

NEEDS FOR AND ALTERNATIVES TO (NFAT)

Manitoba Hydro Undertaking #18

Manitoba Hydro to provide the projected savings per program aggregate over 15 years as represented in the 2013 Power Smart Plan as well as Levels 1, 2 and 3 of the scenario analysis. Also provide the levelized utility cost (LUC) for each program for each scenario in the benchmark year.

Response:

The following tables provide:

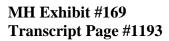
- the incremental energy savings (GWh) for the 2013 Power Smart Plan and Levels 1, 2 and 3 of the scenario analysis; and
- the levelized utility cost for the 2013 Power Smart Plan, DSM Level 1 (an update of the 2013 Power Smart Plan), DSM Level 2 (incremental to DSM Level 1) and DSM Level 3 (incremental to DSM Level 1).

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]	Incremental GW.h @ Generation 2027/28			
	2013	LEVEL 1	LEVEL 2	LEVEL 3
RESIDENTIAL				
New Home Program	-	36	-	12
Home Insulation Program	12	27	-	2
Water and Energy Saver Program	7	7	-	12
Lower Income Energy Efficiency Program	6	4	-	-
Refrigerator Retirement Program	1	4	-	-
Residential Geothermal Utility Model	-	15	-	-
Solar DWH and Pool	=	-	=	1
Residential LED Lighting Program	-	8	-	10
Community Geothermal Program	-	72	-	-
Power Smart Residential Loan	6	-	-	-
Power Smart PAYS Financing	4	-	-	-
Residential Earth Power Loan	25	-	-	-
Behavioural Program	-	11	-	-
COMMERCIAL				
Commercial Lighting Program	201	95	-	144
Commercial Building Envelope - Windows Program	14	21	=	7
Commercial Building Envelope - Insulation Progran	12	18	-	8
Commercial Earth Power Program	29	79	=	-
Commercial HVAC Program - Chillers	7	4	-	12
Commercial HVAC Program - CO2 Sensors	1	1	-	3
Commercial Custom Measures Program	16	49	-	-
Commercial Building Optimization Program	16	3	-	7
New Buildings Program	93	201	-	-
Commercial Refrigeration Program	28	41	-	-
Commercial Kitchen Appliance Program	0	3	-	-
Network Energy Management Program	-	5	-	9
Internal Retrofit Program	9	-	-	5
Power Smart Shops	-	4	-	-
Roadway Lighting Program	-	40	-	-
Power Smart for Business PAYS Financing	3	-	-	-
INDUSTRIAL				
Performance Optimization Program	213	185	-	353
ENERGY EFFICIENCY SUBTOTAL	703	931	-	584
LOAD DISPLACEMENT & ALTERNATIVE ENERGY				
Bioenergy Optimization Program	70	_	-	_
Customer Sited Load Displacement	70	_	582	_
LOAD DISPLACEMENT & ALTERNATIVE ENERGY SUBTOTAL	70	-	582	-
CONSERVATION RATES				
Conservation Rates - Residential			160	
Conservation Rates - Residential Conservation Rates - Commercial	-	-	230	_
CONSERVATION RATES SUBTOTAL	-	-	390	-
FUEL CHOICE				
Fuel Choice			286	
FUEL CHOICE SUBTOTAL	-	-	286	-
Incremental Impacts (at generation) Total Impacts (at generation)	773 773	931	1,258	3 546
i otai impacts (at generation)	//3	1,704	2,961	3,546

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	Levelized Utility Cost (¢/kW.h)			
	2013	LEVEL 1	LEVEL 2	LEVEL 3
RESIDENTIAL				
New Home Program	-	0.5	-	6.2
Home Insulation Program	2.2	3.1	-	90.5
Water and Energy Saver Program	2.3	2.3	-	6.6
Lower Income Energy Efficiency Program	3.5	3.5	-	-
Refrigerator Retirement Program	1.5	2.3	-	-
Residential Geothermal Utility Model	-	3.8	-	-
Solar DWH and Pool	-	-	-	12.0
Residential LED Lighting Program	_	3.1	-	16.4
Community Geothermal Program	-	3.2	-	_
Behavioural Program	-	3.8	-	-
COMMERCIAL				
Commercial Lighting Program	2.5	2.4	-	7.7
Commercial Building Envelope - Windows Program	2.4	2.9	-	11.3
Commercial Building Envelope - Insulation Program	2.5	2.8	_	10.6
Commercial Earth Power Program	1.5	3.4	_	10.0
Commercial HVAC Program - Chillers	1.2	1.5	_	8.3
Commercial HVAC Program - CO2 Sensors	0.2	2.3	_	9.0
Commercial Custom Measures Program	1.9	4.3	-	9.0
Commercial Building Optimization Program	1.9	2.6	-	9.4
		-	-	9.4
New Buildings Program	0.5	0.6	-	-
Commercial Refrigeration Program	1.4	1.1	-	-
Commercial Kitchen Appliance Program	1.2	0.8	-	-
Network Energy Management Program	1.6	1.1	-	10.7
Internal Retrofit Program	4.4	3.7	-	9.1
Power Smart Shops	-	2.5	-	-
Roadway Lighting Program	-	5.4	-	-
INDUSTRIAL				
Performance Optimization Program	1.5	2.6	-	8.8
LOAD DISPLACEMENT & ALTERNATIVE ENERGY				
Bioenergy Optimization Program	1.5	1.5	-	-
Customer Sited Load Displacement	-	-	1.2	-
CONSERVATION RATES		-		
Conservation Rates - Residential	-	-	0.8	-
Conservation Rates - Commercial	-	-	0.6	-
FUEL CHOICE				
Fuel Choice	-	-	1.3	-
Levelized Utility Cost	2.4	2.5	1.1	8.9

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