Needs For and Alternatives To

APPENDIX E

2013 - 2016 Power Smart Plan

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2013 - 2016
Power Smart Plan

An overview of Manitoba Hydro's energy efficiency initiatives for the next three years.

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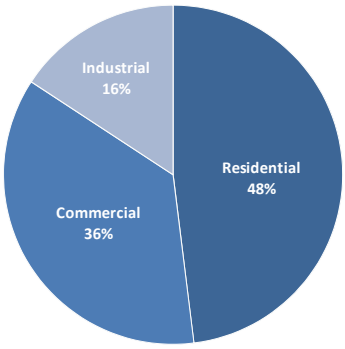
Highlights

Manitoba Hydro has been successfully delivering demand side management (DSM) for over twenty years in an effort to meet the energy needs of Manitoba in a more sustainable manner while assisting customers to use energy more efficiently and to reduce their energy bills. Manitoba Hydro has a strong commitment to DSM with a focus on pursuing all cost effective energy efficiency opportunities and continually monitoring the market for emerging trends and opportunities which may become economically viable. Manitoba Hydro's efforts on energy efficiency have been recognized by the Canadian Energy Efficiency Alliance (CEEA) in its Report Card on Energy Efficiency. Manitoba received an A+ in the last Report Card issued in August 2010, which was Manitoba's fourth consecutive first place rating. This document outlines the Power Smart Plan for the next three years: April 2013 through to March 31, 2016.

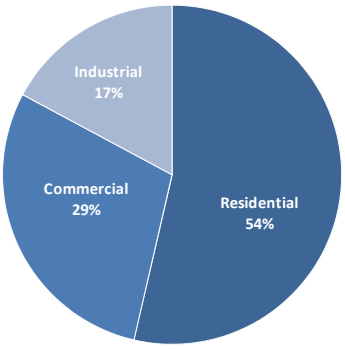
Electric DSM

- Targeted electric savings of 280 MW and 510 GW.h over the next 3 years.
- This activity represents 2.0% of the estimated load forecast by 2015/16.
- Combined with savings achieved to date, total electrical savings of 685 MW and 2,407 GW.h are expected to be achieved to 2015/16.
- These energy savings are equivalent to approximately 80% of the firm generation capability of Keeyask Generation Station or 1/3rd of the electrical energy needs of Winnipeg (excluding industrial customers).

Electric Energy Savings (cumulative to 2015/16)



Natural Gas Energy Savings (cumulative to 2015/16)



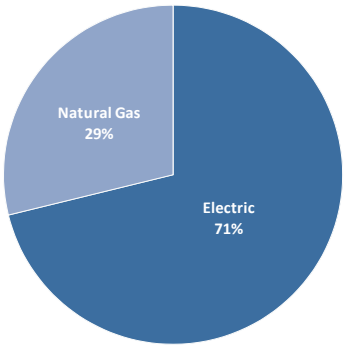
Natural Gas DSM

- Targeted natural gas savings of 30 million cubic meters over the next 3 years.
- This activity represents 1.5% of the estimated load forecast by 2015/16.
- Combined with savings achieved to date, total natural gas savings of 112 million cubic meters are expected to be achieved to 2015/16.
- These energy savings are equivalent to about 2.5 times the natural gas needs of Brandon (excluding industrial customers) or enough natural gas to serve over 46 000 homes.

Codes & Standards

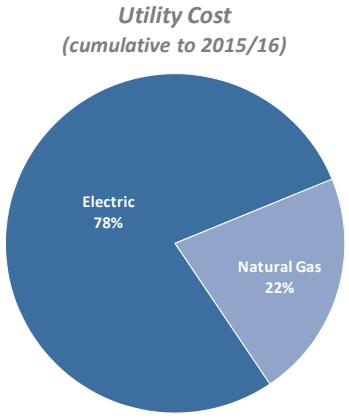
- Included in the DSM targets are electric savings of 52 MW and 222 GW.h and natural gas savings of 8 million cubic meters over the next 3 years.
- These energy savings result from codes and standards currently in place along with new codes and standards in the areas of residential lighting and appliances which will come into effect over the next 3 years.
- Combined with past efforts, electric savings of 184 MW and 797 GW.h and natural gas savings of 16 million cubic meters are expected to be achieved by 2015/16.

Codes & Standards Energy Savings (cumulative to 2015/16)



Investment in DSM

- Over the next 3 years, Manitoba Hydro will invest $104 million on Power Smart incentive based programs with an expected cumulative utility investment of $491 million by 2015/16.
- Including other program support and contingency costs, Manitoba Hydro will invest $127 million on Power Smart initiatives, with an expected cumulative utility investment of $663 million by 2015/16.
- Including participating customer costs, an investment of $162 million (only incentive based programs) is forecasted, with an expected total investment of $881 million by 2015/16, equivalent to approximately 50% of the capital cost of the Wuskwatim Generation Station. Customer investments through codes and standards, financing services, and other Power Smart drivers have not been estimated.

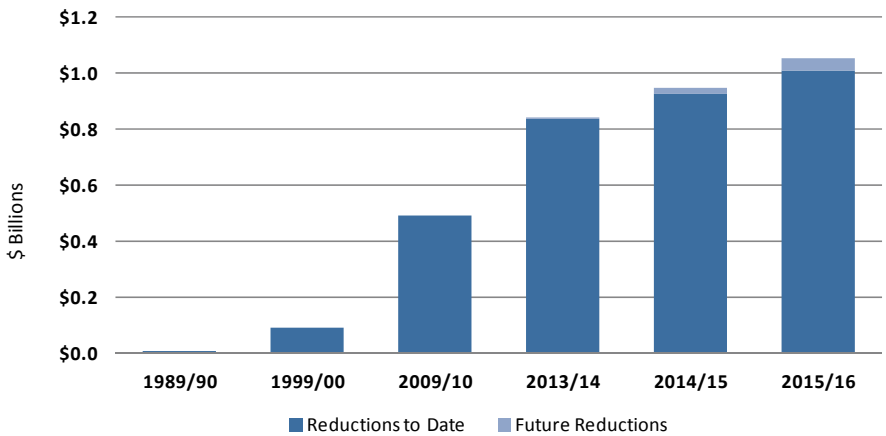


Greenhouse Gas Emission Reductions

- Targeted greenhouse gas emission reductions of 400,000 tonnes over the next 3 years.
- Including reductions achieved to date, 1.8 million tonnes are forecast to be achieved by 2015/16 which is equivalent to taking 410 000 cars off the road for one year.

Customer Bill Reductions

- Power Smart programs will save participating customers an additional $45 million in electricity and natural gas bills during 2015/16.
- Including bill reductions achieved to date, participating customers will save $1.1 billion cumulatively on electric and natural gas bills during 2015/16.



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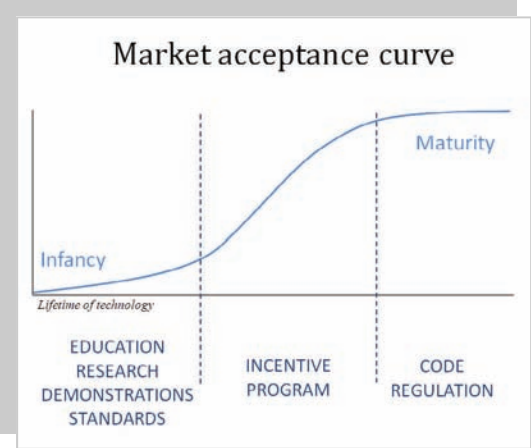
DSM Strategy

Manitoba Hydro's DSM strategy is to aggressively pursue all cost effective energy efficiency opportunities and continually monitor the market to identify emerging trends and opportunities which may become viable and cost effective DSM initiatives within the planning horizon.

Manitoba Hydro's DSM initiative, marketed under the Power Smart brand, is designed to encourage the efficient use of energy in residential, commercial, and industrial customer sectors. Manitoba Hydro's overall DSM strategy involves taking a broad approach to capturing energy efficiency opportunities: education to build awareness and understanding; creating foundations through the support of standards; motivating customers with the aid of financial tools; and entrenching energy savings through the support of federal and provincial codes and regulations.

In assessing options for pursing a DSM opportunity, Manitoba Hydro uses a number of metrics as guidelines to assess energy efficient opportunities. These metrics assist in determining whether to pursue an opportunity, how aggressive an opportunity will be pursued, the effectiveness of program design options and the relative investment sharing between ratepayers and participating customers. These metrics include the Total Resource Cost, Societal Cost, Rate Impact Measure, Levelized Utility Cost, and Customer Simple Payback. In addition to quantitative assessments, Manitoba Hydro also considers various qualitative factors including equity (i.e. reasonable participation by various ratepayer sectors such as lower income) and overall contribution towards having a balanced energy conservation strategy and plan.

Manitoba Hydro takes a three stage approach to achieving market transformation as outlined in the following graph. In the infancy stage of emerging opportunities, Manitoba Hydro supports these technologies by building customer awareness, demonstrations and/or through investments in research and development. As market acceptance increases and the opportunity becomes cost effective, financial incentives and/or other market intervention strategies are pursued to encourage customers to install the technology. As the product matures and market adoption grows, incentive based programming generally becomes uneconomic. During this phase, Manitoba Hydro's strategy involves pursuing the remaining opportunities through the adoption of codes and regulations. This latter strategy also ensures permanent market transformation for the specific energy efficiency opportunity.



An Example: Changing Furnace Efficiencies in Manitoba

In 2001, only 30% of all natural gas furnaces being installed in Manitoba were high-efficient models and customer awareness of higher efficiency options was low. In response to this market situation, Manitoba Hydro launched the Power Smart Residential Loan and supporting Home Comfort and Energy Savings campaign to educate and promote the installation of high efficient natural gas furnaces. This approach laid the foundation for customers to consider the energy efficient alternative, and provided a tool for contractors to promote this technology.

In 2005 to further increase market acceptance, a $245 incentive was introduced to encourage customers to choose high efficient natural gas furnaces over the less efficient alternative. By 2007, high efficiency furnaces had grown to represent 76% of all furnaces being replaced in Manitoba homes. In 2008, to accelerate the number of customers upgrading their furnaces, Manitoba Hydro increased their rebate to $500 for a limited time offering and aggressively promoted the financial and comfort benefits of upgrading a furnace.

As market acceptance increased, Manitoba Hydro worked with the Province of Manitoba to develop the framework to regulate the minimum efficiency of all natural gas furnaces installed in Manitoba. On December 30, 2009, with market penetration of 86%, the Power Smart incentive ended and the Provincial regulation took effect requiring a minimum 92% AFUE for natural gas furnaces installed in Manitoba.

Power Smart Plan

Manitoba Hydro's Power Smart Plan is a roadmap for the future direction of the Corporation's energy conservation program. It was developed through an intensive planning process that builds on the Corporation's experience and continuous involvement in energy conservation since 1989. The Power Smart portfolio offers programs and initiatives to pursue opportunities in all market sectors; residential, commercial and industrial. These programs are designed based on having an in-depth knowledge of the technology and the market environment. An in-depth understanding is essential to ensure that the program design is adequately and effectively addressing the appropriate target market and contains the tools and strategies to address market barriers.

The following table outlines the forecasted achievements of this three year plan.

	1989/90 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
Capacity Savings (MW)	404.4	200.7	238.7	280.2	**684.6**
Energy Savings (GW.h)	1,897.1	174.4	335.5	509.5	**2,406.6**
Natural Gas Savings (million m^3)	82.2	10.0	20.2	30.0	**112.3**
Utility Investment (Millions, 2012$)	$536.6	$45.3	$42.0	$39.2	**$663.1**
Customer Investment (Millions, 2012$)	$182.4	$13.8	$10.0	$11.4	**$217.5**
Total DSM Investment (Millions, 2012$)	$719.0	$59.2	$51.9	$50.6	**$880.7**

** Includes estimates for 2012/13*

Residential

Manitoba Hydro offers a number of incentive based and financial support programs to address opportunities in the residential market.

Incentive Based Programs

Home Insulation Program

The Home Insulation Program is a 13 year program launched in May 2004 to encourage homeowners to upgrade insulation levels and air sealing in their homes' attics, walls, and foundations. Upgrading insulation offers significant energy savings, reduces customer's monthly utility bills, and provides a more comfortable living space.

The program targets existing electric and natural gas heated homes with fair or poor insulation levels; approximately 30 000 electric homes and 118 000 natural gas homes at the start of the program (excluding homes targeted by the Lower Income Energy Efficiency Program). The program has been designed to address barriers to the adoption of energy efficient insulation which include the lack of customer awareness regarding the financial and comfort benefits of increased insulation levels, the upfront capital cost of the upgrade, and the lack of priority when compared to more aesthetic and visible renovation projects. These market barriers are addressed through a comprehensive strategy that includes financial incentives to reduce the upfront cost of the upgrade, informational materials in the form of advertising campaigns, and renovation "how to" booklets which provide technical guidance for upgrading insulation to Power Smart levels. Power Smart on-bill financing programs are also promoted to provide additional encouragement for customers that are reluctant to consider allocating their renovation budget towards adding insulation to their home. Homeowners with technical barriers to upgrading insulation such as finished basements, landscaping and existing wall configurations are encouraged to consider an upgrade as a component to an already planned renovation, for example adding insulation to an exterior wall as part of a re-siding project.

To date, approximately 10 380 electric and 21 165 natural gas homes have undertaken insulation upgrades. The program is forecast to reach 40% of targeted electric customers and 25% of targeted gas customers by 2015/16 and is on target to reach 42% of targeted electric customers and 27% of targeted natural gas customers by program end in 2016/17.

	2004/05 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Houses (annual)	31,545	2,771	2,644	2,523	**39,483**
Capacity Savings (MW)	22.7	2.0	3.8	5.3	**28.0**
Energy Savings (GW.h)	46.8	3.6	6.9	9.8	**56.6**
Natural Gas Savings (million m^3)	10.9	1.0	2.0	2.9	**13.8**
Utility Investment (Millions, 2012$)	$32.7	$2.9	$2.8	$2.7	**$41.0**
Customer Investment (Millions, 2012$)	$19.1	$1.8	$1.7	$1.8	**$24.4**
Total DSM Investment (Millions, 2012$)	$51.8	$4.6	$4.5	$4.5	**$65.4**
Estimated Average Annual Bill Reduction per Customer (Electric): $301					
Estimated Average Annual Bill Reduction per Customer (Natural Gas): $170					

** Includes estimates for 2012/13*

Lower Income Energy Efficiency Program (LIEEP)

The Lower Income Energy Efficiency Program (LIEEP) was launched in December 2007. The program's objective is to assist lower income homeowners in implementing energy efficiency upgrades, such as improved insulation, high efficiency natural gas furnaces and various low cost measures. These upgrades can provide significant energy savings, decreasing the customer's monthly energy bills while increasing the comfort of their home. The criteria for determining program eligibility are the Low Income Cut-Off (LICO) thresholds set by Statistics Canada; customers' total household income must fall below 125% of the LICO thresholds for inclusion in the program. There are approximately 82 000 homes in Manitoba, excluding multi-unit residential buildings, which fall below the LICO 125% threshold; 74 000 of customers own their home, while 8 000 customers rent. The primary targets within this market are homes with poor or fair insulation levels and standard efficient furnaces. They make up 23% (19 065) and 22% (18 319) of the market, respectively.

The program was designed recognizing the unique barriers lower income customers face in completing energy efficiency retrofits. Manitoba Hydro assists and encourages participation in this market by minimizing the financial burden with free insulation upgrades and provision of a low cost high efficiency natural gas furnace replacement, along with free low cost items (e.g. CFLs, caulking, faucet aerators). To further encourage participation, the program is delivered through a number of approaches: direct participation with individual customers or through community groups (e.g. First Nations', Neighbourhood communities, social enterprises). Through these approaches customers are made aware of the value of energy efficiency retrofits, along with the benefits of participating in the program. Customers are targeted through advertising and community-based campaigns, customized information sessions and community networks. A community led initiative, the Neighbourhood Approach, began in fall 2012 with the goal of completing energy efficiency upgrades on a block-by-block basis in lower income neighbourhoods. Under this approach, North End Community Renewal Corporation and Brandon Neighbourhood Renewal Corporation employ local residents and social enterprises, Building Urban Industries for Local Development (BUILD) and Manitoba Green Retrofit and Inner City Renovation, to bring energy efficiency upgrade opportunities direct to the customer's door.

To date, an estimated 6 781 energy efficiency retrofits have been completed. Of the total retrofits, 4 692 insulation projects have been completed and 2 555 furnaces have been replaced. The program is forecast to reach 31% (5 830) of the targeted poor or fair insulation homes and 30% (5 526) of standard furnaces within the total LICO 125% market by 2015/16.

	2007/08 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
Total Participation (annual)	6,781	2,497	2,195	2,271	**13,744**
No. of Insulation Projects (annual)	4,692	1,750	1,815	1,883	**10,141**
No. of Furnaces Installed (annual)	2,555	900	937	1,018	**5,410**
Capacity Savings (MW)	3.7	1.1	2.1	3.1	**6.8**
Energy Savings (GW.h)	9.3	2.8	5.4	7.9	**17.2**
Natural Gas Savings (million m^3)	3.3	1.2	2.4	3.5	**6.9**
Utility Investment (Millions, 2012$)	$24.1	$7.2	$7.1	$6.4	**$44.9**
Customer Investment (Millions, 2012$)	$12.3	$1.0	$0.8	$0.6	**$14.8**
Total DSM Investment (Millions, 2012$)	$36.5	$8.2	$7.9	$7.1	**$59.7**
Estimated Average Annual Bill Reduction per Customer - Basic Measures: $31					
Estimated Average Annual Bill Reduction per Customer (Electric) - Insulation: $923					
Estimated Average Annual Bill Reduction per Customer (Natural Gas) - Insulation: $414					
Estimated Average Annual Bill Reduction per Customer (Natural Gas) - Furance: $285					

** Includes estimates for 2012/13*

Water and Energy Saver Program

The Power Smart Water and Energy Saver Program is a 5 year program launched in September 2010. Its primary objective is to reduce residential water heating energy consumption through the use of low flow, energy efficient plumbing fixtures. Customers are offered a free water and energy saver kit with program messaging focused on the energy and water benefits of energy efficient plumbing fixtures. The program offers three channels of participation: mail, targeted direct installation and a bulk mail option for residential property managers of multi-unit residential facilities.

The target market includes all residential dwellings that use electricity or natural gas to heat water, totaling 515 000 customers. A lack of awareness of the benefit of energy plumbing efficient fixtures and for some customers a general perception that their fixtures are already energy efficient, combined with limited availability and selection of Power Smart qualifying products at local retailers will limit customer adoption of the higher efficiency fixtures. Through advertising and the free kit offering, market acceptance of Power Smart plumbing fixtures will increase.

To date, over 100 000 residential dwellings have participated in the program. The program is on target to reach 31% of targeted homes by program end.

	2010/11 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Houses (annual)	100,597	28,800	28,800	0	**158,197**
Capacity Savings (MW)	1.8	0.7	1.3	1.6	**3.4**
Energy Savings (GW.h)	14.2	3.3	6.6	7.8	**22.0**
Natural Gas Savings (million m^3)	2.5	0.8	1.6	1.9	**4.3**
Utility Investment (Millions, 2012$)	$4.5	$1.5	$1.5	$0.0	**$7.2**
Customer Investment (Millions, 2012$)	$0.0	$0.0	$0.0	$0.0	**$0.0**
Total DSM Investment (Millions, 2012$)	$4.5	$1.5	$1.5	$0.0	**$7.2**
Estimated Average Annual Bill Reduction per Customer (Electric): $6					
Estimated Average Annual Bill Reduction per Customer (Natural Gas): $4					

** Includes estimates for 2012/13*

Refrigerator Retirement Program

The Refrigerator Retirement Program is a 2.5 year program launched in June 2011. The objective of the program is to reduce residential energy consumption through the removal of old, inefficient, and often nearly empty refrigerators and freezers. The program offers free in-home pick-up of qualifying, working units plus a $40 incentive. The target market is residential homes representing approximately 190 000 older second fridges and freezers. Customers can save over $100 per year in electricity costs by removing these units. The program encourages customers to retire their secondary appliance and not replace it in order to maximize savings.

Most customers do not know the costs of operating an underutilized refrigerator or freezer, and many lack assistance in removing the appliance from the home. Through the program, customers are made aware of the costs of their second appliance and the benefits of "retiring" it. The program makes "retiring" easy by providing an in-home pick up service.

To date, over 17 000 units have been retired. The program is forecast to retire 16% of these older units by program end.

	2011/12 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
Total Participation (annual)	17,283	13,600	0	0	**30,883**
No. of Fridges (annual)	15,555	12,240	0	0	**27,795**
No. of Freezers (annual)	1,728	1,360	0	0	**3,088**
Capacity Savings (MW)	1.9	1.9	2.7	2.7	**4.6**
Energy Savings (GW.h)	19.0	17.3	24.7	24.7	**43.7**
Utility Investment (Millions, 2012$)	$3.9	$2.2	$0.1	$0.0	**$6.2**
Customer Investment (Millions, 2012$)	$2.1	$2.1	$0.0	$0.0	**$4.2**
Total DSM Investment (Millions, 2012$)	$6.0	$4.3	$0.1	$0.0	**$10.4**
Estimated Average Annual Bill Reduction per Customer (Electric) without fridge replacement : $100					
Estimated Average Annual Bill Reduction per Customer (Electric) without freezer replacement : $64					

** Includes estimates for 2012/13*

Support Programs

Manitoba Hydro offers the following convenient financing programs to support the incentive based programs by allowing customers to finance initial Power Smart project costs and pay the costs back on their monthly Manitoba Hydro bill.

Power Smart Residential Loan

The Power Smart Residential Loan (PSRL) was launched in March 2001 to provide customers with convenient on-bill financing to assist in making their home more energy efficient. Under the PSRL, the following energy efficiency improvements qualify: insulation, ventilation equipment, air leakage sealing, windows and doors, and space and water heating equipment.

The target market consists of all electric and natural gas customers in Manitoba. Participants can borrow up to $7 500 ($5 500 for furnaces) and repay the amount on their energy bill. The financial terms include a 5 year fixed interest rate over 5 year term (up to fifteen years for furnaces and boilers.)

	2001/02 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Loans (annual)	70,041	5,500	5,500	5,500	**86,541**
Capacity Savings (MW)	5.1	0.2	0.4	0.6	**5.7**
Energy Savings (GW.h)	9.1	0.4	0.8	1.2	**10.3**
Natural Gas Savings (million m^3)	14.9	0.3	0.7	1.0	**15.9**
Average Loan Amount: $4,700					

** Includes estimates for 2012/13*

Power Smart PAYS Financing

Power Smart PAYS (Pay As You Save) Financing was launched in November 2012. The PAYS Program offers low interest on-bill financing over a term of up to 25 years depending upon the technology financed, with a fixed interest rate for up to 5 years. Energy efficient upgrades that may qualify for financing are:

- Insulation upgrades;
- Space heating equipment (furnaces and boilers);
- Geothermal systems;
- Drainwater heat recovery systems;
- WaterSense toilets (in conjunction with energy efficient equipment).

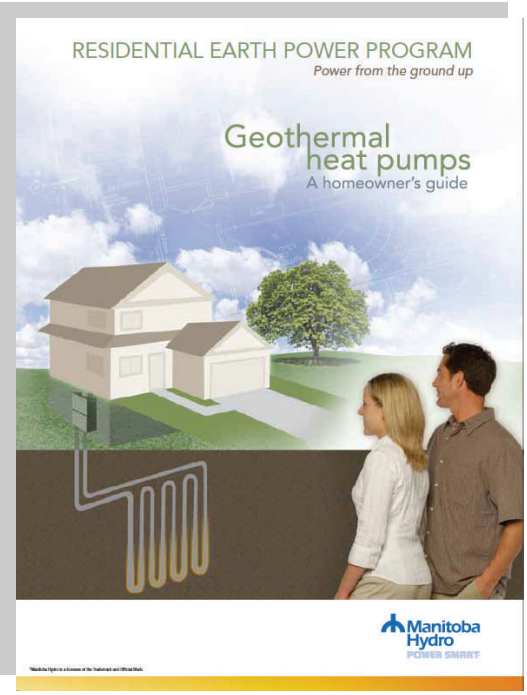
The target market consists of all electric and natural gas customers in Manitoba. This offering compliments and supports existing incentive-based programs by assisting customers in managing the installation cost of their upgrade. To qualify, upgrades must have sufficient estimated annual utility bill savings to offset the monthly financing payment, thereby resulting in a energy bill that is less than or equal to the total bill prior to the retrofit. PAYS financing also differs from Manitoba Hydro's other financing programs in that the loan is transferable between homeowners when a property is sold, and is transferable from a landlord to a tenant where the tenant is responsible for paying the energy bill.

	2012/13 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Loans (annual)	84	400	400	400	**1,284**
Capacity Savings (MW)	0.1	0.2	0.3	0.5	**0.6**
Energy Savings (GW.h)	0.4	0.4	0.7	1.0	**1.3**
Natural Gas Savings (million m^3)	0.0	0.1	0.1	0.2	**0.2**
Average Loan Amount: $3,900					

** Includes estimates for 2012/13*

Residential Earth Power Loan

The Residential Earth Power Loan (REPL) was launched in April 2002 to support the adoption of geothermal heat pump technology. While more expensive to install, geothermal heat pump systems offer significant electricity savings, reducing customers' monthly utility bills. The convenience and flexibility of the on-bill REPL reduces the financial barrier that exists when installing a geothermal heat pump system. The program was also designed to build awareness of emerging technologies and foster new, growing industries supporting these technologies through education materials, technical support and training workshops. Solar hot water systems were added as an eligible technology in 2010.



Customers are eligible for up to $20 000 in financing for installing geothermal heat pump systems or $7 500 in financing for installing solar domestic water heating systems. The financial terms include a 5 year fixed interest rate over a 15 year maximum term. The interest rate for the balance of the financing period is established at Manitoba Hydro's cost of borrowing at the time the fixed interest rate term expires.

	2002/03 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Loans (annual)	1,223	76	87	100	**1,486**
Capacity Savings (MW)	4.1	0.4	0.8	1.2	**5.3**
Energy Savings (GW.h)	15.0	1.7	3.3	5.0	**20.0**
Natural Gas Savings (million m^3)	2.2	0.1	0.2	0.3	**2.6**
Average Loan Amount: $19,750					

** Includes estimates for 2012/13*

Commercial

Manitoba Hydro offers a number of incentive based and one financial support program to address opportunities in the commercial market.

Incentive Based Programs

Commercial Lighting Program

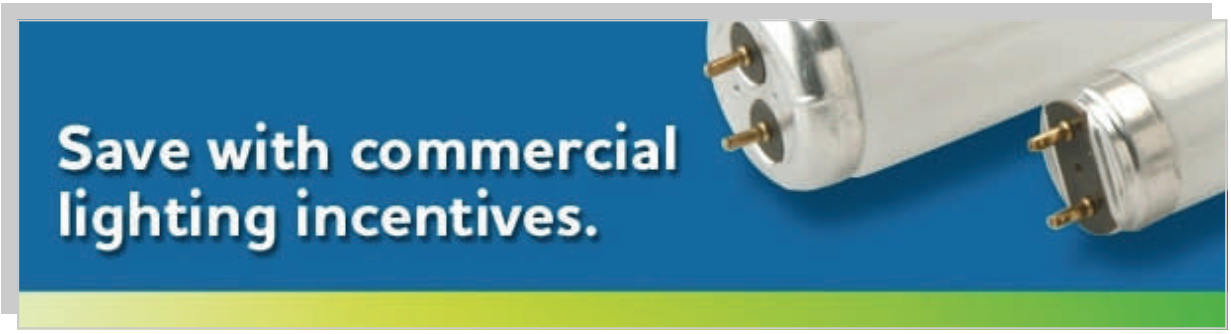
The Power Smart Commercial Lighting Program was launched in May 1992 to reduce electricity consumption by accelerating the acceptance and adoption of energy efficient lighting technologies in Manitoba. Commercial, industrial and agricultural customers are encouraged to install qualifying energy efficient lighting technologies in their facilities to reduce energy bills, improve the quality of lighting, as well as increase safety, security and productivity. The program offers support through the use of educational materials, information seminars and financial incentives.

The target market consists of all commercial, industrial and agricultural existing buildings with inefficient lighting installations in Manitoba, where lighting systems operate a minimum of 2 000 hours per year. New construction projects that do not meet the New Buildings Program Eligibility Criteria may qualify. The estimated market size is 52 500 lighting projects. Many energy efficient lighting options have higher initial capital costs, and often customers have low awareness on the technologies available and the non-energy related benefits of energy efficient lighting, creating a barrier to the adoption of higher efficiency systems. In addition, many customers operate in commercial lease space where the person making decisions on lighting upgrades may not pay the utility bill, and therefore does not realize the direct financial return. Strategies in place to address these market barriers include financial incentives, education and training, as well as hands on technical and customer service support.

To date, over 12 000 energy efficient lighting projects have been completed.. The program is forecast to reach 28% of the target market by the end of 2015/16 and is on target to achieve 37% of the target market by the end of the planning horizon.

	1992/93 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Projects (annual)	12,379	748	721	682	**14,530**
Capacity Savings (MW)	62.1	7.2	13.6	19.3	**81.4**
Energy Savings (GW.h)	337.2	25.9	49.2	69.9	**407.1**
Utility Investment (Millions, 2012$)	$83.8	$6.0	$5.4	$5.2	**$100.4**
Customer Investment (Millions, 2012$)	$35.4	$3.0	$2.6	$2.5	**$43.5**
Total DSM Investment (Millions, 2012$)	$119.3	$8.9	$8.0	$7.7	**$143.9**
Estimated Average Annual Bill Reduction per Customer (Electric): $338					

** Includes estimates for 2012/13*



Commercial Building Envelope - Windows Program

The Power Smart Commercial Building Envelope Program (Windows) has been promoting the benefits of energy efficient windows to commercial customers since 1995. The program's primary objective is to improve building envelope performance and reduce energy consumption through the installation of high performance windows in existing buildings.

The target market consists of all existing commercial customers, primarily focused on sectors such as multi-unit residential facilities, schools, hotel/motel, personal care homes and health care facilities. The program targets facilities planning to replace existing windows, thus presenting an economic opportunity to install higher efficiency Power Smart qualifying windows at the time of replacement.

Market barriers include the incremental product cost of high performance windows, along with the lack of awareness of the significant potential energy savings and other non-energy benefits. Providing financial incentives to help offset incremental material costs, while promoting the benefits of high performance windows is effectively addressing these barriers.

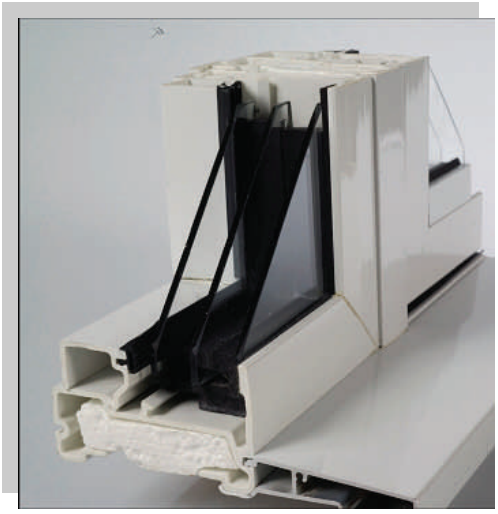
It is estimated that there are approximately 750 potential window replacement projects in Manitoba each year, of a total market of 27 000 potential projects. To date, over 900 energy efficient window projects have been completed. The program is forecast to reach 5% of the target market by the end of 2015/16 and is on pace to achieve 10% of the target market by the end of the planning horizon.

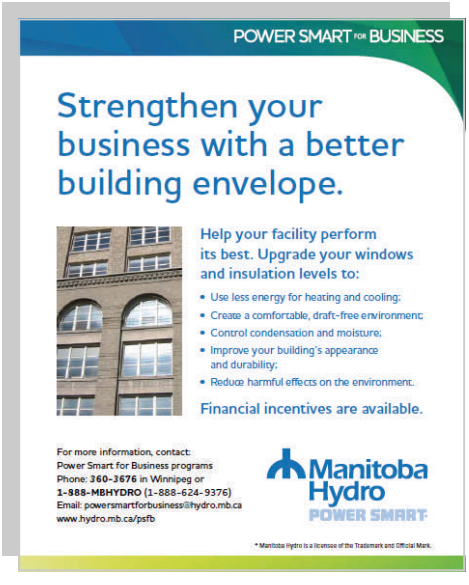
	2006/07 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Projects (annual)	939	180	166	87	**1,373**
Capacity Savings (MW)	6.3	0.8	1.5	2.0	**8.3**
Energy Savings (GW.h)	15.9	2.0	3.7	4.9	**20.8**
Natural Gas Savings (million m^3)	1.5	0.3	0.6	0.8	**2.3**
Utility Investment (Millions, 2012$)	$10.9	$0.9	$0.8	$0.5	**$13.1**
Customer Investment (Millions, 2012$)	$1.7	$0.2	$0.2	$0.0	**$2.1**
Total DSM Investment (Millions, 2012$)	$12.6	$1.0	$0.9	$0.5	**$15.1**

Estimated Average Annual Bill Reduction per Customer (Electric): $945

Estimated Average Annual Bill Reduction per Customer (Natural Gas): $1,607

** Includes estimates for 2012/13*





Commercial Building Envelope - Insulation Program

The Power Smart Commercial Building Envelope Program (Insulation) was launched in April 2006. Its primary objective is to improve building envelope performance and reduce energy consumption by upgrading insulation levels in roof and wall areas of existing buildings.

The target market is comprised of all commercial customers with insulation levels that do not meet Power Smart levels. The program targets facilities planning to undergo extensive repairs to existing roofs and walls, presenting an economic opportunity to improve existing insulation levels at the time of renovation.

Market barriers include the incremental product cost of insulation upgrades, along with the lack of awareness of the significant potential energy savings and other non-energy benefits associated with upgraded insulation levels. Providing financial incentives to help offset incremental material costs while promoting the benefits of better insulated buildings is effectively addressing these barriers.

It is estimated that there are approximately 400 potential insulation replacement projects in Manitoba each year, of a total market of 15 000 potential projects. To date, 648 insulation projects have been completed. The program is forecast to reach 6% of the target market by the end of 2015/16 and is on pace to achieve 10% of the target market by the end of the planning horizon.

	2006/07 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Projects (annual)	648	100	88	65	**901**
Capacity Savings (MW)	7.7	0.9	1.6	2.2	**9.8**
Energy Savings (GW.h)	16.1	2.1	4.0	5.4	**21.5**
Natural Gas Savings (million m^3)	7.8	1.0	1.8	2.5	**10.3**
Utility Investment (Millions, 2012$)	$11.4	$1.9	$1.7	$1.3	**$16.4**
Customer Investment (Millions, 2012$)	$6.9	$0.7	$0.6	$0.5	**$8.6**
Total DSM Investment (Millions, 2012$)	$18.3	$2.6	$2.3	$1.8	**$25.0**
Estimated Average Annual Bill Reduction per Customer (Electric): $1,030					
Estimated Average Annual Bill Reduction per Customer (Natural Gas): $3,778					

** Includes estimates for 2012/13*

Commercial Earth Power Program

The Commercial Earth Power Program was launched in 2007 with the primary objective to encourage the installation of geothermal heat pumps in electrically-heated commercial buildings.

The target market consists of new and existing commercial buildings that use conventional electric technologies for space heating. There are approximately 6 084 existing electrically heated facilities using more than 30 000 kW.h per year in Manitoba, with 243 assumed to replace their electric heating systems each year. The high capital cost of installing a geothermal heat pump system, combined with the available supply of qualified installers and contractors in some regions of the province, challenging drilling and trenching conditions due to varying geological conditions, limited land area of many properties to accommodate the loop installation, and the proximity to the ground loop of underground facilities and services (water and sewer lines that may freeze, etc.) can make choosing geothermal as a heating/cooling option more challenging for the customer. Through the program, customers are provided with information on how the geothermal heat pump technology works, the energy savings available, and other benefits to increase understanding and acceptance of the technology. Financial incentives are offered to help offset the higher capital costs of the system at a rate of $1.25 per square feet of floor area heated by geothermal or $60.00 per MBH (thousands of BTUs per hour) of installed geothermal space heating capacity. Incentives are also available to support feasibility studies to ensure the project meets the heating and cooling needs of the building while achieving the necessary electrical savings to make installing a geothermal heat pump an economic option for the customer. Benefits of geothermal systems and program opportunities are communicated through the broad network of engineers, architects, consultants, contractors, and trade allies in Manitoba who have established relationships with the commercial and industrial customer base.

To date, approximately 121 commercial buildings have installed geothermal systems. The program is forecast to achieve 7% of annual heating systems upgrades being geothermal by 2015/16 and is on target to achieve 9% of annual heating systems upgrades by program end.

	2007/08 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Buildings (annual)	121	17	17	17	**172**
Capacity Savings (MW)	13.7	0.4	0.9	1.3	**15.1**
Energy Savings (GW.h)	32.8	1.9	3.8	5.6	**38.4**
Utility Investment (Millions, 2012$)	$5.4	$0.4	$0.4	$0.4	**$6.4**
Customer Investment (Millions, 2012$)	$15.9	$0.9	$0.9	$0.9	**$18.7**
Total DSM Investment (Millions, 2012$)	$21.3	$1.3	$1.3	$1.3	**$25.2**
Estimated Average Annual Bill Reduction per Customer (Electric): $4,342					

** Includes estimates for 2012/13*

Commercial HVAC Program —Boilers

The Commercial HVAC Program for Boilers is a 9 year program launched in April 2006. The program's primary objective is to transform the commercial boiler market in Manitoba by increasing awareness and adoption of energy efficient condensing and near-condensing boilers. Energy efficient boilers offer significant natural gas savings, reducing customers' monthly utility bills. The program focuses on educating building owners and operators about the benefits of energy efficient equipment and works with industry contractors, engineers, consultants, designers, and equipment dealers to promote these systems. Financial incentives ranging from $2/MBH (thousands of BTUs per hour) to $8/MBH are provided for qualifying systems.

The program is designed to build market acceptance prior to, and thereby ensuring the successful adoption of, Natural Resources Canada's (NRCan) proposed amendments to Canada's Energy Efficiency Regulations requiring all commercial boilers installed in new and existing buildings to be 85% efficient by March 2, 2015. The primary target market consists of commercial buildings with existing heating equipment at or approaching end of life. On average, 267 commercial boilers are installed annually in existing buildings. Boiler replacements are not likely to occur until existing equipment is near their end of life and are often completed in an emergency situation during the heating season. Purchase decisions are therefore made with limited lead time and primarily based upon the initial capital cost, not considering the annual operating costs of the system over its 25 year life. Condensing or near-condensing natural gas boilers are also more expensive to install than conventional boilers, and require modifications to the ventilation system. Financial incentives combined with information on the lifecycle cost advantage of energy efficient systems are in place to address these market barriers

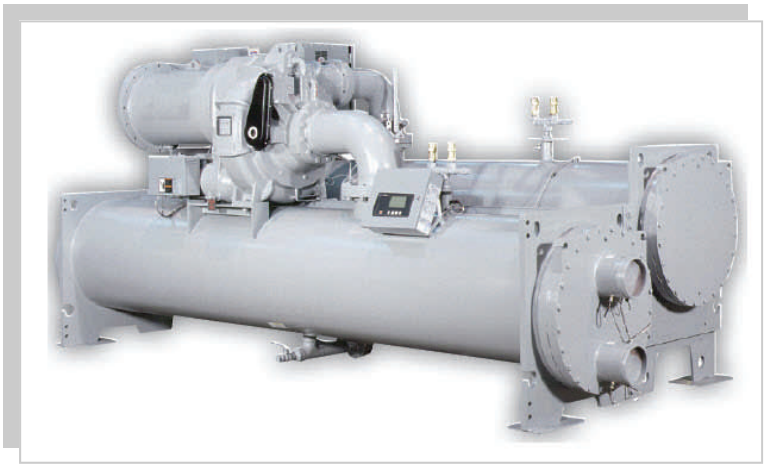
The program is forecast to achieve 46% of annual boiler sales being energy efficient by the planned program end date of March 1, 2015.

	2006/07 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Boilers (annual)	766	123	124	0	**1,013**
Natural Gas Savings (million m^3)	7.7	0.4	0.8	1.0	**8.6**
Utility Investment (Millions, 2012$)	$8.3	$0.5	$0.5	$0.0	**$9.4**
Customer Investment (Millions, 2012$)	$5.6	$0.4	$0.4	$0.3	**$6.7**
Total DSM Investment (Millions, 2012$)	$14.0	$0.9	$0.9	$0.3	**$16.1**
Estimated Average Annual Bill Reduction per Customer (Natural Gas): $1,391					

** Includes estimates for 2012/13*

Commercial HVAC Program —Chillers

The Power Smart Commercial HVAC Program for Chillers is a 12 year program launched in April 2006. Its primary objective is to transform the commercial chiller market in Manitoba by increasing awareness and adoption of energy efficient water-cooled chillers and variable speed drive retrofits. Energy efficient chillers offer significant electricity savings, reducing customers' utility bills. The program focuses on educating building owners and operators about the benefits of energy efficient equipment and works with industry contractors, engineers, consultants, designers, and equipment dealers to promote these systems. Financial incentives of $81 per ton are provided for qualifying units.



The primary target market for chillers are large, older, commercial buildings, consisting primarily of large offices, large multi-residential, hospitals and large educational facilities. The high initial cost of chiller systems combined with the tendency for customers to emphasize the initial investment cost over operating efficiency or life cycle costs when making their purchase decision, has created a barrier for the higher efficiency systems. Offering aggressive financial incentives while promoting the lifecycle cost advantage is effectively addressing these barriers and ensuring that efficient chillers are chosen at the time of existing equipment replacement.

Typically, chillers have a 30 year life and are replaced when the refrigerant is required to be changed or when the equipment is reaching end of life. On average 14 chillers, representing approximately 4 200 tons of cooling capacity, are replaced annually. The program is forecast to achieve 64% of annual chiller sales being energy efficient by the end of 2015/16 and is on target to achieve 70% of annual sales by program end.

	2006/07 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Chillers (annual)	49	8	8	9	**74**
Capacity Savings (MW)	0.0	0.0	0.0	0.0	**0.0**
Energy Savings (GW.h)	9.8	1.3	2.6	4.0	**13.8**
Utility Investment (Millions, 2012$)	$1.6	$0.2	$0.2	$0.2	**$2.3**
Customer Investment (Millions, 2012$)	$1.5	$0.0	$0.1	$0.1	**$1.6**
Total DSM Investment (Millions, 2012$)	$3.1	$0.3	$0.3	$0.3	**$3.9**
Estimated Average Annual Bill Reduction per Customer (Electric): $8,216					

** Includes estimates for 2012/13*

Commercial HVAC Program —CO_2 Sensors

The Commercial HVAC Program for CO_2 sensors is a 10 year program launched in April 2009. Its primary objective is to increase the awareness and adoption of CO_2 sensors in commercial facilities. CO_2 sensors reduce energy consumption by matching ventilation supply to occupant demand, reducing customers' monthly utility bills. CO_2 sensors also improve occupant comfort by providing more consistent air quality and can extend the life of heating and cooling equipment by putting less demand on these systems.

The target market for CO_2 sensors consists of over-ventilated commercial facilities with variable occupancy and that have, or are considering installing, Direct Digital Control systems or rooftop units to control heating, cooling, and ventilation. Installations typically occur when other major renovations are being made to the ventilation system. It is estimated that a total of 328 potential sensor installations in Manitoba exists each year.

CO_2 sensors are not required in commercial building operation and therefore are often one of the first retrofit measures to be discarded in the event of budgetary constraints. Customers also tend to be unfamiliar with the operation of their ventilation systems and may be unaware when a building is over-ventilated. Offering aggressive financial incentives of $200 per sensor, while promoting the lifecycle cost advantage and improved ventilation benefits, is effectively addressing these barriers.

	2009/10 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Sensors (annual)	173	100	120	140	**533**
Capacity Savings (MW)	0.0	0.1	0.2	0.3	**0.3**
Energy Savings (GW.h)	0.2	0.1	0.2	0.4	**0.6**
Natural Gas Savings (million m^3)	0.3	0.1	0.2	0.3	**0.6**
Utility Investment (Millions, 2012$)	$0.1	$0.1	$0.1	$0.1	**$0.3**
Customer Investment (Millions, 2012$)	$0.0	$0.1	$0.1	$0.1	**$0.2**
Total DSM Investment (Millions, 2012$)	$0.1	$0.1	$0.1	$0.1	**$0.5**
Estimated Average Annual Bill Reduction per Customer (Electric): $41					
Estimated Average Annual Bill Reduction per Customer (Natural Gas): $342					

** Includes estimates for 2012/13*

Custom Measures Program

The Power Smart Commercial Custom Measures Program, launched in 2006, encourages commercial customers to explore and implement energy efficient upgrades of their operations or facilities. This program offers the opportunity to explore customer-specific and unique projects or newer technologies that are not currently eligible under the other Power Smart for Business Program offerings. Technologies and projects may include digital control systems, hot water and space heating equipment, waste energy recovery systems, variable speed drive systems, and solar air and water heating systems. The program provides incentives to help cover the cost of feasibility studies that are often required for larger projects and newer or emerging technologies, and implementation incentives based on projected savings from the project.

The program targets all commercial customers planning new construction, renovation or expansion projects. Often the high incremental cost of energy efficient technologies and systems, customer uncertainty of payback, and lack of awareness of energy efficient alternatives limit a customer's propensity to invest in an energy efficient project. The Custom Measures Program addresses these barriers by promoting new and innovative technologies, by offering a feasibility study incentive to provide confidence in energy savings estimates, and by offering incentives to help reduce the implementation cost.

	2006/07 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Projects (annual)	65	14	14	14	**107**
Capacity Savings (MW)	2.0	0.3	0.6	0.8	**2.9**
Energy Savings (GW.h)	23.6	1.0	2.1	3.2	**26.8**
Natural Gas Savings (million m^3)	0.3	0.1	0.2	0.3	**0.6**
Utility Investment (Millions, 2012$)	$4.5	$0.4	$0.4	$0.4	**$5.7**
Customer Investment (Millions, 2012$)	$7.5	$0.6	$0.5	$0.5	**$9.2**
Total DSM Investment (Millions, 2012$)	$12.1	$1.0	$0.9	$0.9	**$14.9**

Estimated Average Annual Bill Reduction per Customer (Electric): $4,353

Estimated Average Annual Bill Reduction per Customer (Natural Gas): $7,894

** Includes estimates for 2012/13*

Commercial Building Optimization Program

The Power Smart Commercial Building Optimization Program (CBOP), launched in 2006, encourages commercial customers with existing buildings to engage in an assessment and adjustment process known as retrocommissioning (RCx) to help return their buildings' mechanical systems to their designed operating characteristics and even further optimize their operation to save energy and improve occupant comfort. The program focuses on identifying non-capital intensive energy conservation opportunities with relatively short payback periods and offers incentives that cover a portion of the cost hiring an RCx agent and implementing the energy efficient measures identified through the investigation process.

The market consists of existing commercial buildings larger than 50 000 square feet and between 2 and 25 years of age with direct digital control systems and functioning heating, ventilating and air conditioning mechanical systems. There are approximately 470 buildings in this market, however there are significant barriers that must be overcome to reach these customers including lack of experience and availability of RCx providers in Manitoba, lack of customer awareness of the cost-saving benefits of RCx, and lack of customer time and competing priorities for capital to invest in energy efficiency projects. The program addresses these barriers by providing training and information sessions for potential and existing RCx providers, by promoting RCx at relevant industry events, and by offering incentives to reduce the capital cost and payback cycle of the RCx process.

The program plans to achieve 8% market penetration by 2015/16 and 42% market penetration by the end of the planning horizon.

	2006/07 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Buildings (annual)	12	7	8	9	**36**
Capacity Savings (MW)	0.2	0.2	0.4	0.6	**0.7**
Energy Savings (GW.h)	1.6	1.0	1.9	2.8	**4.4**
Natural Gas Savings (million m^3)	0.6	0.2	0.4	0.6	**1.1**
Utility Investment (Millions, 2012$)	$1.2	$0.3	$0.3	$0.3	**$2.1**
Customer Investment (Millions, 2012$)	$1.2	$0.1	$0.2	$0.2	**$1.6**
Total DSM Investment (Millions, 2012$)	$2.4	$0.4	$0.5	$0.5	**$3.7**
Estimated Average Annual Bill Reduction per Customer (Electric): $6,531					
Estimated Average Annual Bill Reduction per Customer (Natural Gas): $9,379					

** Includes estimates for 2012/13*

New Buildings Program

The Power Smart New Buildings Program is an 8 year program launched in 2010. Its primary objective is to transform the commercial new construction industry in preparation for pending building codes which will require significant improvements in overall building energy efficiency. The program offers technical assistance and financial incentives for customers designing and constructing new, energy efficient commercial buildings.

It is expected that the provincial government will adopt the National Energy Code of Canada for Buildings 2011 (NECB) into the Manitoba building code in the fall of 2014. This adoption will have a significant impact on the energy efficiency of new commercial buildings and will affect many disciplines within in the construction industry in Manitoba, including the code enforcement authorities.

Two incentive options are currently offered to all customers: The Prescriptive Path, which specifies minimum design criteria for common building types or the Custom Design Path, which offers building designers flexibility to create energy efficient buildings. Power Smart buildings are designed to use at least 33% less energy than similar buildings designed to meet the Model National Energy Code of Canada for Buildings 1997 (MNECB 97). Custom Design Path participants are also given the option to enroll in the Proven Performance Path which provides further incentives for energy efficiency beyond the program's minimums. The target market is all new commercial buildings constructed in Manitoba and represents approximately 200 new commercial building projects in the province each year. In order to move the market toward the energy efficiency requirements proposed under the upcoming building code, the industry faces fundamental changes to the current methods of designing, constructing and commissioning commercial buildings. Lack of qualified, local firms offering integrated design, energy modeling, and building commissioning; industry perceptions of higher initial capital costs associated with designing and constructing energy efficient buildings; and a lack of customer and industry knowledge about lifecycle costing creates barriers to constructing energy efficient buildings. To help overcome these barriers, Manitoba Hydro has worked closely with the Province's Green Building Coordination Team to develop the Green Building Policy for Government of Manitoba Funded Projects. This policy ensures the Province's investments in new construction will help transform the local market by leading by example, and will help build industry capacity within Manitoba. Program efforts are focused towards larger and more complex projects in order to showcase the benefits of energy efficient buildings to a broader audience on a larger scale. Providing financial incentives along with industry training and support aids in addressing these barriers.

To date, 18 buildings have been constructed which meet the Power Smart requirement of at least 33% more energy efficient than the MNECB 97; in addition to these completed projects, an additional 35 projects are currently registered to participate. The program is forecast to achieve a market penetration rate of 16% of annual buildings constructed being energy efficient by the end of 2015/16 and is on target to achieve 23% of annual buildings by program end.

	2009/10 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Buildings (annual)	18	18	24	32	**92**
Capacity Savings (MW)	1.5	2.9	6.5	10.5	**12.0**
Energy Savings (GW.h)	7.5	11.8	25.8	40.9	**48.4**
Natural Gas Savings (million m^3)	0.7	0.7	1.6	2.5	**3.2**
Utility Investment (Millions, 2012$)	$3.1	$1.1	$1.3	$1.6	**$7.1**
Customer Investment (Millions, 2012$)	$1.4	$1.1	$1.4	$1.9	**$5.8**
Total DSM Investment (Millions, 2012$)	$4.5	$2.2	$2.7	$3.5	**$12.9**
Estimated Average Annual Bill Reduction per Customer (Electric): $7,586					
Estimated Average Annual Bill Reduction per Customer (Natural Gas): $3,166					

** Includes estimates for 2012/13*

Commercial Refrigeration Program

The Power Smart Commercial Refrigeration Program was launched in 2006. The program helps commercial customers reduce energy consumption by providing over 15 different incentives for energy efficient upgrades to refrigeration display cases, walk-in boxes, mechanical rooms and lighting. Savings are achieved by providing customers with information about best practices and maintenance, promoting energy efficient refrigeration technologies, and optimizing the operation of new and existing refrigeration equipment.

The target market is commercial customers with foodservice refrigeration equipment, primarily grocery, retail, and convenience stores. There are approximately 1600 physical locations in the target market. Many of the qualifying energy efficient refrigeration systems have higher incremental costs, and equipment upgrade decisions are sometimes based on aesthetics considerations over energy efficiency. Offering financial incentives to lower incremental costs and promoting the energy and associated bill savings along with non-energy benefits of efficient refrigeration systems, such as increased comfort in refrigeration aisles for both customers and employees, reduced product spoilage, and extended equipment life for refrigeration motors and compressors is effectively addressing these barriers.

To date, 674 customers have participated in the program. The program is forecast to achieve 42% market penetration by the end of 2015/16 and is on target to achieve 66% market penetration by program end.

	2006/07 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Locations (annual)	674	41	45	47	**807**
Capacity Savings (MW)	3.1	0.2	0.3	0.5	**3.6**
Energy Savings (GW.h)	12.2	1.4	3.0	4.7	**16.9**
Utility Investment (Millions, 2012$)	$2.1	$0.3	$0.3	$0.3	**$2.9**
Customer Investment (Millions, 2012$)	$1.1	$0.2	$0.2	$0.2	**$1.7**
Total DSM Investment (Millions, 2012$)	$3.1	$0.5	$0.5	$0.5	**$4.6**
Estimated Average Annual Bill Reduction per Customer (Electric): $1,744					

** Includes estimates for 2012/13*

Commercial Kitchen Appliance Program

The Power Smart Commercial Kitchen Appliance Program is a 10 year program launched in 2008. The program encourages customers to choose ENERGY STAR steam cookers (gas and electric) and ENERGY STAR deep fat fryers (gas only) when replacing commercial appliances.

The target market consists of restaurants and foodservice establishments with either gas or electric commercial kitchen appliances. ENERGY STAR qualified appliances have a higher initial cost to purchase, and many customers are not aware that using ENERGY STAR appliances can decrease operating and maintenance costs and improve food quality. Providing financial incentives and promoting the various energy and non-energy benefits of ENERGY STAR kitchen appliances is effectively addressing these market barriers.

To date, 100 ENERGY STAR appliances have been installed. There are approximately 45 steamers and 230 fryers replaced each year in Manitoba. The program is forecast to achieve 62% market penetration for steamers and 10% for fryers by 2015/16, for combined sales of 51 appliances. The program is on target to achieve 76% market penetration for steamers and 16% for fryers by program end.

	2008/09 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Appliances (annual)	100	25	44	51	**220**
Capacity Savings (MW)	0.2	0.4	1.2	1.9	**2.1**
Energy Savings (GW.h)	0.9	0.4	1.1	1.8	**2.7**
Natural Gas Savings (million m^3)	0.1	0.1	0.4	0.6	**0.7**
Utility Investment (Millions, 2012$)	$0.5	$0.1	$0.2	$0.2	**$0.9**
Customer Investment (Millions, 2012$)	$0.1	$0.0	$0.1	$0.1	**$0.3**
Total DSM Investment (Millions, 2012$)	$0.6	$0.2	$0.2	$0.3	**$1.2**
Estimated Average Annual Bill Reduction per Customer (Electric): $455					
Estimated Average Annual Bill Reduction per Customer (Natural Gas): $178					

** Includes estimates for 2012/13*

Network Energy Management Program

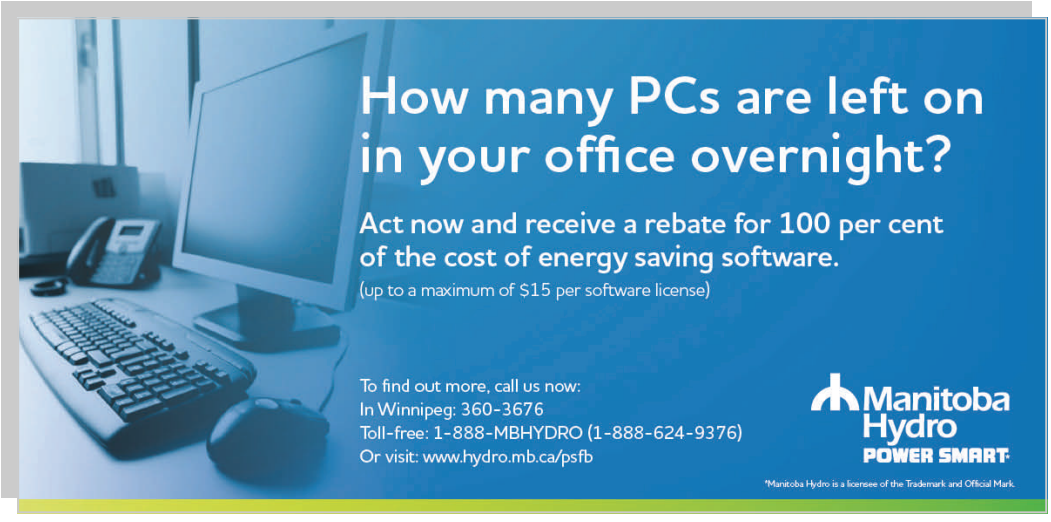
The Power Smart Network Energy Management Program is a 7 year program launched in 2009. The program encourages customers to install program-approved software that conserves energy by sending personal computers (PCs) into a mode that consumes less energy when they are not in use.

The program is aimed at commercial organizations that manage a network of PCs. The target market is comprised of approximately 2 500 physical locations in the school/college and office sectors, representing approximately 300 000 PCs. Installation, configuration, and testing of this new software on existing networks can require a significant time investment. Although management may realize operational cost savings, Information Technology (IT) staff are cautious when implementing software that they perceive may in any way restrict their ability to access individual PCs remotely for performing maintenance and system upgrades. The program provides financial incentives and promotes the product benefits through direct marketing to both management and IT staff in order to address these barriers to adoption.

The program is forecast to achieve 4% market penetration by 2015/16.

	2009/10 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Licenses (annual)	1,225	2,000	3,000	5,000	**11,225**
Capacity Savings (MW)	0.2	0.2	0.4	0.6	**0.8**
Energy Savings (GW.h)	0.6	0.7	1.0	1.6	**2.2**
Utility Investment (Millions, 2012$)	$0.3	$0.1	$0.0	$0.1	**$0.5**
Customer Investment (Millions, 2012$)	$0.2	$0.0	$0.0	$0.1	**$0.3**
Total DSM Investment (Millions, 2012$)	$0.5	$0.1	$0.1	$0.1	**$0.8**
Estimated Average Annual Bill Reduction per Customer (Electric): $1,200					

** Includes estimates for 2012/13*



Support Program

The following convenient financing program offered by Manitoba Hydro supports the incentive based programs by allowing customers to finance initial project costs and pay these costs back on their monthly Manitoba Hydro bill.

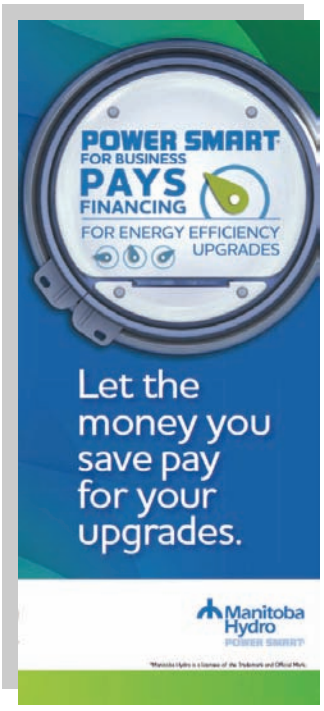
Power Smart for Business PAYS Financing

PAYS Financing for commercial customers is planned to be introduced to the market in early 2013. The program's objective is to assist commercial customers in reducing their energy and water consumption by offering extended financing terms for energy efficiency upgrades such as T8 lighting, high efficiency and electric furnaces, condensing and near-condensing boilers, insulation, geothermal, CO2 sensors, custom measures, and WaterSense® labeled toilets and urinals. This offering compliments and supports the various incentive-based programs by assisting customers in managing the installation cost of their upgrade. To qualify, upgrades must have sufficient estimated annual utility bill savings to offset the monthly financing repayment, thereby resulting in an energy bill that is less than or equal to the total bill prior to the retrofit. The target market for this program consists primarily of small business owners and tenants as well as government, school and municipal buildings. Financing will be available for extended terms with 20 to 25 year amortization periods dependent on the upgrade with the interest rate being fixed for the first five years.

The program expects to finance 24 projects annually with a total annual financed amount of approximately $700,000. These are projects that would likely not have occurred without the availability of this convenient and flexible financing offering.

	2012/13 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Loans (annual)	0	24	24	24	**72**
Capacity Savings (MW)	0.0	0.0	0.1	0.2	**0.2**
Energy Savings (GW.h)	0.0	0.2	0.4	0.7	**0.7**
Natural Gas Savings (million m^3)	0.0	0.0	0.0	0.0	**0.0**
Average Loan Amount: $19,100					

** Includes estimates for 2012/13*



Industrial

Manitoba Hydro offers incentive based programs to address opportunities within the industrial market. These programs take a customer-focused approach to identify and address operating and production challenges in a manner that not only improves overall energy efficiency, but enhances productivity and competitiveness for Manitoba industry.

Manitoba's industrial market can be characterized as consisting of a large variety of industries with a small number of customers represented within each classification. While some sectors are responsible for higher percentages of consumption than others, no one industry sector is dominant within the province. In Manitoba, each sector is typically dominated by one or two larger customers, with the remaining customers being smaller with more specialized operations or substantively lower outputs. This diversity presents some unique challenges as opportunities to capture substantive savings are tied directly to specific industry business cycles within each industry sector that dictate major events such as equipment change-outs, plant overhauls, facility expansions, and new plant construction. These cycles are periodic and can stretch across decades.
Manitoba Hydro's industrial Power Smart programs must have broad appeal in order to be relevant and responsive to the needs of a diverse population of industrial customers.

Incentive Based Programs

Performance Optimization Program

The Performance Optimization Program was originally launched in June of 1993 promoting energy efficiency through the optimization of electric motor-driven industrial systems such as air compressors, pumps, fans and blowers, optimization of industrial refrigeration, process heating, electro-chemical processes systems, and implementation of plant-wide energy management systems. The program is designed to provide industrial and large commercial customers with technical support and financial incentives to assist in the identification, investigation, and implementation of system-efficiency improvements throughout a facility.

The target market consists of approximately 2 000 Manitoba Hydro industrial customers, with the program being available to both existing facilities and new construction projects. Emphasis is placed on the 300 largest customers who represent about 1/3 of the energy consumed in Manitoba. The average duration of a project from identification of the opportunity to implementation ranges from 6 months to 2 years, averaging approximately 18 months.

The actual number of project applications facilitated in any fiscal year and the savings achieved per project can vary dramatically based on project size, equipment age, and remaining life of the individual systems being optimized. Savings levels are however relatively consistent reflecting the capability within Manitoba Hydro's programs to adapt to available opportunities. Targeted companies may have multiple eligible energy conservation projects that are captured in a short period of time, resulting in intense periods of activity within a company or industry sector followed by a lull in activity thereafter as investment is recouped and productivity gains are utilized.

	1993/94 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
Capacity Savings (MW)	88.0	2.2	4.4	6.6	**94.7**
Energy Savings (GW.h)	418.0	14.2	28.4	42.6	**460.6**
Utility Investment (Millions, 2012$)	$31.8	$2.8	$2.8	$2.8	**$40.1**
Customer Investment (Millions, 2012$)	$62.9	$1.7	$1.7	$1.7	**$68.0**
Total DSM Investment (Millions, 2012$)	$94.7	$4.5	$4.5	$4.5	**$108.1**
Estimated Average Annual Bill Reduction per Customer (Electric): $7,283					

** Includes estimates for 2012/13*

Industrial Natural Gas Optimization Program

The Power Smart Natural Gas Optimization Program (NGOP) is a 12 year program launched in September 2006. Its primary objective is to support the systematic improvement of natural gas equipment and processes for industrial and large institutional customers. The program supports customers by offering financial incentives for steam trap audits, feasibility studies and for energy efficient project implementation. The program was principally developed to promote custom applications within large industrial, institutional and commercial facilities comprised of roughly 1 400 customers in Manitoba. Since the launch of the program, it has become apparent that the small to medium industrial customers are also interested in pursuing energy efficiency with support from Manitoba Hydro. The scope of the NGOP has since been expanded to allow the program to respond to all industrial customer inquiries, regardless of the size of the facility or volume of natural gas consumed.

Like the Performance Optimization Program, the NGOP is a custom program that supports a variety of technologies across a wide variety of applications, including; boiler conversions, process water and air heat recovery, process equipment and pipe insulation, boiler economizers, and other available technologies. The program is designed to address key market barriers related to project costs, available benefits, cost/benefit ratios and desired return on investment. Current low natural gas commodity prices are challenging Manitoba Hydro customers' desired rates of return on investment in conservation initiatives.

	2006/07 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
Natural Gas Savings (million m^3)	11.4	1.6	3.0	4.2	**15.6**
Utility Investment (Millions, 2012$)	$3.7	$0.8	$0.6	$0.6	**$5.7**
Customer Investment (Millions, 2012$)	$18.8	$2.7	$2.0	$2.0	**$25.6**
Total DSM Investment (Millions, 2012$)	$22.5	$3.5	$2.7	$2.7	**$31.3**
Estimated Average Annual Bill Reduction per Customer (Natural Gas): $26,204					

** Includes estimates for 2012/13*

Bioenergy Optimization Program

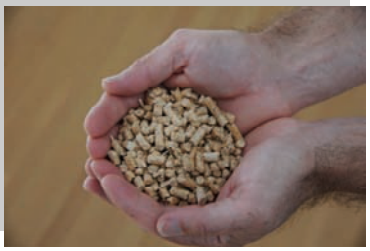
The Bioenergy Optimization Program, launched in 2008, encourages customers to install, operate and maintain customer-sited load displacement generation systems that employ combined heat and power (CHP) and renewable fuels; specifically biomass. The target market consists of customers that have readily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

A lack of proven demonstration projects of biomass to energy is a key barrier for many customers, considering the high initial costs for many of these systems. To increase awareness and knowledge of bioenergy opportunities, Manitoba Hydro has undertaken five demonstration projects over the past two years. Increased awareness combined with incentives are expected to increase customer interest and acceptance of bioenergy systems. Manitoba Hydro's program further supports customers in developing a thorough understanding of the costs and benefits of bioenergy systems, assisting with the development of strong business cases for future installations.

Major customer sectors targeted by the program include large industrial, medium-small industrial, Hutterite colonies, and hog production. The size of these systems is anticipated to be smaller during the earlier stages of the program, due primarily to the high costs of the systems. Installations are anticipated to grow in size as comfort with these technologies matures. While initial projections for customer participation are relatively modest, opportunities for larger savings exist in larger industrial facilities with substantial waste streams and considerable need for combined heat and power systems to support their operations. Government policy on renewable energy is anticipated to be a factor in future uptake of load displacement generation systems in Manitoba, particularly larger systems.

	2008/09 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
Capacity Savings (MW)	0.6	1.4	2.8	4.4	**5.0**
Energy Savings (GW.h)	5.1	12.0	24.9	38.4	**43.5**
Natural Gas Savings (million m^3)	0.0	0.3	0.6	1.1	**1.1**
Utility Investment (Millions, 2012$)	$12.9	$2.3	$1.9	$2.5	**$19.6**
Customer Investment (Millions, 2012$)	$24.1	$3.0	$2.2	$3.7	**$33.0**
Total DSM Investment (Millions, 2012$)	$37.0	$5.4	$4.0	$6.2	**$52.6**
Estimated Average Annual Bill Reduction per Customer (Electric): $89,267					
Estimated Average Annual Bill Reduction per Customer (Natural Gas): $121,773					

** Includes estimates for 2012/13*

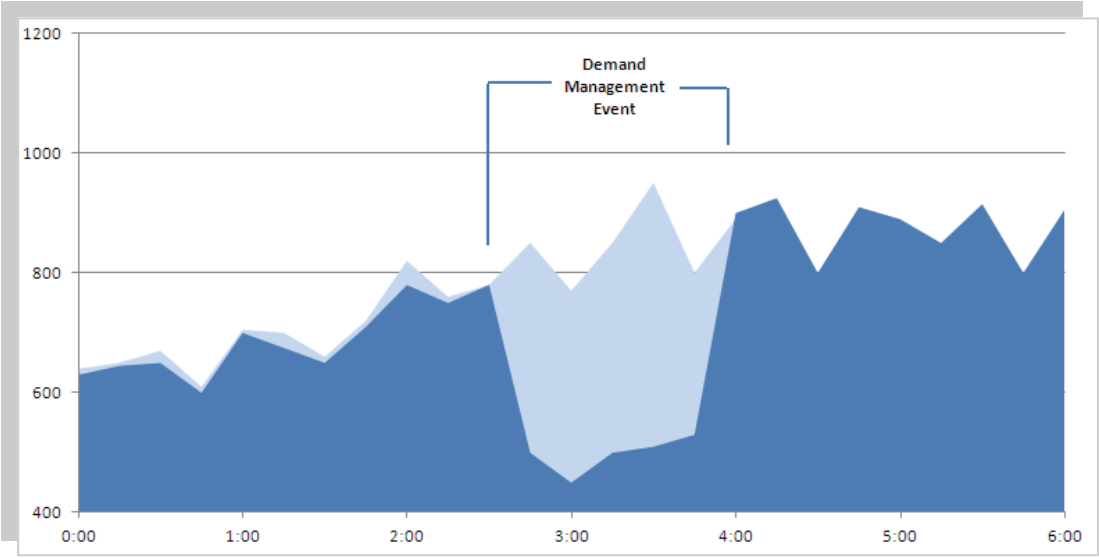


Curtailable Rates Program

Under the Curtailable Rate Program, qualifying customers receive a monthly credit on load (kW) which can be curtailed on notice from Manitoba Hydro. To be eligible, customers' load/processes must be configured to allow them to meet the requested curtailment within the notification period as outlined under their chosen contract option.

	1990/00 to 2012/13 *	2013/14	2014/15	2015/16	Total to 2015/16
No. of Customers (annual)	46	3	3	3	**55**
Capacity Savings (MW)	161.1	161.1	161.1	161.1	**161.1**
Utility Investment (Millions, 2012$)	$85.1	$5.8	$5.8	$5.8	**$102.4**

** Includes estimates for 2012/13*



July 2013

2013-16 Power Smart Plan

15 Year Supplementary Analysis Report

Manitoba Hydro
POWER SMART

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EXECUTIVE SUMMARY

Manitoba Hydro's 2013-16 Power Smart Plan provides a roadmap for the future direction of the Corporation's energy conservation program. The Plan was developed through an intensive planning process which builds on the Corporation's experience and continuous involvement in energy management since 1989. The planning process involved research on energy management technologies and practices, research on activities of other leading-edge organizations delivering energy efficiency programs and the development of program design concepts.

This supplemental report outlines the 15 year forecast underpinning the approved 2013 – 2016 Power Smart Plan and forecasts energy and demand savings, investments and cost effectiveness metrics to the benchmark year of 2027/28 which will be achieved through electricity and natural gas Power Smart Programs. The plan sets out to realize electricity savings of 490 MW and 1,552 GW.h, natural gas savings of 59 million cubic meters and combined global greenhouse gas emission reductions of 1.2 million tonnes by 2027/28. This activity represents 4.9% of the estimated electric load forecast and 3.0% of the estimated natural gas volume forecast by 2027/28. The total cost of achieving the energy savings is $421 million; $324 million of the costs are funded through the Corporation's Power Smart electricity budget, $75 million from the Power Smart natural gas budget, $13 million from the Affordable Energy Fund, and $9 million from the Lower Income Natural Gas Furnace Replacement budget for targeting furnace replacement.

Combined with energy savings achieved to date, total electrical savings of 846 MW and 3,113 GW.h and total natural gas savings of 126 million cubic meters will be realized by 2027/28. These combined energy savings are expected to result in an overall reduction of greenhouse gas emissions of 2.3 million tonnes by 2027/28. It is expected that by 2027/28, a cumulative investment of achieving the energy savings will have been $958 million dollars, $749 million of the costs are funded through the Corporation's Power Smart electricity budget, $158 million from the Power Smart natural gas budget, $35 million from the Affordable Energy Fund, and $16 million from the Lower Income Natural Gas Furnace Replacement budget for targeting furnace replacement.

By reducing electricity and natural gas consumption through innovative products, participating customers can expect to save $66 million in 2027/28 and $643 million cumulatively by 2027/28. When combined with bill reductions to date, Power Smart programs are expected to save participating customers $127 million in 2027/28 and over $2.6 billion dollars cumulatively by 2027/28.

The overall Societal Cost (SC) and Total Resource Cost (TRC) metrics for the electric and natural gas Power Smart portfolio is 2.1 and 1.9, respectively. The electric Power Smart portfolio has an overall TRC of 2.2, RIM of 0.9 and an overall levelized utility cost of 2.4 cents per kilowatt-hour. The natural gas Power Smart portfolio has an overall TRC of 1.1, RIM of 0.5 and an overall levelized utility cost of 19.0 cents per cubic meter. Excluding the Lower Income Energy Efficiency Program, the natural gas Power Smart portfolio has an overall levelized utility cost of 15.0 cents per cubic meter.

1 THE 2013-16 POWER SMART PLAN

1.1 Introduction

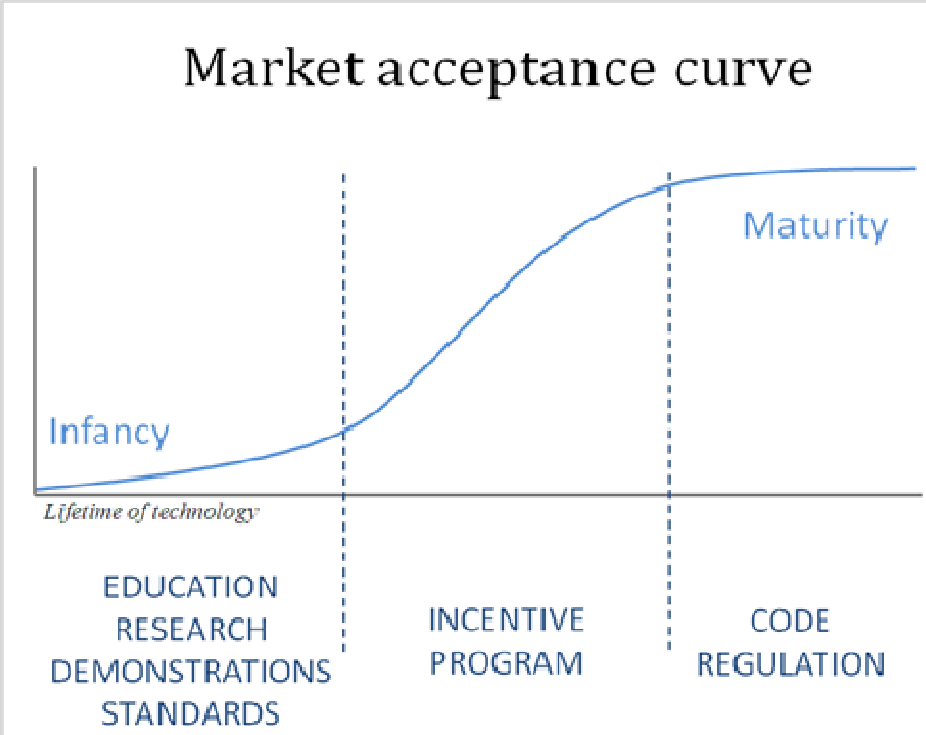
The 2013 – 2016 Power Smart Plan outlines Manitoba Hydro's current approved DSM plan. The 2013 – 2016 Power Smart Plan was created in consultation with the Province of Manitoba in accordance with the Energy Savings Act.

Manitoba Hydro's DSM plan is an input to the development of the Corporation's Integrated Power Resource Plan. To support this process, the Corporation prepares a 15 year forecast which is reviewed and updated annually to reflect current market information and trends. This supplemental report outlines the 15 year forecast underpinning the approved 2013 – 2016 Power Smart Plan and includes the long term forecasts of energy and demand savings, budgets and cost effectiveness metrics.

1.2 DSM Market Transformation Strategy

Manitoba Hydro's DSM strategy is to aggressively pursue all cost effective energy efficiency opportunities and continually monitor the market to identify emerging trends and opportunities which may become viable and cost effective DSM initiatives within the planning horizon with the end goal of creating a sustainable market change where the energy efficient technology or practice ("EE measure") becomes the market standard.

To accomplish this in a manner that ensures permanent market transformation to the EE measure is achieved, a long term and comprehensive approach is used that involves different market intervention strategies at the various stages of the EE measure's adoption into the market. These strategies are researched and designed using a collaborative approach considering the input and expertise of the entire delivery channel for the EE measure including designers, suppliers, retailers and target customers.



Infancy

When an EE measure is first introduced to the market, it is typically received with skepticism on the part of installers, facility owners and consumers. The market is also often characterized by limited availability of the product, higher costs and, in many cases, unverified or untested energy performance claims. These conditions make it difficult to develop and increase market acceptance for the product. Lack of informed suppliers or experienced installers is also an issue with some EE measures, as many industry participants prefer to retain their own "tried and true" supply chain and installation methods.

It is of utmost importance in this phase that these barriers are addressed otherwise the EE measure will face difficulty with achieving market penetration and may fail to enter the growth stage.

Market Intervention Strategies:

Research and Development including possible demonstrations project showcasing the EE technology are important to demonstrate the performance claims for the measure and possibly to even highlight areas where the EE measure can be improved. For technologies related to space and water heating in particular, local field demonstration experience can be critical to increasing acceptance, due to Manitoba's climate differences from typical laboratory or field testing. Demonstrations also have additional benefits through the ability to become showcases for the purpose of education and a future basis for communications that incorporate "real world" experiences that installers and customers can identify with operational performance.

If the energy performance of the EE technology is already known or has been verified through research and demonstration, communication strategies focusing on education to the market are critical to building awareness of the EE measure and its benefits.

Policy relating to energy efficiency is a very powerful strategy for EE measures in the infancy stages as it encourages government stakeholders to be to become leaders with energy efficiency and be the early adopters of the new technology. Early adopters are critical to the successful launch of new EE measures as they help to build the base industry infrastructure by creating initial demand.

Growth

Once the barriers of the Infancy stage have been identified and a strategy to address the barriers has been successfully implemented for the EE measure, market penetration begins to rise, whether voluntarily or through a policy strategy. In the early stages of growth, there needs to be a balanced approach to creating demand for the measure while ensuring that the market has developed qualified and knowledgeable providers in order to meet the emerging demand. EE measures in early growth can face irreparable damage if the early majority adopters lose confidence in the measure due to performance that does not meet expectations.

At this stage, the product efficiency performance is established with energy benefits to the customer quantified and the non-energy benefits have been identified. However, there will still be a lack of knowledge in the market as to the optimum methods of realizing these benefits.

During later periods of the growth stage, installers and suppliers become more plentiful, there may be customers with years of successfully implementing the EE measure, and there is increased awareness of the existence of the product.

Through the majority of the growth phase, a first cost premium typically remains associated with the EE measure.

Power Smart can have a significant impact on the rate at which a product is adopted in the market regardless of the form of the program or support offered due to the immense trust that industry and consumers have in Manitoba Hydro's expertise in matters pertaining to energy efficiency.

Market Intervention Strategies:

The strategies that are employed during this phase are dependent upon the characteristics of the market the technology is directed toward, the magnitude and significance of the additional cost to the market, and the breadth of accommodation that must be made in order to effectively utilize the technology. Strategies can vary drastically not only by market segment but also by specific technology. A thorough understanding of the market, both overall characteristics and drivers and detractors to the EE measure, is essential to ensure that the program design is addressing the proper target market and contains the tools and strategies that will address the barriers present.

Marketing and communication strategies focus on comprehensive messaging that includes both the efficiency benefits and the non-energy benefits that have been attributed to the measure, and that have a perceived value to the intended target market, in order to maximize the market adoption.

With first cost still a barrier, many programs will utilize financial tools such as incentives and/or financing to encourage customer adoption of the measure. The specific tool used or the extent to which the program covers the incremental cost of the measure will vary by technology and by target market and, once again, involves consultation with the channel participants to determine the optimal contribution by Power Smart.

Equally as important to the more visible customer directed strategies are capacity building initiatives. These strategies can be especially important for those EE measures that rely on professional consultants or installers for implementation and include training, education, and certification of groups such as homebuilders, equipment installers, engineers, architects, retailers, and distributors.

In assessing options for pursing a Power Smart program to support an EE measure, Manitoba Hydro uses a number of metrics as guidelines to assess the opportunities. These metrics assist in determining whether to pursue an opportunity, how aggressive an opportunity will be pursued, the effectiveness of program design options and the relative investment sharing between ratepayers and participating customers.

Maturity

At the maturity phase of the EE measure's life cycle, the measure's use has become the preferred installation for the majority of the installers and customers in the market. At this stage volumes have increased to the point that prices are reduced to the same level as the technology that is being replaced, or the price of the technology is in alignment with the value perceived by the customer. With these conditions, program participants often are qualified as "free riders"; in other words, they would have adopted the measure even in the absence of a program so the incentive they received was not responsible for achieving their energy savings.

Market Intervention Strategies:

During this phase, Manitoba Hydro's strategy involves pursuing the remaining opportunities through the adoption of codes and regulations. A code or a regulation ensures permanent market transformation for the specific energy efficiency opportunity since a potential always exists that the market could revert back to the non-efficient option once Power Smart has reduced or eliminated its program support.

Manitoba Hydro is heavily engaged in both Federal level and Provincial level committees that work to establish ongoing updates to minimum energy performance standards for technologies and to determine the appropriateness of their adoption into a code or a regulation. The assessment of the most appropriate exit strategy for a technology is strategized as early as at the infancy phase of the adoption life cycle of the EE measure where possible.

1.3 Power Smart Programs

The following table provides program durations and cumulative participation for incentive based and financial loan programs over the 15 year planning horizon. For program descriptions, please refer to the current approved DSM plan (2013-16 Power Smart Plan).

Program Duration and Cumulative Participation
2013/14 - 2027/28

Programs	Electric	Natural Gas	Program Launch Date	Particpation Definition	Cumulative Participation by 2027/28	
Residential						
Home Insulation Program	√	√	May-2004	No. of houses	10,349	
Water and Energy Saver Program	√	√	Sep-2010	No. of houses	57,600	
Lower Income Energy Efficiency Program	√	√	Dec-2007	No. of retrofits	9,449	
Refrigerator Retirement Program	√		Jun-2011	No. of appliances	13,600	
Power Smart Residential Loan	√	√	Feb-2001	No. of loans	82,500	
Power Smart PAYS Financing	√	√	Nov-2012	No. of loans	5,203	
Residential Earth Power Loan	√	√	Apr-2002	No. of loans	1,665	
Commercial						
Commercial Lighting Program	√		Apr-1992	No. of projects	7,661	
Commercial Building Envelope - Windows Program	√	√	Dec-1995	No. of projects	1,132	
Commercial Building Envelope - Insulation Program	√	√	Dec-1995	No. of projects	556	
Commercial Earth Power Program	√		Dec-1995	No. of buildings	270	
Commercial HVAC Program - Boliers		√	Sep-2003	No. of boilers	247	
Commercial HVAC Program - Chillers	√		Sep-2003	No. of chillers	44	
Commercial HVAC Program - C02 Sensors	√	√	Apr-2009	No. of sensors	918	
Custom Measures Program	√	√	Dec-1995	No. of projects	237	
Commercial Building Optimization Program	√	√	Apr-2006	No. of buildings	328	
New Buildings Program	√	√	Apr-2009	No. of buildings	200	
Commercial Refrigeration Program	√		Apr-2006	No. of locations	764	
Commercial Kitchen Appliance Program	√	√	Jan-2008	No. of appliances	253	
Network Energy Management Program	√		May-2008	No. of licenses	10,000	
Internal Retrofit Program	√		Jul-1995	No. of projects	51	
Power Smart for Business PAYS Financing	√	√	TBD	No. of loans	471	
Industrial						
Performance Optimization Program	√		Jun-1993	No. of projects	1,245	
Industrial Natural Gas Optimization Program		√	Sep-2006	No. of projects	64	
Load Management						
Curtailable Rates Program	√		Nov-1993	No. of participants	45	^
Load Displacement & Alternative Energy						
Bioenergy Optimization Program	√	√	Mar-2006	No. of projects	58	

** Participation recurs annually*

1.4 Economic Assumptions

Marginal Costs

The Power Smart Plan incorporated the following forecasts to estimate the marginal benefits for energy savings resulting from the revenue realized from conserved electricity being sold in the export market, the avoided costs of new transmission and the supply of natural gas:

- Electric – The electric marginal cost forecast was prepared and compiled by the Resource Planning and Market Analysis Department. Marginal values were provided for savings at the distribution level, transmission level, generation level and for the value of curtailable load. For the 2013-16 Power Smart Plan, the following assumptions were applied:
    - Marginal costs were based on a uniform supply with a 100% capacity factor
    - Distribution Level Programs used a loss factor of 14% to translate back to generation
    - General Service Large Programs used a loss factor of 10% to translate back to generation
    - Generation Level Programs used a loss factor of 14% to translate to distribution level
    - US/Cdn Exchange Rates and Escalation Factors were derived from the Corporation's G911 corporate policy document issued October 19th, 2012
    - Transmission & distribution marginal costs were updated using SPD 2010/02

- Natural Gas – The marginal cost forecast for natural gas was prepared based on the natural gas price forecast which was provided by the Economic Analysis Department. Unlike the price forecast, it does not include distribution costs. The benefits of avoided greenhouse gas emissions were included in the natural gas marginal benefits used to calculate the Societal Cost (SC) and Total Resource Cost (TRC) metric. A greenhouse gas cost forecast was provided by the Energy Policy & Analysis Department. For the 2013-16 Power Smart Plan, the 2012 GHG forecast values were derived from the GHG price information provided by Export Price Forecast consultants which were consistent with the 2012 values used in the Manitoba Hydro Power Resource Plan.

In addition, water benefits were calculated based on 2012 City of Winnipeg Water and Sewer rates effective April 1st, 2012.

Customer Rates

The following forecasts were used to determine the impact of customer bill reductions resulting from their Power Smart energy savings:

- Electric – The Electric Rates & Regulatory Department provided the rate forecast for electricity. Commercial and industrial program rates were determined by a weighted average based on the forecast participation by each of the Corporations' billing classes. Residential rates were consistent for all residential programs. For the 2013-16 Power Smart Plan, the weighted rates were based on the proposed April 1st, 2013 rate forecast which assumed the 2013/14 real rates would increase by 1.9% and thereafter by 2.1% per year. This was based on the projected rate increase of 3.5% for 2013/14 and the long term rate increase of 3.95% per year (as per IFF-12) less the 2013/14 escalation rate of 1.8% and the long term escalation rate of 1.8% (2012 Economic Outlook), (represented in 2012 $).

- Natural Gas – The natural gas price forecast was prepared by the Economic Analysis Department with input from the Energy Price Outlook. For the 2013-16 Power Smart Plan, the following assumptions were applied:
    - Forecast starting point was the February 1st, 2012 rate
    - Commodity price changes into the future were based on the forecast of natural gas prices contained in the Energy Price Outlook which represented a consensus view of futures markets and a suite of five independent forecasting organizations
    - Non-commodity (monthly charge, transportation, distribution) price changes were based on IFF-11 assumptions on general rate increases and the Economic Outlook assumptions on Manitoba inflation. Non-commodity price changes in the post-IFF period were based on historical trends

Economic Variables

For the 2013-16 Power Smart Plan, the Projected Escalation, Interest, & Exchange Rates – G911 corporate policy document issued October 19th, 2011 was used to discount all forward-looking savings and costs. The real weighted average cost of capital was used to discount real dollar cash flows and energy savings. Where nominal costs and benefits were included, the weighted average cost of capital was used for discounting cash flows. Rates for all historical benefits, costs, and energy savings used actual economic results for each year.

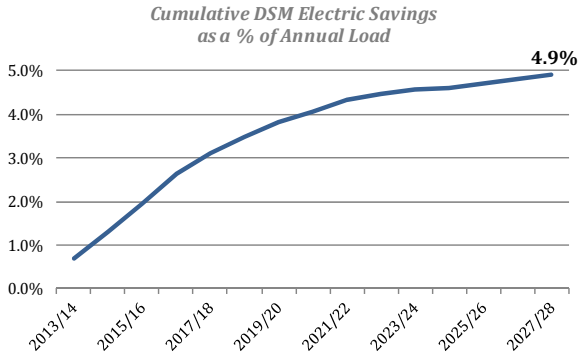
2 DEMAND SIDE MANAGEMENT

2.1 DSM Targets

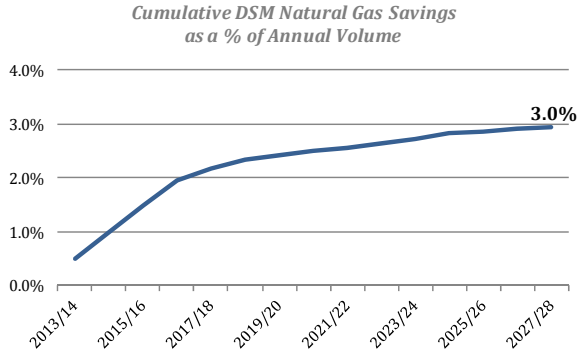
2.1.1 Electric and Natural Gas DSM Savings

In summary, the plan sets out to realize electricity savings of 490 MW and 1,552 GW.h, natural gas savings of 59 million cubic meters and combined global greenhouse gas emission reductions of 1.2 million tonnes by 2027/28.

This activity represents 4.9% of the estimated electric load forecast and 3.0% of the estimated natural gas volume forecast by 2027/28.



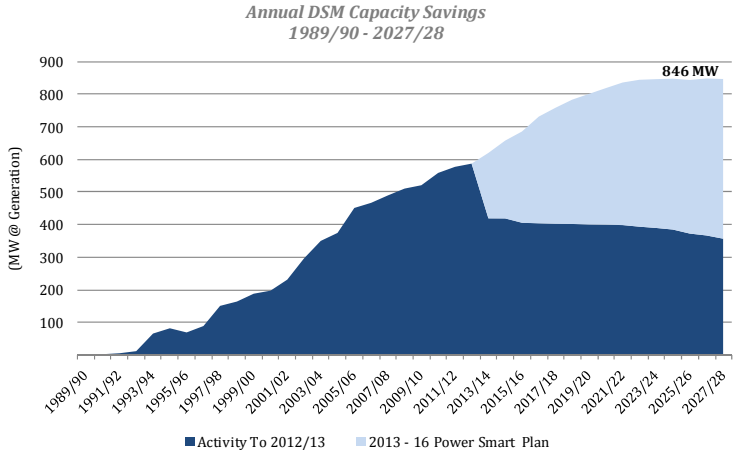
Note: Total DSM Electric savings per the above graph includes forecast savings from program impacts and savings from Codes, Standards and Regulations.
Source of Load Forecast: 2012 Electric Load Forecast

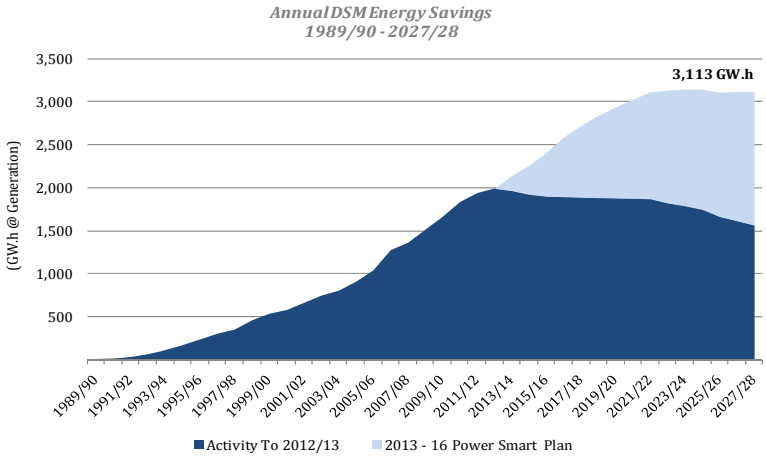


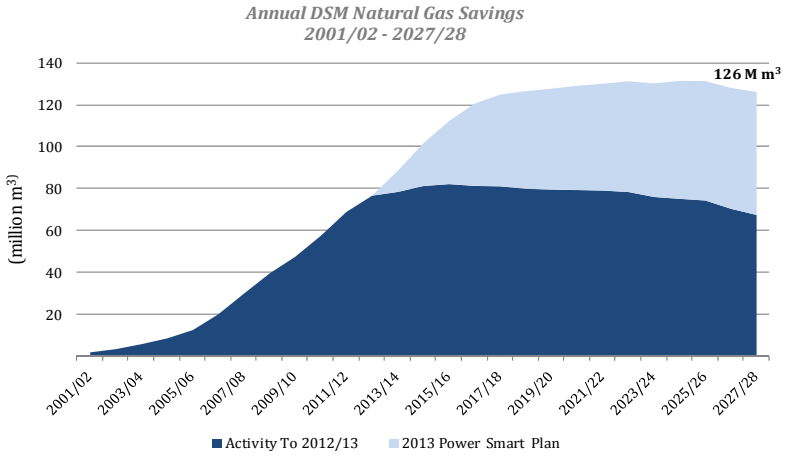
Note: Total DSM Natural Gas savings per the above graph includes forecast savings from program impacts and Codes, Standards and Regulations
Source of Natural Gas Volume Forecast: 2012 Natural Gas Volume Forecast

Combined with energy savings achieved to date, total electrical savings of 846 MW and 3,113 GW.h and total natural gas savings of 126 million cubic meters will be realized by 2027/28. These combined energy savings are expected to result in an overall reduction of greenhouse gas emissions of 2.3 million tonnes by 2027/28. This activity represents 9.8% of the estimated electric load forecast and 6.3% of the estimated natural gas volume forecast by 2027/28.

The following charts graphically represent the capacity, electric energy and natural gas energy savings achieved to date and the savings anticipated from future DSM activity for the 2013–2016 Power Smart Plan:







The following table shows detailed DSM savings associated with the 2013-16 Power Smart Plan by sector to 2027/28.

Electric and Natural Gas DSM Savings
2013/14 - 2027/28

	Annual Capacity (MW)		Annual Energy (GW.h)		Annual Energy (million m^3)	
Residential						
Home Insulation Program	5.6		10.5		3.8	
Water and Energy Saver Program	1.2		5.8		1.6	
Lower Income Energy Efficiency Program						
Lower Income Energy Efficiency Program - Insulation	2.1		5.3		2.3	
Lower Income Energy Efficiency Program - Furnace	n/a		n/a		0.0	
Lower Income Energy Efficiency Program - Total	2.1		5.3		2.3	
Refrigerator Retirement Program	0.1		0.5		-	
Residential Programs Total (@ Meter)	9.0	3%	22.1	3%	7.7	17%
Customer Service Initiatives / Financial Loan Programs						
Power Smart Residential Loan	2.7		5.1		5.1	
Power Smart PAYS Financing	1.6		3.4		0.7	
Residential Earth Power Loan	5.3		22.1		1.7	
Residential CSI / Financial Loan Programs Total (@ Meter)	9.6	3%	30.7	4%	7.5	16%
Commercial						
Commercial Lighting Program	49.1		176.4		-	
Commercial Building Envelope - Windows Program	4.7		11.8		2.1	
Commercial Building Envelope - Insulation Program	4.2		10.8		5.1	
Commercial Earth Power Program	6.1		25.4		n/a	
Commercial HVAC - Boiler	n/a		n/a		2.7	
Commercial HVAC - Chiller	-		6.5		n/a	
Commercial HVAC - C02 Sensors	0.7		1.0		0.9	
Custom Measures Program	3.8		14.4		2.1	
Commercial Building Optimization Program	2.9		14.2		3.7	
New Buildings Program	21.7		81.7		5.7	
Commercial Refrigeration Program	2.7		24.2		-	
Commercial Kitchen Appliance Program	0.1		0.4		0.1	
Network Energy Management Program	0.0		0.0		-	
Internal Retrofit Program	1.2		8.1		0.0	
Commercial Programs Total (@ Meter)	97.2	32%	374.8	55%	22.5	49%
Customer Service Initiatives / Financial Loan Programs						
Power Smart For Business PAYS Financing	0.6		2.2		0.1	
Commercial CSI / Financial Loan Programs Total (@ Meter)	0.6	0%	2.2	0%	0.1	0%
Industrial						
Performance Optimization Program	30.4		193.5		n/a	
Industrial Natural Gas Optimization Program	n/a		n/a		6.4	
Industrial Programs Total (@ Meter)	30.4	10%	193.5	28%	6.4	14%
Energy Efficiency - Subtotal (@ Meter)	146.7	49%	623.4	91%	44.2	97%
Load Management						
Curtailable Rates Program	147.3		n/a		n/a	
Load Management Programs Total (@ Meter)	147.3	49%	0.0	0%	0.0	0%
Load Displacement & Alternative Energy						
Bioenergy Optimization Program	7.3		63.4		1.5	
Load Displacement & Alt. Energy Programs Total (@ Meter)	7.3	2%	63.4	9%	1.5	3%
Program Impacts Total (@ Meter)	301.3	100%	686.7	100%	45.8	100%
Interactive Effects					-0.6	
Codes, Standards and Regulations (@ Meter)	135.1		683.3		13.4	
Power Smart 2013/14 to 2027/28 Impacts (@ Meter)	436.5		1,370.0			
Power Smart 2013/14 to 2027/28 Impacts (@ Generation)	490.2		1,551.5		58.6	
Savings Achieved To 2012/13 (@ Meter)	314.6		1,381.2			
Savings Achieved To 2012/13 (@ Generation)	355.6		1,561.5		67.4	
Grand Total (@ Meter)	751.0		2,751.2			
Grand Total (@ Generation)	845.8		3,113.0		126.0	

2.1.2 Other Fuel Savings

Through funding from the Affordable Energy Fund, residential customers using heating sources other than natural gas and electricity are eligible to participate in the Home Insulation, Water & Energy Saver and Oil & Propane Furnace Replacement programs. The following table provides the oil and propane fuel savings estimated to be achieved through this funding.

It is estimated that savings of 418,900 litres of fuel oil and 134,000 litres of propane will be achieved from 2013/14 to 2027/28.

Affordable Energy Fund Other Fuel Savings
2013/14 - 2027/28
(000s, litres)

	2013/14	2014/15	2015/16-2027/28
Fuel Oil Savings			
Home Insulation Program	10.5	10.5	21.0
Water & Energy Saver Program	5.9	5.9	0.0
Oil & Propane Furnace Replacement	46.0	46.0	273.1
Annual Fuel Oil Savings	62.4	62.4	294.1
Cumulative Fuel Oil Savings, 2013/14 - 2027/28	62.4	124.8	418.9
Propane Savings			
Home Insulation Program	6.0	6.0	12.0
Water & Energy Saver Program	4.0	4.0	0.0
Oil & Propane Furnace Replacement	12.9	12.9	76.3
Annual Propane Savings	22.9	22.9	88.3
Cumulative Propane Savings, 2013/14 - 2027/28	22.9	45.8	134.0

2.1.3 Energy Efficient Codes & Standards Savings

Canadian and U.S. electric utilities, including Manitoba Hydro, have been engaged in DSM activities for many years. In addition to utility specific DSM programs, Manitoba Hydro's strategy to affect change in codes and standards involves being an aggressive and active participant and, in many cases, a driving force on a number of provincial and national energy efficiency codes and standards committees. The focus of Manitoba Hydro's efforts on these committees is to advance the progress of product efficiency improvements through the development of minimum energy performance standards and to develop energy efficient codes and regulations.

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

Energy savings from Codes & Standards

In many markets, the most effective and permanent form of market transformation for energy efficient technologies and practices is the adoption of energy efficient codes and standards as it ensures that customers do not revert to less efficient technologies/practices once the incentives and/or promotional activities are discontinued. Consequently, the process of achieving these changes is complex and lengthy as it involves many stakeholders, varying environmental and market conditions and market acceptance to ensure successful implementation.

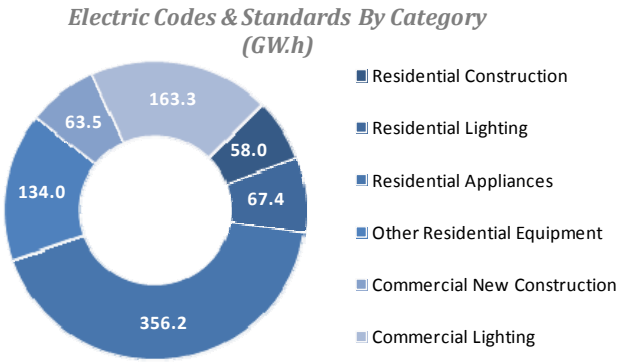
As a result of efforts to achieve energy savings through Energy Efficient Codes and Standards initiatives, the 2013–2016 Power Smart Plan forecasts achieving capacity savings of 171 MW, energy savings of 842 GW.h and 19 million cubic meters of natural gas annually by 2027/28. As a result of these savings, a greenhouse gas emissions reduction of 0.6 million tonnes is expected by 2027/28.

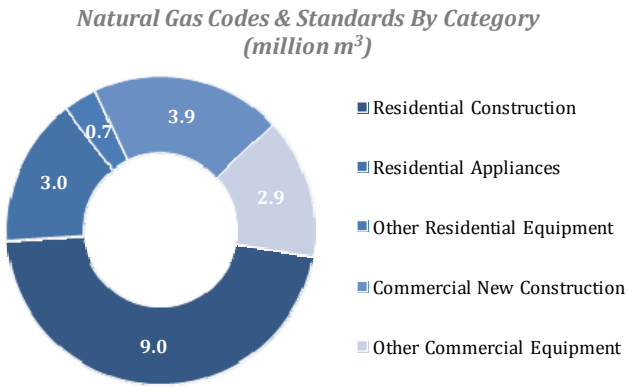
The following table and charts provide a summary of the planned energy savings in 2027/28 from codes and standards. Future DSM plans will provide updated forecasts of savings from codes and standards based on new information.

Energy Savings from Codes & Standards
2013/14 - 202728

Code Category	Components	Energy and Demand Savings Winter MW	Energy and Demand Savings Annual GW.h	Natural Gas Annual millions m^3	CO2 Reductions Annual Tonnes
Residential Construction	Insulation, Windows, Pilot Light Gas Fire Place, Furnance, Heat Recovery Ventilation, Showerhead	31.2	58.0	9.0	56,257
Residential Lighting	General Service Lamps	16.4	67.4	0.0	45,487
Residential Appliances	Dishwashers, Clothes Washers, Clothes Dryers, Refrigerators, Freezers, Ranges, Stoves, Cooktops	53.6	356.2	3.0	246,207
Other Residential Equipment	Electric Hot Water Tank, Central Air Conditioning, Residential Furnace	7.5	134.0	0.7	91,795
Commercial New Construction	Various Building Code Amendments	16.9	63.5	3.9	50,301
Commercial Lighting	Fluorescent Lighting, Exit Signs, Fluorescent Lamp Ballasts	45.4	163.3	0.0	110,198
Other Commercial Equipment	Commercial Furnace, Boiler and Hot Water Tanks	0.0	0.0	2.9	5,463
Total @ Generation		171.0	842.4	19.5	605,708

** Totals per above include savings attributed to specific Power Smart programs and thus differ from Codes and Standards savings reported in Appendices A.1, A.3 and C.1*





Status of Codes and Standards

The following table summarizes the status of the changes to codes and standards included in the 2013–2016 Power Smart Plan, including actual or expected dates.

For electricity, changes that account for 85% of total energy savings have been enacted, 8% have been announced and 8% are planned.

For natural gas, changes that account for 67% of total energy savings have been enacted, 13% have been announced and 20% are planned.

Status of Changes to Codes and Standards

Code Category	Components	Energy Annual GW.h	Natural Gas Annual million m^3	Level of Government	Expected Effective Date		
					Enacted	Announced	Planned
Residential Construction	Building Code - Insulation	12.6	1.1	MB	2008		
Residential Construction	Building Code - Various measures	45.4	7.9	MB	2010		
Residential Lighting	General Service Lamps	67.4	0.0	Federal		2014	
Residential Appliances	Various appliances	356.2	3.0	Federal			
Other Residential Equipment	Electric Hot Water Tank	37.8	0.0	Federal	2004		
Other Residential Equipment	Central Air Conditioning	96.3	0.0	Federal	2006		
Other Residential Equipment	Residential Furnace	0.0	0.7	Federal / MB	2009		
Commercial New Construction	Building Code	63.5	3.9	MB			2013
Commercial Lighting	Fluorescent Lighting	4.4	0.0	Federal	1996		
Commercial Lighting	Exit Signs	1.9	0.0	Federal	2004		
Commercial Lighting	Fluorescent lamp ballasts (New / Reno)	157.0	0.0	Federal	2006 / 2010		
Other Commercial Equipment	Commercial Furnace	0.0	0.4	Federal / MB	2009		
Other Commercial Equipment	Commercial Boilers	0.0	2.1	Federal / MB		2015	
Other Commercial Equipment	Hot Water Tanks	0.0	0.4	Federal / MB		2016	
Total (GW.h)		842.4			711.5	67.4	63.5
					85%	8%	8%
Total (million m^3)			19.5		13.1	2.5	3.9
					67%	13%	20%

Code, Standard & Regulation Descriptions

The following section describes each of the codes and standards listed in the Summary Table noted in Section 2.1.3.

Residential Construction

Building Code
Manitoba Building Code, amendment (PROVINCIAL)
Regulation 4/2008
Registered: January 11, 2008
Effective date: October 1, 2008

Manitoba Hydro has been offering the Power Smart New Home program to customers across the province since 2004. The New Home program promoted and offered incentives to customers for the installation of energy efficient technologies and building practices within the New Home construction industry. Manitoba Hydro worked closely with industry stakeholders like the Manitoba Home Builders' Association when developing requirements for the program. Specifically, the Power Smart New Home program has required and been promoting a minimum requirement for R20 insulation in the foundation walls of new homes since 2004.

Changes to Table 9.25.5.2. (Minimum Thermal Resistance for the Building Envelope) of the Manitoba Building Code (Regulation 127/2006) came into effect on October1, 2008. The changes related to the minimum requirement for insulation R-value for the interior and exterior foundation walls of new homes. The code change increased the minimum required insulation value from R12 to R20.

Building Code
Manitoba Building Code, amendment (PROVINCIAL)
Regulation 142/2010
Registered: October 4, 2010
Effective date: December 1, 2010

Manitoba Hydro has promoted energy efficient technologies and building practices within the residential new construction segment through delivery of the Power Smart New Home Program. When developing program requirements, Manitoba Hydro worked closely with industry stakeholders like the Manitoba Home Builders Association.

Through the delivery of the Power Smart Gold Home offering, Manitoba Hydro planned to aid the advancement of future building code by promoting and offering incentives to customers to build their home with Power Smart recommended technologies and construction practices. The Gold standard announced in 2007 required the use of heat recovery ventilators (HRV), 94 % AFUE furnaces, electronic ignition for natural gas fireplaces, R50 attic insulation, water efficient fixtures and many other building envelope improvements.

Effective December 1st, 2010, Manitoba implemented changes to the building and plumbing codes that increased energy and water efficiencies. These changes were the result of extensive consultations by the Office of the Fire Commissioner involving new homebuilders, contractors and technical experts. The new efficiencies incorporated into new construction and homes undergoing extensive renovations included:

- specifying minimum energy-efficiency requirements for windows,
- eliminating the pilot light in gas fireplaces,
- increasing the required level of attic insulation to R50,
- requiring a minimum 94 per cent fuel-efficiency rating for furnaces,
- specifying a mid-efficient heat-recovery ventilator, and
- introducing energy-modeling software that will allow builders to model alternatives to the code requirements.
- Requiring a maximum flow rate for primary showerheads to 1.75 GPM

Through its close working relations with key industry stakeholders and the Power Smart New Home Program offering, Manitoba Hydro succeeded in advancing these changes to the Manitoba Building code. In fact, a majority of the technologies adopted by the Manitoba Building Code for the December 1, 2010 update were part of the aforementioned Power Smart Gold Home standard requirements. Without the program providing information, education, training, and incentives for these technologies and building practices, the industry would have been less likely to adopt these technologies and transform the market. The program created demand for these technologies, provided builders an opportunity to gain experience using them, and provided trades and contractors training opportunities to advance their expertise and knowledge of the technologies.

In the area of Residential Construction, Manitoba Hydro estimates that the code will realize electric savings of 31.2 MW and 58.0 GW.h and natural gas savings of 9.0 million cubic meters by 2027/28.

Residential Lighting

General Service Lamps
National Resources Canada (FEDERAL)
Amendment 10 to Energy Efficiency Regulations
Published: December 24, 2008 (Canada Gazette Part II)
Effective date(s): January 1st, 2012 - 75 to 100 watt equivalent lamps
December 31st, 2012 - 40 to 60 watt equivalent lamps

The Government of Canada announced in Amendment 10 to the Energy Efficiency Regulations, published on December 24, 2008, that they would introduce Minimum Energy Performance Standards (MEPS) for general service lamps in 2012. The consequent Regulations came into force in December 2008 and applied to 100 and 75 W bulbs manufactured on or after January 1, 2012, and to 60 and 40 W bulbs manufactured on or after December 31, 2012. The Regulations prohibit the importation and interprovincial shipment of non-compliant products. The Regulations provide for a number of alternatives to inefficient bulbs. Where no alternatives exist, exemptions are made.

Proposed Extended Effective Date

Currently, a delay in the date for compliance with Canada's efficiency standards for general service lighting for 100/75/60/ 40 W light bulbs (general service lamps) is required in order to strengthen communication activities, to allow for technology innovations and to consider the concerns expressed about the availability of compliant technologies and perceived health and mercury issues, including safe disposal for compact fluorescent lamps (CFLs).

The proposed amendment would delay the completion dates for general service lighting currently prescribed in the Energy Efficiency Regulations (the Regulations) by two years to January 1, 2014, for 100/75 W bulbs and to December 31, 2014, for 60/40 W bulbs.

The Residential Lighting program will continue to interact with the groups/agencies involved with regulating Canada's Minimum Energy Performance Standards (MEPS) for general service lighting forecasted. Manitoba Hydro will continue to actively participate on the Strategic Lighting Initiatives Committee (SLIC) and the Canadian Lighting Industry Committee (CLIC).

In the area of Residential Lighting, Manitoba Hydro estimates that the regulation will realize electric savings of 16.4 MW and 67.4 GW.h by 2027/28.

Residential Appliances

Manitoba Hydro is a key player on the Canadian Standards Association's Strategic Steering Committee on Performance, Energy Efficiency and Renewables (SCOPEER). This committee is responsible for changes to provincial and national performance standards and legislation which have resulted in the improvement of energy utilization of numerous appliances such as dishwashers, clothes washers & dryers, refrigerators and freezers, and ranges/stoves/cooktops.

In the area of Residential Appliances, Manitoba Hydro estimates that changes will realize electric savings of 53.6 MW and 356.2 GW.h and natural gas savings of 3.0 million cubic meters by 2027/28.

Other Residential Equipment

Hot Water Tank Standby Losses
National Resources Canada (FEDERAL)
Amendment 8 to Energy Efficiency Regulations
Test Standard: CAN/CSA-C191-00
Published: September 22, 2004 (Canada Gazette Part II)
Effective date(s): July 1, 2004

Standby heat loss is the heat lost and energy wasted by heating water and storing it in a tank such as the case with traditional tank hot water heaters. That is, heat leaches from the tank to the surrounding air, causing the heater to heat up the water again Storage water heater models with heavily insulated tanks can significantly reduce heat loss.

In 2004, the CSA published a standard (C191-00) which specified requirements related to delivery, minimum standby performance, heater element ratings, and marking of electric storage tank water heaters. With respect to electric water heaters, the changes raised the minimum efficiency, through a 26W reduction in allowable standby loss across tank sizes, which resulted in annual energy savings of approximately 217 kW.h per tank. For standards, standby heat loss savings are based on the water heated for use by dishwashers and clothes washers.

Central Air Conditioning
National Resources Canada (FEDERAL)
Amendment 9 to Energy Efficiency Regulations
Test Standard: CAN/CSA-C656-05
Published: November 15, 2006 (Canada Gazette Part II)
Effective date(s): November 15, 2006

In November 2006, the CSA published a standard (C656-05) which specified mandatory MEPS applied to permanently installed 'air-source' air-conditioner and heat pumps. Equipment types include air conditioners and heat pumps that are single package and split system, single and three-phase, with rated capacity of less than 19 kW (65,000 Btu/h). For air conditioners, a minimum SEER rating of 13 was mandated.

Manitoba Hydro provides a fixed interest finance plan that may be used for renovations including central air, mid-efficient natural gas/electric furnaces and water heaters, direct vent natural gas fireplaces, security lights and fixtures under the Energy Finance Plan. Pre 2005, a minimum SEER rating of 10 for Air Conditioners was required for eligibility for financing under the plan. In order to comply with the forthcoming national standard, Manitoba Hydro raised the minimum SEER to 13 for eligibility of financing in October, 2005; approximately one year earlier.

Residential High Efficiency Furnace
National Resources Canada (FEDERAL)
Amendment 10 to Energy Efficiency Regulations
Published: December 24, 2008 (Canada Gazette Part II)
Effective date: December 31, 2009

On December 12, 2008 the Federal Government amended the Energy Act to require increased efficiency requirements for replacement gas (natural gas and propane) furnaces and boilers. Effective December 31, 2009 replacement furnaces up to 225 000 Btu/h sold in Canada are required to have a minimum AFUE of 90%.

Manitoba Hydro played a material role in the amendment of the Federal Energy Act. Manitoba Hydro staff assisted the Federal Government by providing technical and market data regarding the heating market in Manitoba and comments to the proposed Amendment during the consultation process. Power Smart Programs such as the Residential Loan and the High Efficiency Furnace and Boiler Rebate influenced the Manitoba market to the point that 80% of all equipment installed in 2009 was high efficiency products, thus making the Amendment acceptable to the industry and to consumers.

The Energy Act (PROVINCIAL)
Regulation 181/2009
Published: November 12, 2009
Effective date: December 30, 2009

On November 12, 2009 the Manitoba Government passed a regulation under the Energy Act to require increased efficiency requirements for replacement gas (natural gas and propane) furnaces and boilers. Effective December 30, 2009 replacement furnaces up to 225 000 Btu/h sold in Manitoba are required to have a minimum AFUE of 92%.

Manitoba Hydro played a major role in the development of the Provincial Regulation. Manitoba Hydro staff assisted the Province by providing technical and market data regarding the heating market, hosting an industry consultation with contractors and other interested parties, preparing a formal market impact study, and providing general guidance to regulatory staff. Power Smart Programs such as the Residential Loan and the High Efficiency Furnace and Boiler Rebate influenced the market to the point that 80% of all equipment installed in 2009 was high efficiency products, thus making regulation acceptable to the industry.

In the area of Other Residential Equipment, Manitoba Hydro estimates changes will realize electric savings of 7.5 MW and 134.0 GW.h and natural gas savings of 0.7 million cubic meters by 2027/28.

Commercial New Construction

Building Code

The national commitment to update the 1997 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. Although Manitoba's Minister of Labour provided written support signaling Manitoba's intention to adopt the document once published, the Province still moved forward with their 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 NECB.

In January 2011, the energy efficiency amendments to the Manitoba building code were developed and approved by the Building Standards Board of Manitoba and the Minister of Labour. However, with the NECB already through its public consultation phase and with a targeted release date of Fall 2011, it was decided to hold back on regulating the specific Manitoba amendments and review and implement the NECB. The sub-committee that developed the Manitoba amendments has been reconvened in 2012 with the task of reviewing the NECB and determining its applicability to the Manitoba market. Once again, Manitoba Hydro will have a key role with several Power Smart staff contributing to this process. The sub-committee will be aiming for a recommendation that will be formalized through regulation to meet an early 2013 enforcement date.

Manitoba Hydro staff have contributed to the national process and had Customer Engineering Services staff formally attend regular code development meetings to ensure Manitoba Hydro objectives were met. Manitoba Hydro staff were also members of the Manitoba Building Standards Board Sub-Committee on Energy and Water Efficiency which was responsible for recommending that the Province adopt the 2011 NECB and for creating additional recommendations specific to Manitoba that would be incorporated as amendments.

In the area of Commercial New Construction, Manitoba Hydro estimates changes will realize electric savings of 16.9 MW and 63.5 GW.h and natural gas savings of 3.9 million cubic meters by 2027/28.

Commercial Lighting

Since 1992, Manitoba Hydro has been actively promoting energy efficient lighting technologies for commercial applications. Activities involved in developing lighting standards include:

- In collaboration with other utilities, identify necessary research
- Work with Canadian Electrical Association
- Liaise with manufacturers to encourage the development and improvement of energy efficient lighting
- Product testing
- Liaise with National Research Council
- Participation on the CSA Standards Setting Committee
- Participation on the Canadian Lighting Industry Collaborative

T12 Fluorescent Lighting
National Resources Canada (FEDERAL)
Amendment to Energy Efficiency Regulations
Effective date: 1996

Manitoba Hydro's involvement in the area of Commercial Lighting supported the Federal Government's efforts to implement efficiency standards for T12 fluorescent lighting systems in April 1996 under the National Energy Efficiency Act. Under these new regulations, standard fluorescent T12 lamps are now non-complying and only reduced energy and high performance versions can be manufactured and sold in Canada (e.g. the previous standard 40-watt T12 lamp is now replaced with a new 34-watt T12 lamp).

Exit Signs
National Resources Canada (FEDERAL)
Amendment 8 to Energy Efficiency Regulations
Test Standard: CAN/CSA-C860-01
Published: September 22, 2004 (Canada Gazette Part II)
Effective date: November 1, 2004

In September of 2004, Natural Resources Canada's (NRCan's) Office of Energy Efficiency (OEE) amended Canada's Energy Efficiency Regulations (the Regulations) in order to strengthen the minimum energy performance standard for internally lighted exit signs with the publication of Amendment 8 in Canada Gazette Part II. This standard contains voluntary minimum performance standards of 22 watts for signs 120 V or less, and 27 watts for signs greater than 120 V. These levels were harmonized with the National Building Code of Canada. The standard also addresses the visibility performance of the exit sign. To meet these standards, typically requires that LED technology be employed. In the area of LED lighting, the program supported these minimum efficiency levels for new exit signs with signs set at a level that only LED exit signs could meet.

Fluorescent lamp ballasts
National Resources Canada (FEDERAL)
Amendment 9 to Energy Efficiency Regulations
Test Standard: CAN/CSA-C654-M91
Published: November 15, 2006 (Canada Gazette Part II)
Effective date(s): November 15th, 2006 (New Construction Market)
April 1st, 2010 (Renovation Market)

In November of 2006, Natural Resources Canada's (NRCan's) Office of Energy Efficiency (OEE) amended Canada's Energy Efficiency Regulations (the Regulations) in order to strengthen the minimum energy performance standard for florescent lamp ballasts with the publication of Amendment 9 in Canada Gazette Part II. Manitoba Hydro's lighting initiative helped support this Federal code change that required fluorescent lamp ballasts meet a prescribed minimum energy performance standard in the new construction market in 2006 and the renovation market in 2010.

In the area of Commercial Lighting, Manitoba Hydro estimates that the regulations will realize electric savings of 45.4 MW and 163.3 GW.h by 2027/28.

Other Commercial Equipment

Commercial High Efficiency Furnace
National Resources Canada (FEDERAL)
Amendment 10 to Energy Efficiency Regulations
Published: December 24, 2008 (Canada Gazette Part II)
Effective date: December 31, 2009

On December 12, 2008 the Federal Government amended the Energy Act to require increased efficiency requirements for replacement gas (natural gas and propane) furnaces and boilers. Effective December 31, 2009 replacement furnaces up to 225 000 Btu/h sold in Canada are required to have a minimum AFUE of 90%.

Manitoba Hydro played a material role in the amendment of Canada's Energy Efficiency Act. Manitoba Hydro staff assisted the Federal Government by providing technical and market data regarding the furnace market in Manitoba and comments to the proposed Amendment during the consultation process. Power Smart programs such as the Power Smart Residential Loan, the Residential High Efficiency Furnace and Boiler Rebate, and the Commercial HVAC Program - High Efficiency Furnace incentive all influenced market adoption; increasing market penetration of high efficiency furnaces in Manitoba commercial buildings from the pre-program average of 30% to 75% at program termination. Manitoba Hydro's involvement has expedited market transformation and thus facilitated the adoption of the federal efficiency regulation.

The Energy Act (PROVINCIAL)
Regulation 181/2009
Published: November 12, 2009
Effective date: December 30, 2009

On November 12, 2009 the Manitoba Government passed a regulation under the Energy Act to require increased efficiency requirements for replacement gas (natural gas and propane) furnaces and boilers. Effective December 30, 2009 replacement furnaces up to 225 000 Btu/h sold in Manitoba are required to have a minimum AFUE of 92%.

Manitoba Hydro played a material role in the development of the provincial efficiency regulation. Manitoba Hydro staff assisted the Manitoba Government by providing technical and market data, hosting an industry consultation with contractors and other interested parties, preparing a formal market impact study, and providing general guidance to regulatory staff. Power Smart programs such as the Residential Loan, the Residential High Efficiency Furnace and Boiler Rebate, and the Commercial HVAC Program - High Efficiency Furnace incentive all helped to expedite market adoption of high efficiency furnaces in Manitoba commercial buildings from the pre-program average of 30% to 75% at program termination. Manitoba Hydro's active involvement had expedited market transformation, and thus facilitated the adoption of the provincial efficiency regulation.

<u>Commercial Boilers</u>
National Resources Canada (FEDERAL)
Bulletin published: August 2010
Test Standard: HI BTS 2000, Rev 06.07 Method to Determine Efficiency of Commercial Space Heating Boilers
Proposed Effective date(s): March, 2015 (90% Min Efficiency Rating - New Construction Market)
March, 2015 (85% Min Efficiency Rating - Existing Buildings Market)

In August of 2010, Natural Resources Canada's (NRCan's) Office of Energy Efficiency (OEE) Natural Resources Canada (NRCan) proposed to amend Canada's ENERGY EFFICIENCY REGULATIONS (the Regulations) to require dealers to comply with minimum energy performance standards (MEPS) for commercial gas and oil-fired boilers, imported or shipped inter-provincially, for sale or lease in Canada. NRCan proposes that commercial packaged boilers meet minimum efficiency ratings of 90% for the New Construction mark and 85% for the Replacement Market, effective March, 2015.

Manitoba Hydro proposes that the Provincial Government enact regulations under The Energy Act, requiring a minimum performance level for all natural gas boilers sold to new Manitoba buildings. By April 1 2013, Manitoba Hydro proposes that all commercial boilers be condensing, with a minimum efficiency rating of 90%. This regulation is equivalent to the proposed federal regulation, but will be enacted two years earlier.

Manitoba Hydro will play a material role in the development of a provincial efficiency regulation for commercial natural gas boilers. Manitoba Hydro staff will assist the Manitoba Government by providing technical and market data, hosting an industry consultation with contractors and other interested parties, preparing a formal market impact study, and providing general guidance to regulatory staff. The Commercial HVAC Program will continue to expedite market adoption of high efficiency boilers in all commercial buildings from it pre-program average of 30% to an estimated 72% by April 2013, thus facilitating the adoption of a provincial performance standard two years earlier than the rest of Canada.

Manitoba Hydro proposes that the Provincial Government enact regulations under The Energy Act, requiring a minimum performance level for all natural gas boilers sold to existing Manitoba buildings. By March 2015, Manitoba Hydro proposes that all commercial boilers be condensing, with a minimum efficiency rating of 90%. This is approximately 5% higher than the proposed federal regulation requiring all boilers sold to be at least 85% efficient (near-condensing).

Manitoba Hydro will play a material role in the development of a provincial efficiency regulation for commercial natural gas boilers. Manitoba Hydro staff will assist the Manitoba Government by providing technical and market data, hosting an industry consultation with contractors and other interested parties, preparing a formal market impact study, and providing general guidance to regulatory staff. The Commercial HVAC Program will continue to expedite market adoption of high efficiency boilers in all commercial buildings from it pre-program average of 30% to an estimated 75% by March 2015, thus facilitating the adoption of a higher performance standard in Manitoba.

<u>Commercial Hot Water Tanks</u>
National Resources Canada (FEDERAL)
Bulletin published: June 2010
Test Standard: CAN/CSA-P.3-04 "Testing Method for Measuring Energy Consumption and Determining Efficiencies of Gas-Fired Storage Water Heaters."
Proposed Effective date(s): January 1, 2016

The Office of Energy Efficiency (OEE) of Natural Resources Canada (NRCan) is proposing to amend Canada's Energy Efficiency Regulations (the Regulations) under which dealers in Canada would be required to comply with higher efficiency requirements for gas and oil water heaters and new reporting requirements for electric water heaters. For the first time in Canada, commercial water heaters and tankless water heaters will have minimum efficiency requirements. These proposed revisions would apply to water heaters that are imported or shipped across provincial boundaries for sale or lease in Canada and would require all tank natural gas water heaters sold in Canada to be condensing efficiency (minimum 90% thermal efficiency) by 2016.

The Commercial Water Heater Program will work with the provincial government to pass a regulation under The Energy Act, imposing a minimum performance level of 90% thermal efficiency (TE) for all commercial natural gas water heaters, including tankless water heaters, offered for sale or for lease in Manitoba.

Based on past experience with provincial codes, Manitoba Hydro staff will assist the Manitoba Government by providing technical and market data, hosting an industry consultation with contractors and other interested parties, preparing a formal market impact study, and providing

general guidance to regulatory staff. The Commercial Water Heater Program will also help to expedite market adoption of high efficiency water heaters in Manitoba commercial buildings through rebates and education. Manitoba Hydro's active involvement will expedite market transformation, and thus facilitate the adoption of the provincial efficiency regulation.

In the area of Other Commercial Equipment, Manitoba Hydro estimates changes will realize natural gas savings of 2.9 million cubic meters by 2027/28.

At an Industrial level, Manitoba Hydro currently undertakes codes and standards development work with the following organizations:

- Natural Resources Canada (NRCAN)
- Province of Manitoba
- Canadian Standards Association (CSA), including BC Hydro, Hydro Quebec, Ontario Power Authority, Ontario Ministry of Energy, etc)
- Centre for Energy Advancement through Technological Innovation (CEATI)
- US Department of Energy (DOE)
- Institute of Electronic and Electrical Engineers (IEEE)
- International Electrotechnical Commission (IEC)
- American Council for an Energy-Efficient Economy (ACEEE)
- Electric Power Research Institute (EPRI)
- Energy Solutions Center (ESC)
- American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE)
- Canadian Gas Association (CGA)

This work pertains primarily to industrial and commercial equipment that incorporates or applies to electric motors, variable speed drives, air compressors, compressed air systems, fans, pumps, transformers, power quality systems, battery charges, uninterruptible power supplies, lighting systems, refrigeration, heating, ventilation and air conditioning systems, and building envelope incorporating both natural gas and electric supply.

Areas of involvement include, test methods for determination of energy efficiency, performance standards, application guides for efficiency test methods and performance standards and repair standards (to maintain efficiency).

2.2 DSM Utility Investment

2.2.1 Internal Sources

The following table provides the cumulative electric and natural gas internal DSM investment totals to 2027/28 broken down by market sector and cost basis. Including other internal DSM investments, it is expected that by 2027/28, an additional cumulative investment amount of $421 million dollars will have been spent on Power Smart programs and initiatives. Including investments to date, it is expected that by 2027/28, a cumulative investment of achieving the energy savings will have been $958 million dollars.

Internal DSM Utility Investment
2013/14 - 2027/28

	Electric Cumulative Utility Costs (Millions 2012$)		Natural Gas Cumulative Utility Costs (Millions 2012$)		Total Cumulative Utility Costs (Millions 2012$)		
Residential							
Home Insulation Program	$4.4		$9.4		$13.8		
Water and Energy Saver Program	$1.6		$1.6		$3.2		
Lower Income Energy Efficiency Program							
Lower Income Energy Efficiency Program - Insulation	$3.0		$11.4		$14.3		**
Lower Income Energy Efficiency Program - Furnace	n/a		$9.2		$9.2		**
Lower Income Energy Efficiency Program - Total	$3.0		$20.5		$23.5		**
Refrigerator Retirement Program	$2.3		-		$2.3		
Residential Programs Total	$11.3	5%	$31.5	53%	$42.8	14%	
Commercial							
Commercial Lighting Program	$61.6		-		$61.6		
Commercial Building Envelope - Windows Program	$4.4		$2.9		$7.3		
Commercial Building Envelope - Insulation Program	$4.6		$8.6		$13.2		
Commercial Earth Power Program	$5.2		n/a		$5.2		
Commercial HVAC - Boilers	n/a		$1.1		$1.1		
Commercial HVAC - Chiller	$1.2		n/a		$1.2		
Commercial HVAC - C02 Sensors	$0.0		$0.4		$0.4		
Custom Measures Program	$4.0		$2.2		$6.2		
Commercial Building Optimization Program	$2.0		$4.3		$6.3		
New Buildings Program	$5.8		$3.9		$9.7		
Commercial Refrigeration Program	$4.1		-		$4.1		
Commercial Kitchen Appliance Program	$0.3		$0.4		$0.7		
Network Energy Management Program	$0.2		-		$0.2		
Internal Retrofit Program	$0.7		$0.0		$0.7		
Commercial Programs Total	$94.1	39%	$23.9	40%	$118.0	39%	
Industrial							
Performance Optimization Program	$41.5		n/a		$41.5		
Industrial Natural Gas Optimization Program	n/a		$3.3		$3.3		
Industrial Programs Total	$41.5	17%	$3.3	6%	$44.8	15%	
Energy Efficiency - Subtotal	$146.8	60%	$58.7	99%	$205.6	68%	
Load Management							
Curtailable Rates Program	$86.6		-		$86.6		
Load Management Programs Total	$86.6	35%	$0.0	0%	$86.6	29%	
Load Displacement & Alternative Energy							
Bioenergy Optimization Program	$10.9		$0.7		$11.6		
Load Displacement & Alt. Energy Programs Total	$10.9	4%	$0.7	1%	$11.6	4%	
Program Impacts Total	$244.3	100%	$59.4	100%	$303.8	100%	
Program Support and Contingency Costs	$81.2		$33.7		$115.0		
Power Smart Investment Total, 2013/14 - 2027/28	$325.6		$93.2		$418.7		
Other Internal DSM Investments							
Afforedable Energy Fund	$0.8		$1.5		$2.2		
Other Internal DSM Investments Total	$0.8		$1.5		$2.2		
Cumulative Investment Total, 2013/14 - 2027/28	$326.3		$94.6		$421.0		
Spent to 2012/13	$435.8		$100.8		$536.6		
Cumulative Investment Total, 1989/90 - 2027/28	$762.1		$195.5		$957.6		

*** Includes all Affordable Energy Fund Expenditures and Furnace Replacement Program*

The following table outlines the total projected DSM budget including all internal sources of funding to 2027/28. A total investment of $421 million is planned for the period of 2013/14 to 2027/28.

Forecasted Internal DSM Budget
2013/14 - 2027/28
(Millions 2012 $)

	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	Total
Electric DSM																
Electric Power Smart	29.0	26.2	25.5	24.8	23.5	22.6	20.8	19.8	19.7	19.6	20.0	19.6	18.8	17.1	16.9	323.6
Affordable Energy Fund	0.9	0.7	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
Annual Electric Budget	$29.9	$26.9	$26.1	$24.9	$23.5	$22.6	$20.8	$19.8	$19.7	$19.6	$20.0	$19.6	$18.8	$17.1	$16.9	$326.1
Natural Gas DSM																
Natural Gas Power Smart	9.4	9.1	7.8	7.5	5.4	4.5	3.6	3.5	3.2	3.3	3.8	3.7	3.7	3.7	3.3	75.4
Affordable Energy Fund	3.5	3.5	2.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1
Low Income Furnace Replacement Budget	2.4	2.4	2.2	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2
Annual Natural Gas Budget	$15.3	$15.0	$12.8	$9.9	$5.5	$4.5	$3.6	$3.5	$3.2	$3.3	$3.8	$3.7	$3.7	$3.7	$3.3	$94.6
Oil and Propane DSM																
Affordable Energy Fund	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	0.3
Annual Oil and Propane Budget	$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	$0.3
Manitoba Hydro Annual Budget	$45.3	$41.9	$38.9	$34.8	$29.0	$27.1	$24.4	$23.3	$22.9	$22.8	$23.8	$23.3	$22.5	$20.7	$20.1	
Cumulative Investment 2013/14 - 2027/28	$45.3	$87.2	$126.1	$160.9	$189.9	$217.1	$241.4	$264.7	$287.7	$310.5	$334.3	$357.6	$380.1	$400.8	$421.0	$421.0

Note: Figures may not add due to rounding

Including investments to date, it is expected that by 2027/28, a cumulative investment of achieving the energy savings will have been $958 million dollars, $749 million of the costs are funded through the Corporation's Power Smart electricity budget, $158 million from the Power Smart natural gas budget, $35 million from the Affordable Energy Fund, and $16 million from the Lower Income Natural Gas Furnace Replacement budget for targeting furnace replacement.

Total Internal DSM Budget
1989/90 - 2027/28
(Millions 2012 $)

	Expenditures to date 1989/90 - 2012/13	15 yr planning horizon 2013/14 - 2027/28	Total 1989/90 - 2027/28
Electric DSM			
Electric Power Smart	425.1	323.6	748.8
Affordable Energy Fund	10.3	2.4	12.7
Annual Electric Budget	$435.4	$326.1	$761.5
Natural Gas DSM			
Natural Gas Power Smart	82.6	75.4	158.0
Affordable Energy Fund	11.7	10.1	21.8
Low Income Furnace Replacement Budg	6.5	9.2	15.7
Annual Natural Gas Budget	$100.8	$94.6	$195.5
Oil and Propane DSM			
Affordable Energy Fund	0.3	0.3	0.6
Annual Oil and Propane Budget	$0.3	$0.3	$0.6
Cumulative Investment 1989/90 - 2027/28	$536.6	$421.0	$957.6

Note: Figures may not add due to rounding

Affordable Energy Fund

The Affordable Energy Fund is an internal fund established as a result of the Winter Heating Cost Control Act. The purpose of the Fund is to provide support for programs and services that achieve specific objectives outlined under the Act including encouraging energy efficiency and conservation through programs and services for rural and northern Manitobans, low income customers and seniors and encouraging the use of alternative energy sources such as renewable energy.

Manitoba Hydro established the Affordable Energy Fund following the passing of the Winter Heating Cost Control Act on November 20, 2006 in the Manitoba Legislature. The Affordable Energy Fund supports Manitoba Hydro's sustainable development initiatives.

The following projects and associated funding levels have been approved for support by the Affordable Energy Fund. As of March 31st, 2012 approximately $24.1 million of the Affordable Energy Fund had been spent, leaving the remaining $13.3 million to be allocated over the 2013/14 to 2027/28 horizon, of which $12.7 million is classified as part of the total internal DSM Utility Investment (as outlined in Section 2.2.1).

Affordable Energy Fund Budget
(Millions $)

	Total Budget	Expeditures to Date	Remaining Total Budget
Lower Income Program	23.1	12.6	10.5
Geothermal Support	1.6	1.4	0.2
Community Support and Outreach	0.8	0.6	0.2
Oil and Propane Heated Homes	0.3	0.3	0.0
Special Projects			
Residential ecoENERGY Audits	0.5	0.5	0.0
Oil and Propane Furnace Replacement	0.2	0.1	0.0
Solar Water Heaters	0.3	0.3	0.0
Residential Loan	2.5	1.3	1.1
Oil and Propane Heated Homes - Additional funding	0.3	0.1	0.2
Unallocated	0.1	0.1	0.0
Community Energy Development			
ecoENERGYProgram Funding	4.1	4.1	0.0
Residential Loan - Additional funding	0.4	0.4	0.0
Power Smart PAYS Financing Program	0.4	0.0	0.4
Sub-total	34.4	21.7	12.7
Energy & Resource Fund *	0.8	0.8	0.0
Manitoba Electric Bus *	1.2	0.9	0.4
FortWhyte EcoVillage *	0.1	0.1	0.0
Diesel Community Green Pilot Demonstration *	0.4	0.2	0.2
Métis Generation Fund *	0.5	0.5	0.0
TOTALS	$37.4	$24.1	$13.3

Note: Non Demand Side Management Budget*
Figures may not add due to rounding

The following table identifies the programs and associated funding levels that the Affordable Energy Fund will support over the Power Smart Planning horizon.

Affordable Energy Fund Budget
(Millions 2012 $)

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2020/21	2021/22-2027/28	Total
Lower Income Program	3.8	3.7	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5
Geothermal Support	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Community Support and Outreach	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Oil and Propane Heated Homes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Special Projects											
Residential ecoENERGY Audits	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oil and Propane Furnace Replacement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Solar Water Heaters	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Loan	0.4	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1
Oil and Propane Heated Homes - Additional funding	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Unallocated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Community Energy Development											
ecoENERGYProgram Funding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residential Loan - Additional funding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Power Smart PAYS Financing Program	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Sub-total	4.6	4.3	3.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	12.7
Energy & Resource Fund *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manitoba Electric Bus *	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4
FortWhyte EcoVillage *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Community Green Pilot Demonstration *	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Métis Generation Fund *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Annual Budget	5.0	4.4	3.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	13.3
Cumulative Budget, 2013/14 - 2027/28	$5.0	$9.4	$12.8	$13.1	$13.2	$13.2	$13.3	$13.3	$13.3	$13.3	$13.3

Note: Annual interest accruals are not included in the above forecast
Figures may not add due to rounding

Low Income Program

The Affordable Energy Fund supports the Lower Income Energy Efficiency Program by targeting low-income Manitobans through an individual, community and neighbourhood approach.

Geothermal Support

The Affordable Energy Fund provides funding to support the application of geothermal technology. A portion of the fund is being used to subsidize the interest rate for Residential Earth Power Loan program participants from 6.5 to 4.9 percent for the first five years of the loan term.

Community Support and Outreach

The Affordable Energy Fund provides funding for additional resources for the purpose of encouraging rural and northern customers to participate in Power Smart initiatives.

Oil and Propane-Heated Homes

The Affordable Energy Fund provides incentives to allow customers with wood, oil or propane heating to participate in Power Smart programs. The estimated savings of the other fuel types resulting from the installation of insulation in customer homes are provided in the next section of this report. (Note: Additional funding provided through the special projects category)

Special Projects

Residential Energy Assessment Service (ecoENERGY Audits)

The Affordable Energy Fund contributes the incremental costs associated with providing Manitoba Hydro's In-home Energy Assessment service under the Federal ecoENERGY Retrofit program to rural and northern Manitobans.

Oil & Propane Furnace Replacement

Manitoba Hydro extended the eligibility for the Power Smart Furnace Replacement Program to those customers upgrading an oil or propane furnace to a high efficiency electric or natural gas furnace.

Residential Solar Water Heating Program

Manitoba Hydro is partnering with Natural Resources Canada to deliver a residential solar water heating initiative in Manitoba. This initiative supports the application of solar domestic hot water pre-heating systems and the development of the local solar industry.

Power Smart Residential Loan

The Affordable Energy Fund provides funding to reduce the interest rate for the Power Smart Residential Loan from a cost recovery rate of 5.5% to a rate of 3.9%.

Oil and Propane-Heated Homes – Additional Funding

This initiative provides further funding to extend the eligibility of Power Smart programs to include homes currently heated by a source other than electricity and natural gas. As this additional funding is coming from a separate Affordable Energy Fund category than the original funding, it is tracked separately.

Community Energy Development

ecoENERGY Program Funding – Additional Funding

Additional funding has been allocated to support the cost of offering audits in Manitoba, involving a $100 subsidy for each audit plus the incremental cost of offering audits in rural and northern Manitoba.

Power Smart Residential Loan – Additional Funding

The Affordable Energy Fund provides additional funding to reduce the interest rate for the Power Smart Residential Loan from the cost recovery rate to a rate of 3.9%.

Power Smart PAYS Financing Program

This initiative provides funding to reduce the interest rate for the PAYS financing program from the cost recovery rate to a rate of 3.9%.

Energy and Resource Fund

The Affordable Energy Fund provided funding to the Energy and Resource Fund. Managed by the First Peoples Economic Growth Fund, this joint initiative between the Government of Manitoba and the Assembly of Manitoba Chiefs was created to maximize First Nations participation in Major Energy and Resource Projects.

Manitoba Electric Bus

Funding is provided to support the Manitoba Electric Bus Project; a joint initiative among the Province of Manitoba, Manitoba Hydro, Red River College, New Flyer Industries and Mitsubishi Heavy Industries. The objective of the project is to develop a commercially viable all-electric bus design with near-zero emissions for use in urban transit systems.

FortWhyte EcoVillage

The Affordable Energy Fund supported the research and design of a world-class ecovillage on land belonging to FortWhyte Alive.

Diesel Community Green Pilot Demonstration

This initiative provides funding to support a pilot demonstration focusing on green technologies in one of four diesel communities.

Métis Generation Fund for Resource & Energy Development

The Affordable Energy Fund is providing funding to the Métis Generation fund, managed by the Métis Economic Development Organization. This fund was created to enable Metis-owned businesses in Manitoba to invest in business growth and development within the resource and energy sectors in Manitoba.

Lower Income Natural Gas Furnace Replacement

The Lower Income Natural Gas Furnace Replacement budget is an internal allocation established as a result of Public Utility Board Order 99/07. The purpose of the allocation is to establish and administer a Furnace Replacement Program for low income customers.

The following table outlines the planned expenditures totalling $9.2 million over the next four years.

Lower Income Energy Efficiency Natural Gas Furnace Replacement Budget
(Millions 2012$)

	2013/14	2014/15	2015/16	2016/17 - 2027/28	Total
Lower Income Energy Efficiency Program Annual Budget Furnace Replacement	2.4	2.4	2.2	2.2	9.2
Cumulative Budget, 2013/14 - 2027/28	$2.4	$4.8	$7.0	$9.2	$9.2

Note: Figures may not add due to rounding

2.2.2 External Sources

Manitoba Hydro's Power Smart programs are supported by funding from external organizations as outlined in the following table.

The Lower Income Energy Efficient Program includes partnership funding from the Provincial Government. This external funding is expected to total $8.8 million over the period of 2013/14 to 2027/28. Manitoba Hydro will continue to encourage energy efficiency and conservation to lower income Manitobans throughout planning horizon. Program staff will review programming and spending prior to 2015/16 and determine what opportunities and funding sources are available beyond that date. A placeholder for the projected funds required to support these continued efforts is conveyed in the table below as *Unidentified funding sources*.

External Funding Budget
2013/14 - 2027/28
(Millions 2012 $)

	2013/14	2014/15	2015/16	2016/17 - 2027/28	Total
External Funding					
Lower Income Energy Efficient Program	2.2	2.2	2.2	2.2	8.8
Unidentified Funding Sources	0.0	0.0	0.3	3.3	3.6
Total External Funding	$2.2	$2.2	$2.5	$5.5	$12.4
Cumulative Budget, 2013/14 - 2027/28	$2.2	$4.4	$6.9	$12.4	$12.4

Note: Figures may not add due to rounding

2.3 DSM Metrics and other related measurements

2.3.1 Integrated Perspective

Metrics

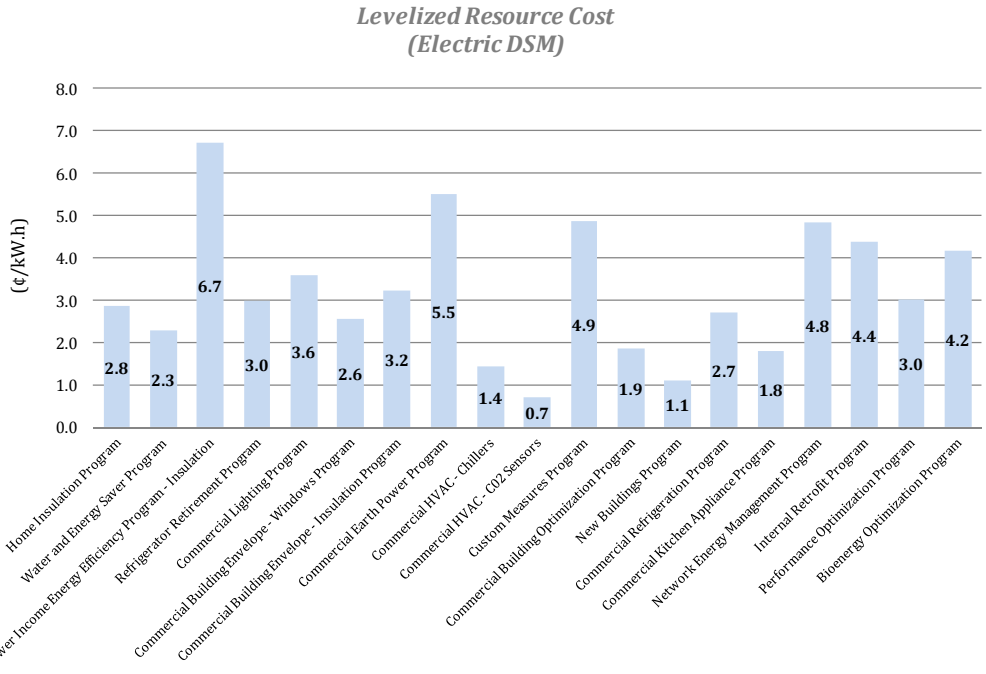
The following table outlines the cost effectiveness, from an integrated perspective, of the program offerings provided in the 2013–2016 Power Smart Plan.

Integrated DSM Metrics
2013/14 - 2027/28

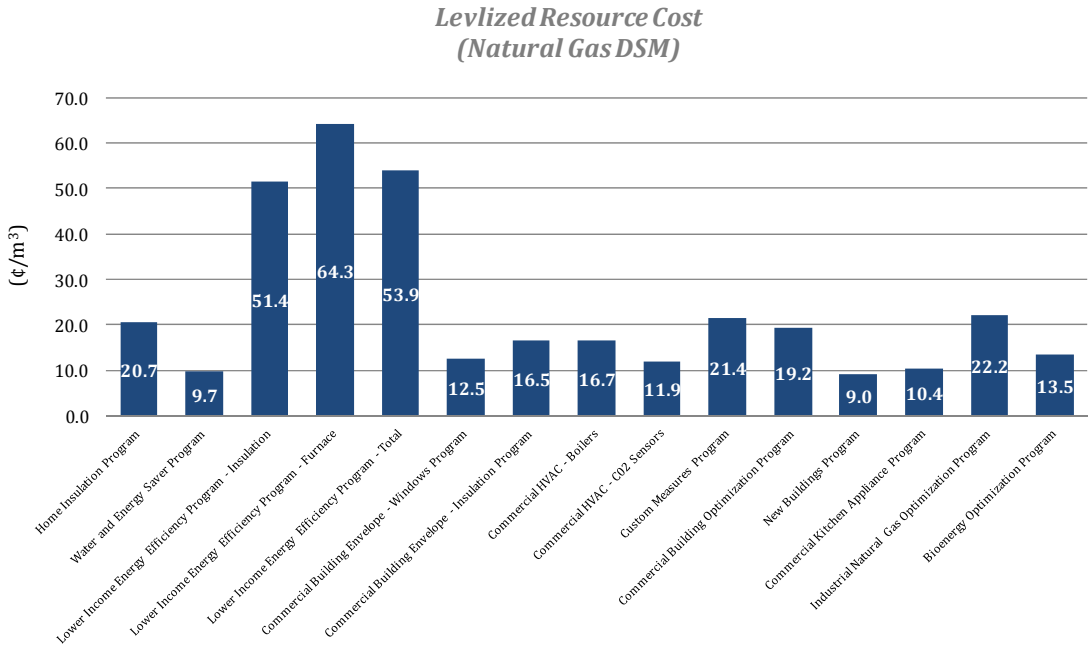
	Combined DSM		Electric DSM				Natural Gas DSM				
	SC	TRC	SC	TRC	TRC NPV	LRC (¢/kW.h)	SC	TRC	TRC NPV	LRC (¢/m³)	
Residential											
Home Insulation Program	2.5	2.3	4.7	4.3	$16.6	2.8	1.5	1.4	$4.1	20.7	*
Water and Energy Saver Program	5.4	5.2	4.8	4.5	$5.1	2.3	6.1	5.8	$7.1	9.7	w
Lower Income Energy Efficiency Program											
Lower Income Energy Efficiency Program - Insulation	1.0	0.9	1.7	1.5	$3.3	6.7	0.7	0.6	($6.2)	51.4	** w
Lower Income Energy Efficiency Program - Furnace	0.4	0.4	n/a	n/a	n/a	n/a	0.4	0.4	($2.9)	64.3	** w
Lower Income Energy Efficiency Program - Total	0.9	0.8	1.7	1.5	$3.3	6.7	0.6	0.6	($9.1)	53.9	** w
Refrigerator Retirement Program	1.2	1.1	1.7	1.6	$2.5	3.0	-	-	($2.2)	-	i
Residential Programs Total	1.7	1.5	2.8	2.6	$27.6	3.6	1.1	1.0	$0.0	33.6	
Commercial											
Commercial Lighting Program	2.5	2.3	2.6	2.3	$86.9	3.6	-	-	($3.2)	-	i
Commercial Building Envelope - Windows Program	3.6	3.3	4.5	4.1	$9.9	2.6	2.5	2.3	$3.3	12.5	
Commercial Building Envelope - Insulation Program	2.4	2.2	3.5	3.2	$9.1	3.2	1.9	1.7	$6.2	16.5	*
Commercial Earth Power Program	1.7	1.6	1.7	1.6	$9.7	5.5	n/a	n/a	n/a	n/a	*
Commercial HVAC - Boilers	1.9	1.7	-	-	-	-	1.9	1.7	$3.1	16.7	c
Commercial HVAC - Chillers	3.1	2.8	3.1	2.8	$2.4	1.4	n/a	n/a	n/a	n/a	
Commercial HVAC - C02 Sensors	4.0	3.7	23.4	21.3	$1.5	0.7	2.6	2.3	$1.3	11.9	*
Custom Measures Program	1.8	1.7	2.0	1.8	$5.5	4.9	1.5	1.4	$1.3	21.4	
Commercial Building Optimization Program	2.5	2.3	4.4	4.0	$5.9	1.9	1.6	1.5	$2.1	19.2	
New Buildings Program	6.8	6.2	8.5	7.8	$80.0	1.1	3.5	3.1	$12.8	9.0	c
Commercial Refrigeration Program	2.7	2.4	2.4	2.2	$6.4	2.7	-	-	$1.4	-	i
Commercial Kitchen Appliance Program	12.0	11.5	22.2	21.3	$6.7	1.8	6.7	6.5	$3.5	10.4	w
Network Energy Management Program	1.9	1.7	1.9	1.8	$0.4	4.8	-	-	($0.0)	-	* i
Internal Retrofit Program	1.2	1.1	1.2	1.1	$0.1	4.4	-	-	-	-	
Commercial Programs Total	3.0	2.7	3.2	2.9	$224.3	2.9	2.2	2.0	$31.9	14.7	
Industrial											
Performance Optimization Program	2.6	2.3	2.6	2.3	$73.9	3.0	n/a	n/a	n/a	n/a	*
Industrial Natural Gas Optimization Program	1.3	1.1	n/a	n/a	n/a	n/a	1.3	1.1	$1.8	22.2	
Industrial Programs Total	2.3	2.1	2.6	2.3	$73.9	3.0	1.3	1.1	$1.8	22.2	
Energy Efficiency - Subtotal	2.6	2.3	3.0	2.7	$325.8	3.0	1.6	1.4	$33.7	20.9	
Load Management											
Curtailable Rates Program	n/a	n/a	n/a	n/a	$29.3	n/a	n/a	n/a	n/a	n/a	
Load Management Programs Total	n/a	n/a	n/a	n/a	$29.3	n/a	n/a	n/a	n/a	n/a	
Load Displacement & Alternative Energy											
Bioenergy Optimization Program	1.6	1.4	1.5	1.4	$10.0	4.2	2.2	2.0	$2.1	13.5	
Load Displacement & Alt. Energy Programs Total	1.6	1.4	1.5	1.4	$10.0	4.2	2.2	2.0	$2.1	13.5	
Program Impacts Total	2.6	2.3	2.9	2.7	$365.2	3.1	1.6	1.4	$35.9	20.6	
Program Support and Contingency Costs	-	-	-	-	($52.3)	-	-	-	($21.5)	-	
Program Impacts Total (Incl. Support and Contingency Costs)	2.1	1.9	2.4	2.2	$312.8	3.9	1.2	1.1	$14.4	26.1	
Other Internal DSM Investments											
Afforedable Energy Fund	-	-	-	-	($0.4)	-	-	-	($1.3)	-	
Overall Portfolio Metric	2.1	1.9	2.4	2.2	$312.4	3.9	1.2	1.1	$13.1	26.5	

Notes:
** Program assumption includes Spillover, future Market Transformation and/or Participant Re-investment*
*** Includes all Affordable Energy Fund Expenditures and Furnace Replacement Program*
LIEEP Electric - Total:
Excluding AEF costs, SC is 1.9, TRC is 1.8, TRC NPV is $4.2 M and LRC is 5.8 ¢/kW.h
LIEEP Natural Gas - Total:
Excluding AEF costs, without Furnace Replacement Program, SC is 0.8, TRC is 0.8, TRC NPV is -$3.1 M and LRC is 41.5 ¢/m³
c Program assumption includes savings from Codes & Standards
i Program reflects natural gas interactive effects
w SC, TRC and TRC NPV include Water Savings Benefits
1) Overall portfolio metrics do not include Customer Service Initiatives / Financial Loan Programs
2) Overall portfolio LRC metric does not include Curtailable Rates Program
3) Overall portfolio metrics include all support, contingency and Affordable Energy Fund Expenditures and Furance Replacement Program

The following chart provides the Levelized Resource Cost of the electric program offerings in the 2013–2016 Power Smart Plan.



The following chart provides the Levelized Resource Cost of the natural gas program offerings in the 2013–2016 Power Smart Plan.

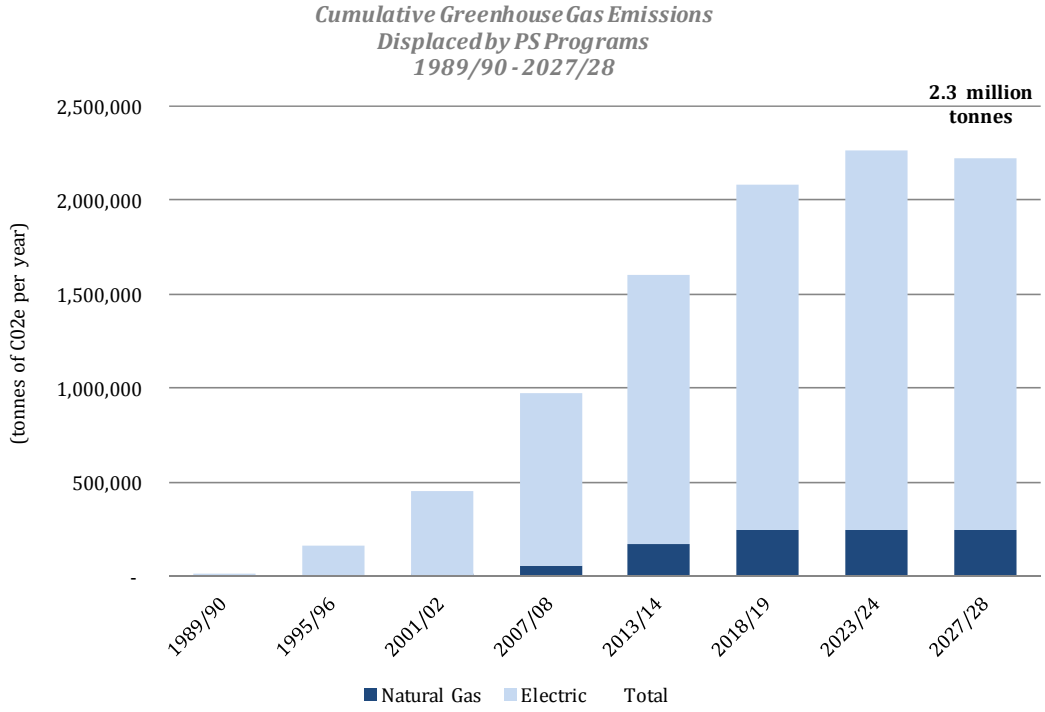


Global Greenhouse Gas Emissions Reductions

The following chart and graph depict the aggregate global greenhouse gas emissions reductions resulting from the electricity and natural gas DSM programs outlined in the 2013–2016 Power Smart Plan, including greenhouse gas emission reductions resulting from Manitoba Hydro's Power Smart efforts since 1989. Global greenhouse gas emission reductions of 1.2 million tonnes are forecast to be achieved due to energy savings outlined in the Power Smart Plan.

	Annual CO_2 Reductions (tonnes)
CO_2 Reductions - Electric	1,047,274
CO_2 Reductions - Natural Gas	111,467
2013/14 Power Smart Plan (2013/14 - 2027/28)	1,158,741
CO_2 Reductions Achieved to Date - Electric	1,054,010
CO_2 Reductions Achieved To Date - Natural Gas	128,317
Savings Achieved to 2012/13 (1989/90 - 2027/28)	1,182,327
Total Projected to 2027/28	2,341,068

Including reductions achieved to date, approximately 2.3 million tonnes are forecast to be realized due to Manitoba Hydro's Power Smart efforts by 2027/28.

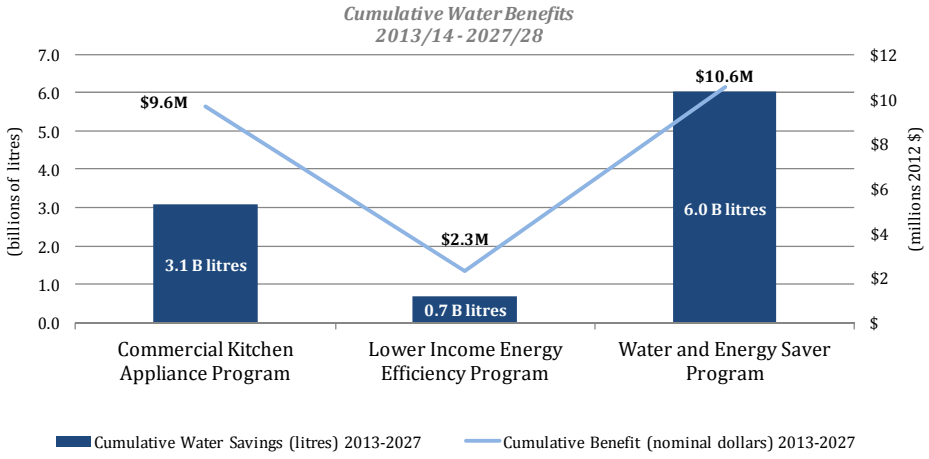


Additional Measureable Non-Energy Benefits

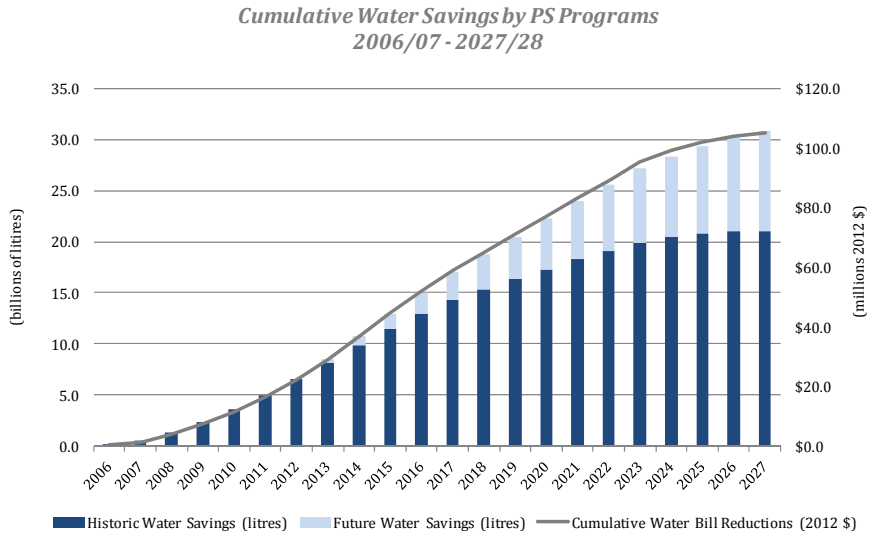
As part of the 2013–2016 Power Smart Plan, the following residential and commercial programs are expected to capture additional water saving benefits:

- Water and Energy Saver Program
- Lower Income Energy Efficiency Program
- Commercial Kitchen Appliance Program

The following graph depicts cumulative water savings in litres and cumulative customer dollar savings from each of the above programs. It is estimated that savings of approximately 10 billion liters of water and $23 million in bill savings will be achieved from 2013/14 to 2027/28.



When combined with savings to date, Power Smart programs are expected to save approximately 31 billion liters of water and $105 million by 2027/28



2.3.2 Utility Perspective

Metrics

The following table outlines the cost effectiveness, from a utility perspective, of the program offerings provided in the 2013–2016 Power Smart Plan.

Utility DSM Metrics
2013/14 - 2027/28

	Electric DSM				Natural Gas DSM				
	RIM	NUB	NPV	LUC (¢/kW.h)	RIM	NUB	NPV	LUC (¢/m³)	
Residential									
Home Insulation Program	1.2	2.0	$3.7	2.2	0.6	-0.7	($10.1)	11.3	*
Water and Energy Saver Program	0.7	-0.2	($1.8)	2.3	0.6	-0.8	($2.8)	10.1	
Lower Income Energy Efficiency Program									
Lower Income Energy Efficiency Program - Insulation	0.9	0.6	($1.2)	3.5	0.3	-0.2	($15.4)	41.8	**
Lower Income Energy Efficiency Program - Furnace	n/a	n/a	n/a	n/a	0.2	-0.1	($8.9)	111.9	**
Lower Income Energy Efficiency Program - Total	0.9	0.6	($1.2)	3.5	0.3	-0.1	($24.4)	55.3	**
Refrigerator Retirement Program	0.6	-1.2	($5.1)	1.5	-	-	$0.7	-	*i*
Residential Programs Total	0.9	0.6	($4.4)	2.3	0.4	-0.1	($36.6)	29.1	
Commercial									
Commercial Lighting Program	0.8	0.4	($28.3)	2.5	-	-	$0.7	-	*i*
Commercial Building Envelope - Windows Program	1.1	1.5	$1.5	2.4	0.6	-0.6	($3.3)	10.5	
Commercial Building Envelope - Insulation Program	1.1	1.4	$1.4	2.5	0.6	-0.3	($9.0)	12.4	*
Commercial Earth Power Program	1.1	1.4	$1.7	1.5	n/a	n/a	n/a	n/a	*
Commercial HVAC - Boilers	-	-	-	-	0.8	-0.9	($2.0)	4.1	*c*
Commercial HVAC - Chillers	0.6	-1.5	($2.6)	1.2	n/a	n/a	n/a	n/a	
Commercial HVAC - C02 Sensors	2.1	35.7	$0.8	0.2	0.8	-0.9	($0.6)	3.8	*
Custom Measures Program	1.2	1.6	$1.6	1.9	0.7	-0.4	($1.9)	8.6	
Commercial Building Optimization Program	1.0	0.8	($0.2)	1.2	0.6	-0.3	($3.6)	12.2	
New Buildings Program	1.4	6.2	$25.4	0.5	0.8	-0.6	($5.4)	5.0	*c*
Commercial Refrigeration Program	0.8	0.0	($2.9)	1.4	-	-	($0.2)	-	*i*
Commercial Kitchen Appliance Program	1.4	5.0	$0.9	1.2	0.7	-1.0	($0.7)	5.9	
Network Energy Management Program	1.0	0.9	($0.0)	1.6	-	-	$0.0	-	* *i*
Internal Retrofit Program	1.1	1.1	$0.1	4.4	-	-	-	-	
Commercial Programs Total	1.0	1.0	($0.7)	1.7	0.7	-0.2	($26.1)	8.5	
Industrial									
Performance Optimization Program	1.0	0.9	($3.1)	1.5	n/a	n/a	n/a	n/a	*
Industrial Natural Gas Optimization Program	n/a	n/a	n/a	n/a	0.8	-0.3	($3.7)	5.1	
Industrial Programs Total	1.0	0.9	($3.1)	1.5	0.8	-0.3	($3.7)	5.1	
Energy Efficiency - Subtotal	1.0	0.9	($8.1)	1.7	0.6	-0.2	($66.3)	13.5	
Load Management									
Curtailable Rates Program	1.4	1.4	$29.3	n/a	n/a	n/a	n/a	n/a	
Load Management Programs Total	1.4	1.4	$29.3	n/a	n/a	n/a	n/a	n/a	
Load Displacement & Alternative Energy									
Bioenergy Optimization Program	0.9	0.5	($4.8)	1.5	0.8	-0.7	($1.1)	3.9	
Load Displacement & Alt. Energy Programs Total	0.9	0.5	($4.8)	1.5	0.8	-0.7	($1.1)	3.9	
Program Impacts Total	1.0	1.1	$16.4	1.7	0.6	-0.2	($67.4)	13.1	
Program Support and Contingency Costs	-	-	($52.3)	-	-	-	($21.5)	-	
Program Impacts Total (Incl. Support and Contingency Costs)	0.9	0.9	($35.9)	2.4	0.5	-0.1	($88.9)	18.7	
Other Internal DSM Investments									
Afforedable Energy Fund	-	-	($0.4)	-	-	-	($1.3)	-	
Overall Portfolio Metric	0.9	0.9	($36.4)	2.4	0.5	-0.1	($90.2)	19.0	15.0 *(4)*

Notes:

** Program assumption includes Spillover, future Market Transformation and/or Participant Re-investment*

*** Includes all Affordable Energy Fund Expenditures and Furnace Replacement Program*

LIEEP Electric - Total:

Excluding AEF costs, RIM is 1.1, NUB is 2.1, NPV is $1.1 M and LUC is 1.0 ¢/kW.h

LIEEP Natural Gas - Total:

Excluding AEF costs, without Furnace Replacement Program, RIM is 0.6, NUB is -0.9, NPV is -$4.9 M and LUC is 8.0 ¢/m³

c Program assumption includes savings from Codes & Standards

i Program reflects natural gas interactive effects

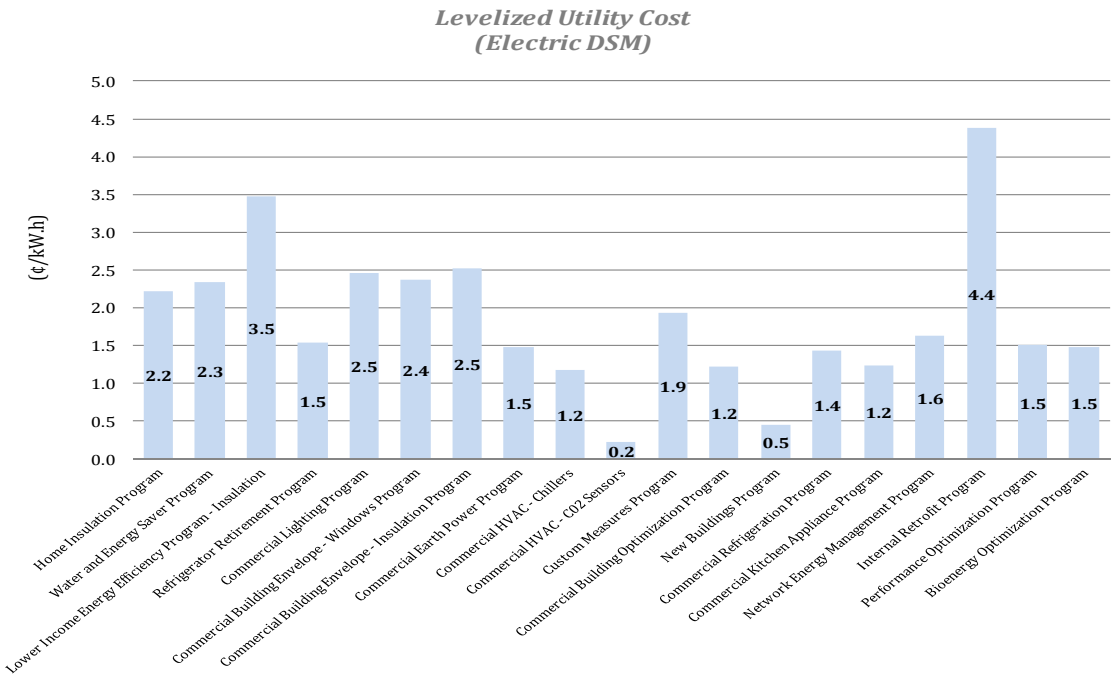
1) Overall RIM, NUB and NPV portfolio metrics include Curtailable Rates Program and do not include Customer Service Initiatives / Financial Loan Programs

2) Overall LUC porfolio metric does not inlcude Curtailables Rate Program

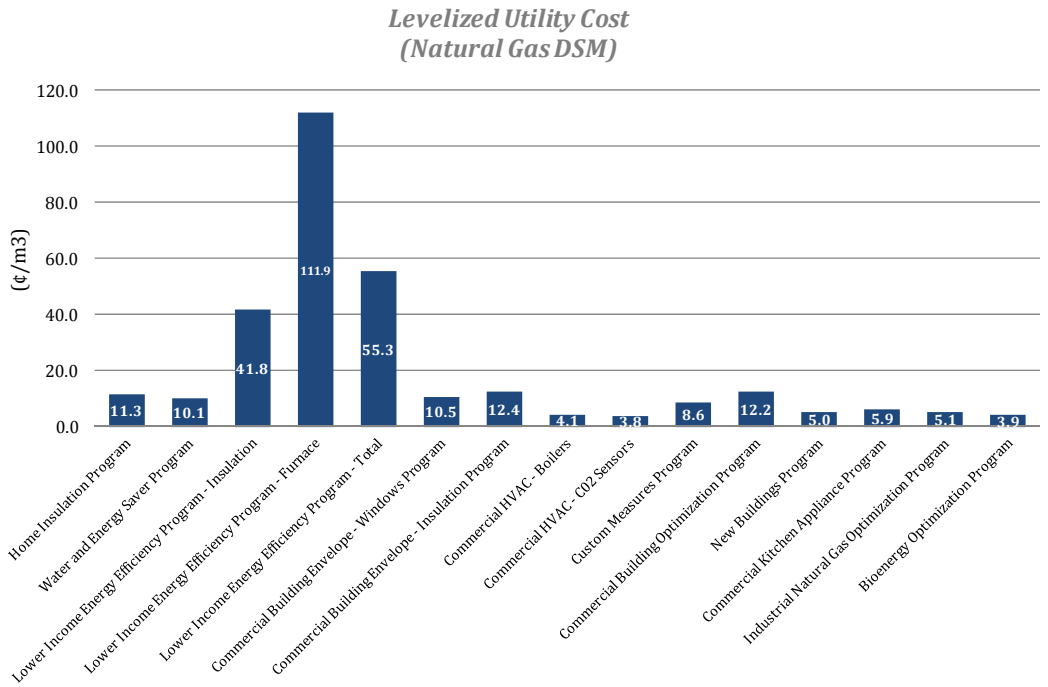
3) Overall portfolio metrics include all support, contingency and Affordable Energy Fund Expenditures and Furance Replacement Program

4) Excluding the Lower Income Energy Efficieny Program, overall natural gas LUC is 15.0 ¢/m3

The following chart provides the Levelized Utility Cost of the electric program offerings in the 2013–2016 Power Smart Plan.



The following chart provides the Levelized Utility Cost of the natural gas program offerings in the 2013–2016 Power Smart Plan.



2.3.3 Customer Perspective

Metrics

The following table outlines the cost effectiveness, from a participating customer perspective, of the program offerings provided in the 2013–2016 Power Smart Plan.

Customer DSM Metrics
2013/14 - 2027/28

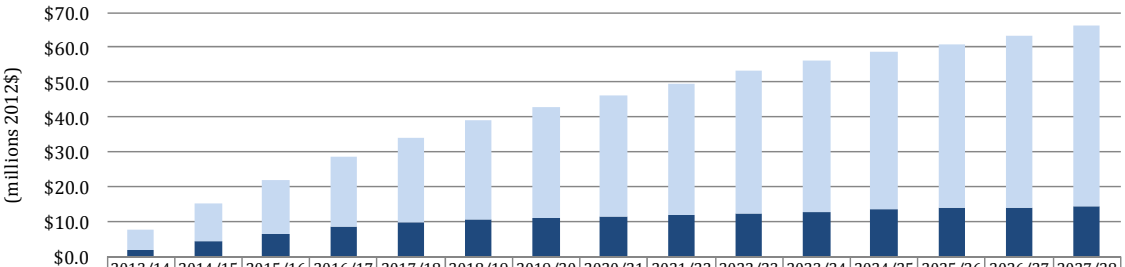
	Electric DSM			Natural Gas DSM			
	Payback	PC	PC NPV	Payback	PC	PC NPV	
Residential							
Home Insulation Program	1.0	5.0	$12.9	4.4	2.3	$13.2	
Water and Energy Saver Program	-	26.0	$7.0	-	18.1	$9.7	^ w
Lower Income Energy Efficiency Program							
Lower Income Energy Efficiency Program - Insulation	5.7	1.9	$4.5	3.9	1.7	$8.7	** w
Lower Income Energy Efficiency Program - Furance	n/a	n/a	n/a	-	3.4	$6.0	** ^ w
Lower Income Energy Efficiency Program - Total	5.7	1.9	$4.5	-	2.0	$14.6	** ^ w
Refrigerator Retirement Program	2.0	3.9	$7.6	-	-	-	
Commercial							
Commercial Lighting Program	2.0	3.4	$115.2	-	-	-	
Commercial Building Envelope - Windows Program	0.8	8.7	$8.4	1.3	4.3	$6.1	
Commercial Building Envelope - Insulation Program	1.8	4.4	$7.7	2.2	2.7	$14.2	
Commercial Earth Power Program	10.0	1.5	$8.0	n/a	n/a	n/a	
Commercial HVAC - Boilers	-	-	-	4.9	2.2	$4.6	
Commercial HVAC - Chillers	0.8	5.0	$5.0	n/a	n/a	n/a	
Commercial HVAC - C02 Sensors	0.6	12.1	$0.7	2.2	3.2	$1.8	
Custom Measures Program	8.9	1.6	$3.8	6.5	2.1	$2.9	
Commercial Building Optimization Program	1.0	4.8	$6.1	2.1	2.5	$5.2	
New Buildings Program	1.4	6.1	$54.6	1.5	4.3	$16.9	
Commercial Refrigeration Program	3.0	3.1	$9.2	-	-	-	
Commercial Kitchen Appliance Program	0.1	20.3	$5.8	0.1	8.9	$4.2	w
Network Energy Management Program	1.6	1.9	$0.4	-	-	-	
Internal Retrofit Program	n/a	1.0	$0.0	n/a	n/a	n/a	
Industrial							
Performance Optimization Program	2.9	2.7	$77.0	n/a	n/a	n/a	
Industrial Natural Gas Optimization Program	n/a	n/a	n/a	8.4	1.4	$4.7	
Load Management							
Curtailable Rates Program	n/a	n/a	n/a	n/a	n/a	n/a	
Load Displacement & Alternative Energy							
Bioenergy Optimization Program	4.1	1.6	$14.8	4.4	2.5	$2.9	
Overall Portfolio Metric	n/a	3.0	$348.7	n/a	2.6	$102.5	

Notes:
*** Includes all Affordable Energy Fund Expenditures and Furnace Replacement Program*
^ Program with nil or negative customer costs
LIEEP Electric:
Excluding AEF costs, Payback is 8.1, PC is 1.6 and PC NPV is $3.1 M
LIEEP Natural Gas:
Excluding AEF costs, without Furnace Replacement Program, Payback is 12.5, PC is 1.1 and PC NPV is $1.2 M
w Payback, PC and PC NPV include Water Savings Benefits

Combined Customer Bill Reductions

The following graph depicts customer bill reductions resulting from electric and natural gas programs outlined in the 2013–2016 Power Smart Plan. Power Smart programs are expected to save participating customers an additional $7.7 million in 2013/14 alone, $66.1 million in 2027/28 and $643.4 million cumulatively by 2027/28.

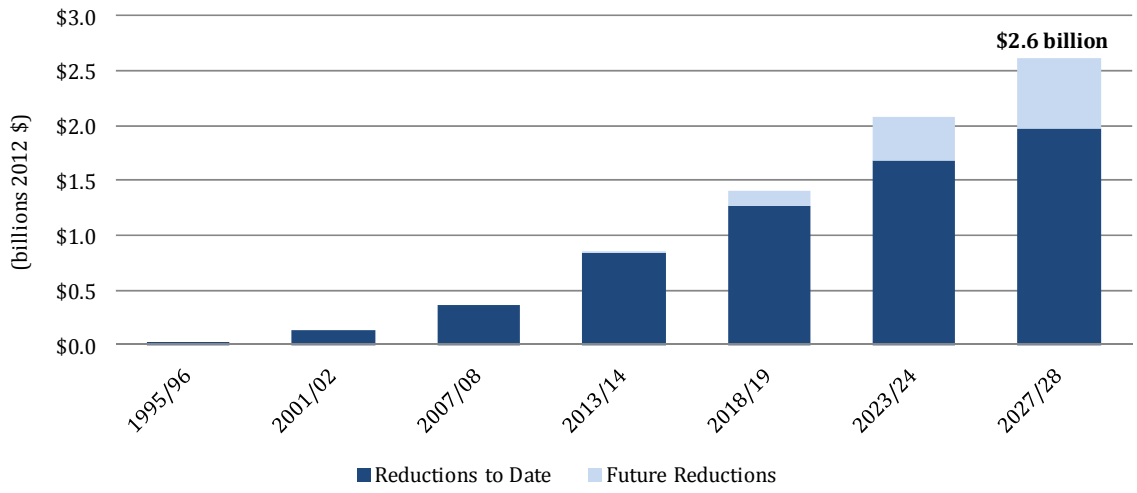
Customer Bill Reductions by fuel type
2013/14 - 2027/28



	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
Electric	$5.7	$11.0	$15.6	$20.0	$24.2	$28.4	$31.6	$34.6	$37.7	$40.9	$43.4	$45.0	$46.8	$49.2	$51.6
Natural Gas	$2.0	$4.3	$6.5	$8.5	$9.8	$10.6	$11.1	$11.5	$11.9	$12.5	$12.9	$13.7	$13.9	$14.2	$14.6
Annual	$7.7	$15.2	$22.1	$28.5	$34.0	$39.0	$42.7	$46.1	$49.6	$53.3	$56.4	$58.7	$60.7	$63.4	$66.1
Cumulative	$7.7	$22.9	$45.0	$73.5	$107.5	$146.5	$189.2	$235.3	$284.9	$338.2	$394.6	$453.3	$513.9	$577.3	$643.4

When combined with bill reductions to date, Power Smart programs are expected to save participating customers $127 million in 2027/28 and over $2.6 billion dollars cumulatively by 2027/28.

Cumulative Customer Bill Reductions
1989/90 - 2027/28



2013 - 2016 Power Smart Plan
Annual Capacity Savings (MW)

	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		MW at Generation 2027/28
RESIDENTIAL																	
Incentive Based																	
Home Insulation Program	1.7	3.3	4.7	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
Water and Energy Saver Program	0.6	1.1	1.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2		1.3
Lower Income Energy Efficiency Program	1.0	1.9	2.7	3.5	3.5	3.5	3.5	3.3	3.1	3.0	2.6	2.4	2.2	2.1	2.1		2.4
Refrigerator Retirement Program	1.7	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	0.9	0.2	0.2	0.1		0.1
Subtotal	4.9	8.7	11.1	12.7	12.7	12.7	12.7	12.5	12.3	12.2	11.8	10.0	9.2	9.1	9.0	3%	10.2
Customer Service Initiatives / Financial Loan Programs																	
Power Smart Residential Loan	0.2	0.4	0.5	0.7	0.9	1.1	1.3	1.4	1.6	1.8	2.0	2.2	2.3	2.5	2.7		3.1
Power Smart PAYS Financing	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6		1.8
Residential Earth Power Loan	0.3	0.7	1.0	1.4	1.8	2.3	2.7	3.2	3.7	4.2	4.7	5.3	5.3	5.3	5.3		6.0
Subtotal	0.7	1.4	2.0	2.7	3.4	4.1	4.8	5.5	6.3	7.1	7.9	8.8	9.0	9.3	9.6	3%	10.9
COMMERCIAL																	
Incentive Based																	
Commercial Lighting Program	6.3	11.9	16.9	21.0	25.2	29.3	33.1	36.7	40.1	43.2	44.6	46.0	47.1	48.1	49.1		55.9
Commercial Building Envelope - Windows Program	0.7	1.3	1.7	1.9	2.2	2.5	2.8	3.1	3.3	3.5	3.8	4.0	4.2	4.5	4.7		5.3
Commercial Buliding Envelope - Insulation Program	0.8	1.4	1.9	2.2	2.5	2.8	3.0	3.2	3.4	3.6	3.7	3.9	4.0	4.1	4.2		4.8
Commercial Earth Power Program	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.1	3.5	4.0	4.4	4.8	5.2	5.7	6.1		6.9
Commercial HVAC Program - Chiller	0.0	0.0	0.0	0.0	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 Program - CO2 Sensors	0.1	0.2	0.3	0.4	0.5	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.7	0.7		0.8
Commercial Custom Measures Program	0.2	0.5	0.7	1.0	1.2	1.5	1.8	2.0	2.3	2.5	2.8	3.0	3.3	3.6	3.8		4.4
Commercial Building Optimization Program	0.2	0.3	0.5	0.7	1.0	1.2	1.4	1.6	1.8	2.1	2.3	2.5	2.6	2.7	2.9		3.3
New Buildings Program	2.5	5.7	9.2	13.8	17.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7		24.8
Commercial Refrigeration Program	0.1	0.3	0.5	0.7	0.9	1.1	1.3	1.5	1.8	2.1	2.4	2.7	2.7	2.7	2.7		3.1
Commercial Kitchen Appliance Program	0.4	1.0	1.7	2.0	2.1	2.1	2.1	2.1	2.1	2.1	1.5	0.9	0.3	0.2	0.1		0.2
Network Energy Management Program	0.2	0.3	0.5	0.5	0.6	0.8	0.6	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0		0.0
Internal Retrofit Program	0.3	0.4	0.5	0.5	0.6	0.8	0.9	1.1	1.2	1.3	1.4	1.4	1.3	1.3	1.2		1.4
Subtotal	12.1	24.1	35.5	46.2	56.6	66.8	72.2	77.4	82.4	87.3	89.3	91.8	93.3	95.3	97.2	32%	110.9
Customer Service Initiatives / Financial Loan Programs																	
Power Smart for Business PAYS Financing	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6		0.7
Subtotal	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0%	0.7
INDUSTRIAL																	
Performance Optimization Program	2.0	4.0	6.0	8.1	10.1	12.1	14.2	16.2	18.2	20.2	22.3	24.3	26.3	28.3	30.4		33.4
Subtotal	2.0	4.0	6.0	8.1	10.1	12.1	14.2	16.2	18.2	20.2	22.3	24.3	26.3	28.3	30.4	10%	33.4
CONSERVATION SUBTOTAL	19.8	38.3	54.9	69.9	83.0	96.0	104.2	112.0	119.7	127.2	131.8	135.4	138.4	142.6	146.7	49%	166.1
LOAD MANAGEMENT																	
Curtailable Rates Program	146.4	146.4	146.4	147.3	147.3	147.3	147.3	147.3	147.3	147.3	147.3	147.3	147.3	147.3	147.3		162.0
LOAD MANAGEMENT SUBTOTAL	146.4	146.4	146.4	147.3	147.3	147.3	147.3	147.3	147.3	147.3	147.3	147.3	147.3	147.3	147.3	49%	162.0
LOAD DISPLACEMENT & ALTERNATIVE ENERGY																	
Bioenergy Optimization Program	1.2	2.6	4.0	5.1	5.9	6.7	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3		8.0
LOAD DISPLACEMENT & ALTERNATIVE ENERGY SUBTOTAL	1.2	2.6	4.0	5.1	5.9	6.7	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	2%	8.0
Program Impacts (at meter)	168	187	205	222	236	250	259	267	274	282	286	290	293	297	301	100%	
Program Impacts (at generation)	185	207	228	247	263	278	288	297	306	314	319	323	327	331	336		
Codes, Standards & Regulations (at meter)	14	28	46	71	82	90	99	107	115	120	120	122	127	132	135		
Codes, Standards & Regulations (at generation)	16	31	52	80	93	103	113	122	132	137	137	140	144	151	154		
POWER SMART 2013 to 2027 Impacts (at meter)	181	215	251	293	318	340	358	374	390	402	407	412	420	429	436		
POWER SMART 2013 to 2027 Impacts (at generation)	201	239	280	327	356	381	401	419	437	451	456	463	471	482	490		
POWER SMART SAVINGS TO DATE																	
Incentive Based Program Impacts (at meter)	205	205	205	204	203	202	201	200	200	196	194	190	180	175	168		
Incentive Based Program Impacts (at generation)	230	230	231	229	228	228	226	225	224	221	218	214	202	196	189		
Customer Service Initiatives Program Impacts (at meter)	8	8	8	8	8	8	8	8	8	8	8	8	8	7	6		
Customer Service Initiatives Program Impacts (at generation)	9	9	9	9	9	9	9	9	9	9	9	9	9	8	7		
Discontinued Programs (at meter)	41	41	29	29	28	28	28	28	28	27	26	26	25	25	25		
Discontinued Programs (at generation)	46	46	32	32	32	32	32	32	32	31	30	29	29	29	28		
Impacts of Codes & Standards (at meter)	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116		
Impacts of Codes & Standards (at generation)	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132		
TOTAL MW (at meter)	551	584	609	649	673	695	711	726	741	749	750	752	748	752	751		
TOTAL MW (at generation)	619	656	685	730	757	782	800	817	835	843	845	847	843	847	846		

Note: May not add up due to rounding.

2013 - 2016 Power Smart Plan
Annual Energy Savings (GW.h)

	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		GW.h at Generation 2027/28
RESIDENTIAL																	
Incentive Based																	
Home Insulation Program	3.2	6.0	8.6	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5		11.9
Water and Energy Saver Program	2.9	5.8	6.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8		6.6
Lower Income Energy Efficiency Program	2.4	4.7	6.9	8.7	8.7	8.7	8.7	8.3	7.9	7.4	6.5	6.0	5.7	5.3	5.3		6.1
Refrigerator Retirement Program	15.2	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	7.7	1.7	1.7	0.5		0.6
Subtotal	23.7	38.2	44.0	46.7	46.7	46.7	46.7	46.3	45.8	45.4	44.5	30.0	23.7	23.3	22.1	3%	25.2
Customer Service Initiatives / Financial Loan Programs																	
Power Smart Residential Loan	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.7	3.1	3.4	3.8	4.1	4.5	4.8	5.1		5.9
Power Smart PAYS Financing	0.3	0.6	0.8	1.1	1.3	1.5	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4		3.9
Residential Earth Power Loan	1.5	2.9	4.4	6.0	7.7	9.5	11.4	13.3	15.4	17.5	19.8	22.1	22.1	22.1	22.1		25.2
Subtotal	2.1	4.2	6.3	8.5	10.8	13.1	15.5	18.0	20.7	23.4	26.2	29.1	29.6	30.2	30.7	4%	35.0
COMMERCIAL																	
Incentive Based																	
Commercial Lighting Program	22.7	43.2	61.3	75.4	90.7	105.4	119.2	132.0	144.1	155.5	160.2	165.6	169.3	172.9	176.4		201.1
Commercial Building Envelope - Windows Program	1.7	3.2	4.3	4.9	5.6	6.4	7.1	7.7	8.4	9.0	9.6	10.1	10.7	11.3	11.8		13.5
Commercial Buliding Envelope - Insulation Program	1.9	3.5	4.8	5.6	6.4	7.1	7.8	8.3	8.8	9.2	9.5	9.9	10.2	10.5	10.8		12.3
Commercial Earth Power Program	1.6	3.3	4.9	6.6	8.2	9.9	11.5	13.2	14.8	16.6	18.3	20.1	21.9	23.6	25.4		29.0
Commercial HVAC Program - Chiller	1.1	2.3	3.5	5.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		7.4
Commercial HVAC Program - CO2 Sensors	0.1	0.2	0.4	0.5	0.7	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.0	1.0		1.1
Commercial Custom Measures Program	0.9	1.8	2.8	3.7	4.7	5.6	6.6	7.5	8.5	9.5	10.5	11.5	12.4	13.4	14.4		16.4
Commercial Building Optimization Program	0.9	1.6	2.5	3.6	4.7	5.8	6.8	8.0	9.2	10.5	11.4	12.3	13.1	13.6	14.2		16.1
New Buildings Program	10.3	22.6	35.9	51.9	66.5	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7		93.2
Commercial Refrigeration Program	1.3	2.6	4.1	5.8	7.6	9.4	11.4	13.5	15.8	18.4	21.1	24.2	24.2	24.2	24.2		27.5
Commercial Kitchen Appliance Program	0.4	0.9	1.6	2.0	2.2	2.2	2.2	2.2	2.2	2.2	1.8	1.3	0.8	0.6	0.4		0.5
Network Energy Management Program	0.6	0.9	1.4	1.3	1.7	2.0	1.7	1.0	1.0	0.6	0.0	0.0	0.0	0.0	0.0		0.0
Internal Retrofit Program	2.4	3.0	3.3	2.9	3.7	4.7	5.6	6.5	7.4	8.3	8.4	8.4	8.3	8.2	8.1		9.2
Subtotal	45.9	89.2	130.6	169.2	209.3	247.7	268.9	289.2	309.4	328.9	340.1	352.7	360.1	367.5	374.8	55%	427.3
Customer Service Initiatives / Financial Loan Programs																	
Power Smart for Business PAYS Financing	0.2	0.4	0.6	0.8	0.9	1.1	1.2	1.3	1.4	1.6	1.7	1.8	1.9	2.1	2.2		2.5
Subtotal	0.2	0.4	0.6	0.8	0.9	1.1	1.2	1.3	1.4	1.6	1.7	1.8	1.9	2.1	2.2	0%	2.5
INDUSTRIAL																	
Performance Optimization Program	12.9	25.8	38.7	51.6	64.5	77.4	90.3	103.2	116.1	129.0	141.9	154.8	167.7	180.6	193.5		212.9
Subtotal	12.9	25.8	38.7	51.6	64.5	77.4	90.3	103.2	116.1	129.0	141.9	154.8	167.7	180.6	193.5	28%	212.9
CONSERVATION SUBTOTAL	84.8	157.8	220.2	276.8	332.2	385.9	422.6	458.1	493.4	528.2	554.3	568.4	583.0	603.6	623.4	91%	702.9
LOAD MANAGEMENT																	
Curtailable Rates 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
LOAD MANAGEMENT SUBTOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%	0.0
LOAD DISPLACEMENT & ALTERNATIVE ENERGY																	
Bioenergy Optimization Program	10.9	22.6	34.9	44.6	51.8	58.7	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4		69.7
LOAD DISPLACEMENT & ALTERNATIVE ENERGY SUBTOTAL	10.9	22.6	34.9	44.6	51.8	58.7	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	9%	69.7
Program Impacts (at meter)	96	180	255	321	384	445	486	521	557	592	618	632	646	667	687	100%	
Program Impacts (at generation)	108	204	288	362	433	501	548	588	628	667	696	712	728	751	773		
Codes, Standards & Regulations (at meter)	58	116	194	291	350	400	448	495	541	566	580	601	629	661	683		
Codes, Standards & Regulations (at generation)	66	132	222	332	399	456	511	565	617	645	661	685	718	754	779		
POWER SMART 2013 to 2027 Impacts (at meter)	154	296	450	612	734	845	934	1,017	1,098	1,158	1,197	1,232	1,276	1,328	1,370		
POWER SMART 2013 to 2027 Impacts (at generation)	174	335	510	694	833	958	1,059	1,153	1,245	1,312	1,357	1,396	1,445	1,505	1,552		
POWER SMART SAVINGS TO DATE																	
Incentive Based Program Impacts (at meter)	918.3	917.9	919.0	916.6	914.1	911.4	907.6	904.9	900.9	867.9	847.7	823.4	760.2	719.6	683.4		
Incentive Based Program Impacts (at generation)	1,031.5	1,031.0	1,032.3	1,029.6	1,026.7	1,023.7	1,019.4	1,016.3	1,011.7	975.4	953.1	926.3	854.9	809.6	768.8		
Customer Service Initiatives Program Impacts (at meter)	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	21.9	21.3	17.5	17.5	16.1	12.1		
Customer Service Initiatives Program Impacts (at generation)	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.0	24.3	19.9	19.9	18.4	13.8		
Discontinued Programs (at meter)	291.7	255.3	233.4	231.5	228.8	226.9	226.5	226.5	226.5	215.2	206.6	198.1	187.4	184.8	180.3		
Discontinued Programs (at generation)	330.4	288.8	263.9	261.7	258.7	256.5	256.0	256.0	256.0	243.1	233.4	223.7	211.4	208.5	203.4		
Impacts of Codes & Standards (at meter)	505.4	505.4	505.4	505.4	505.4	505.4	505.4	505.4	505.4	505.4	505.4	505.4	505.4	505.4	505.4		
Impacts of Codes & Standards (at generation)	575.5	575.5	575.5	575.5	575.5	575.5	575.5	575.5	575.5	575.5	575.5	575.5	575.5	575.5	575.5		
TOTAL GW.h (at meter)	1,892	1,997	2,130	2,288	2,405	2,511	2,596	2,676	2,753	2,768	2,778	2,777	2,746	2,754	2,751		
TOTAL GW.h (at generation)	2,137	2,256	2,407	2,586	2,719	2,839	2,935	3,026	3,113	3,131	3,143	3,142	3,107	3,117	3,113		

Note: May not add up due to rounding.

2013 - 2016 Power Smart Plan
Annual Utility Costs
(000's in 2012 $)

	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	Cumulative Total	
RESIDENTIAL																	
Incentive Based																	
Home Insulation Program	$1,124	$1,055	$985	$921	$184	$17	$17	$17	$17	$15	$15	$15	$14	$14	$14	$4,421	
Water and Energy Saver Program	$784	$784	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,568	
Lower Income Energy Efficiency Program	$312	$297	$248	$236	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,093	
Refrigerator Retirement Program	$2,222	$58	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,280	
Subtotal	$4,441	$2,194	$1,233	$1,157	$184	$17	$17	$17	$17	$15	$15	$15	$14	$14	$14	$9,362	4%
Customer Service Initiatives / Financial Loan Programs																	
Power Smart Residential Loan	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Power Smart PAYS Financing	$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	
Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0%
COMMERCIAL																	
Incentive Based																	
Commercial Lighting Program	$5,989	$5,383	$5,182	$4,992	$4,815	$4,655	$4,498	$4,352	$4,209	$4,080	$3,950	$3,536	$3,206	$1,473	$1,324	$61,645	
Commercial Building Envelope - Windows Program	$437	$395	$292	$285	$280	$276	$273	$270	$268	$266	$265	$264	$263	$262	$262	$4,358	
Commercial Buliding Envelope - Insulation Program	$479	$437	$388	$358	$335	$305	$290	$279	$269	$262	$256	$251	$247	$244	$241	$4,639	
Commercial Earth Power Program	$353	$353	$353	$340	$340	$340	$340	$340	$340	$356	$356	$356	$356	$356	$356	$5,234	
Commercial HVAC Program - Chiller	$217	$228	$239	$250	$262	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,196	
Commercial HVAC Program - CO2 Sensors	$4	$4	$4	$5	$5	$5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$29	
Commercial Custom Measures Program	$314	$262	$261	$261	$270	$269	$268	$267	$267	$275	$274	$274	$271	$270	$194	$3,998	
Commercial Building Optimization Program	$92	$99	$113	$140	$126	$112	$112	$121	$121	$130	$157	$161	$161	$161	$161	$1,968	
New Buildings Program	$641	$774	$953	$1,048	$1,145	$1,243	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,804	
Commercial Refrigeration Program	$302	$271	$279	$291	$305	$315	$333	$348	$369	$390	$417	$449	$0	$0	$0	$4,066	
Commercial Kitchen Appliance Program	$48	$56	$60	$45	$50	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$258	
Network Energy Management Program	$52	$43	$72	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$167	
Internal Retrofit Program	$394	$342	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$735	
Subtotal	$9,321	$8,646	$8,195	$8,015	$7,932	$7,521	$6,114	$5,978	$5,843	$5,759	$5,675	$5,290	$4,504	$2,767	$2,538	$94,100	39%
Customer Service Initiatives / Financial Loan Programs																	
Power Smart for Business PAYS Financing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0%
INDUSTRIAL																	
Performance Optimization Program	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$41,476	
Subtotal	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$2,765	$41,476	17%
CONSERVATION SUBTOTAL	$16,527	$13,606	$12,193	$11,936	$10,881	$10,303	$8,896	$8,760	$8,625	$8,540	$8,455	$8,071	$7,283	$5,546	$5,317	$144,938	60%
LOAD MANAGEMENT																	
Curtailable Rates Program	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$86,573	
LOAD MANAGEMENT SUBTOTAL	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$5,772	$86,573	36%
LOAD DISPLACEMENT & ALTERNATIVE ENERGY																	
Bioenergy Optimization Program	$2,094	$1,829	$2,262	$1,329	$1,309	$1,229	$861	$0	$0	$0	$0	$0	$0	$0	$0	$10,912	
LOAD DISPLACEMENT & ALTERNATIVE ENERGY SUBTOTAL	$2,094	$1,829	$2,262	$1,329	$1,309	$1,229	$861	$0	$0	$0	$0	$0	$0	$0	$0	$10,912	5%
Subtotal of Programs	$24,392	$21,206	$20,226	$19,037	$17,961	$17,303	$15,529	$14,531	$14,397	$14,311	$14,227	$13,842	$13,054	$11,317	$11,089	$242,423	100%
Program Support	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$56,472	
Contingency	$800	$1,200	$1,500	$2,000	$1,755	$1,500	$1,500	$1,500	$1,500	$1,500	$2,000	$2,000	$2,000	$2,000	$2,000	$24,755	
Total Utility Costs (2013 to 2027)	$28,957	$26,171	$25,491	$24,802	$23,481	$22,568	$20,793	$19,796	$19,661	$19,576	$19,992	$19,607	$18,819	$17,082	$16,853	$323,650	
Total Committed to Date																$425,139	
TOTAL UTILITY COSTS (1989 to 2027)	$28,957	$26,171	$25,491	$24,802	$23,481	$22,568	$20,793	$19,796	$19,661	$19,576	$19,992	$19,607	$18,819	$17,082	$16,853	$748,788	

Note: May not add up due to rounding.

2013 - 2016 Power Smart Plan
Annual Program Administration Costs
(000's in 2012 $)

	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	Cumulative Total	
RESIDENTIAL																	
Incentive Based																	
Home Insulation Program	$480	$478	$470	$462	$163	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,053	
Water and Energy Saver Program	$624	$624	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,248	
Lower Income Energy Efficiency Program	$123	$123	$86	$86	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$418	
Refrigerator Retirement Program	$1,678	$58	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,736	
Subtotal	$2,904	$1,283	$557	$548	$163	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,455	9%
Customer Service Initiatives / Financial Loan Programs																	
Power Smart Residential Loan	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Power Smart PAYS Financing	$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	
Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0%
COMMERCIAL																	
Incentive Based																	
Commercial Lighting Program	$1,789	$1,789	$1,789	$1,784	$1,784	$1,784	$1,784	$1,784	$1,784	$1,784	$1,784	$1,784	$1,784	$102	$0	$23,313	
Commercial Building Envelope - Windows Program	$215	$215	$215	$215	$215	$215	$215	$215	$215	$215	$215	$215	$215	$215	$215	$3,232	
Commercial Buliding Envelope - Insulation Program	$191	$191	$191	$191	$191	$191	$191	$191	$191	$191	$191	$191	$191	$191	$191	$2,864	
Commercial Earth Power Program	$115	$115	$115	$115	$115	$115	$115	$115	$115	$115	$115	$115	$115	$115	$115	$1,721	
Commercial HVAC Program - Chiller	$16	$15	$14	$12	$11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$69	
Commercial HVAC Program - CO2 Sensors	$3	$3	$2	$2	$2	$2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$17	
Commercial Custom Measures Program	$94	$77	$77	$77	$77	$77	$77	$77	$77	$77	$77	$77	$75	$75	$0	$1,088	
Commercial Building Optimization Program	$31	$31	$31	$31	$31	$31	$31	$31	$31	$31	$31	$31	$31	$31	$31	$471	
New Buildings Program	$218	$218	$218	$218	$218	$218	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,311	
Commercial Refrigeration Program	$159	$113	$113	$113	$113	$113	$113	$113	$113	$113	$113	$113	$0	$0	$0	$1,405	
Commercial Kitchen Appliance Program	$8	$8	$8	$5	$5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$34	
Network Energy Management Program	$23	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23	
Internal Retrofit Program	$394	$342	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$735	
Subtotal	$3,259	$3,118	$2,775	$2,764	$2,763	$2,747	$2,527	$2,527	$2,527	$2,527	$2,527	$2,527	$2,412	$729	$552	$36,281	63%
Customer Service Initiatives / Financial Loan Programs																	
Power Smart for Business PAYS Financing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0%
INDUSTRIAL																	
Performance Optimization Program	$939	$939	$939	$939	$939	$939	$939	$939	$939	$939	$939	$939	$939	$939	$939	$14,086	
Subtotal	$939	$939	$939	$939	$939	$939	$939	$939	$939	$939	$939	$939	$939	$939	$939	$14,086	24%
CONSERVATION SUBTOTAL	$7,102	$5,339	$4,271	$4,252	$3,865	$3,686	$3,466	$3,466	$3,466	$3,466	$3,466	$3,466	$3,351	$1,668	$1,492	$55,822	97%
LOAD MANAGEMENT																	
Curtailable Rates Program	$6	$6	$6	$6	$6	$6	$6	$6	$6	$6	$6	$6	$6	$6	$6	$90	
LOAD MANAGEMENT SUBTOTAL	$6	$6	$6	$6	$6	$6	$6	$6	$6	$6	$6	$6	$6	$6	$6	$90	0%
LOAD DISPLACEMENT & ALTERNATIVE ENERGY																	
Bioenergy Optimization Program	$281	$280	$332	$288	$268	$247	$197	$0	$0	$0	$0	$0	$0	$0	$0	$1,893	
LOAD DISPLACEMENT & ALTERNATIVE ENERGY SUBTOTAL	$281	$280	$332	$288	$268	$247	$197	$0	$0	$0	$0	$0	$0	$0	$0	$1,893	3%
Subtotal of Programs	$7,390	$5,625	$4,609	$4,546	$4,139	$3,939	$3,669	$3,472	$3,472	$3,472	$3,472	$3,472	$3,357	$1,674	$1,498	$57,805	100%
Program Support	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$3,765	$56,472	
Contingency	$800	$1,200	$1,500	$2,000	$1,755	$1,500	$1,500	$1,500	$1,500	$1,500	$2,000	$2,000	$2,000	$2,000	$2,000	$24,755	
Total Administration Costs (2013 to 2027)	$11,955	$10,590	$9,873	$10,311	$9,659	$9,203	$8,933	$8,737	$8,737	$8,737	$9,237	$9,237	$9,122	$7,439	$7,262	$81,227	
Total Committed to Date																$171,086	
TOTAL ADMINISTRATION COSTS (1989 to 2027)	$11,955	$10,590	$9,873	$10,311	$9,659	$9,203	$8,933	$8,737	$8,737	$8,737	$9,237	$9,237	$9,122	$7,439	$7,262	$252,313	

Note: May not add up due to rounding.

2013 - 2016 Power Smart Plan
Annual Program Incentive Costs
(000's in 2012 $)

	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	Cumulative Total	
RESIDENTIAL																	
Incentive Based																	
Home Insulation Program	$644	$577	$515	$459	$21	$17	$17	$17	$17	$15	$15	$15	$14	$14	$14	$2,368	
Water and Energy Saver Program	$160	$160	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$320	
Lower Income Energy Efficiency Program	$189	$174	$161	$150	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$674	
Refrigerator Retirement Program	$544	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$544	
Subtotal	$1,537	$912	$676	$609	$21	$17	$17	$17	$17	$15	$15	$15	$14	$14	$14	$3,907	2%
Customer Service Initiatives / Financial Loan Programs																	
Power Smart Residential Loan	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Power Smart PAYS Financing	$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	
Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0%
COMMERCIAL																	
Incentive Based																	
Commercial Lighting Program	$4,199	$3,594	$3,393	$3,208	$3,031	$2,871	$2,714	$2,568	$2,425	$2,296	$2,166	$1,751	$1,421	$1,372	$1,324	$38,333	
Commercial Building Envelope - Windows Program	$221	$180	$76	$70	$65	$61	$57	$55	$53	$51	$49	$48	$48	$47	$46	$1,126	
Commercial Buliding Envelope - Insulation Program	$288	$246	$197	$167	$144	$114	$99	$88	$78	$71	$65	$60	$56	$53	$50	$1,775	
Commercial Earth Power Program	$238	$238	$238	$226	$226	$226	$226	$226	$226	$241	$241	$241	$241	$241	$241	$3,513	
Commercial HVAC Program - Chiller	$200	$213	$225	$238	$251	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,128	
Commercial HVAC Program - CO2 Sensors	$1	$2	$2	$2	$3	$3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13	
Commercial Custom Measures Program	$219	$185	$185	$184	$193	$192	$191	$191	$190	$199	$198	$197	$196	$195	$194	$2,910	
Commercial Building Optimization Program	$61	$67	$81	$108	$95	$81	$81	$90	$90	$99	$126	$130	$130	$130	$130	$1,498	
New Buildings Program	$423	$556	$734	$829	$926	$1,025	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,493	
Commercial Refrigeration Program	$143	$157	$165	$177	$191	$202	$219	$235	$255	$277	$303	$336	$0	$0	$0	$2,662	
Commercial Kitchen Appliance Program	$40	$48	$52	$40	$45	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$224	
Network Energy Management Program	$29	$43	$72	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$144	
Internal Retrofit Program	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Subtotal	$6,062	$5,528	$5,420	$5,250	$5,169	$4,774	$3,587	$3,451	$3,317	$3,232	$3,148	$2,763	$2,092	$2,038	$1,986	$57,819	31%
Customer Service Initiatives / Financial Loan Programs																	
Power Smart for Business PAYS Financing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0%
INDUSTRIAL																	
Performance Optimization Program	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$27,390	
Subtotal	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$1,826	$27,390	15%
CONSERVATION SUBTOTAL	$9,425	$8,266	$7,922	$7,685	$7,016	$6,617	$5,430	$5,294	$5,159	$5,074	$4,989	$4,605	$3,932	$3,877	$3,825	$89,116	48%
LOAD MANAGEMENT																	
Curtailable Rates Program	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$86,483	
LOAD MANAGEMENT SUBTOTAL	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$5,766	$86,483	47%
LOAD DISPLACEMENT & ALTERNATIVE ENERGY																	
Bioenergy Optimization Program	$1,812	$1,549	$1,930	$1,041	$1,041	$982	$664	$0	$0	$0	$0	$0	$0	$0	$0	$9,019	
LOAD DISPLACEMENT & ALTERNATIVE ENERGY SUBTOTAL	$1,812	$1,549	$1,930	$1,041	$1,041	$982	$664	$0	$0	$0	$0	$0	$0	$0	$0	$9,019	5%
Total Incentive Costs (2013 to 2027)	$17,003	$15,581	$15,617	$14,491	$13,822	$13,365	$11,860	$11,059	$10,925	$10,839	$10,755	$10,370	$9,697	$9,643	$9,591	$184,618	100%
Total Committed to Date																$252,748	
TOTAL INCENTIVE COSTS (1989 to 2027)	$17,003	$15,581	$15,617	$14,491	$13,822	$13,365	$11,860	$11,059	$10,925	$10,839	$10,755	$10,370	$9,697	$9,643	$9,591	$437,366	

Note: May not add up due to rounding.

2013 - 2016 Power Smart Plan
Annual Capacity Savings (MW)
(Savings to Date)
(1989/90 - 2012/13)

	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	Interim Estimate 2012/13	Benchmark 2027/28	At Generation 2027/28
RESIDENTIAL																										
Incentive Based																										
Home Insulation Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	2.03	5.16	7.96	10.69	13.77	16.38	18.92	19.90	19.90	22.69
Lower Income Energy Efficiency Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.36	0.70	1.54	2.92	3.36	1.35	1.53
New Home Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.19	0.44	0.73	0.97	1.18	1.46	1.56	1.56	1.56	1.77
Refrigerator Retirement Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	1.64	0.00	0.00
Water and Energy Saver Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	1.24	1.60	0.00	0.41
Subtotal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	2.22	5.60	8.81	12.01	15.65	20.08	25.30	28.07	22.81	26.40
Customer Service Initiatives																										
Power Smart Residential Loan Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.80	1.10	1.39	1.64	2.00	2.73	3.04	3.93	4.22	4.38	4.48	4.48	5.11
Residential Earth Power Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.25	0.63	1.06	1.42	2.07	2.47	2.99	3.28	3.43	3.62	1.58	2.99
ecoEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar H2O Heater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Smart PAYS Financing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.13	0.15
Subtotal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.89	1.35	2.02	2.70	3.42	4.80	5.51	6.92	7.50	7.81	8.23	6.19	8.10
DISCONTINUED/COMPLETED																										
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	1.01	1.59	1.71	1.71	1.71	1.71	0.04	0.04
Seasonal LED Lighting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.12	0.17	0.20	0.21	0.21	0.21	0.21	0.04	0.10
Outdoor Timer	0.29	0.52	0.90	1.23	1.51	1.86	1.99	2.28	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.72
Res Hot Water	0.00	0.00	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.09
Water Heater Rental	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05
Thermostat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Retrofit/Demonstration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
High Efficiency Furnace & Boiler	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.43	0.43	0.43	0.43	0.49
Energy Efficient Light Fixtures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.21	0.33	0.43	0.59	0.69	0.69	0.06	0.34
Compact Fluorescent Lighting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.64	3.11	4.15	5.69	10.18	17.72	21.33	20.06	18.06	0.00	0.00
Power Smart Energy Manager	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.09	0.10	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.09	0.00	0.00
R2000 House	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06
Subtotal	0.29	0.52	0.96	1.30	1.57	1.92	2.06	2.36	2.51	2.55	2.56	2.56	2.64	2.70	2.67	4.35	5.87	7.52	9.79	15.00	23.21	26.98	25.80	23.74	3.12	3.88
RESIDENTIAL TOTAL	0.29	0.52	0.96	1.30	1.57	1.92	2.06	2.36	2.51	2.55	2.56	2.56	3.11	3.58	4.02	7.22	10.79	16.54	23.40	32.52	45.78	54.55	58.92	60.04	32.12	38.39
COMMERCIAL																										
Incentive Based																										
Commercial Lighting Program	0.00	0.00	0.00	0.50	2.59	5.72	9.17	10.78	11.57	15.14	16.37	17.35	18.54	19.65	21.68	24.22	27.65	31.14	34.05	38.51	42.30	45.75	51.03	54.50	46.34	56.56
Commercial Earth Power Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.80	1.11	1.48	1.66	1.97	2.42	3.77	4.21	5.36	7.42	8.67	9.28	10.31	11.25	11.84	12.05	9.11	12.33
Commercial Insulation Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.75	1.84	3.17	4.85	6.22	6.73	6.73	7.68
Commercial Windows Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.17	0.26	0.31	0.39	0.45	0.62	0.82	1.05	1.49	1.66	1.76	2.09	2.97	3.99	5.07	5.56	5.32	6.07
Internal Retrofit Program	0.00	0.00	0.00	0.04	0.33	0.56	0.65	0.74	0.87	1.03	1.10	1.22	1.26	1.36	1.69	2.16	2.41	2.83	3.00	3.24	3.54	4.04	8.17*	8.22	8.22	9.38
Commercial Custom Measures Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.11	0.44	0.52	0.52	0.52	0.87	0.87	0.91	0.98	1.15	1.22	1.22	1.39	1.65	1.78	1.78	2.03
Commercial Refrigeration Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.84	1.34	1.63	1.92	2.14	2.21	0.84	0.95
Commercial HVAC Program - Chiller	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.04
City of Winnipeg Power Smart Agreement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.13	0.27	1.61	2.00	2.14	2.20	2.38	2.48	2.60	2.66	0.22	0.29
Commercial Clothes Washers Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.24	0.28	0.36	0.39	0.00	0.00
Commercial Kitchen Appliance Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.05	0.11	0.14	0.16	0.18	0.00	0.00
Power Smart Shops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.14	0.14	0.14	0.00	0.00
Commercial Building Optimization Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.14	0.00	0.00
Network Energy Management Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00
New Buildings Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	1.34	1.34	1.53
CO2 Sensors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
Power Smart Energy Manager Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.00	0.00	0.00	0.54	2.92	6.28	9.82	11.78	13.45	17.64	19.70	21.14	22.74	24.60	28.97	32.79	39.43	46.33	52.36	59.79	67.94	76.25	81.63	96.19	79.95	96.85
Customer Service Initiatives																										
Power Smart for Business PAYS Financing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DISCONTINUED/COMPLETED																										
Commercial Showerhead	0.00	0.00	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.23
Infrared Heat Lamp	0.00	0.00	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.69
Livestock Waterer	0.00	0.00	0.00	0.00	0.00	0.05	0.08	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.00	0.00
Roadway Lighting	0.00	0.00	0.91	3.13	5.37	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	6.97	7.94
Sentinel Lighting	0.00	0.00	0.51	1.11	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	2.03
Commercial Air Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.07	0.08	0.11	0.17	0.20	0.23	0.26	0.28	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.33
Agricultural Demand Controller	0.00	0.00	0.00	0.68	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.14
Commercial Air Conditioning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aboriginal Commercial	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot Controllers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spray Valves	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.27	0.27	0.27	0.27	0.00	0.00
Agricultural Heat Pads	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	1.00	1.19	1.59	1.99	2.20	2.61	2.71	2.77	3.24	3.49	3.59	3.87	3.87	4.01	2.98	3.54
Subtotal	0.00	0.00	2.23	5.74	9.00	10.64	10.68	10.75	10.76	11.43	11.80	12.05	12.49	12.91	13.16	13.58	13.69	13.75	14.23	14.66	14.81	15.09	15.09	15.22	13.83	15.91
COMMERCIAL TOTAL	0.00	0.00	2.23	6.28	11.92	16.92	20.49	22.54	24.21	29.08	31.50	33.18	35.23	37.51	42.12	46.37	53.12	60.08	66.59	74.45	82.75	91.34	96.72	111.41	93.78	112.76
INDUSTRIAL																										
Performance Optimization Program	0.00	0.00	0.00	0.00	0.00	0.29	1.08	4.60	5.78	37.36	39.13	39.45	48.40	52.93	54.07	57.64	61.68	63.18	66.25	68.71	72.03	75.49	78.95	80.04	64.93	72.62
Emergency Preparedness Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.00	0.00	0.00	0.00	0.00	0.29	1.08	4.60	5.78	37.36	39.13	39.45	48.40	52.93	54.07	57.64	61.68	63.18	66.25	68.71	72.03	75.49	78.95	80.04	64.93	72.62
DISCONTINUED/COMPLETED																										
Industrial (Basic)	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.00	0.00
Retrofit/Demonstration GSL	0.00	0.00	0.00	0.31	0.38	1.59	4.30	4.30	4.30	4.34	4.34	4.34	4.34	4.34	4.34	4.34	4.34	4.34	4.34	4.34	4.34	4.34	4.34	4.16	4.16	4.58
High Efficiency Motors	0.00	0.00	0.07	0.73	1.33	1.81	2.30	3.03	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	4.17
Efficient Motors (QMR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.00	0.00	0.07	1.04	1.74	3.43	6.63	7.36	8.12	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	7.98	7.95	8.74
INDUSTRIAL TOTAL	0.00	0.00	0.07	1.04	1.74	3.72	7.71	11.96	13.90	45.52	47.29	47.61	56.56	61.09	62.23	65.80	69.84	71.34	74.41	76.87	80.19	83.65	87.11	88.02	72.87	81.36
EFFICIENCY PROGRAMS SUBTOTAL	0.29	0.52	3.27	8.62	15.24	22.56	30.26	36.85	40.63	77.14	81.35	83.36	94.90	102.19	108.38	119.39	133.75	147.96	164.39	183.85	208.72	229.55	242.75	259.47	198.77	232.51
CUSTOMER SELF-GENERATION PROGRAMS																										
BioEnergy Optimization Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.30	14.30	14.30	14.30	14.30	14.30	14.35	0.53	0.00	0.58
RATE/LOAD MANAGEMENT PROGRAMS																										
Curtailable Rate Program	0.00	0.00	0.00	0.00	40.70	46.40	24.70	32.70	80.00	48.20	58.00	57.10	68.00	110.28	148.54	153.76	189.07	183.29	180.62	172.76	149.15	154.52	148.59	146.43	0.00	0.00
PROGRAM IMPACTS	0.29	0.52	3.27	8.62	55.94	68.96	54.96	69.55	120.63	125.34	139.35	140.46	162.90	212.47	256.91	273.15	337.12	345.55	359.31	370.90	372.17	398.36	405.68	406.42	198.77	233.09
CODES, STANDARDS & REGULATIONS	0.00	0.00	0.00	0.48	1.60	3.33	5.43	8.41	13.60	20.40	28.00	35.18	42.93	52.01	56.15	61.78	66.95	72.42	78.60	85.12	92.02	99.48	108.37	115.81	115.81	131.92
Total Impact @ Meter	0.29	0.52	3.27	9.10	57.54	72.29	60.38	77.97	134.22	145.74	167.35	175.64	205.83	264.48	313.06	334.93	404.07	417.97	437.91	456.03	464.18	497.85	514.05	522.23	314.58	
Total Impact @ Generation	0.33	0.59	3.72	10.33	63.90	80.40	67.54	87.09	149.25	162.37	186.53	195.99	229.61	294.58	348.38	372.95	449.61	465.62	488.33	509.21	519.31	557.34	575.91	585.84	355.59	365.16

Note: May not add up due to rounding.

** Includes savings for Downtown Office project based on planning assumptions*

2013 - 2016 Power Smart Plan
Annual Energy Savings (GW.h)
(Savings To Date)
(1989/90 - 2012/13)

	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	Interim Estimate 2012/13	Benchmark 2027/28	At Generation 2027/28
RESIDENTIAL																										
Incentive Based																										
Home Insulation Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.74	4.25	10.74	16.49	22.08	28.41	33.75	38.67	41.09	41.09	46.84
Lower Income Energy Efficiency Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	1.10	1.96	4.23	6.88	8.34	2.92	3.32
New Home Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.63	1.86	2.87	3.68	4.27	5.04	5.50	5.50	5.50	6.27
Refrigerator Retirement Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.02	16.70	0.00	0.00
Water and Energy Saver Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.30	10.54	12.43	0.00	2.16
Subtotal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83	4.88	12.60	19.92	26.87	34.64	48.32	69.61	84.06	49.51	58.59
Customer Service Initiatives																										
Power Smart Residential Loan Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	1.56	2.16	2.73	3.21	3.86	4.60	5.22	6.87	7.42	7.74	7.99	7.99	9.10
Residential Earth Power Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.99	2.83	4.78	6.14	8.79	10.17	11.22	11.82	12.12	13.15	2.98	7.98
ecoEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.30	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.86
Solar H2O Heater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.05	0.05	0.05	0.05	0.06
Power Smart PAYS Financing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.33	0.37
Subtotal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	2.02	3.44	6.31	8.75	10.76	14.15	16.15	18.88	20.05	20.67	22.27	12.11	18.38
DISCONTINUED/COMPLETED																										
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.55	7.60	12.07	12.75	12.75	12.75	12.75	0.42	0.48
Seasonal LED Lighting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	1.34	2.30	3.07	3.23	3.23	3.23	3.23	0.93	2.15
Outdoor Timer	5.01	8.93	15.34	20.59	24.78	29.22	30.89	34.68	36.48	36.48	36.48	36.48	36.48	36.48	36.48	36.48	36.48	36.48	36.48	36.48	36.48	36.48	36.48	36.48	36.48	41.58
Res Hot Water	0.00	0.00	0.35	0.35	0.35	0.35	0.35	0.36	0.46	0.59	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.56	0.47	0.54
Water Heater Rental	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.25	0.42	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.55
Thermostat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.41
Retrofit/Demonstration	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
RBB	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
High Efficiency Furnace & Boiler	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26	1.26	1.26	1.26	1.26	1.44
Energy Efficient Light Fixtures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	1.03	2.08	2.64	3.68	4.35	4.35	0.99	2.08
Compact Fluorescent Lighting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.09	15.39	20.60	28.09	49.94	77.72	92.07	86.89	79.40	0.00	0.00
Power Smart Energy Manager	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	1.20	2.38	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.18	1.60	0.00	0.00
R2000 House	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.15	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.22
Subtotal	5.01	8.93	15.70	20.96	25.15	29.59	31.26	35.12	37.20	37.49	37.58	37.58	38.30	38.93	40.15	48.66	56.04	66.50	79.95	108.10	138.52	153.91	148.79	140.67	41.60	49.45
RESIDENTIAL TOTAL	5.01	8.93	15.70	20.96	25.15	29.59	31.26	35.12	37.20	37.49	37.58	37.58	39.21	40.96	43.59	56.80	69.67	89.87	114.02	151.11	192.05	222.28	239.07	246.99	103.21	126.43
COMMERCIAL																										
Incentive Based																										
Commercial Lighting Program	0.00	0.00	0.00	2.92	16.99	35.90	55.00	61.23	67.45	85.39	90.76	94.88	100.18	105.59	116.21	132.57	153.14	175.81	193.92	218.90	239.47	258.75	283.92	295.79	253.69	310.67
Commercial Earth Power Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	1.12	1.79	2.86	3.23	4.02	5.05	7.76	8.75	11.12	15.30	18.63	20.21	23.61	25.99	27.59	28.74	22.40	29.81
Commercial Insulation Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	1.87	4.07	6.55	9.73	12.49	14.13	14.13	16.11
Commercial Windows Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.35	0.56	0.67	0.89	1.02	1.37	1.79	2.29	3.19	3.95	4.46	5.23	7.29	9.67	12.47	13.98	13.27	15.13
Internal Retrofit Program	0.00	0.00	0.00	0.17	1.23	2.73	3.29	3.77	4.26	4.95	5.44	5.85	6.14	6.89	9.38	12.15	14.42	16.98	18.03	19.82	21.47	24.05	35.32*	35.81	35.24	40.18
Commercial Custom Measures Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.38	2.58	10.00	10.75	11.70	12.16	12.77	12.83	12.85	13.14	15.39	15.91	17.36	18.82	20.11	20.72	19.39	22.10
Commercial Refrigeration Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22	3.05	4.26	5.53	6.97	8.85	9.51	3.45	3.93
Commercial HVAC Program - Chiller	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.46	3.66	4.10	4.28	4.85	5.34	7.10	8.28	8.63	8.63	9.84
City of Winnipeg Power Smart Agreement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.63	1.17	7.61	9.60	10.12	10.34	10.83	11.15	11.57	11.76	0.97	1.29
Commercial Clothes Washers Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.32	0.38	0.47	0.54	0.00	0.00
Commercial Kitchen Appliance Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.47	0.60	0.71	0.76	0.00	0.00
Power Smart Shops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.69	0.69	0.69	0.00	0.00
Commercial Building Optimization Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.62	0.88	0.88	1.41	0.00	0.00
Network Energy Management Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.18	0.18	0.70	0.00	0.00
New Buildings Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.70	6.62	6.62	7.54
CO2 Sensors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.11	0.18	0.00	0.00
Power Smart Energy Manager Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.00	0.00	0.00	3.09	18.23	38.63	58.29	65.81	73.56	95.27	109.74	115.61	123.06	131.13	148.53	172.23	205.99	240.70	269.74	304.26	339.17	374.99	390.01	449.98	377.79	456.60
Customer Service Initiatives																										
Power Smart for Business PAYS Financing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DISCONTINUED/COMPLETED																										
Commercial Showerhead	0.00	0.00	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.64
Infrared Heat Lamp	0.00	0.00	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	3.72	4.24
Livestock Waterer	0.00	0.00	0.00	0.00	0.00	0.17	0.31	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.00	0.00
Roadway Lighting	0.00	0.00	3.88	13.50	23.16	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	29.85	34.03
Sentinel Lighting	0.00	0.00	2.25	4.73	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	8.55
Commercial Air Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.18	0.20	0.28	0.45	0.55	0.63	0.72	0.75	0.78	0.78	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.95
Agricultural Demand Controller	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial Air Conditioning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.04	0.20	0.20	0.29	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.28	0.32
Aboriginal Commercial	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot Controllers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	1.62	3.67	4.10	4.40	5.94	6.76	8.80	11.50	19.96	27.93	30.46	32.43	34.88	38.11	39.38	41.10	21.64	26.63
Spray Valves	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.90	2.88	4.79	5.17	5.17	5.17	5.17	0.00	0.00
Agricultural Heat Pads	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.51	5.51	6.68	9.23	11.59	12.90	15.39	16.39	17.03	21.75	24.30	25.41	28.37	28.37	29.38	19.01	22.82
Subtotal	0.00	0.00	11.30	23.39	35.82	42.68	42.83	43.81	44.70	50.27	52.79	54.41	58.64	62.06	65.51	70.82	80.32	90.84	99.12	105.55	109.49	115.68	116.95	119.68	84.28	99.18
COMMERCIAL TOTAL	0.00	0.00	11.30	26.48	54.04	81.31	101.11	109.62	118.26	145.55	162.53	170.02	181.70	193.19	214.04	243.05	286.31	331.54	368.87	409.81	448.66	490.67	506.96	569.66	462.07	555.78
INDUSTRIAL																										
Performance Optimization Program	0.00	0.00	0.00	0.00	0.00	2.42	7.21	35.10	43.52	85.88	107.70	110.85	142.93	170.52	181.46	207.61	238.59	249.35	276.39	294.86	319.61	347.88	373.07	380.04	256.06	299.85
Emergency Preparedness Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.00	0.00	0.00	0.00	0.00	2.42	7.21	35.10	43.52	85.88	107.70	110.85	142.93	170.52	181.46	207.61	238.59	249.35	276.39	294.86	319.61	347.88	373.07	380.04	256.06	299.85
DISCONTINUED/COMPLETED																										
Industrial (Basic)	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Retrofit/Demonstration GSL	0.00	0.00	0.00	0.07	0.67	9.67	32.72	32.72	32.72	33.07	33.07	33.07	33.07	33.07	33.07	33.07	33.07	33.07	32.99	32.99	32.99	32.99	32.99	32.99	32.98	37.60
High Efficiency Motors	0.00	0.00	0.40	4.79	7.65	10.34	13.30	17.88	21.48	21.48	21.48	21.48	21.48	21.48	21.48	21.48	21.48	21.48	21.48	21.48	21.48	21.48	21.48	21.48	21.48	24.49
Efficient Motors (QMR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.00	0.00	0.40	4.87	8.33	20.02	46.02	50.61	54.21	54.56	54.56	54.56	54.56	54.56	54.56	54.56	54.56	54.56	54.48	54.48	54.48	54.48	54.48	54.48	54.46	62.09
INDUSTRIAL TOTAL	0.00	0.00	0.40	4.87	8.33	22.44	53.23	85.71	97.73	140.44	162.25	165.41	197.49	225.08	236.02	262.17	293.15	303.90	330.87	349.35	374.10	402.37	427.55	434.52	310.53	361.94
EFFICIENCY PROGRAMS SUBTOTAL	5.01	8.93	27.40	52.31	87.52	133.34	185.60	230.45	253.19	323.48	362.36	373.01	418.39	459.23	493.64	562.03	649.13	725.32	813.76	910.27	1,014.81	1,115.32	1,173.59	1,251.17	875.80	1,044.15
CUSTOMER SELF-GENERATION PROGRAMS																										
BioEnergy Optimization Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.26	120.06	84.21	94.01	80.08	86.56	70.27	4.61	0.00	5.26
RATE/LOAD MANAGEMENT PROGRAMS																										
Curtailable Rate Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROGRAM IMPACTS	5.01	8.93	27.40	52.31	87.52	133.34	185.60	230.45	253.19	323.48	362.36	373.01	418.39	459.23	493.64	562.03	659.39	845.38	897.97	1,004.28	1,094.89	1,201.88	1,243.86	1,255.79	875.80	1,049.41
CODES, STANDARDS & REGULATIONS	0.00	0.00	0.00	1.94	6.59	13.73	22.35	35.19	55.52	81.51	110.09	137.26	166.49	200.72	217.58	240.50	261.85	284.34	309.12	335.24	377.80	422.85	472.78	505.40	505.40	575.50
Total Impact @ Meter	5.01	8.93	27.40	54.25	94.11	147.07	207.95	265.64	308.71	404.98	472.45	510.27	584.89	659.94	711.22	802.53	921.24	1,129.72	1,207.10	1,339.52	1,472.69	1,624.73	1,716.63	1,761.18	1,381.20	
Total Impact @ Generation	5.71	10.18	31.22	61.64	106.95	166.77	234.93	299.40	347.96	455.93	531.90	574.83	658.55	742.94	800.89	903.87	1,037.49	1,270.27	1,358.84	1,508.67	1,660.05	1,831.98	1,936.40	1,989.53	1,561.50	1,612.03

Note: May not add up due to rounding.

** Includes savings for Downtown Office project based on planning assumptions*

2013 - 2016 Power Smart Plan
Annual Utility Costs
(1989/90 - 2012/13)
('000's in 2012 $)

	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	Interim Estimate 2012/13	Cumulative 2012/13
RESIDENTIAL																									
Incentive Based																									
Home Insulation Program	0	0	0	0	260	397	248	231	417	46	5	47	74	73	142	783	1,165	1,988	1,603	1,772	1,760	1,420	1,281	1,248	14,959
Lower Income Energy Efficiency Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	107	221	222	117	196	99	328	1,334
New Home Program	0	0	0	40	156	98	223	126	65	34	1	19	136	301	230	315	631	943	677	672	604	218	254	0	5,744
Refrigerator Retirement Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	83	1,509	2,283	3,887
Earth Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6
Water and Energy Saver Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	19	0	0	83	52	476	448	784	1,862
Subtotal	0	0	0	40	416	496	471	358	482	80	6	66	210	374	373	1,097	1,860	3,038	2,501	2,748	2,544	2,399	3,590	4,643	27,791
Customer Service Initiatives																									
Power Smart Residential Loan Program	0	0	0	0	0	0	0	0	0	0	0	47	80	21	9	0	1	10	-1	-6	-77	-38	-29	0	16
Residential Earth Power Program	0	0	0	0	0	0	0	0	0	0	0	0	2	49	101	361	916	-97	74	217	169	107	0	0	1,900
ecoEnergy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-11	-44	74	171	-20	149	105	115	0	539
Solar H2O Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7
Subtotal	0	0	0	0	0	0	0	0	0	0	0	47	82	70	111	350	873	-13	244	191	248	173	85	0	2,462
DISCONTINUED/COMPLETED																									
Appliances	0	0	0	0	0	0	0	0	0	0	0	0	0	21	14	11	100	1,609	2,046	1,819	417	12	1	0	6,051
Seasonal LED Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88	407	379	359	24	0	0	0	1,258
Outdoor Timer	203	296	253	197	97	56	20	3	10	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1,140
Res Hot Water	0	0	180	0	0	0	2	63	26	16	4	0	0	0	0	0	0	0	0	0	0	0	0	0	291
Water Heater Rental	0	0	0	0	0	0	19	409	405	77	5	0	0	0	0	0	0	0	0	0	0	0	0	0	915
Thermostat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	4	8	73	36	10	0	0	0	0	141
Retrofit/Demonstration	0	67	28	125	0	0	4	0	0	0	0	0	0	0	0	14	48	0	0	0	0	0	0	0	286
RBB	0	0	54	13	0	0	0	0	0	0	0	0	0	17	29	5	69	26	0	0	0	0	0	0	212
High Efficiency Furnace & Boiler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
Energy Efficient Light Fixtures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	162	520	402	194	253	307	0	1,838
Aboriginal Programs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	15	0	0	0	0	0	0	20
Compact Fluorescent Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	824	1,066	853	976	1,345	1,659	1,044	2	0	7,790
Subtotal	203	363	514	335	97	56	45	476	441	97	10	0	0	38	74	858	1,387	3,145	3,958	3,936	2,294	1,309	310	0	19,945
Exploratory Programs																									
Exploratory Programs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	4	0	0	25
RESIDENTIAL TOTAL	203	363	514	375	513	552	516	833	922	177	15	112	292	482	558	2,305	4,120	6,170	6,702	6,875	5,107	3,886	3,986	4,643	50,222
COMMERCIAL																									
Incentive Based																									
Commercial Lighting Program	0	0	112	1,189	2,549	3,008	2,951	1,226	1,043	2,065	921	675	1,046	1,240	2,798	5,513	6,649	7,623	7,878	8,172	7,622	6,918	6,463	6,172	83,832
Commercial Earth Power Program	0	0	0	0	15	50	81	68	230	120	137	113	173	294	662	284	532	659	372	234	402	310	296	328	5,360
Commercial Insulation Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	225	270	251	240	270	237	531	2,024
Commercial Windows Program	0	0	0	0	8	27	43	131	174	64	45	78	69	160	124	250	332	412	402	467	1,059	1,263	1,005	492	6,604
Internal Retrofit Program	0	0	120	285	477	575	166	216	178	235	116	299	141	291	640	729	621	8,844	8,503	4,611	3,222	1,923	759	464	33,418
Commercial Custom Measures Program	0	0	0	0	20	68	109	81	0	224	543	135	151	84	162	12	8	125	198	252	221	240	242	247	3,121
Commercial Refrigeration Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	245	325	310	184	192	177	341	294	2,068
Commercial HVAC Program - Chiller	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	184	213	75	224	169	326	212	206	1,607
City of Winnipeg Power Smart Agreement	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2,955	2,026	4,844	1,916	211	66	47	83	-45	28	12,134
Commercial Clothes Washers Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	45	143	67	64	54	432
Commercial Kitchen Appliance Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	95	86	37	32	30	281
Power Smart Shops	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	64	254	148	47	0	513
Commercial Building Optimization Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	61	42	29	27	38	40	112	539
Network Energy Management Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	21	71	86	24	136	341
New Buildings Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	147	101	170	301	342	835	1,897
CO2 Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	8
Power Smart Energy Manager Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	84	122	91	68	22	0	388
Subtotal	0	0	232	1,475	3,069	3,727	3,351	1,722	1,625	2,707	1,762	1,300	1,582	2,072	7,340	8,814	13,605	20,405	18,554	14,940	14,017	12,256	10,081	9,934	154,570
DISCONTINUED/COMPLETED																									
Commercial Showerhead	0	67	123	36	4	124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	353
Infrared Heat Lamp	0	18	294	34	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	352
Livestock Waterer	0	0	0	0	0	158	136	95	24	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	418
Roadway Lighting	0	116	1,531	2,160	1,972	1,498	18	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,343
Sentinel Lighting	0	33	1,350	1,131	1,160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,673
Commercial Air Barrier	0	0	0	0	8	29	46	101	80	3	11	34	22	18	19	7	4	0	6	0	0	0	0	0	388
Agricultural Demand Controller	0	0	33	645	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	897
Commercial Air Conditioning	0	0	0	0	1	2	3	82	78	0	0	0	7	55	0	142	11	0	0	0	0	0	0	0	380
Aboriginal Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Parking Lot Controllers	0	0	0	0	40	136	219	116	104	196	21	53	210	114	297	375	1,113	961	617	399	534	551	287	237	6,581
Spray Valves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	29	23	9	5	0	0	107
Agricultural Heat Pads	0	0	0	0	0	3	70	36	93	93	49	62	70	62	134	76	69	63	45	121	103	8	6	1,163	
Subtotal	0	233	3,331	4,004	3,410	1,946	425	464	370	296	125	137	301	258	379	658	1,205	1,070	716	468	664	659	295	243	21,655
	0	233	3,563	5,479	6,479	5,673	3,776	2,186	1,995	3,003	1,887	1,437	1,883	2,330	7,719	9,472	14,809	21,476	19,269	15,407	14,681	12,915	10,376	10,177	176,225
INDUSTRIAL																									
Performance Optimization Program	0	0	90	192	246	506	513	462	673	408	271	418	1,057	3,339	1,255	1,701	1,774	1,138	3,402	2,650	3,058	2,880	2,991	2,765	31,786
Emergency Preparedness Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86	73	7	1	0	167
Subtotal	0	0	90	192	246	506	513	462	673	408	271	418	1,057	3,339	1,255	1,701	1,774	1,138	3,402	2,735	3,131	2,887	2,992	2,765	29,188
DISCONTINUED/COMPLETED																									
Industrial (Basic)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retrofit/Demonstration GSL	0	0	65	327	350	630	1,082	366	337	87	11	5	0	0	0	0	0	39	0	0	0	0	0	0	3,300
High Efficiency Motors	0	23	319	773	619	492	451	489	658	48	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3,875
Efficient Motors (QMR)	0	0	0	23	54	20	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101
Subtotal	0	23	383	1,124	1,023	1,142	1,537	855	995	134	15	5	0	0	0	0	0	39	0	0	0	0	0	0	7,276
	0	23	473	1,316	1,269	1,648	2,050	1,317	1,667	542	285	423	1,057	3,339	1,255	1,701	1,774	1,177	3,402	2,736	3,131	2,887	2,992	2,765	39,229
EFFICIENCY PROGRAMS SUBTOTAL	203	619	4,550	7,170	8,260	7,874	6,342	4,336	4,585	3,722	2,188	1,972	3,233	6,151	9,531	13,478	20,703	28,823	29,373	25,018	22,919	19,687	17,353	17,585	265,677
CUSTOMER SELF-GENERATION PROGRAMS																									
BioEnergy Optimization Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	155	1,792	1,731	1,818	1,563	1,670	1,756	2,243	12,728
RATE/LOAD MANAGEMENT PROGRAMS																									
Curtailable Rate Program	0	0	0	88	652	1,600	1,440	1,411	1,221	1,561	1,929	2,474	3,260	4,916	6,438	6,454	7,195	7,039	6,979	6,753	6,060	5,973	5,903	5,772	85,120
Support Costs	0	365	3,507	4,214	2,994	1,666	1,979	1,589	1,265	1,641	2,336	3,099	2,702	3,495	3,490	3,409	2,498	2,072	2,007	3,684	3,710	3,223	2,851	3,819	61,614
GRAND TOTAL	203	984	8,057	11,472	11,906	11,140	9,760	7,336	7,072	6,924	6,453	7,546	9,195	14,561	19,460	23,341	30,552	39,726	40,090	37,274	34,252	30,553	27,863	29,419	425,139

Note: May not add up due to rounding.

2013 - 2016 Power Smart Plan
Annual Program Administration Costs
(1989/90 - 2012/13)
('000's in 2012 $)

	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	Interim Estimate 2012/13	Cumulative 2012/13
RESIDENTIAL																									
Incentive Based																									
Home Insulation Program	0	0	0	0	260	397	248	231	417	46	5	47	74	73	142	283	446	300	223	223	197	222	246	508	4,588
Lower Income Energy Efficiency Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	0	179	888	1,221	83	35	123	2,574
New Home Program	0	0	0	40	156	98	223	126	65	34	1	19	136	301	230	303	561	810	559	565	486	93	209	0	5,017
Refrigerator Retirement Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	83	1,184	1,739	3,018
Water and Energy Saver Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	19	0	0	83	52	88	260	624	1,126
Subtotal	0	0	0	40	416	496	471	358	482	80	6	66	210	374	373	587	1,071	1,109	961	1,759	1,967	569	1,934	2,994	16,323
Customer Service Initiatives																									
Power Smart Residential Loan Program	0	0	0	0	0	0	0	0	0	0	0	47	80	21	9	0	1	10	-1	-6	-77	-38	-29	0	16
Residential Earth Power Program	0	0	0	0	0	0	0	0	0	0	0	0	2	49	101	361	916	-97	74	217	169	107	0	0	1,900
ecoEnergy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-11	-44	74	171	-20	149	105	115	0	539
Solar H2O Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7
Subtotal	0	0	0	0	0	0	0	0	0	0	0	47	82	70	111	350	873	-13	244	191	248	173	85	0	2,462
DISCONTINUED/COMPLETED																									
Appliances	0	0	0	0	0	0	0	0	0	0	0	0	0	21	14	11	100	587	638	428	113	12	1	0	1,925
Seasonal LED Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	242	261	288	2	0	0	0	849
Outdoor Timer	153	227	192	162	67	56	20	3	10	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	893
Res Hot Water	0	0	170	0	0	0	2	63	26	16	4	0	0	0	0	0	0	0	0	0	0	0	0	0	281
Water Heater Rental	0	0	0	0	0	0	19	409	405	77	5	0	0	0	0	0	0	0	0	0	0	0	0	0	915
Thermostat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	4	8	51	25	5	0	0	0	0	102
Retrofit/Demonstration	0	67	28	125	0	0	0	0	0	0	0	0	0	0	0	14	48	0	0	0	0	0	0	0	281
RBB	0	0	28	13	0	0	0	0	0	0	0	0	0	17	29	5	69	0	0	0	0	0	0	0	161
High Efficiency Furnace & Boiler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
Energy Efficient Light Fixtures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64	411	329	128	99	167	0	1,198
Aboriginal Programs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Compact Fluorescent Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	660	791	611	712	660	536	423	12	0	4,426
Subtotal	153	293	418	299	67	56	41	475	441	97	10	0	0	38	74	694	1,075	1,555	2,047	1,710	780	533	180	0	11,035
Exploratory Programs																									
Exploratory Programs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	21
RESIDENTIAL TOTAL	153	293	418	339	483	552	511	833	922	177	15	112	292	482	558	1,631	3,019	2,652	3,252	3,661	3,015	1,275	2,200	2,994	29,840
COMMERCIAL																									
Incentive Based																									
Commercial Lighting Program	0	0	112	876	976	809	654	447	580	434	319	342	418	847	1,156	1,958	1,907	2,256	2,148	1,934	1,988	1,938	1,879	1,813	25,790
Commercial Earth Power Program	0	0	0	0	15	50	81	37	78	28	13	40	82	148	296	152	210	210	223	137	126	101	123	115	2,266
Commercial Insulation Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	148	149	46	46	33	31	191	643
Commercial Windows Program	0	0	0	0	8	27	43	81	78	8	1	25	13	43	32	63	55	162	169	105	121	123	118	215	1,491
Internal Retrofit Program	0	0	120	233	209	185	64	69	71	64	46	93	51	107	126	184	198	238	280	551	244	176	153	464	3,926
Commercial Custom Measures Program	0	0	0	0	20	68	109	50	0	93	91	82	99	62	66	9	1	82	35	217	90	93	141	75	1,482
Commercial Refrigeration Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	245	228	203	99	101	87	137	159	1,258
Commercial HVAC Program - Chiller	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	22	14	13	18	16	16	18	191
City of Winnipeg Power Smart Agreement	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2,142	1,055	1,012	453	57	66	47	-82	-118	2	4,639
Commercial Clothes Washers Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	40	43	36	19	174
Commercial Kitchen Appliance Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48	37	13	18	8	125
Power Smart Shops	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	64	251	145	47	0	508
Commercial Building Optimization Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	61	42	22	18	28	27	31	419
Network Energy Management Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	67	74	24	23	209
New Buildings Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101	170	187	229	218	905
CO2 Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	6
Power Smart Energy Manager Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	119	91	113	22	0	347
Subtotal	0	0	232	1,109	1,228	1,139	951	684	807	627	470	582	663	1,211	3,818	3,420	3,891	3,860	3,322	3,580	3,455	3,089	2,883	3,356	44,378
DISCONTINUED/COMPLETED																									
Commercial Showerhead	0	67	93	36	4	124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	322
Infrared Heat Lamp	0	18	159	34	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	216
Livestock Waterer	0	0	0	0	0	137	118	84	24	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	367
Roadway Lighting	0	116	1,531	2,159	1,972	1,498	18	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,342
Sentinel Lighting	0	33	1,350	1,131	1,160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,673
Commercial Air Barrier	0	0	0	0	8	29	46	81	78	1	1	17	11	10	9	5	1	0	1	0	0	0	0	0	298
Agricultural Demand Controller	0	0	33	464	158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	655
Commercial Air Conditioning	0	0	0	0	1	2	3	81	78	0	0	0	3	20	0	12	2	0	0	0	0	0	0	0	201
Aboriginal Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parking Lot Controllers	0	0	0	0	40	136	219	81	78	70	5	33	160	91	223	294	514	186	122	150	152	82	287	16	2,940
Spray Valves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	16	5	6	1	0	0	42
Agricultural Heat Pads	0	0	0	0	0	0	3	70	36	42	30	21	24	33	28	83	45	44	29	19	33	28	8	6	583
Subtotal	0	233	3,165	3,824	3,348	1,925	407	397	341	117	37	72	198	154	261	394	563	244	168	175	191	111	295	22	16,641
	0	233	3,397	4,933	4,576	3,064	1,358	1,081	1,148	744	507	653	861	1,365	4,078	3,814	4,454	4,104	3,490	3,755	3,646	3,201	3,178	3,377	61,018
INDUSTRIAL																									
Performance Optimization Program	0	0	90	192	246	356	262	307	276	212	227	214	300	2,015	416	199	351	414	523	612	464	414	417	939	9,444
Emergency Preparedness Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86	73	338	1	0	498
Subtotal	0	0	90	192	246	356	262	307	276	212	227	214	300	2,015	416	199	351	414	523	698	537	752	418	939	9,942
DISCONTINUED/COMPLETED																									
Industrial (Basic)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retrofit/Demonstration GSL	0	0	65	290	295	217	405	366	337	48	11	5	0	0	0	0	0	39	0	0	0	0	0	0	2,077
High Efficiency Motors	0	23	281	354	274	241	257	279	353	48	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2,113
Efficient Motors (QMR)	0	0	0	23	54	20	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101
Subtotal	0	23	345	667	623	478	666	645	689	95	15	5	0	0	0	0	0	39	0	0	0	0	0	0	4,291
	0	23	435	859	869	834	928	952	966	307	242	218	300	2,015	416	199	351	453	523	698	537	752	418	939	14,233
EFFICIENCY PROGRAMS SUBTOTAL	153	549	4,250	6,131	5,928	4,450	2,798	2,866	3,036	1,228	764	984	1,454	3,862	5,052	5,644	7,825	7,209	7,265	8,114	7,199	5,228	5,795	7,311	105,092
CUSTOMER SELF-GENERATION PROGRAMS																									
BioEnergy Optimization Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	78	301	319	1,756	1,095	3,548
RATE/LOAD MANAGEMENT PROGRAMS																									
Curtailable Rate Program	0	0	0	88	125	222	76	52	49	35	36	35	10	10	14	18	10	8	10	5	7	7	9	6	833
Support Costs	0	365	3,507	4,214	2,994	1,666	1,979	1,589	1,265	1,641	2,336	3,099	2,702	3,495	3,490	3,409	2,498	2,072	2,007	3,684	3,710	3,223	2,851	3,819	61,614
GRAND TOTAL	153	914	7,756	10,433	9,047	6,338	4,853	4,507	4,351	2,904	3,135	4,118	4,166	7,366	8,557	9,070	10,333	9,289	9,282	11,880	11,216	8,777	10,411	12,231	171,086

Note: May not add up due to rounding.

2013 - 2016 Power Smart Plan
Annual Program Incentive Costs
(1989/90 - 2012/13)
(000's in 2012 $)

	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	Interim Estimate 2012/13	Cumulative 2012/13
RESIDENTIAL																									
Incentive Based																									
Home Insulation Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	499	719	1,688	1,380	1,549	1,563	1,198	1,035	739	10,371
Lower Income Energy Efficiency Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	315	789	113	64	205	1,529
New Home Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	69	133	118	107	118	86	45	0	688
Refrigerator Retirement Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	325	544	869
Water and Energy Saver Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	283	188	160	631
Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	511	788	1,821	1,540	1,971	2,471	1,681	1,656	1,649	14,087
Customer Service Initiatives																									
Power Smart Residential Loan 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
Residential Earth Power 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
ecoEnergy	0	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 H2O Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DISCONTINUED/COMPLETED																									
Appliances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,022	1,408	1,391	304	0	0	0	4,126
Seasonal LED Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	165	118	71	22	0	0	0	408
Outdoor Timer	50	70	61	36	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	247
Res Hot Water	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
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
Thermostat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	11	6	0	0	0	0	39
Retrofit/Demonstration	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
RBB	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
High Efficiency Furnace & Boiler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Energy Efficient Light Fixtures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	109	73	66	154	140	0	576
Aboriginal Programs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Compact Fluorescent Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	164	275	242	264	685	1,122	621	-10	0	3,363
Subtotal	50	70	96	36	30	0	4	0	0	0	0	0	0	0	0	164	307	1,485	1,910	2,226	1,514	776	130	0	8,800
Exploratory Programs																									
Exploratory Programs	0	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	50	70	96	36	30	0	4	0	0	0	0	0	0	0	0	674	1,095	3,307	3,450	4,197	3,985	2,457	1,786	1,649	22,887
COMMERCIAL																									
Incentive Based																									
Commercial Lighting Program	0	0	0	313	1,573	2,199	2,298	779	463	1,631	602	333	628	392	1,642	3,555	4,742	5,367	5,730	6,238	5,634	4,980	4,584	4,359	58,042
Commercial Earth Power Program	0	0	0	0	0	0	0	31	152	91	124	73	91	146	366	132	323	450	149	97	276	208	173	213	3,094
Commercial Insulation Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77	120	206	194	244	206	340	1,387
Commercial Windows Program	0	0	0	0	0	0	0	50	96	55	43	53	56	117	91	187	277	251	233	361	939	1,144	887	276	5,117
Internal Retrofit Program	0	0	0	53	268	390	102	147	107	171	70	207	90	184	514	545	423	8,021	7,871	3,859	2,102	0	606	0	25,731
Commercial Custom Measures Program	0	0	0	0	0	0	0	31	0	131	452	54	53	22	97	3	7	43	162	35	130	147	101	172	1,639
Commercial Refrigeration Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	97	107	86	91	90	205	135	810
Commercial HVAC Program - Chiller	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	190	61	210	151	309	195	188	1,415
City of Winnipeg Power Smart Agreement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	813	971	3,831	1,463	154	0	0	164	73	26	7,496
Commercial Clothes Washers Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	103	24	28	35	200
Commercial Kitchen Appliance Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	50	24	14	22	156
Power Smart Shops	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	6
Commercial Building Optimization Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	9	10	13	81	120
Network Energy Management Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	12	0	113	130
New Buildings Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	113	617	844
CO2 Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Power Smart Energy Manager Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
Subtotal	0	0	0	365	1,841	2,589	2,400	1,038	818	2,080	1,292	719	918	861	3,523	5,394	9,714	15,959	14,588	11,158	9,685	7,474	7,198	6,579	106,192
DISCONTINUED/COMPLETED																									
Commercial Showerhead	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
Infrared Heat Lamp	0	0	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	135
Livestock Waterer	0	0	0	0	0	21	18	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50
Roadway Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sentinel Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Air Barrier	0	0	0	0	0	0	0	19	2	3	10	17	11	8	10	3	3	0	5	0	0	0	0	0	90
Agricultural Demand Controller	0	0	0	181	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	242
Commercial Air Conditioning	0	0	0	0	0	0	0	1	0	0	0	0	4	35	0	130	9	0	0	0	0	0	0	0	179
Aboriginal Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parking Lot Controllers	0	0	0	0	0	0	0	35	27	126	16	21	50	24	74	81	599	775	495	249	382	468	0	221	3,641
Spray Valves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	13	18	3	5	0	0	65
Agricultural Heat Pads	0	0	0	0	0	0	0	0	0	51	62	28	38	37	35	51	31	25	34	26	87	75	0	0	580
Subtotal	0	0	166	181	61	21	18	67	29	179	88	65	103	104	118	264	641	826	547	293	473	548	0	221	5,013
	0	0	166	546	1,903	2,609	2,418	1,105	847	2,259	1,380	784	1,022	965	3,641	5,658	10,355	16,785	15,135	11,451	10,158	8,022	7,198	6,800	111,205
INDUSTRIAL																									
Performance Optimization Program	0	0	0	0	0	150	251	155	396	196	44	205	758	1,324	839	1,503	1,422	724	2,879	2,037	2,594	2,466	2,574	1,826	22,342
Emergency Preparedness 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
Subtotal	0	0	0	0	0	150	251	155	396	196	44	205	758	1,324	839	1,503	1,422	724	2,879	2,037	2,594	2,466	2,574	1,826	22,342
DISCONTINUED/COMPLETED																									
Industrial (Basic)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retrofit/Demonstration GSL	0	0	0	38	56	413	677	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,222
High Efficiency Motors	0	0	38	419	345	251	194	210	305	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,762
Efficient Motors (QMR)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	0	0	38	457	400	664	871	210	305	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,985
	0	0	38	457	400	815	1,122	365	702	235	44	205	758	1,324	839	1,503	1,422	724	2,879	2,037	2,594	2,466	2,574	1,826	25,327
EFFICIENCY PROGRAMS SUBTOTAL	50	70	300	1,039	2,333	3,424	3,544	1,470	1,549	2,494	1,424	989	1,779	2,289	4,479	7,835	12,873	20,815	21,464	17,685	16,738	12,945	11,558	10,274	159,419
CUSTOMER SELF-GENERATION PROGRAMS																									
BioEnergy Optimization Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	155	1,781	1,604	1,741	1,262	1,351	0	1,147	9,042
RATE/LOAD MANAGEMENT PROGRAMS																									
Curtailable Rate Program	0	0	0	0	526	1,378	1,363	1,359	1,172	1,525	1,894	2,439	3,250	4,906	6,423	6,437	7,186	7,032	6,969	6,748	6,054	5,966	5,895	5,766	84,288
Support Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	50	70	300	1,039	2,859	4,802	4,907	2,829	2,721	4,019	3,317	3,428	5,029	7,195	10,903	14,272	20,214	29,628	30,037	26,174	24,053	20,261	17,452	17,187	252,748

Note: May not add up due to rounding.

2013 - 2016 Power Smart Plan
Annual Energy Savings
(million m3)

	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	
RESIDENTIAL																
Incentive Based																
Home Insulation Program	1.0	2.0	2.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	
Water and Energy Saver Program	0.8	1.6	1.9	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	
Lower Income Energy Efficiency Program	1.2	2.4	3.5	4.7	4.7	4.2	3.7	3.3	2.8	2.9	2.8	2.6	2.5	2.3	2.3	
Subtotal	3.0	5.9	8.3	10.1	10.1	9.6	9.1	8.7	8.3	8.3	8.2	8.0	7.9	7.7	7.7	17%
Customer Service Initiatives / Financial Loan Programs																
Power Smart Residential Loan	0.3	0.7	1.0	1.4	1.7	2.0	2.4	2.7	3.0	3.4	3.7	4.1	4.4	4.7	5.1	
Residential Earth Power Loan	0.1	0.2	0.3	0.5	0.6	0.7	0.9	1.0	1.2	1.3	1.5	1.7	1.7	1.7	1.7	
Power Smart PAYS Financing	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.7	
Subtotal	0.5	1.0	1.5	2.0	2.6	3.1	3.6	4.1	4.7	5.2	5.8	6.3	6.7	7.1	7.5	16%
COMMERCIAL																
Incentive Based																
Commercial Custom Measures Program	0.1	0.2	0.3	0.4	0.6	0.7	0.8	1.0	1.1	1.3	1.4	1.6	1.8	1.9	2.1	
Commercial Windows Program	0.3	0.6	0.8	0.9	1.0	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	
Commercial Insulation Program	1.0	1.8	2.5	3.0	3.4	3.8	4.2	4.5	4.7	4.8	4.9	5.0	5.1	5.1	5.1	
New Buildings Program	0.7	1.6	2.5	3.6	4.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	
Commercial Building Optimization Program	0.2	0.4	0.6	0.8	1.1	1.4	1.6	1.9	2.2	2.6	2.8	3.1	3.3	3.5	3.7	
Internal Retrofit Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	
Commercial Kitchen Appliance Program	0.1	0.4	0.6	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.7	0.4	0.2	0.2	0.1	
CO2 Sensors	0.1	0.2	0.3	0.5	0.6	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.0	0.9	0.9	
Commercial Boiler Program	0.4	0.8	1.0	1.0	1.2	1.4	1.7	1.9	2.1	2.3	2.5	2.7	2.7	2.7	2.7	
Subtotal	3.0	5.9	8.6	11.0	13.5	15.9	17.1	18.3	19.2	20.2	20.9	21.5	21.8	22.2	22.5	49%
Customer Service Initiatives / Financial Loan Programs																
Power Smart for Business PAYS Financing	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Subtotal	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0%
INDUSTRIAL																
Industrial Natural Gas Optimization Program	1.6	3.0	4.2	5.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	
Subtotal	1.6	3.0	4.2	5.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	14%
CONSERVATION SUBTOTAL	8.1	15.9	22.7	28.4	32.6	35.1	36.3	37.6	38.7	40.3	41.4	42.3	42.9	43.5	44.2	97%
LOAD DISPLACEMENT & ALTERNATIVE ENERGY																
BioEnergy Optimization Program	0.3	0.6	1.1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
LOAD DISPLACEMENT & ALTERNATIVE ENERGY SUBTOTAL	0.3	0.6	1.1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3%
Program Impacts	8	17	24	30	34	37	38	39	40	42	43	44	44	45	46	100%
Interactive Effects	-1.1	-1.6	-1.7	-1.3	-1.4	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-0.6	-0.6	-0.7	-0.6	
Subtotal	7	15	22	28	33	35	36	38	39	40	41	43	44	44	45	
Codes, Standards & Regulations	2.7	5.3	8.0	10.6	11.0	11.3	11.6	11.9	12.2	12.4	12.7	12.9	13.1	13.2	13.4	
POWER SMART 2013 to 2027 Impacts	10	20	30	39	44	46	48	50	51	53	54	56	57	58	59	
POWER SMART SAVINGS TO DATE																
Incentive Based Program Impacts	49.4	49.2	48.4	48.4	48.4	48.3	48.2	48.0	47.7	47.2	45.0	44.0	42.6	39.0	36.1	
Customer Service Initiatives Program Impacts	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.4	19.3	19.0	18.7	18.5	18.2	
Discontinued Programs	9.7	9.5	9.5	8.7	8.4	7.4	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	
Interactive Effects	-7.7	-4.6	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-3.0	-3.0	-3.1	-2.7	-1.8	-2.0	-1.7	
Impacts of Codes & Standards	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	
TOTAL m3	88	102	112	121	125	126	128	129	130	131	130	131	131	128	126	

Note: May not add up due to rounding.

2013 - 2016 Power Smart Plan
Annual Utility Costs
(000's in 2012 $)

	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	Cumulative Total	
RESIDENTIAL																	
Incentive Based																	
Home Insulation Program	$1,688	$1,685	$1,719	$1,738	$329	$246	$246	$246	$246	$246	$246	$246	$246	$246	$0	$9,369	
Water and Energy Saver Program	$804	$804	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,607	
Lower Income Energy Efficiency Program	$744	$730	$647	$636	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,757	
Subtotal	$3,236	$3,218	$2,366	$2,374	$329	$246	$246	$246	$246	$246	$246	$246	$246	$246	$0	$13,733	33%
Customer Service Initiatives / Financial Loan Programs																	
Power Smart Residential Loan	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Power Smart PAYS Financing	$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	
Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0%
COMMERCIAL																	
Incentive Based																	
Commercial Building Envelope - Windows Program	$422	$380	$196	$185	$176	$170	$164	$160	$156	$153	$151	$149	$148	$147	$146	$2,903	
Commercial Buliding Envelope - Insulation Program	$1,435	$1,291	$951	$856	$781	$647	$599	$560	$309	$284	$264	$175	$163	$152	$144	$8,610	
Commercial HVAC Program - Boiler	$543	$516	$7	$7	$7	$7	$7	$7	$7	$6	$6	$6	$6	$0	$0	$1,130	
Commercial HVAC Program - CO2 Sensors	$56	$58	$59	$60	$62	$64	$4	$4	$4	$4	$4	$4	$4	$4	$0	$391	
Commercial Custom Measures Program	$141	$141	$141	$141	$151	$151	$151	$151	$150	$160	$160	$160	$160	$159	$49	$2,166	
Commercial Building Optimization Program	$193	$214	$214	$255	$255	$255	$255	$283	$283	$311	$353	$366	$366	$366	$366	$4,336	
New Buildings Program	$440	$529	$648	$711	$775	$841	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,944	
Commercial Kitchen Appliance Program	$88	$102	$105	$53	$65	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$414	
Internal Retrofit Program	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Subtotal	$3,317	$3,230	$2,320	$2,268	$2,272	$2,134	$1,180	$1,165	$909	$919	$938	$861	$846	$829	$705	$23,893	57%
Customer Service Initiatives / Financial Loan Programs																	
Power Smart for Business PAYS Financing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0%
INDUSTRIAL																	
Industrial Natural Gas Optimization Program	$770	$640	$640	$640	$640	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,332	
Subtotal	$770	$640	$640	$640	$640	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,332	8%
CONSERVATION SUBTOTAL	$7,324	$7,089	$5,326	$5,282	$3,242	$2,380	$1,425	$1,410	$1,155	$1,164	$1,184	$1,106	$1,092	$1,075	$705	$40,958	98%
LOAD DISPLACEMENT & ALTERNATIVE ENERGY																	
BioEnergy Optimization Program	$221	$43	$279	$43	$46	$43	$43	$0	$0	$0	$0	$0	$0	$0	$0	$718	
LOAD DISPLACEMENT & ALTERNATIVE ENERGY SUBTOTAL	$221	$43	$279	$43	$46	$43	$43	$0	$0	$0	$0	$0	$0	$0	$0	$718	2%
Subtotal of Programs	$7,545	$7,132	$5,606	$5,325	$3,288	$2,423	$1,468	$1,410	$1,155	$1,164	$1,184	$1,106	$1,092	$1,075	$705	$41,676	100%
Program Support	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,593	$1,593	$1,593	$1,591	$1,591	$1,591	$1,591	$1,591	$23,906	
Contingency	$265	$325	$600	$600	$550	$500	$500	$500	$500	$500	$1,000	$1,000	$1,000	$1,000	$1,000	$9,840	
Total Utility Costs (2013 to 2027)	$9,405	$9,053	$7,801	$7,521	$5,433	$4,519	$3,564	$3,503	$3,248	$3,257	$3,775	$3,697	$3,683	$3,666	$3,296	$75,422	
Total Committed to Date																$82,598	
TOTAL UTILITY COSTS (2001 to 2027)	$9,405	$9,053	$7,801	$7,521	$5,433	$4,519	$3,564	$3,503	$3,248	$3,257	$3,775	$3,697	$3,683	$3,666	$3,296	$158,020	

Note: May not add up due to rounding

2013 - 2016 Power Smart Plan
Annual Program Administration Costs
(000's in 2012 $)

	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	Cumulative Total	
RESIDENTIAL																	
Incentive Based																	
Home Insulation Program	$187	$190	$194	$198	$84	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$854	
Water and Energy Saver Program	$479	$479	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$958	
Lower Income Energy Efficiency Program	$236	$236	$166	$166	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$804	
Subtotal	$902	$905	$360	$365	$84	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,616	24%
Customer Service Initiatives / Financial Loan Programs																	
Power Smart Residential Loan	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Power Smart PAYS Financing	$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	
Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0%
COMMERCIAL																	
Incentive Based																	
Commercial Building Envelope - Windows Program	$67	$67	$67	$67	$67	$67	$67	$67	$67	$67	$67	$67	$67	$67	$67	$1,006	
Commercial Building Envelope - Insulation Program	$86	$86	$86	$86	$86	$86	$86	$86	$86	$86	$86	$86	$86	$86	$86	$1,292	
Commercial HVAC Program - Boiler	$188	$160	$7	$7	$7	$7	$7	$7	$7	$6	$6	$6	$6	$0	$0	$420	
Commercial HVAC Program - CO2 Sensors	$38	$35	$33	$30	$27	$25	$4	$4	$4	$4	$4	$4	$4	$4	$0	$220	
Commercial Custom Measures Program	$110	$110	$110	$110	$110	$110	$110	$110	$110	$110	$110	$110	$110	$110	$0	$1,538	
Commercial Building Optimization Program	$89	$89	$89	$89	$89	$89	$89	$89	$89	$89	$89	$89	$89	$89	$89	$1,329	
New Buildings Program	$158	$158	$158	$158	$158	$158	$0	$0	$0	$0	$0	$0	$0	$0	$0	$948	
Commercial Kitchen Appliance Program	$33	$32	$31	$19	$19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$135	
Internal Retrofit Program	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Subtotal	$769	$737	$581	$565	$563	$541	$362	$362	$362	$361	$361	$361	$361	$356	$242	$6,886	63%
Customer Service Initiatives / Financial Loan Programs																	
Power Smart for Business PAYS Financing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0%
INDUSTRIAL																	
Industrial Natural Gas Optimization Program	$250	$250	$250	$250	$250	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,252	
Subtotal	$250	$250	$250	$250	$250	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,252	11%
CONSERVATION SUBTOTAL	$1,922	$1,892	$1,192	$1,180	$897	$541	$362	$362	$362	$361	$361	$361	$361	$356	$242	$10,754	98%
LOAD DISPLACEMENT & ALTERNATIVE ENERGY																	
BioEnergy Optimization Program	$37	$37	$37	$37	$37	$37	$37	$0	$0	$0	$0	$0	$0	$0	$0	$259	
LOAD DISPLACEMENT & ALTERNATIVE ENERGY SUBTOTAL	$37	$37	$37	$37	$37	$37	$37	$0	$0	$0	$0	$0	$0	$0	$0	$259	2%
Subtotal of Programs	$1,959	$1,929	$1,229	$1,217	$934	$578	$399	$362	$362	$361	$361	$361	$361	$356	$242	$11,013	100%
Program Support	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,593	$1,593	$1,593	$1,591	$1,591	$1,591	$1,591	$1,591	$23,906	
Contingency	$265	$325	$600	$600	$550	$500	$500	$500	$500	$500	$1,000	$1,000	$1,000	$1,000	$1,000	$9,840	
Total Administration Costs (2013 to 2027)	$3,819	$3,850	$3,424	$3,413	$3,080	$2,674	$2,495	$2,456	$2,456	$2,455	$2,953	$2,953	$2,953	$2,947	$2,833	$44,759	
Total Committed to Date																$35,663	
TOTAL ADMINISTRATION COSTS (2001 to 2027)	$3,819	$3,850	$3,424	$3,413	$3,080	$2,674	$2,495	$2,456	$2,456	$2,455	$2,953	$2,953	$2,953	$2,947	$2,833	$80,422	

Note: May not add up due to rounding

2013 - 2016 Power Smart Plan
Annual Program Incentive Costs
(000's in 2012 $)

	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	Cumulative Total	
RESIDENTIAL																	
Incentive Based																	
Home Insulation Program	$1,398	$1,362	$1,328	$1,294	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,383	
Water and Energy Saver Program	$325	$325	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$649	
Lower Income Energy Efficiency Program	$508	$494	$481	$469	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,952	
Subtotal	$2,230	$2,181	$1,809	$1,764	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,984	29%
Customer Service Initiatives / Financial Loan Programs																	
Power Smart Residential Loan	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Power Smart PAYS Financing	$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	
Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0%
COMMERCIAL																	
Incentive Based																	
Commercial Building Envelope - Windows Program	$355	$313	$129	$118	$109	$102	$97	$93	$89	$86	$84	$82	$81	$80	$79	$1,897	
Commercial Building Envelope - Insulation Program	$1,348	$1,205	$865	$770	$694	$561	$513	$474	$223	$198	$178	$89	$76	$66	$58	$7,318	
Commercial HVAC Program - Boiler	$354	$357	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$711	
Commercial HVAC Program - CO2 Sensors	$19	$22	$26	$30	$34	$39	$0	$0	$0	$0	$0	$0	$0	$0	$0	$171	
Commercial Custom Measures Program	$31	$31	$31	$31	$41	$41	$41	$41	$41	$50	$50	$50	$50	$49	$49	$628	
Commercial Building Optimization Program	$104	$125	$125	$167	$167	$167	$167	$194	$194	$222	$264	$278	$278	$278	$278	$3,008	
New Buildings Program	$282	$371	$490	$553	$617	$683	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,996	
Commercial Kitchen Appliance Program	$55	$70	$74	$34	$46	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$279	
Internal Retrofit Program	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Subtotal	$2,548	$2,493	$1,739	$1,703	$1,709	$1,593	$817	$802	$547	$557	$577	$499	$485	$473	$463	$17,007	62%
Customer Service Initiatives / Financial Loan Programs																	
Power Smart for Business PAYS Financing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0%
INDUSTRIAL																	
Industrial Natural Gas Optimization Program	$520	$390	$390	$390	$390	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,080	
Subtotal	$520	$390	$390	$390	$390	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,080	8%
CONSERVATION SUBTOTAL	$5,299	$5,065	$3,938	$3,856	$2,099	$1,593	$817	$802	$547	$557	$577	$499	$485	$473	$463	$27,071	98%
LOAD DISPLACEMENT & ALTERNATIVE ENERGY																	
BioEnergy Optimization Program	$184	$6	$242	$6	$9	$6	$6	$0	$0	$0	$0	$0	$0	$0	$0	$459	
LOAD DISPLACEMENT & ALTERNATIVE ENERGY SUBTOTAL	$184	$6	$242	$6	$9	$6	$6	$0	$0	$0	$0	$0	$0	$0	$0	$459	2%
Total Incentive Costs (2013 to 2027)	$5,483	$5,070	$4,181	$3,862	$2,108	$1,599	$823	$802	$547	$557	$577	$499	$485	$473	$463	$27,530	100%
Total Committed to Date																$46,795	
TOTAL INCENTIVE COSTS (2001 to 2027)	$5,483	$5,070	$4,181	$3,862	$2,108	$1,599	$823	$802	$547	$557	$577	$499	$485	$473	$463	$74,325	

Note: May not add up due to rounding

2013 - 2016 Power Smart Plan
Annual Energy Savings
(Savings to Date)
(million m3)

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Interim Estimate 2012/13	Benchmark 2027/28
RESIDENTIAL													
incentive Based													
Home Insulation Program	0.00	0.00	0.00	0.00	0.30	2.15	3.85	5.58	7.59	9.01	10.17	10.89	10.89
Lower Income Energy Efficiency Program	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06	0.69	2.32	3.53	4.28	3.19
New Home Program	0.00	0.00	0.00	0.03	0.08	0.15	0.23	0.34	0.41	0.52	0.56	0.56	0.56
Water and Energy Saver Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	1.94	2.46	0.00
Subtotal	0.00	0.00	0.00	0.03	0.39	2.30	4.10	5.98	8.69	12.68	16.20	18.19	14.64
CUSTOMER SERVICE INITIATIVES													
Power Smart Residential Loan Program	1.23	2.14	3.51	5.57	7.80	9.56	11.30	12.29	13.93	14.27	14.65	14.89	14.89
Residential Earth Power Program	0.00	0.05	0.15	0.50	0.79	0.97	1.31	1.45	1.67	2.10	2.14	2.22	0.91
ecoEnergy	0.00	0.13	0.39	1.25	2.32	2.32	2.32	2.32	2.32	2.32	2.32	2.32	2.32
Solar H2O Heater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Smart PAYS Financing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04
Subtotal	1.23	2.31	4.04	7.32	10.91	12.85	14.94	16.05	17.93	18.69	19.12	19.47	18.16
DISCONTINUED/COMPLETED													
Thermostat	0.00	0.00	0.00	0.00	0.00	0.11	0.17	0.17	0.17	0.17	0.17	0.17	0.17
High Efficiency Furnace & Boiler	0.00	0.00	0.00	0.00	0.61	2.60	4.04	5.77	6.93	6.96	6.96	6.96	6.96
Power Smart Energy Manager	-0.01	0.05	0.18	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.33	0.27	0.00
R2000 House	0.01	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Subtotal	0.00	0.07	0.21	0.35	0.95	3.06	4.56	6.29	7.44	7.48	7.49	7.43	7.16
RESIDENTIAL TOTAL	1.23	2.38	4.25	7.70	12.25	18.21	23.59	28.32	34.06	38.85	42.81	45.09	39.96
COMMERCIAL													
Incentive Based													
Commercial Insulation Program	0.00	0.00	0.00	0.00	0.00	0.29	1.05	2.15	3.24	5.37	6.88	7.76	7.76
Commercial Windows Program	0.00	0.00	0.00	0.00	0.00	0.03	0.11	0.23	0.50	0.83	1.24	1.51	1.51
Commercial Custom Measures Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.17	0.26	0.34	0.34
City of Winnipeg Power Smart Agreement	0.00	0.05	0.13	0.17	0.56	0.67	0.67	0.67	0.71	0.78	0.82	0.82	0.23
Commercial Clothes Washers Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.00
Internal Retrofit Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03
Commercial Kitchen Appliance Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.05	0.07	0.08	0.02
Power Smart Shops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.04	0.04	0.00
Commercial Building Optimization Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.24	0.36	0.36	0.56	0.00
Network Energy Management Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
New Buildings Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.65	0.65
HVAC - CO2 Sensors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.29	0.00
HVAC - Boilers	0.00	0.00	0.00	0.00	0.00	0.42	2.52	4.81	6.20	6.20	7.00	7.68	7.63
Subtotal	0.00	0.05	0.13	0.17	0.56	1.41	4.36	8.00	11.02	13.82	17.22	19.78	18.17
DISCONTINUED/COMPLETED													
Spray Valves	0.00	0.00	0.00	0.00	0.00	0.83	1.12	2.11	2.37	2.37	2.37	2.37	0.00
Subtotal	0.00	0.00	0.00	0.00	0.00	0.83	1.12	2.11	2.37	2.37	2.37	2.37	0.00
CUSTOMER SERVICE INITIATIVES													
Power Smart for Business PAYS Financing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Subtotal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
COMMERCIAL SUBTOTAL	0.00	0.05	0.13	0.17	0.56	2.24	5.48	10.11	13.39	16.19	19.59	22.16	18.18
INDUSTRIAL													
Industrial Natural Gas Optimization	0.00	0.00	0.00	0.00	0.00	0.00	1.69	3.85	4.94	8.04	10.53	11.39	3.29
Subtotal	0.00	0.00	0.00	0.00	0.00	0.00	1.69	3.85	4.94	8.04	10.53	11.39	3.29
EFFICIENCY PROGRAMS SUBTOTAL	1.23	2.44	4.38	7.88	12.81	20.45	30.76	42.28	52.40	63.08	72.93	78.65	61.43
CUSTOMER SELF-GENERATION PROGRAMS													
BioEnergy Optimization Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
RATE/LOAD MANAGEMENT PROGRAMS													
Interactive Effects	0.00	0.00	0.00	-1.20	-2.57	-3.00	-3.79	-5.86	-8.53	-9.97	-9.73	-9.68	-1.71
Subtotal after Interactive Effects	1.23	2.43	4.38	6.67	10.24	17.46	26.97	36.42	43.86	53.11	63.19	68.98	59.73
Codes, Standards & regulations	0.35	0.71	1.12	1.55	1.97	2.37	2.73	2.97	3.52	4.41	5.76	7.71	7.71
Power Smart 2013 to 2027 Impacts	1.58	3.14	5.50	8.23	12.21	19.83	29.70	39.39	47.38	57.52	68.96	76.69	67.44

Note: May not add up due to rounding.

2013 - 2016 Power Smart Plan
Annual Utility Costs
(2001/02 - 2012/13)
(000's in 2012 $)

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Interim Estimate 2012/13	Cumulative Total 2012/13
RESIDENTIAL													
Incentive Based													
Home Insulation Program	0	0	0	0	403	1,968	3,153	2,911	3,095	2,320	2,146	1,697	17,693
Lower Income Energy Efficiency Program	0	0	0	0	0	58	162	217	775	823	839	760	3,633
New Home Program	0	13	80	98	66	100	147	0	91	113	65	0	773
Water and Energy Saver Program	0	0	0	0	0	0	0	0	42	713	1,045	804	2,604
Subtotal	0	13	80	98	469	2,126	3,462	3,127	4,003	3,970	4,095	3,261	24,704
CUSTOMER SERVICE INITIATIVES													
Power Smart Residential Loan Program	453	117	53	-6	16	188	-23	-113	-689	-730	-556	0	-1,290
Residential Earth Power Program	0	0	0	0	0	0	0	0	0	0	0	0	0
ecoEnergy	261	301	304	364	-10	670	514	-114	594	397	479	0	3,759
Solar H2O Heater	0	0	0	0	0	0	0	0	2	0	0	0	2
Subtotal	714	419	356	358	5	858	491	-227	-93	-333	-77	0	2,471
DISCONTINUED/COMPLETED													
Thermostat	0	0	0	0	0	206	139	40	1	0	0	0	386
High Efficiency Furnace & Boiler	0	0	0	0	623	1,410	2,246	3,350	1,609	32	0	0	9,271
Subtotal	0	0	0	0	623	1,617	2,385	3,390	1,610	32	0	0	9,657
RESIDENTIAL TOTAL	714	432	436	457	1,098	4,600	6,337	6,290	5,521	3,669	4,017	3,261	36,832
COMMERCIAL													
Incentive Based													
Commercial Insulation Program	0	0	0	0	0	448	874	1,069	1,305	2,294	1,787	1,613	9,391
Commercial Windows Program	0	0	0	0	0	137	297	489	819	1,037	1,115	438	4,332
Commercial Custom Measures Program	0	0	0	0	81	245	167	167	246	213	161	141	1,421
Commercial Water Heater Program	0	0	0	0	0	0	0	0	23	32	14	0	70
City of Winnipeg Power Smart Agreement	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Clothes Washers Program	0	0	0	0	0	0	0	0	0	0	0	0	0
Internal Retrofit Program	0	0	0	0	0	0	0	0	0	0	0	53	
Commercial Kitchen Appliance Program	0	0	0	0	0	0	0	17	58	30	48	38	191
Power Smart Shops	0	0	0	0	0	0	1	16	85	99	12	0	212
Commercial Building Optimization Program	0	0	0	0	0	0	0	0	147	160	120	255	683
New Buildings Program	0	0	0	0	0	0	0	151	113	201	202	569	1,237
Commercial Boiler Program	0	0	0	0	112	647	1,754	1,459	1,177	1,276	898	1,025	8,348
HVAC - CO2 Sensors	0	0	0	0	0	0	0	0	0	0	35	58	94
Power Smart Energy Manager Program	0	0	0	0	0	0	126	100	74	0	52	0	352
Subtotal	0	0	0	0	193	1,477	3,219	3,467	4,047	5,342	4,446	4,191	26,383
DISCONTINUED/COMPLETED													
Spray Valves	0	0	0	0	0	137	58	129	28	22	1	0	375
Subtotal	0	0	0	0	0	137	58	129	28	22	1	0	375
COMMERCIAL TOTAL	0	0	0	0	193	1,614	3,277	3,596	4,075	5,364	4,447	4,192	26,758
INDUSTRIAL													
Industrial Natural Gas Optimization Program	0	0	0	0	109	39	307	353	628	729	721	770	3,656
Subtotal	0	0	0	0	109	39	307	353	628	729	721	770	3,656
EFFICIENCY PROGRAMS SUBTOTAL	714	432	436	457	1,400	6,253	9,921	10,239	10,223	9,761	9,186	8,223	67,246
CUSTOMER SELF-GENERATION PROGRAMS													
BioEnergy Optimization Program	0	0	0	0	0	0	14	8	0	0	0	139	162
Support Costs	212	234	253	557	1,379	1,790	1,626	2,268	2,171	1,750	1,320	1,632	15,191
GRAND TOTAL	925	666	689	1,014	2,779	8,043	11,561	12,515	12,395	11,511	10,505	9,994	82,598

Note: May not add up due to rounding.

2013 - 2016 Power Smart Plan
Annual Program Admininstration Costs
(2001/02 - 2012/13)
(000's in 2012 $)

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Interim Estimate 2012/13	Cumulative Total 2012/13
RESIDENTIAL													
Incentive Based													
Home Insulation Program	0	0	0	0	183	563	808	631	495	518	529	214	3,942
Lower Income Energy Efficiency Program	0	0	0	0	84	0	150	137	193	485	839	236	2,123
New Home Program	0	0	0	0	0	0	0	0	42	131	17	0	191
Water and Energy Saver Program	0	13	80	81	22	33	52	0	16	0	607	479	1,383
Subtotal	0	13	80	81	289	596	1,010	767	746	1,135	1,991	929	7,639
CUSTOMER SERVICE INITIATIVES													
Power Smart Residential Loan Program	453	117	53	-6	16	188	-23	-113	-689	-730	-556	0	-1,290
Residential Earth Power Program	0	0	0	0	0	0	0	0	0	0	0	0	0
ecoEnergy	261	301	304	364	-10	670	514	-114	594	397	479	0	3,759
Solar H2O Heater	0	0	0	0	0	0	0	0	2	0	0	0	2
Subtotal	714	419	356	358	5	858	491	-227	-93	-333	-77	0	2,471
DISCONTINUED/COMPLETED													
Thermostat	0	0	0	0	281	309	476	376	205	17	0	0	1,664
High Efficiency Furnace & Boiler	0	0	0	0	0	118	100	19	1	0	0	0	237
Subtotal	0	0	0	0	281	426	576	395	206	17	0	0	1,902
RESIDENTIAL TOTAL	714	432	436	439	576	1,880	2,077	935	859	820	1,914	929	12,012
COMMERCIAL													
Incentive Based													
Commercial Insulation Program	0	0	0	0	112	302	314	265	364	271	275	86	1,991
Commercial Windows Program	0	0	0	0	81	245	167	122	162	159	177	67	1,181
Commercial Custom Measures Program	0	0	0	0	0	87	91	129	148	175	94	110	833
Commercial Water Heater Program	0	0	0	0	0	0	0	0	23	32	14	0	70
City of Winnipeg Power Smart Agreement	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Clothes Washers Program	0	0	0	0	0	0	0	0	0	0	0	0	0
Internal Retrofit Program	0	0	0	0	0	0	0	0	0	0	0	53	
Commercial Kitchen Appliance Program	0	0	0	0	0	0	0	9	24	11	28	32	103
Power Smart Shops	0	0	0	0	0	0	126	98	74	0	12	0	309
Commercial Building Optimization Program	0	0	0	0	0	0	0	151	113	125	82	89	559
New Buildings Program	0	0	0	0	0	0	1	16	84	96	127	158	482
Commercial Boiler Program	0	0	0	0	0	80	80	183	184	228	268	262	1,286
HVAC - CO2 Sensors	0	0	0	0	0	0	0	0	0	0	26	40	66
Power Smart Energy Manager Program	0	0	0	0	0	0	0	0	60	62	52	0	174
Subtotal	0	0	0	0	193	714	780	973	1,238	1,159	1,154	897	7,107
DISCONTINUED/COMPLETED													
Spray Valves	0	0	0	0	0	56	33	27	18	3	1	0	138
Subtotal	0	0	0	0	0	56	33	27	18	3	1	0	138
COMMERCIAL TOTAL	0	0	0	0	193	770	812	999	1,256	1,162	1,155	897	7,245
INDUSTRIAL													
Industrial Natural Gas Optimization Program	0	0	0	0	109	39	98	92	174	122	176	250	1,060
Subtotal	0	0	0	0	109	39	98	92	174	122	176	250	1,060
EFFICIENCY PROGRAMS SUBTOTAL	714	432	436	439	878	2,689	2,987	2,027	2,289	2,104	3,245	2,076	20,317
CUSTOMER SELF-GENERATION PROGRAMS													
BioEnergy Optimization Program	0	0	0	0	0	0	14	8	0	0	0	133	156
Support Costs	212	234	253	557	1,379	1,790	1,626	2,268	2,171	1,750	1,320	1,632	15,191
GRAND TOTAL	925	666	689	996	2,257	4,479	4,627	4,303	4,461	3,853	4,565	3,842	35,663

Note: May not add up due to rounding.

2013 - 2016 Power Smart Plan
Annual Program Incentive Costs
(2001/02 - 2012/13)
(000's in 2012 $)

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Interim Estimate 2012/13	Cumulative Total 2012/13
RESIDENTIAL													
Incentive Based													
Home Insulation Program	0	0	0	0	220	1,405	2,345	2,280	2,600	1,802	1,617	1,483	13,751
Lower Income Energy Efficiency Program	0	0	0	0	0	0	24	80	582	338	0	524	1,549
New Home Program	0	0	0	0	0	0	0	0	0	425	48	0	473
Water and Energy Saver Program	0	0	0	18	44	67	94	0	75	87	438	325	1,148
Subtotal	0	0	0	18	264	1,472	2,463	2,360	3,257	2,652	2,103	2,331	16,920
CUSTOMER SERVICE INITIATIVES													
Power Smart Residential Loan Program	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Earth Power Program	0	0	0	0	0	0	0	0	0	0	0	0	0
ecoEnergy	0	0	0	0	0	0	0	0	0	0	0	0	0
Solar H2O Heater	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0
DISCONTINUED/COMPLETED													
Thermostat	0	0	0	0	342	1,102	1,770	2,974	1,404	15	0	0	7,606
High Efficiency Furnace & Boiler	0	0	0	0	0	89	39	21	0	0	0	0	149
Subtotal	0	0	0	0	342	1,190	1,809	2,995	1,404	15	0	0	7,755
RESIDENTIAL TOTAL	0	0	0	18	606	2,662	4,272	5,355	4,661	2,666	2,103	2,331	24,675
COMMERCIAL													
Incentive Based													
Commercial Insulation Program	0	0	0	0	0	345	1,439	1,194	812	1,010	1,512	1,527	7,839
Commercial Windows Program	0	0	0	0	0	0	0	44	84	54	938	371	1,491
Commercial Custom Measures Program	0	0	0	0	0	50	207	360	671	862	67	31	2,248
Commercial Water Heater Program	0	0	0	0	0	0	0	0	0	0	0	0	0
City of Winnipeg Power Smart Agreement	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Clothes Washers Program	0	0	0	0	0	0	0	0	0	0	0	0	0
Internal Retrofit Program	0	0	0	0	0	0	0	0	0	0	0	0	
Commercial Kitchen Appliance Program	0	0	0	0	0	0	0	8	33	20	20	7	88
Power Smart Shops	0	0	0	0	0	0	0	2	0	0	0	0	2
Commercial Building Optimization Program	0	0	0	0	0	0	0	0	0	76	39	167	282
New Buildings Program	0	0	0	0	0	0	0	0	1	2	75	411	489
Commercial Boiler Program	0	0	0	0	0	369	793	886	1,121	2,066	631	762	6,628
HVAC - CO2 Sensors	0	0	0	0	0	0	0	0	0	0	10	18	28
Power Smart Energy Manager Program	0	0	0	0	0	0	0	0	87	98	0	0	185
Subtotal	0	0	0	0	0	763	2,440	2,495	2,809	4,187	3,292	3,295	19,281
DISCONTINUED/COMPLETED													
Spray Valves	0	0	0	0	0	81	26	102	10	19	0	0	237
Subtotal	0	0	0	0	0	81	26	102	10	19	0	0	237
COMMERCIAL TOTAL	0	0	0	0	0	844	2,465	2,597	2,818	4,206	3,292	3,295	19,518
INDUSTRIAL													
Industrial Natural Gas Optimization Program	0	0	0	0	0	0	209	261	454	606	545	520	2,596
Subtotal	0	0	0	0	0	0	209	261	454	606	545	520	2,596
EFFICIENCY PROGRAMS SUBTOTAL	0	0	0	18	606	3,506	6,946	8,213	7,934	7,479	5,941	6,146	46,789
CUSTOMER SELF-GENERATION PROGRAMS													
BioEnergy Optimization Program	0	0	0	0	0	0	0	0	0	0	0	6	6
Support Costs	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	0	0	0	18	606	3,506	6,946	8,213	7,934	7,479	5,941	6,152	46,795

Note: May not add up due to rounding.

Appendix E - Program Evaluation Criteria

Manitoba Hydro's Power Smart programs take into account the underlying differences in the electricity and natural gas industries and the nature of the programs evaluated. Power Smart programs are assessed annually to ensure the individual programs as well as the overall portfolio of programs are cost-effective and meeting intended market transformation objectives and targets.

Nature of Electricity and Natural Gas Markets

The nature of the electricity and natural gas markets are similar, however unique differences exist and need to be considered in Manitoba Hydro's Power Smart initiative.

For electricity, lower consumption in Manitoba and lower utility revenue is offset by higher revenues realized by selling the conserved energy in the export market. Lower electricity consumption also defers the need to invest in new transmission facilities that would be required to meet future domestic demand. Load management and certain types of demand response initiatives are also unique elements of electricity markets (e.g. short term price volatility creates opportunities for cost-effective load management and demand response initiatives). The combined effect results in an economic case for Manitoba Hydro to aggressively pursue electricity DSM in Manitoba.

With natural gas, lower consumption in Manitoba is offset by lower natural gas purchases from Alberta. In general, this is a one-to-one relationship as Manitoba Hydro passes the cost of primary natural gas and transportation through to its customers with no mark up on the commodity. Load management opportunities are generally not available in the natural gas market as these operational issues are handled through natural gas storage facilities.

Program Categories

Customer Service Programs

Customer service programs are those programs offered as part of the overall Power Smart initiative that represent the customer service levels that would be expected of a utility. Customer service programs and services are assessed by the aggregate value realized by both the Corporation's customers and the Corporation. These assessments are undertaken on an ongoing basis and require a qualitative evaluation of the benefits. Service levels are then adjusted accordingly.

Cost-Recovery Programs

Cost-recovery programs are those programs where the cost associated with the program is recovered from participating customers through fees or charges (e.g. interest rates). The cost-effectiveness of these programs is assessed annually with fees or charges adjusted accordingly.

Financial Loan Programs

Financial Loan Programs assists participating customers in the installation and/or upgrade of energy efficient measures by offering low interest financing opportunities.

Incentive Based Programs

Incentive based programs are those programs where Power Smart uses a financial incentive to encourage customer participation. Assessments provide feedback on the success and cost-effectiveness of individual programs and the Power Smart portfolio. The results of these assessments drive program design and strategy modifications.

Energy Efficient Codes and Standards

In many markets, the most effective and permanent form of market transformation for energy efficient technologies and practices is the adoption of energy efficient codes and standards as it ensures that customers do not revert to less efficient technologies/practices once the incentives and/or promotional activities are discontinued. Consequently, the process of achieving these changes is complex and lengthy as it involves many stakeholders, varying environmental and market conditions and market acceptance.

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

Economic Effectiveness Metrics

Manitoba Hydro uses a number of cost effective metrics to assess energy efficient opportunities, including whether to pursue an opportunity, how aggressively an opportunity will be pursued, effectiveness of program design options and the relative investment from ratepayers and participants. In addition to quantitative assessments, Manitoba Hydro also considers various qualitative factors including equity (i.e. reasonable participation by various ratepayer sectors such as lower income) and overall contribution towards having a balanced energy conservation strategy and plan.

Quantitative assessments include using the following cost effective metrics:

Integrated Metrics

- Societal Cost (SC);
- Total Resource Cost (TRC);
- Total Resource Cost NPV (TRC NPV);
- Levelized Resource Cost (LRC)

Utility Metrics

- Rate Impact Measure Cost (RIM);
- Net Utility Benefit (NUB);
- Utility Net Present Value (Utility NPV)
- Levelized Utility Cost (LUC);

Customer Metrics

- Simple Customer Payback calculation;
- Participating Customer Cost (PC); and
- Participating Customer Cost Net Present Value (PC NPV).

Integrated Metrics

Societal Cost (SC)

The Societal Cost (SC) metric measures the net economic benefit as measured by the TRC, plus additional indirect benefits such the avoided environmental or societal externalities (e.g. reduced health care costs, increase productivity, employment) and "non-priced" benefits enjoyed by participants (improved comfort, improved heath).

$$SC = \frac{\text{(PV (Marginal Benefits) x 1.10) + PV (Measurable Non-Energy benefits)}}{\text{PV (Total Program Admin Costs + Incremental Product Costs)}}$$

Where:

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

- Measurable non-energy benefits (e.g. water savings);

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

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

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

Total Resource Cost (TRC)

The Total Resource Cost (TRC) metric assesses whether the benefits that are associated with an energy efficiency program are greater than the costs. This assessment is undertaken irrespective of who realizes the benefits and who pays the costs with any economic transfers between the Corporation and the participating customer being excluded.

In general, if program offers greater benefits relative to costs, then a program for pursuing the opportunity should be considered, however Manitoba Hydro will also consider supporting certain programs where the benefits are less than the costs. In the latter case, the rationale driving the support will be driven by other qualitative factors such as supporting emerging technologies (e.g. solar panels) or targeting low participation market sectors (e.g. lower income). The Total Resource Cost metric is defined as follows:

$$\text{TRC} = \frac{\text{PV (Marginal Benefits) + PV (Measurable Non-Energy Beneftits)}}{\text{PV (Total Program Admin Costs + Incremental Product Costs)}}$$

Where:

- For electricity, the Marginal Benefits includes the revenue realized by Manitoba Hydro from conserved electricity being sold in the export market, the avoided cost of new infrastructure (e.g. electric transmission facilities);
- Measurable non-energy benefits (e.g. water savings);
- For natural gas, the Marginal Benefits includes Manitoba Hydro's avoided cost of purchasing natural gas, avoided transportation costs, the value of reduced greenhouse gas emissions (GHGs) and measurable non-energy benefits (e.g. water savings);
- Total Program Admin Costs includes the administrative costs involved in program planning, design, marketing, implementation and evaluation. It includes all costs associated with offering the Power Smart program, except for customer incentive costs;
- Incremental Product Costs includes the total incremental cost associated with implementing an energy efficient opportunity. It is the difference in costs between the energy efficient technology and the standard technology that would have been installed in the absence of the program.

Total Resource Cost Net Present Value (TRC NPV)

The Total Resource Cost Net Present Value (TRC NPV) calculation reveals if the economic value of the benefits that are associated with an energy efficiency program are greater than the costs.

$$\text{TRC NPV} = \text{PV (Marginal Benefits)} - \text{PV (Total Program Admin Costs + Incremental Product Costs)}$$

Where:

- For electricity, the Marginal Benefits includes the revenue realized by Manitoba Hydro from conserved electricity being sold in the export market, the avoided cost of new infrastructure (e.g. electric transmission facilities) and measurable non-energy benefits (e.g. water savings);
- For natural gas, the Marginal Benefits includes Manitoba Hydro's avoided cost of purchasing natural gas, avoided transportation costs, the value of reduced greenhouse gas emissions (GHGs) and measurable non-energy benefits (e.g. water savings);
- Total Program Admin Costs includes the administrative costs involved in program planning, design, marketing, implementation and evaluation. It includes all costs associated with offering the Power Smart program, except for customer incentive costs;
- Incremental Product Costs includes the total incremental cost associated with implementing an energy efficient opportunity. It is the difference in costs between the energy efficient technology and the standard technology that would have been installed in the absence of the program.

Levelized Resource Cost (LRC)

The Levelized Resource Cost (LRC) is used to determine the overall economic resource cost of energy saved through an energy efficiency program. The LRC provides a levelized cost of energy saved per unit over a fixed time period. The Levelized Resource Cost is defined as follows:

$$LRC = \frac{PV\ (Incremental\ Product\ Costs + Total\ Program\ Admin\ Costs)}{PV\ (Energy)}$$

Where:

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

- Utility Program Admin Costs includes administrative costs incurred by Manitoba Hydro for staff 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;

- Energy includes the annual energy savings.

Utility Metrics

Rate Impact Measure Cost(RIM)

The Rate Impact Measure (RIM) metric is used to provide an indication of the long term impact of an energy efficient program on energy rates. The 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 Rate Impact Measure metric is defined as follows:

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

Where:

- For electricity, the Utility Marginal Benefits includes the revenue realized by Manitoba Hydro from conserved electricity being sold in the export market and the avoided cost of new infrastructure (e.g. electric transmission facilities);
- For natural gas, the Utility Marginal Benefits includes Manitoba Hydro's avoided cost of purchasing natural gas and avoided transportation costs;
- Revenue Loss includes Manitoba Hydro's lost revenue associated with the participants' reduced energy consumption (i.e. customer energy bill reductions);
- Utility Program Admin Costs includes administrative costs incurred by Manitoba Hydro for staff 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;
- Incentives include the funds transferred from Manitoba Hydro to the participant associated with implementing the Power Smart measure.

Net Utility Benefit (NUB)

The Net Utility Benefit (NUB) metric is used to measure the energy saving benefits to the utility net of any revenue losses. Marginal benefits, after deductions from lost revenue are compare to the cost incurred by the by the utility. The Net Utility Benefit metric is defined as follows:

$$NUB = \frac{PV\ (Utility\ Marginal\ Benefits) - PV\ (Revenue\ Loss)}{PV\ (Utility\ Program\ Admin\ Costs + Incentives)}$$

Where:

- For electricity, the Utility Marginal Benefits includes the revenue realized by Manitoba Hydro from conserved electricity being sold in the export market and the avoided cost of new infrastructure (e.g. electric transmission facilities);
- For natural gas, the Utility Marginal Benefits includes Manitoba Hydro's avoided cost of purchasing natural gas and avoided transportation costs;
- Revenue Loss includes Manitoba Hydro's lost revenue associated with the participants' reduced energy consumption (i.e. customer energy bill reductions);
- Utility Program Admin Costs includes administrative costs incurred by Manitoba Hydro for staff 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;
- Incentives include the funds transferred from Manitoba Hydro to the participant associated with implementing the Power Smart measure.

Utility Net Present Value (Utility NPV)

The Utility Net Present Value (Utility NPV) calculation reveals from the Utility's perspective, if the economic value of the benefits that are associated with an energy efficiency program are greater than the costs.

Utility NPV = PV (Marginal Benefits – Revenue Loss) - PV (Utility Program Admin Costs + Incentives)

Where:

- For electricity, the Utility Marginal Benefits includes the revenue realized by Manitoba Hydro from conserved electricity being sold in the export market and the avoided cost of new infrastructure (e.g. electric transmission facilities);
- For natural gas, the Utility Marginal Benefits includes Manitoba Hydro's avoided cost of purchasing natural gas and avoided transportation costs;
- Revenue Loss includes Manitoba Hydro's lost revenue associated with the participants' reduced energy consumption (i.e. customer energy bill reductions);
- Utility Program Admin Costs includes administrative costs incurred by Manitoba Hydro for staff 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;
- Incentives include the funds transferred from Manitoba Hydro to the participant associated with implementing the Power Smart measure.

Levelized Utility Cost (LUC)

The Levelized Utility Cost (LUC) is used to provide an economic cost value for the energy saved through 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 timeframes. The Levelized Utility Cost is defined as follows:

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

Where:

- Utility Program Admin Costs includes administrative costs incurred by Manitoba Hydro for staff 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;
- Incentives includes the funds transferred from Manitoba Hydro to the participant associated with implementing the Power Smart measure;
- Energy includes the annual energy savings.

Customer Metrics

Simple Customer Payback Calculation (Payback)

The Simple Customer Payback calculation provides the simple payback of implementing an energy efficient opportunity for customers. This value outlines the amount of time required before the customer recovers the incremental product cost. The value is useful in projecting customer participation rates for energy efficient opportunities. The Customer Payback is defined as follows:

$$CP = \frac{\text{Participant Costs - Incentives}}{\text{Annual Bill Reductions}}$$

Where:

- Participant Costs includes the participant's total incremental cost associated with implementing the energy efficient opportunity, which is the difference in costs between the energy efficient technology and the standard technology that would have been installed in the absence of the program.
- Incentives includes funds provided by Manitoba Hydro and external parties to the participant associated with implementing the energy efficient opportunity;
- Annual Bill Reductions include the first year dollar reductions in the customer's electricity, natural gas, and water bills.

Participating Customer Cost (PC)

The Participating Customer Cost (PC) metric evaluates from a customer perspective if the benefits that are associated with an energy efficiency program are greater than the costs over the life of the measure. The Participating Customer Cost is defined as follows:

$$PC = \frac{\text{PV (Incentives + Revenue Loss)}}{\text{PV (Incremental Product Costs)}}$$

Where:

- Incentives include the funds transferred from Manitoba Hydro to the participant associated with implementing the Power Smart measure.
- Revenue Loss includes Manitoba Hydro's lost revenue associated with the participants' reduced energy consumption (i.e. customer energy and measurable non-energy (i.e. water) bill reductions);
- Incremental Product Costs includes the total incremental cost associated with implementing an energy efficient opportunity. It is the difference in costs between the energy efficient technology and the standard technology that would have been installed in the absence of the program.

Participating Customer Cost Net Present Value (PC NPV)

The Participating Customer Cost Net Present Value (PC NPV) calculation reveals from the customer's perspective, if the economic value of the benefits that are associated with an energy efficiency program are greater than the costs over the life of the measure.

$$\text{PC NPV} = \text{PV (Incentives + Revenue Loss)} - \text{PV (Incremental Product Costs)}$$

Where:

- Incentives include the funds transferred from Manitoba Hydro to the participant associated with implementing the Power Smart measure.
- Revenue Loss includes Manitoba Hydro's lost revenue associated with the participants' reduced energy consumption (i.e. customer energy and measurable non-energy (i.e. water) bill reductions);
- Incremental Product Costs includes the total incremental cost associated with implementing an energy efficient opportunity. It is the difference in costs between the energy efficient technology and the standard technology that would have been installed in the absence of the program.

Other DSM Program Assumptions

Market Transformation

Market transformation is a strategic intervention to achieve a lasting, significant share of energy efficient products and services in targeted markets. Manitoba Hydro's Power Smart strategy focuses on creating a sustainable market change where energy efficient technologies and practices become the market standard.

However, market transformation is difficult to measure. Manitoba Hydro has made significant progress in developing specific methodologies for measuring its impacts. Wherever possible, Manitoba Hydro has attempted to obtain sales/technology specific data to calculate a program's true effect. Difficulties arise in 1) obtaining sales data for areas outside of Manitoba for comparison purposes and in 2) obtaining sales information for Manitoba that fall outside of Power Smart program participation. In some instances, qualitative information is used to determine a program's impact on the market. Manitoba Hydro plans to continue work to further quantify and report on the influence of market transformation within the Manitoba marketplace.

For the 2013-16 Power Smart Plan, the DSM programs that have assumed a future level of market transformation have been noted.

Participant Reinvestment

Participant reinvestment is a marketing assumption which measures the program's influence on a participant's decision to repurchasing the energy efficient technology once the initial product life of the energy efficient technology has ended.

For the 2013-16 Power Smart Plan, the DSM programs that have assumed a future level of participant reinvestment have been noted.

Interactive Effects

Interactive effects are related to the impacts of implementing certain electric efficiency opportunities. As a consequence of implementing a more efficient technology, less heat is often produced. The interactive effect refers to the offsetting need to supplement heat as a result of implementing the energy efficient technology. For example, a CFL emits less heat than a traditional incandescent light bulb; therefore it will take more natural gas to heat the area after the CFL is installed. With the creation of natural gas DSM, electric DSM programs are required to quantify increases in natural gas usage due to interactive effects.

For the 2013-16 Power Smart Plan, electric DSM programs with natural gas interactive effects have been noted.