(12.0)
NET IMPACT: OVERALL	56.4	56.4	56.4	56.4	56.4	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3

Note: Subtotals may not be exact due to rounding.
 * Programs comprise Commercial Building Envelope Program.

**Total Annual Gas Savings - million m³
 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	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29
RESIDENTIAL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Home Insulation	-	-	-	-	0.3	2.2	3.9	5.6	7.6	9.0	10.2	11.3	12.0	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
Affordable Energy	-	-	-	-	-	-	0.0	0.1	0.7	2.3	3.5	4.6	5.8	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Water & Energy Saver	-	-	-	-	-	-	-	-	-	0.8	1.8	2.8	3.4	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
Smart Hot Water Heater Pilot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	0.3	2.2	3.9	5.6	8.3	12.2	15.4	18.7	21.1	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
DISCONTINUED/COMPLETED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Efficiency Furnace/Boilers	-	-	-	-	0.6	2.6	4.0	5.8	6.9	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
Programmable Thermostat	-	-	-	-	0.1	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	-	-	-	-	0.7	2.9	4.4	6.3	7.5	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
RESIDENTIAL TOTAL	-	-	-	-	1.0	5.0	8.3	11.9	15.8	19.8	23.1	26.4	28.8	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5
COMMERCIAL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial HVAC	-	-	-	-	-	0.4	2.5	4.8	6.2	6.2	7.2	8.4	9.7	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
Commercial New Buildings	-	-	-	-	-	0.3	1.1	2.1	3.2	3.2	3.8	4.8	5.8	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	
Commercial Windows*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Custom Measures	-	-	-	-	-	0.0	0.1	0.2	0.5	0.8	1.3	1.6	1.9	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
Commercial Building Optimization	-	-	-	-	-	-	-	-	-	0.1	0.2	0.3	0.4	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	
Commercial Appliances	-	-	-	-	-	-	-	-	-	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Internal Retrofit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-	-	-	-	-	0.7	3.7	7.3	10.3	13.0	16.4	22.5	25.8	30.1	30.1	30.1	30.1	30.1	30.1	29.7	29.7	29.7	29.5	29.5	29.5	29.5	29.5
DISCONTINUED/COMPLETED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Winnipeg Power Smart Agreement	-	-	-	-	-	0.6	0.7	0.7	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	0.8	0.8	0.8	0.8	0.8	0.8
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	
Commercial Clothes Washers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Reuse & Save	-	-	-	-	-	0.8	1.1	2.1	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
	-	-	-	-	0.1	0.1	0.2	0.6	1.5	1.9	2.8	3.1	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
COMMERCIAL TOTAL	-	-	-	-	0.1	0.1	0.2	0.6	2.2	5.5	10.1	13.4	16.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	
INDUSTRIAL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Natural Gas Optimization	-	-	-	-	-	-	-	-	1.7	3.0	4.0	5.0	6.0	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	
	-	-	-	-	-	-	-	-	1.7	3.8	4.9	6.0	7.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
INDUSTRIAL TOTAL	-	-	-	-	-	-	-	-	1.7	3.8	4.9	6.0	7.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
EFFICIENCY PROGRAMS SUBTOTAL	-	-	-	-	0.1	0.1	0.2	1.6	7.3	15.5	25.9	34.1	44.0	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	
CUSTOMER SELF-GENERATION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Boiler Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LESS: INTERACTIVE EFFECTS	-	-	-	-	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(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 OVERALL	-	-	-	-	0.1	0.1	0.1	0.0	11.7	20.0	25.3	33.5	39.6	50.1	55.9	62.4	62.8	62.6	62.0	62.0	62.0	61.9	63.5	64.2	64.2	64.4	

Note: Subtotals may not be exact due to rounding.
 *Programs comprise Commercial Building Envelope Program.

**Total Annual Gas Savings - million m³
 Natural Gas Incentive-Based Programs**

	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42
RESIDENTIAL													
Home Insulation	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
Affordable Energy	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Water & Energy Saver	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
Solar Hot Water Heater Pilot	-	-	-	-	-	-	-	-	-	-	-	-	-
	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
DISCONTINUED/COMPLETED													
High Efficiency Furnace/Boiler	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
New Home	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
Programmable 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
	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
RESIDENTIAL TOTAL	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5
COMMERCIAL													
Commercial HVAC	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
Commercial Insulation*	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Commercial New Buildings	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
Commercial Windows*	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
Commercial Custom Measures	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Commercial Building Optimization	-	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 Kitchen 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
Internal Retrofit	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
DISCONTINUED/COMPLETED													
City of Winnipeg Power Smart Agreement	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
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
Commercial Clothes Washers	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Rinse & Save	-	-	-	-	-	-	-	-	-	-	-	-	-
	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
COMMERCIAL TOTAL	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4
INDUSTRIAL													
Natural Gas Optimization	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
INDUSTRIAL TOTAL	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
EFFICIENCY PROGRAMS SUBTOTAL	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7
CUSTOMER SELF-GENERATION													
Bioenergy Optimization	-	-	-	-	-	-	-	-	-	-	-	-	-
	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)
LESS: INTERACTIVE EFFECTS	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)	(12.2)
NET IMPACT: OVERALL	64.6	64.6	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5

Note: Subtotals may not be exact due to rounding.
 * Programs comprise Commercial Building Envelope Program.

Appendix I

Energy Savings - DSM Support Programs

2014/15 Annual Energy Savings - GW.h Electric DSM Support Programs

	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
RESIDENTIAL															
Power Smart Residential Loan	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Power Smart Residential PAYS	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Residential Earth Power Loan	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
COMMERCIAL															
Power Smart for Business PAYS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISCONTINUED/COMPLETED															
ecoENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power Smart Energy Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-2000 Component of the New Home Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solar Hot Water Heating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
GW.h IMPACTS (at meter)	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
GW.h IMPACTS (at generation)	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76

Note: Subtotals may not be exact due to rounding.

2014/15 Annual Energy Savings - GW.h Electric DSM Support Programs

	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	At Generation 2014/15	At Generation 2028/29
RESIDENTIAL															
Power Smart Residential Loan	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.50	0.50
Power Smart Residential PAYS	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.13
Residential Earth Power Loan	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.13
	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.76	0.76
COMMERCIAL															
Power Smart for Business PAYS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISCONTINUED/COMPLETED															
ecoENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power Smart Energy Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-2000 Component of the New Home Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solar Hot Water Heating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	N/A	N/A
GW.h IMPACTS (at meter)	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
GW.h IMPACTS (at generation)	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76

Note: Subtotals may not be exact due to rounding.

Appendix J

Average Winter Savings – DSM Support Programs

2014/15 Average Winter MW Electric DSM Support Programs

	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
RESIDENTIAL															
Power Smart Residential Loan	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
Power Smart Residential PAYS	0.0	0.0	0.0	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 Earth Power Loan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.3	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
COMMERCIAL															
Power Smart for Business PAYS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISCONTINUED/COMPLETED															
ecoENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power Smart Energy Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-2000 Component of the New Home Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solar Hot Water Heating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	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
MW IMPACTS (at meter)	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
MW IMPACTS (at generation)	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

Note: Subtotals may not be exact due to rounding.

2014/15 Average Winter MW Electric DSM Support Programs

	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	At Generation 2014/15	At Generation 2028/29
RESIDENTIAL															
Power Smart Residential Loan	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	0.3	0.3
Power Smart Residential PAYS	0.0	0.0	0.0	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 Earth Power Loan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.3	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
COMMERCIAL															
Power Smart for Business PAYS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISCONTINUED/COMPLETED															
ecoENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power Smart Energy Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-2000 Component of the New Home Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solar Hot Water Heating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	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	N/A	N/A
MW IMPACTS (at meter)	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
MW IMPACTS (at generation)	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

Note: Subtotals may not be exact due to rounding.



**Persisting Average Winter MW
 Electric DSM Support 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	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	At Generation 2014/15	At Generation 2028/29	
RESIDENTIAL																													
Power Smart Residential Loan	-	-	-	-	-	-	-	-	-	-	-	-	0.5	0.8	1.1	1.4	1.6	2.0	2.7	3.0	3.9	4.2	4.4	4.7	5.0	5.0	5.6		
Residential Earth Power Loan	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.2	0.6	1.1	1.4	2.1	2.5	3.0	3.3	3.8	3.9	3.9	4.4			
Power Smart Residential PAYS	-	-	-	-	-	-	-	-	-	-	-	-	0.5	0.9	1.3	2.0	2.7	3.4	4.8	5.5	6.9	7.5	8.2	8.6	8.8	8.8	10.1		
COMMERCIAL																													
Power Smart for Business PAYS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DISCONTINUED/COMPLETED																													
Power Smart Energy Manager	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
R-2000 Component of the New Home 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	0.1	
ecoENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smart Hot Water Heating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW IMPACTS (at meter)	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
MW IMPACTS (at generation)	-	-	-	-	-	-	-	-	-	-	-	-	0.6	1.0	1.5	2.2	2.9	3.6	5.0	5.7	7.1	7.7	8.4	8.8	9.1	9.1	N/A		

Note: Subtotals may not be exact due to rounding.

**Persisting Average Winter MW
 Electric DSM Support Programs**

	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	2039/40	2040/41	2041/42		
RESIDENTIAL																													
Power Smart Residential Loan	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	
Residential Earth Power Loan	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	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	
Power Smart Residential PAYS	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	
COMMERCIAL																													
Power Smart for Business PAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DISCONTINUED/COMPLETED																													
Power Smart Energy Manager	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
R-2000 Component of the New Home 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
ecoENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Smart Hot Water Heating	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	
MW IMPACTS (at meter)	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	9.1	9.1	
MW IMPACTS (at generation)	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	

Note: Subtotals may not be exact due to rounding.

Appendix K

Natural Gas Savings (m³) – DSM Support Programs

2014/15 Annual Natural Gas Savings - million m³
 Natural Gas DSM Support Programs

	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	2039/40	2040/41	2041/42	
RESIDENTIAL																													
Power Smart Residential Loan	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
Residential Loan Power Smart	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Power Smart Residential PAKS	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
	0.3	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
COMMERCIAL																													
Power Smart for Business PAKS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISCONTINUED/COMPLETED																													
ecoENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power Smart Energy Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-2000 Component of the New Home Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solar Hot Water Heating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m³ IMPACTS	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

Note: Subtotals may not be exact due to rounding.

**Persisting Natural Gas Savings - million m³
 Natural Gas DSM Support 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	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29
RESIDENTIAL																												
Power Smart Residential Loan	1.2	2.1	3.5	5.6	7.8	9.6	11.3	12.3	13.9	14.3	14.6	14.9	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2
Residential Earth Power Loan	-	0.1	0.1	0.5	0.8	1.0	1.3	1.4	1.7	2.1	2.4	2.7	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
Power Smart Residential PAYS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COMMERCIAL																												
Power Smart for Business PAYS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISCONTINUED/COMPLETED																												
ecoENERGY	-	0.1	0.4	1.3	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
Power Smart 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
R-2000 Component of the New Home Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solar Hot Water Heating	(0.0)	0.2	0.6	1.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
m³ IMPACTS	1.2	2.4	4.3	7.7	11.3	13.2	15.3	16.4	18.3	19.0	19.7	20.3	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8

Note: Subtotals may not be exact due to rounding.

**Persisting Natural Gas Savings - million m³
 Natural Gas DSM Support Programs**

	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42
RESIDENTIAL													
Power Smart Residential Loan	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2
Residential Earth Power Loan	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
Power Smart Residential PAYS	(0.0)	(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													
Power Smart for Business PAYS	-	-	-	-	-	-	-	-	-	-	-	-	-
DISCONTINUED/COMPLETED													
ecoENERGY	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
Power Smart Energy Manager	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
R-2000 Component of the New Home Program	-	-	-	-	-	-	-	-	-	-	-	-	-
Solar Hot Water Heating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
m³ IMPACTS	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8

Note: Subtotals may not be exact due to rounding.

**Total Annual Natural Gas Savings - million m³
 Natural Gas DSM Support 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	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29
RESIDENTIAL																												
Power Smart Residential Loan	1.2	2.1	3.5	5.6	7.8	9.6	11.3	12.3	13.9	14.3	14.6	14.9	15.2	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
Power Smart Energy Manager	-	0.1	0.1	0.5	0.8	1.0	1.3	1.4	1.7	2.1	2.4	2.7	2.9	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
Residential Earth Power Loan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power Smart Residential PAYS	1.2	2.2	3.7	6.1	8.6	10.5	12.6	13.7	15.6	16.4	17.0	17.6	18.1	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
COMMERCIAL																												
Power Smart for Business PAYS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISCONTINUED/COMPLETED																												
ecoENERGY	-	0.1	0.4	1.3	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
Power Smart Energy Manager	(0.0)	0.0	0.2	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
Power Smart for Business PAYS	0.0	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	0.0
Power Smart for Business PAYS	0.0	0.2	0.6	1.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
m³ IMPACTS	1.2	2.4	4.3	7.7	11.3	13.2	15.3	16.4	18.3	19.0	19.7	20.3	20.8	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1

Note: Subtotals may not be exact due to rounding.

**Total Annual Natural Gas Savings - million m³
 Natural Gas DSM Support Programs**

	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42
RESIDENTIAL													
Power Smart Residential Loan	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
Power Smart Energy Manager	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
Power Smart Residential PAYS	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
COMMERCIAL													
Power Smart for Business PAYS	-	-	-	-	-	-	-	-	-	-	-	-	-
DISCONTINUED/COMPLETED													
ecoENERGY	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
Power Smart Energy Manager	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
R-2000 Component of the New Home 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
Solar Hot Water Heating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
m³ IMPACTS	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1

Note: Subtotals may not be exact due to rounding.

Appendix L

Annual Energy Savings – Codes & Standards (GW.h, MW & m³)

Annual Energy Savings - GW.h Codes & Standards

	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	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Residential Appliances:																							
Clothes Washers	2.0	4.7	6.1	7.1	7.0	7.2	7.8	7.8	7.8	7.8	10.1	11.0	12.9	13.2	12.8	16.2	17.1	18.7	10.9	10.2	9.1	11.5	9.9
Refrigerators	0.0	0.1	0.2	0.4	0.7	0.8	0.7	0.7	0.7	0.8	0.8	1.3	2.0	2.0	2.5	3.4	3.5	0.2	0.2	0.1	0.1	4.0	5.4
Dishwashers	0.0	-0.2	-0.1	0.1	-0.3	-0.1	-0.1	-0.3	0.2	0.2	0.2	0.0	0.1	-0.2	-0.2	-0.2	3.4	3.2	1.4	1.2	1.2	3.6	3.5
Ranges	-0.3	0.3	0.4	0.5	0.7	0.4	0.5	0.5	0.5	0.5	0.3	0.3	0.5	-0.8	-0.7	-0.8	3.1	2.6	6.5	6.2	2.2	2.1	
Freezers	0.1	0.1	0.4	0.4	0.4	0.4	0.5	0.1	0.1	0.2	0.2	0.2	1.0	1.0	1.0	0.9	1.3	1.5	1.7	1.7	3.5	6.6	
Clothes Dryers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0	1.1	1.2	1.5	0.8	1.2	1.3	1.5	2.8	2.9	1.7	3.5	3.1	
Other Residential 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	0.0	0.0	21.3	22.3	20.2	
Other Residential Equipment ¹	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.3	0.3	0.3	0.3	0.4	0.4	12.8	15.2	12.2	
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	0.0	0.0	0.0	0.0	
Other Commercial Equipment ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Industrial Equipment - High Efficiency Motors	1.9	4.6	7.1	8.6	12.8	20.3	26.0	28.6	27.2	29.2	34.2	16.9	22.9	21.4	22.5	24.8	26.1	42.5	45.1	63.1	65.6	66.0	
Subtotal	1.9	4.6	7.1	8.6	12.8	20.3	26.0	28.6	27.2	29.2	34.2	16.9	22.9	21.4	22.5	24.8	26.1	42.5	45.1	63.1	65.6	66.0	
GW.h IMPACTS (at meter)	2.2	5.3	8.1	9.8	14.6	23.1	29.6	32.5	30.9	33.3	35.0	19.2	26.1	24.3	25.6	28.3	29.8	48.5	51.4	71.9	74.8	75.3	
GW.h IMPACTS (at generation)																							

Notes: Subtotals may not be exact due to rounding.

¹Category includes: central air conditioning, electric hot water tank, furnace, attic insulation, windows, heat recovery ventilator (HRV), efficient showerheads and electronic fireplace ignition.

²Category includes: commercial spray valves.

Annual Energy Savings - MW Codes & Standards

	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	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Residential Appliances:																							
Clothes Washers	0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	1.3	1.2	0.3	0.2	0.7	
Ranges	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.7	0.8	1.0	0.9	0.9	0.0	0.0	0.0	0.0	2.2	
Refrigerators	-0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.2	-0.1	-0.2	-0.2	0.3	0.3	0.8	0.7	0.3	
Dishwashers	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.5	0.6	0.8	0.9	0.0	0.0	0.0	0.0	0.8	
Freezers	0.0	0.0	0.1	0.1	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	1.8	2.1	1.8	1.6	0.2	0.2	
Clothes Dryers	0.5	1.1	1.5	1.7	1.7	1.8	1.8	1.9	1.9	2.3	2.7	3.1	3.2	3.1	3.1	3.1	3.1	3.1	2.2	1.8	1.1	1.2	
Other Residential Insulation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.5	1.2	1.2	0.9	1.1	3.6	1.7	
Other Residential Equipment 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	0.3	6.6	7.3	7.0	
Commercial Lighting	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	4.6	5.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	3.5	4.2	3.4	6.6	
Other Commercial Equipment 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	
Industrial Equipment - High Efficiency Motors	0.5	1.1	1.7	2.1	3.0	5.2	6.8	7.6	7.2	7.8	9.1	4.1	5.6	5.2	5.5	6.2	6.3	6.9	7.5	15.1	17.0	18.8	
Subtotal	0.5	1.1	1.7	2.1	3.0	5.2	6.8	7.6	7.2	7.8	9.1	4.1	5.6	5.2	5.5	6.2	6.3	6.9	7.5	15.1	17.0	18.8	
MW IMPACTS (at meter)	0.5	1.1	1.7	2.1	3.0	5.2	6.8	7.6	7.2	7.8	9.1	4.1	5.6	5.2	5.5	6.2	6.3	6.9	7.5	15.1	17.0	18.8	
MW IMPACTS (at generation)																							

Notes: Subtotals may not be exact due to rounding.

¹Category includes: central air conditioning, electric hot water tank, furnace, attic insulation, windows, heat recovery ventilator (HRV), efficient showerheads and electronic fireplace ignition.

²Category includes: commercial spray valves.

**Annual Energy Savings - millions m³
 Codes & Standards**

	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	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Residential Appliances:	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	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Clothes Washers	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	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Dishwashers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Furnaces:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 - Federal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 - Federal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 - Provincial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 - Provincial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 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	0.0	0.0	0.0	0.0	0.0	0.0
Other Residential Equipment 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
Other Commercial Equipment 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
Millions m³	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.2	0.5	0.9	5.5	3.4	2.8	2.9

Note: Subtotals may not be exact due to rounding.
¹Category includes: furnace, attic insulation, windows, heat recovery ventilator (HRV) and electronic fireplace ignition.
²Category includes: commercial spray valves.

Appendix N

Natural Gas Incentive-Based Utility, Administration and Incentive Costs

Total Power Smart Utility Costs - Including Affordable Energy Costs (1000s in Nominal\$) 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	Cumulative Total 2014/15
RESIDENTIAL															
Affordable Energy*	0	0	0	0	74	0	160	466	1,543	4,424	5,035	5,461	5,159	7,717	30,019
Home Insulation	0	0	0	0	357	1,776	2,899	2,735	2,925	2,215	2,108	1,414	1,117	1,352	18,897
Water & Energy Saver	0	0	0	0	0	0	0	40	681	1,026	777	761	813	4,099	8,587
Solar Hot Water Heater Pilot	0	0	0	0	0	0	0	0	0	0	0	1	1	4	4
	0	0	0	0	431	1,776	3,059	3,201	4,507	7,320	8,160	7,643	7,039	9,882	53,018
DISCONTINUED/COMPLETED															
Programmable Thermostat	0	0	0	0	0	186	128	38	1	0	0	0	0	0	352
New Home	0	11	67	85	58	90	135	0	86	108	64	5	0	0	709
High Efficiency Furnace/Boiler	0	0	0	0	551	1,272	2,064	3,147	1,521	31	0	0	0	0	8,587
	0	11	67	85	609	1,549	2,327	3,185	1,608	138	64	5	0	0	9,649
RESIDENTIAL TOTAL	0	11	67	85	1,041	3,324	5,386	6,386	6,115	7,458	8,224	7,648	7,039	9,882	62,667
COMMERCIAL															
Commercial Insulation**	0	0	0	0	0	604	883	1,004	1,234	2,190	1,755	1,110	1,728	2,071	12,200
Commercial Windows**	0	0	0	0	99	1,072	1,467	1,651	1,712	1,118	1,005	1,110	1,106	1,102	10,702
Commercial New Buildings	0	0	0	0	134	273	467	714	998	1,095	1,095	798	964	1,244	10,446
Commercial Kitchen Appliances	0	0	0	0	0	0	0	142	107	102	109	1,085	198	336	2,219
Commercial Custom Measures	0	0	0	0	0	0	0	16	54	29	47	27	15	162	351
Commercial Building Optimization	0	0	0	0	72	221	154	156	232	203	118	92	125	76	1,374
	0	0	0	0	171	1,333	2,843	3,149	3,653	4,975	4,290	4,795	4,580	5,389	35,177
DISCONTINUED/COMPLETED															
Commercial Hot Water	0	0	0	0	0	0	0	0	22	31	14	0	2	44	113
Power Smart Shops	0	0	0	0	0	1	15	80	94	12	0	1	1	4	208
Power Smart Energy Manager	0	0	0	0	0	0	116	94	70	0	51	0	1	1	333
Commercial Rinsing & Save	0	0	0	0	0	123	54	121	27	21	1	0	0	0	347
City of Winnipeg Power Smart Agreement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Clothes Washers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	123	170	230	199	145	79	1	4	50	1,001
COMMERCIAL EXPLORATORY PROGRAMS															
Heat Recovery Ventilation	0	0	0	0	0	0	0	0	0	4	11	0	0	6	20
	0	0	0	0	0	0	0	0	0	4	11	0	0	6	20
INDUSTRIAL															
Natural Gas Optimization	0	0	0	0	171	1,456	3,013	3,379	3,851	5,125	4,379	4,795	4,584	5,444	36,198
	0	0	0	0	97	35	282	332	593	696	708	754	480	587	4,564
INDUSTRIAL TOTAL	0	0	0	0	97	35	282	332	593	696	708	754	480	587	4,564
EFFICIENCY PROGRAMS SUBTOTAL	0	11	67	85	1,308	4,816	8,680	10,097	10,560	13,278	13,311	13,198	12,103	15,914	103,429
CUSTOMER SELF-GENERATION															
Bioenergy Optimization	0	0	0	0	0	0	13	8	0	0	0	0	0	0	21
	0	0	0	0	0	0	13	8	0	0	0	0	0	0	21
PROGRAMS SUBTOTAL	0	11	67	85	1,308	4,816	8,693	10,104	10,560	13,278	13,311	13,198	12,103	15,914	103,450
Support Costs***	684	488	459	702	1,077	2,169	1,785	1,784	1,842	1,285	1,746	1,394	967	1,070	17,453
UTILITY COST OF PROGRAMS	684	489	526	787	2,385	6,985	10,478	11,888	12,402	14,563	15,057	14,592	13,070	16,984	120,903

Note: Subtotals may not be exact due to rounding.
 ** Includes Affordable Energy Fund and Furnace Replacement Budget expenditures.
 *** Programs comprise the Commercial Building Envelope Program.
 *** Support Costs include Affordable Energy Fund spending.

Administration Cost (1000s in Nominal\$)
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	Cumulative Total 2014/15
RESIDENTIAL															
Affordable Energy*	0	0	0	0	74	0	138	128	182	4,096	4,501	5,035	4,809	1,778	20,740
Water & Energy Saver	0	0	0	0	0	0	0	0	40	125	596	729	540	558	2,589
Home Insulation	0	0	0	162	508	743	593	468	465	519	185	185	187	382	4,242
Solar Hot Water Heater Pilot	0	0	0	0	0	0	0	0	0	0	0	1	1	1	4
DISCONTINUED/COMPLETED															
High Efficiency Furnace/Boiler	0	0	0	0	249	279	437	353	194	17	0	0	0	0	1,528
New Home	0	11	67	70	19	30	48	0	15	0	17	1	0	0	279
Programmable Thermostat	0	0	0	0	106	92	18	1	0	0	0	0	0	0	217
	0	11	67	70	268	414	578	371	209	17	17	1	0	0	2,251
RESIDENTIAL TOTAL	0	11	67	70	505	922	1,458	1,092	900	4,733	5,633	5,951	5,537	2,719	29,826
COMMERCIAL															
Commercial HVAC	0	0	0	0	99	273	289	249	344	259	288	327	314	423	2,865
Commercial Insulation**	0	0	0	0	0	72	74	172	174	218	270	114	93	136	1,323
Commercial Custom Measures	0	0	0	0	0	0	0	0	57	59	92	95	139	123	564
Commercial Windows**	0	0	0	0	78	83	121	140	167	174	99	69	69	104	1,035
Commercial New Buildings	0	0	0	0	0	0	142	107	119	125	337	89	99	99	1,018
Commercial Kitchen Appliances	0	0	0	0	0	0	8	23	10	27	19	9	83	180	80
Commercial Building Optimization	0	0	0	0	72	221	154	115	153	152	80	68	77	76	1,168
DISCONTINUED/COMPLETED															
Commercial Hot Water	0	0	0	0	171	644	600	807	999	984	1,056	1,059	790	1,043	8,153
Power Smart Shops	0	0	0	0	0	0	1	15	79	92	12	0	2	44	113
Power Smart Energy Manager	0	0	0	0	0	0	116	92	70	0	51	0	1	1	205
Commercial Insite & Save	0	0	0	0	50	30	25	17	2	1	0	0	0	1	330
City of Winnipeg Power Smart Agreement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	127
Commercial Clothes Washers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COMMERCIAL EXPLORATORY PROGRAMS															
Heat Recovery Ventilation	0	0	0	0	0	0	0	0	0	0	11	0	0	6	16
	0	0	0	0	0	0	0	0	0	0	11	0	0	6	16
INDUSTRIAL															
COMMERCIAL TOTAL	0	0	0	0	171	694	747	939	1,188	1,109	1,146	1,059	794	1,099	8,944
Natural Gas Optimization	0	0	0	0	97	35	90	86	164	117	173	244	201	150	1,357
	0	0	0	0	97	35	90	86	164	117	173	244	201	150	1,357
EFFICIENCY PROGRAMS SUBTOTAL	0	11	67	70	772	1,652	2,295	2,118	2,251	5,959	6,951	7,254	6,532	3,968	40,127
CUSTOMER SELF-GENERATION															
Bioenergy Optimization	0	0	0	0	0	0	13	8	0	0	0	0	0	0	21
	0	0	0	0	0	0	13	8	0	0	0	0	0	0	21
PROGRAMS SUBTOTAL	0	11	67	70	772	1,652	2,308	2,126	2,251	5,959	6,951	7,254	6,532	3,968	40,148
Support Costs***	684	488	459	702	1,077	2,169	1,785	1,784	1,842	1,285	1,746	1,394	967	1,070	17,453
ADMINISTRATION COSTS OF PROGRAMS	684	499	526	772	1,849	3,822	4,092	3,909	4,093	7,244	8,697	8,649	7,499	5,038	57,600

Note: Subtotal may not be exact due to rounding.
 * Includes Affordable Energy Fund and Furnace Replacement Budget expenditures.
 ** Programs comprise the Commercial Building Envelope Program.
 *** Support Costs include Affordable Energy Fund spending.

Incentive Costs (1000s in Nominal\$)
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	Cumulative Total 2014/15
RESIDENTIAL															
Affordable Energy*	0	0	0	0	0	0	22	338	1,360	328	525	417	350	5,939	9,278
Home Insulation	0	0	0	0	195	1,267	2,156	2,142	2,457	1,720	1,589	1,229	931	970	14,655
Water & Energy Saver	0	0	0	0	0	0	0	0	0	556	430	47	222	255	1,510
Solar Hot Water Heater Pilot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISCONTINUED/COMPLETED															
High Efficiency Furnace/Boiler	0	0	0	0	303	994	1,627	2,794	1,327	14	0	0	0	0	7,059
New Home	0	0	0	15	39	60	86	0	71	108	47	4	0	0	431
Programmable Thermostat	0	0	0	0	80	36	20	0	0	0	0	0	0	0	136
	0	0	0	15	341	1,134	1,749	2,814	1,398	122	47	4	0	0	7,625
RESIDENTIAL TOTAL	0	0	0	15	536	2,402	3,927	5,294	5,216	2,725	2,591	1,697	1,502	7,163	33,068
COMMERCIAL															
Commercial Insulation**	0	0	0	0	0	333	729	833	1,060	1,972	1,485	995	1,635	1,935	10,977
Commercial Windows**	0	0	0	0	45	190	338	634	823	921	699	895	895	1,140	5,686
Commercial HVAC	0	0	0	0	311	1,323	1,122	768	959	629	890	971	922	922	7,895
Commercial New Buildings	0	0	0	0	0	0	0	0	73	74	708	108	237	1,201	
Commercial Kitchen Appliances	0	0	0	0	0	0	8	31	19	20	8	6	6	79	171
Commercial Custom Measures	0	0	0	0	0	0	0	0	82	94	66	411	125	32	810
Commercial Building Optimization	0	0	0	0	0	0	0	42	79	52	38	24	48	0	282
	0	0	0	0	689	2,243	2,342	2,654	3,991	3,234	3,736	3,788	4,346	4,346	27,022
DISCONTINUED/COMPLETED															
Commercial Rinse & Save	0	0	0	0	73	24	96	9	18	0	0	0	0	0	220
Power Smart Shops	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
Power Smart Energy Manager	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
City of Winnipeg Power Smart Agreement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Clothes Washers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Hot Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	73	24	98	10	20	0	0	0	0	0	225
COMMERCIAL EXPLORATORY PROGRAMS															
Heat Recovery Ventilation	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
INDUSTRIAL															
Natural Gas Optimization	0	0	0	0	0	762	2,266	2,440	2,664	4,016	3,234	3,737	3,788	4,346	27,252
	0	0	0	0	0	212	265	461	616	554	519	278	278	438	3,343
	0	0	0	0	0	212	265	461	616	554	519	278	278	438	3,343
EFFICIENCY PROGRAMS SUBTOTAL	0	0	0	15	536	3,163	6,406	7,998	8,340	7,356	6,378	5,953	5,569	11,947	63,663
CUSTOMER SELF-GENERATION															
Bioenergy 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
PROGRAMS SUBTOTAL	0	0	0	15	536	3,163	6,406	7,998	8,340	7,356	6,378	5,953	5,569	11,947	63,663
Support Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INCENTIVE COSTS OF PROGRAMS	0	0	0	15	536	3,163	6,406	7,998	8,340	7,356	6,378	5,953	5,569	11,947	63,663

Note: Subtotals may not be exact due to rounding.
 *Includes Affordable Energy Fund and Furnace Replacement Budget expenditures.
 ** Programs comprise the Commercial Building Envelope Program.

Appendix O

Electric DSM Support Programs - Utility Costs

	2000/01	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	Cumulative Total 2014/15
RESIDENTIAL																
Power Smart Residential PAYS	0	0	0	0	0	0	0	0	0	0	0	27	229	43	27	325
Smart Meter Program	0	2	20	20	343	872	920	71	10	70	10	183	123	60	46	1,231
Residential Earth Power Loan	0	0	47	97	343	872	920	71	207	160	102	83	123	238	466	2,231
	45	78	66	105	343	873	(83)	69	201	88	66	83	281	239	641	2,191
DISCONTINUED/COMPLETED																
ecoENERGY	0	0	0	0	(10)	(42)	71	163	(19)	141	101	112	(29)	1	0	489
Solar Water Heating	0	0	0	0	(10)	(42)	71	163	(19)	148	101	112	(29)	1	0	495
RESIDENTIAL TOTAL	45	78	66	105	333	831	(12)	232	182	236	166	196	252	239	641	2,886
COMMERCIAL																
Power Smart for Business PAYS	0	0	0	0	0	0	0	0	0	0	0	0	123	76	131	329
DSM SUPPORT PROGRAMS SUB TOTAL	45	78	66	105	333	831	(12)	232	182	236	166	196	376	315	67	3,215

Note: Subtotals may not be exact due to rounding.



Utility Costs for Support, Basic Information Services, DSM Support Programs & Standards (1 000s in Nominals)
 Electric DSM Support 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	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	Cumulative Total 2014/15
DSM SUPPORT PROGRAMS																											
DSM Support Programs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67
BASIC INFORMATION SERVICES																											
Basic Information Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	315
Discontinued/Completed Basic Information Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,308
SUPPORT COSTS																											
Power Smart Communications	-	9	698	1,494	1,064	520	687	648	566	490	696	622	173	507	463	898	616	588	615	1,122	858	794	779	666	754	734	
Integrated Plan/Tariffs	-	19	475	235	214	205	208	63	31	82	161	96	35	360	267	70	23	93	90	172	254	166	210	127	260	416	
DSM Administration	-	206	210	178	130	95	116	184	72	40	100	130	186	303	208	236	208	159	247	206	206	220	208	178	360	4,330	
Customer Awareness & Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,811
Sourceability & Standards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	348
Power Smart for Business	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,414
External Evaluations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	234
Energy Efficient Screening Studies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,092
Power Smart Sales Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89
Energy Efficient Tech - Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	272
Earth Boring & Emerging Tech - Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	106
Process Evaluations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61
Commercial Audits	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42
DSM Tracking System	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
Residential Earth Power Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31
Alternative Geothermal Financing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25
Retrofit Demonstrations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	179
DSM Market Potential Study	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90
Discontinued/Completed Support Costs	-	-	945	789	421	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9
	-	234	2,327	2,858	1,863	1,100	1,263	1,027	797	709	1,018	923	568	1,386	1,002	1,247	1,065	4,556	4,557	3,506	2,714	1,677	1,564	1,618	2,237	2,644	
TOTAL SUPPORT, DSFs & STANDARDS																											
	-	234	2,340	2,864	2,064	1,178	1,434	1,181	955	1,256	1,830	2,571	2,300	3,055	3,152	3,609	3,979	5,881	6,206	5,437	4,716	3,365	3,672	3,336	3,859	4,090	

Note: Subtotals may not be exact due to rounding.

Appendix P

Natural Gas DSM Support Programs - Utility Costs

Utility Costs (1000s in Nominal\$) Natural Gas DSM Support 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	Cumulative Total 2014/15
RESIDENTIAL															
Power Smart Residential PAYS	-	-	-	-	-	-	-	-	-	-	18	425	90	91	624
Residential Earth Power Loan	431	112	50	(5)	15	179	(22)	(108)	(655)	(702)	(545)	(646)	111	(20)	181
Power Smart Residential Loan	431	112	50	(5)	15	179	(22)	(108)	(655)	(702)	(491)	(167)	(563)	(404)	(2862)
DISCONTINUED/COMPLETED															
ecoENERGY	248	287	289	346	(10)	637	489	(108)	566	382	470	(116)	2	0	3,481
Solar Water Heating	248	287	289	346	(10)	637	489	(108)	567	382	470	(116)	2	0	3,483
RESIDENTIAL TOTAL	679	398	339	341	5	816	467	(216)	(88)	(320)	(21)	(283)	(360)	(333)	1,425
COMMERCIAL															
Power Smart for Business PAYS	-	-	-	-	-	-	-	-	-	-	-	151	92	33	276
DSM SUPPORT PROGRAMS SUBTOTAL	679	398	339	341	5	816	467	(216)	(88)	(320)	(21)	(133)	(267)	(300)	1,701

Note: Subtotals may not be exact due to rounding.

Utility Costs for Support, Basic Information Services, DSM Support Programs & Standards (1000s in Nominal \$)

	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	Cumulative Total 2014/15
DSM SUPPORT PROGRAMS	679	398	339	341	-216	467	-88	-320	-21	430	19	-133	-267	-300	1,701
DSM Support Programs	173	196	214	484	512	689	648	636	463	430	19	-133	-267	7	5,220
BASIC INFORMATION SERVICES	-	-	-	-	4	-	-	-	-	-	-	-	-	-	20
Basic Information Services	-	-	-	-	4	-	-	-	-	-	-	-	-	-	20
Discontinued/Completed Basic Information Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUPPORT COSTS	-	-	-	-	332	392	410	918	702	529	519	545	251	315	4,913
Power Smart Communications	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power Smart Residential Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power Smart for Business	-	-	-	-	-	103	141	132	42	79	98	262	422	314	1,218
External Evaluations	-	-	-	-	-	-	-	-	-	158	126	140	103	145	1,179
Integrated Plans/Targets	-	-	-	-	72	62	60	141	208	111	140	104	87	104	1,087
Sustainability & Standards	-	-	-	-	82	153	89	102	155	111	88	136	106	103	1,124
Process Evaluations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	93
DSM Administration	-	-	-	-	138	139	106	202	168	146	190	145	120	87	1,442
Energy Efficient Screening Studies	-	-	-	-	-	-	-	-	8	34	33	37	43	54	210
Earth Energy & Emerging Tech - Residential	-	-	-	-	-	-	-	-	-	-	-	-	26	20	46
Commercial Audits	-	-	-	-	16	19	10	-	-	-	4	-	14	3	86
DSM Tracking System	-	-	-	-	2	2	4	1	16	53	53	71	5	2	206
Retrofit Demonstrations	-	-	-	-	75	-	-	-	-	-	-	-	-	-	80
DSM Market Potential Study	-	-	-	-	-	-	-	-	-	-	-	-	79	40	266
Discontinued/Completed Support Costs	-	-	-	-	-	0	-	-	-	-	-	-	-	-1	0
TOTAL SUPPORT COSTS, DSPs & STANDARDS	853	595	553	825	1,236	2,441	1,970	1,927	1,978	1,366	1,806	1,419	967	1,070	19,007

Note: Subtotals may not be exact due to rounding.