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## 2020-2023 Efficiency Plan

### Efficiency Manitoba Undertaking #11

Efficiency Manitoba to provide savings and cost details at the program bundle and program portfolio level based on a revised measure list that has been screened using the Pure Measure Value Test (PMVT) as applied by Daymark. For this undertaking Daymark will be required to provide the measure level PMVT electronic workpapers created by Daymark.

Efficiency Manitoba will apply the PMVT to both the Electric and Natural Gas portfolio and use the PMVT to effectively “screen out” those particular measures that have a PMVT ratio less than 1.0 limited to measures within the following Customer Segments: Residential and Commercial, Industrial and Agricultural. Efficiency Manitoba is not to complete this PMVT screen on the Income Qualified or the Indigenous customer segment.

Efficiency Manitoba to provide the following details on the resulting alternative Electric and Natural Gas Portfolios (provided at both the Program Bundle and overall Portfolio Basis):

- Resulting Electric and Natural Gas Budget Dollars associated with the alternative Portfolio based on the resulting estimate of the reduction of customer incentive budget amounts;
- Resulting annual Electric and Natural Gas Energy Savings associated with the revised Portfolio based on the resulting estimate of the reduction of energy savings;
- The list of measures that remain in the portfolio (organized by segment); and
- The PACT ratio, NPV, and levelized costs (by bundle and portfolio) assuming EM's costs are reduced by the incentives but with no reduction in program administration costs.

### Response:

Based on the analysis provided by Daymark. Efficiency Manitoba developed an alternative portfolio scenario (of both the electric and natural gas portfolios) that screened out all individual technologies or measures that resulted in a Pure Measure Value Test (PMVT) ratio below 1.0 based on Daymark calculations.

This analysis does not represent an endorsement by Efficiency Manitoba of this screening approach or the resulting electric or natural gas portfolio. Eliminating programs based exclusively on cost-effectiveness ignores the other important considerations that Efficiency Manitoba has taken into account in preparing its Plan, including ensuring that the portfolio

provides initiatives that are accessible to all Manitobans, and introduces risks regarding achievement of savings targets.

The Efficiency Manitoba Regulation (Section 11d and Section 12) has prescribed the PACT as the cost-effectiveness test that should be applied at the portfolio level. In considering the mandated electric and natural gas targets, applying additional non-prescribed cost-effectiveness screens such as the PMVT to eliminate or reduce programming to customer segments may restrict Efficiency Manitoba’s ability to satisfy the energy savings targets or to provide equitable and accessible programming.

### **Electric Portfolio Results based on the PMVT Screening**

The following table provides a summary of the thirty-four (34) electric portfolio measures that were removed as a result of this screening:

<b>Measure Name (as used in PUB/Daymark-8)</b>	<b>Customer Segment</b>	<b>Program Bundle</b>
Instant - Fixtures - In-year Y2 (Elec)	Residential	Product Rebates
Home Check Up   A-line bulbs - In-Year - Y1 (Elec)	Residential	Direct Install
Appliances-Regrigerators Electric	Residential	Home Renovation
Online - Appliance_Refrigerators (Electric)	Residential	Product Rebates
Instant - A-line bulbs - In-Year Y3 (Elec)	Residential	Product Rebates
Residential Pool Pump Gas	Residential	Home Renovation
DSM (Home Check Up) CBA - EL Timer	Residential	Direct Install
DSM (Home Check Up) CBA - EL Timer	Residential	Home EE Kits & Education
DSM (SCHOOL LED bulbs - In-Year - Y2) CBA - EL	Residential	Home EE Kits & Education
Residential Pool Pump Electric Combo	Residential	Home Renovation
Home Check Up   A-line bulbs - In-Year - Y2 (Elec)	Residential	Direct Install
Instant - Other Tech_Lighting Controls (Electric)	Residential	Product Rebates
Instant - Fixtures - In-year Y3 (Elec)	Residential	Product Rebates
DSM (SCHOOL LED bulbs - In-Year - Y3) CBA – EL	Residential	Home EE Kits & Education
Home Check Up   A-line bulbs - In-Year - Y3 (Elec)	Residential	Direct Install
Residential Solar Photovoltaic	Residential	Emerging Technology
Instant - Other Tech_Smart Plugs (Electric)	Residential	Product Rebates

<b>Measure Name (as used in PUB/Daymark-8)</b>	<b>Customer Segment</b>	<b>Program Bundle</b>
Bar Fridges (Electric)	Residential	Product Rebates / Appliance Recycling
Instant - Other Tech_Tier 1 APS (Electric)	Residential	Product Rebates
Cold Climate Air-Source Heat Pump Electric	Residential	Home Renovation
Window Air Conditioners (Electric)	Residential	Product Rebates / Appliance Recycling
DSM (School Program) - EL Tier 2 APS	Residential	Home EE Kits & Education
DSM (Home Check Up) - EL Tier 2 APS	Residential	Direct Install
Appliances-Dishwashers Electric	Residential	Home Renovation
Online - Appliance_Dishwashers (Electric)	Residential	Product Rebates
T8 8ft Tandem Ballast EL	Commercial, Industrial & Agricultural	Small Business & Appliance
New Buildings 2.1	Commercial, Industrial & Agricultural	New Construction & HPB
Energy Manager (EMI) V1	Commercial, Industrial & Agricultural	Custom
New Buildings 3.0	Commercial, Industrial & Agricultural	New Construction & HPB
Energy Manager (SEM Cohorts) yr1	Commercial, Industrial & Agricultural	Custom
Energy Manager (EMI) V2	Commercial, Industrial & Agricultural	Custom
LED Exit Sign EL	Commercial, Industrial & Agricultural	Small Business & Appliance
Commercial Solar Photovoltaic	Commercial, Industrial & Agricultural	Emerging Technology
T8 Ballast EL	Commercial, Industrial & Agricultural	Small Business & Appliance

In the following cases, the removal of technologies or measures resulted in the deletion of program offerings which also resulted in the removal of program administration costs. In all other cases, program administration costs were left within the program bundle unchanged from the Plan electric portfolio:

- New Buildings 2.1
- Residential Pool Pump Electric Combo
- Energy Manager (SEM Cohorts) yr1
- Energy Manager (EMI) V1
- Energy Manager (EMI) V2
- Commercial Solar Photovoltaic
- Residential Solar Photovoltaic

Although the actual PMVT results developed by Daymark are considered CSI the following tables provide customer segment and program bundle resulting energy savings, budget and program administrator cost test (PACT) results based on the removal of the electric portfolio measures provided in the table above. It is important to note that out of the 34 measures screened out twenty-five (25) are from the residential customer segment. It is further important to note as a simplifying assumption, changes to the electric portfolio that would impact natural gas interactive energy savings were not accounted for in this analysis.

<b>Annual Electric Energy Savings (GW.h)</b>				
		<b>2020 / 21</b>	<b>2021 / 22</b>	<b>2022 / 23</b>
		<b>Undertaking #11</b>		
<b>RESIDENTIAL PROGRAMS</b>				
	Direct Install	1.0	1.6	2.1
	Product Rebates	13.9	10.5	7.1
	Home Renovation	2.5	5.0	4.8
	New Homes & Major Renovation	3.3	3.6	3.7
	Home Energy Efficiency Kits & Education	0.6	0.9	0.9
	Subtotal	21.3	21.6	18.5
<b>INCOME QUALIFIED PROGRAMS</b>				
	Income Qualified Offers	2.5	2.7	2.7
	Subtotal	2.5	2.7	2.7
<b>INDIGENOUS PROGRAMS</b>				
	Insulation and Direct Install	0.2	0.3	0.3
	Small Business	0.4	0.4	0.4
	Community Geothermal	0.8	1.2	1.2
	Metis Income Qualified	0.2	0.2	0.2
	Subtotal	1.5	2.1	2.2
<b>COMMERCIAL, INDUSTRIAL &amp; AGRICULTURAL PROGRAMS</b>				
	Small Business & Appliances	14.4	14.8	15.2
	In-Suite Efficiency	0.7	1.0	1.3
	Renovation	110.7	103.1	95.5
	HVAC & Controls	3.3	3.5	3.5
	New Construction & High-Performance Buildings	2.0	3.8	3.2
	Custom	23.7	17.2	25.6
	Load Displacement	99.0	120.5	110.5
	Subtotal	253.8	263.8	254.8
<b>EMERGING TECHNOLOGY PROGRAMS</b>				
	Emerging Technology	-	1.0	1.0
	Subtotal	-	1.0	1.0
<b>Program Impact Totals</b>		<b>279</b>	<b>291</b>	<b>279</b>
<b>Codes, Standards &amp; Regulations</b>		<b>88</b>	<b>86</b>	<b>82</b>
<b>Total Energy Savings (GW.h) at Generation</b>		<b>367</b>	<b>377</b>	<b>361</b>
<i>Note: May not add up due to rounding.</i>				

<b>TOTAL Annual Electric Costs (000's \$)</b>				
		<b>20 20 / 21</b>	<b>20 21 / 22</b>	<b>20 22 / 23</b>
<b>Undertaking # 11</b>				
<b>RESIDENTIAL PROGRAMS</b>				
	Direct Install	\$ 210	\$ 279	\$ 347
	Product Rebates	\$ 3,918	\$ 3,400	\$ 2,842
	Home Renovation	\$ 1,831	\$ 2,808	\$ 2,862
	New Homes & Major Renovation	\$ 913	\$ 1,149	\$ 1,168
	Home Energy Efficiency Kits & Education	\$ 154	\$ 178	\$ 181
	Subtotal	\$ 7,027	\$ 7,814	\$ 7,400
<b>INCOME QUALIFIED PROGRAMS</b>				
	Income Qualified Offers	\$ 1,188	\$ 1,660	\$ 1,637
	Subtotal	\$ 1,188	\$ 1,660	\$ 1,637
<b>INDIGENOUS PROGRAMS</b>				
	Insulation and Direct Install	\$ 196	\$ 256	\$ 272
	Small Business	\$ 313	\$ 370	\$ 472
	Community Geothermal	\$ 323	\$ 505	\$ 515
	Metis Income Qualified	\$ 97	\$ 141	\$ 140
	Subtotal	\$ 929	\$ 1,272	\$ 1,398
<b>COMMERCIAL, INDUSTRIAL &amp; AGRICULTURAL PROGRAMS</b>				
	Small Business & Appliances	\$ 2,216	\$ 2,270	\$ 2,326
	In-Suite Efficiency	\$ 204	\$ 253	\$ 303
	Renovation	\$ 17,425	\$ 16,710	\$ 15,961
	HVAC & Controls	\$ 1,006	\$ 1,083	\$ 1,142
	New Construction & High-Performance Buildings	\$ 398	\$ 492	\$ 505
	Custom	\$ 2,768	\$ 2,383	\$ 3,067
	Load Displacement	\$ 984	\$ 5,693	\$ 3,357
	Subtotal	\$ 25,001	\$ 28,884	\$ 26,661
<b>EMERGING TECHNOLOGY PROGRAMS</b>				
	Emerging Technology	\$ 124	\$ 276	\$ 299
	Subtotal	\$ 124	\$ 276	\$ 299
<b>Program Totals</b>		<b>\$ 34,268</b>	<b>\$ 39,905</b>	<b>\$ 37,394</b>
Enabling Strategies: Program Support and Education		\$ 1,289	\$ 1,312	\$ 1,355
Enabling Strategies: Innovation, Codes & Standards and Evaluation		\$ 4,897	\$ 5,068	\$ 4,854
Corporate Overhead		\$ 1,844	\$ 1,841	\$ 2,889
<b>Total Electric Costs (000's \$)</b>		<b>\$ 42,298</b>	<b>\$ 48,127</b>	<b>\$ 46,492</b>
<i>Note: May not add up due to rounding.</i>				

<b>Electric Program Cost-Effectiveness Metrics</b>				
		<b>PACT</b>		
		<b>Ratio (A)</b>	<b>PACT NPV (000's \$)</b>	<b>Levelized Cost (cents/ kWh) (B)</b>
<b>Undertaking #11</b>				
<b>RESIDENTIAL PROGRAMS</b>				
	Direct Install	2.91	\$1,495	2.20
	Product Rebates	1.76	\$7,361	3.42
	Home Renovation	3.09	\$4,699	3.65
	New Homes & Major Renovation	6.56	\$6,885	1.84
	Home Energy Efficiency Kits & Education	1.87	\$418	2.61
	Subtotal	2.95	\$40,859	3.02
<b>INCOME QUALIFIED PROGRAMS</b>				
	Income Qualified Offers	2.80	\$7,576	3.70
	Subtotal	2.80	\$7,576	3.70
<b>INDIGENOUS PROGRAMS</b>				
	Insulation and Direct Install	1.90	\$613	5.88
	Small Business	0.57	(\$461)	11.26
	Community Geothermal	4.03	\$3,816	2.86
	Metis Income Qualified	2.58	\$559	4.23
	Subtotal	2.34	\$4,527	4.59
<b>COMMERCIAL, INDUSTRIAL &amp; AGRICULTURAL PROGRAMS</b>				
	Small Business & Appliances	2.60	\$10,275	2.19
	In-Suite Efficiency	2.48	\$1,055	3.14
	Renovation	4.97	\$187,957	1.67
	HVAC & Controls	2.81	\$5,501	2.30
	New Construction & High-Performance Buildings	3.13	\$2,795	2.28
	Custom	5.89	\$37,867	1.04
	Load Displacement	3.72	\$61,521	1.50
	Subtotal	4.44	\$306,972	1.59
<b>EMERGING TECHNOLOGY PROGRAMS</b>				
	Emerging Technology	3.20	\$2,291	3.99
	Subtotal	3.20	\$2,291	3.99
<b>Program Impact Totals</b>		<b>4.05</b>	<b>\$362,226</b>	<b>1.83</b>
<b>Program Support, Enabling Strategies &amp; Corporate Overhead</b>			<b>(\$23,883)</b>	
<b>Overall Portfolio Metrics</b>		<b>3.37</b>	<b>\$338,342</b>	<b>2.19</b>

*Note: May not add up due to rounding.*

**Natural Gas Portfolio Results based on the PMVT Screening**

The following table provides a summary of the twenty-four (24) natural gas portfolio measures that were removed as a result of this screening:

<b>Measure Name (as used in PUB/Daymark-8)</b>	<b>Customer Segment</b>	<b>Program Bundle</b>
DSM (Home Check Up HRV Control) CBA - NG	Residential	Direct Install
Windows and Doors Gas_Windows	Residential	Home Renovation
DWHR Gas	Residential	Home Renovation
Reno Gas CBA	Residential	New Homes \$ MR
DSM (School Program) CBA - Window Kits (Natural Gas)	Residential	Home EE Kits & Education
DSM (Home Check Up) CBA - Window Kits (Natural Gas)	Residential	Direct Install
Residential Geo Yr 1-5 Gas	Residential	Home Renovation
Instant - Other Tech_Window Kits (Natural Gas)	Residential	Product Rebates
Gas Savings Assumptions	Residential	Direct Install
smart Thermostats Gas	Residential	Home Renovation
A la Carte Gas Bungalow	Residential	New Homes \$ MR
Online - Smart Thermostats (Natural Gas)	Residential	Product Rebates
A la Carte Gas Cabover	Residential	New Homes \$ MR
New Gas 20yr Tech	Residential	New Homes \$ MR
New Gas 50yr Tech	Residential	New Homes \$ MR
New Buildings 3.0	Commercial, Industrial & Agricultural	New Construction & HPB
In Suite HRV Control NG	Commercial, Industrial & Agricultural	In Suite Efficiency
Smart Thermostat NG	Commercial, Industrial & Agricultural	Small Business & Appliance
CBEP Curtain Wall - 330 Portage Project	Commercial, Industrial & Agricultural	Renovation
Energy Manager (EMI)	Commercial, Industrial & Agricultural	Custom
Smart Thermostat Assumptions Gas	Commercial, Industrial & Agricultural	In Suite Efficiency
NG Prescrip Biomass	Commercial, Industrial & Agricultural	Emerging Technology
New Buildings NZE	Commercial, Industrial & Agricultural	New Construction & HPB
New Buildings 2.1	Commercial, Industrial & Agricultural	New Construction & HPB

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In the following cases, the removal of technologies or measures resulted in the deletion of program offerings which also resulted in the removal of program administration costs. In all other cases, program administration costs were left within the program bundle unchanged from the Plan electric portfolio:

- Reno Gas CBA
- Energy Manager (EMI)
- A la Carte Gas Bungalow
- Online - Smart Thermostats (Natural Gas)
- A la Carte Gas Cabover
- NG Prescrip Biomass
- New Buildings 2.1
- New Gas 20yr Tech (residential new construction)
- New Gas 50yr Tech (residential new construction)

Specifically to the natural gas portfolio, the application of this PMVT screen has eliminated two complete program bundles as follows:

- Residential New Homes & Major Renovation and
- Emerging Technology Programs

In the following cases, the removal of technologies or measures has additionally resulted in the deletion of program offerings which creates inequity between the electric and natural gas portfolios. Specifically, strictly adhering to the screening would result in offering a specific technology / measure to customers with electric heat while preventing customers with gas heat from participating in an identical offer:

- Home / In Suite Heat Recovery Ventilator control incentives
- Home window and door incentives
- Drain water heat recovery incentives
- Smart Thermostats
- Window kits
- Geothermal heating
- Biomass heating

From a practical perspective, Efficiency Manitoba would typically choose to either offer the same incentive to both electric and natural gas heat customers or not offer the measure to either group of customers.

Although the actual PMVT results developed by Daymark are considered CSI the following tables provide customer segment and program bundle resulting energy savings, budget and program administrator cost test (PACT) results based on the removal of the electric portfolio measures provided in the table above. It is important to note that out of the 24 measures screened out fifteen (15) are from the residential customer segment.



<b>Annual Natural Gas Energy Savings (million m<sup>3</sup>)</b>				
		<b>2020 / 21</b>	<b>2021 / 22</b>	<b>2022 / 23</b>
		<b>Undertaking # 11</b>		
<b>RESIDENTIAL PROGRAMS</b>				
	Direct Install	0.07	0.10	0.14
	Product Rebates	0.17	0.15	0.13
	Home Renovation	0.33	0.38	0.39
	New Homes & Major Renovation	-	-	-
	Home Energy Efficiency Kits & Education	0.03	0.05	0.05
	Subtotal	0.60	0.68	0.71
<b>INCOME QUALIFIED PROGRAMS</b>				
	Income Qualified Offers	108	107	109
	Subtotal	108	107	109
<b>INDIGENOUS PROGRAMS</b>				
	Metis Income Qualified	0.05	0.05	0.05
	Subtotal	0.05	0.05	0.05
<b>COMMERCIAL, INDUSTRIAL &amp; AGRICULTURAL PROGRAMS</b>				
	Small Business & Appliances	0.28	0.28	0.28
	In-Suite Efficiency	0.06	0.08	0.11
	Renovation	0.90	1.13	1.25
	HVAC & Controls	0.79	0.76	0.72
	New Construction & High-Performance Buildings	0.16	0.40	0.26
	Custom	5.22	3.88	4.06
	Subtotal	7.42	6.54	6.68
<b>EMERGING TECHNOLOGY PROGRAMS</b>				
	Emerging Technology	-	-	-
	Subtotal	-	-	-
	Interactive Effects	(2.12)	(1.85)	(1.62)
	Program Impact Totals	7.02	6.49	6.92
	Codes, Standards & Regulations	3.51	4.09	4.36
<b>Total Annual Energy Savings (million m<sup>3</sup>)</b>		<b>10.53</b>	<b>10.58</b>	<b>11.28</b>
<i>Note: May not add up due to rounding.</i>				

<b>Annual Natural Gas Costs (000's \$)</b>				
		<b>20 20 / 21</b>	<b>20 21 / 22</b>	<b>20 22 / 23</b>
<b>Undertaking # 11</b>				
<b>RESIDENTIAL PROGRAMS</b>				
	Direct Install	\$ 169	\$ 211	\$ 255
	Product Rebates	\$ 263	\$ 258	\$ 260
	Home Renovation	\$ 933	\$ 1,499	\$ 2,047
	New Homes & Major Renovation	\$ 0	\$ 0	\$ 0
	Home Energy Efficiency Kits & Education	\$ 135	\$ 146	\$ 149
	Subtotal	\$ 1,500	\$ 2,114	\$ 2,712
<b>INCOME QUALIFIED PROGRAMS</b>				
	Income Qualified Offers	\$ 5,934	\$ 5,992	\$ 6,606
	Subtotal	\$ 5,934	\$ 5,992	\$ 6,606
<b>INDIGENOUS PROGRAMS</b>				
	Metis Income Qualified	\$ 292	\$ 330	\$ 362
	Subtotal	\$ 292	\$ 330	\$ 362
<b>COMMERCIAL, INDUSTRIAL &amp; AGRICULTURAL PROGRAMS</b>				
	Small Business & Appliances	\$ 150	\$ 153	\$ 157
	In-Suite Efficiency	\$ 18	\$ 27	\$ 36
	Renovation	\$ 1,766	\$ 2,151	\$ 2,387
	HVAC & Controls	\$ 797	\$ 841	\$ 886
	New Construction & High-Performance Buildings	\$ 430	\$ 526	\$ 588
	Custom	\$ 1,794	\$ 1,151	\$ 1,531
	Subtotal	\$ 4,955	\$ 4,848	\$ 5,586
<b>EMERGING TECHNOLOGY PROGRAMS</b>				
	Emerging Technology	\$ 0	\$ 0	\$ 0
	Subtotal	\$ 0	\$ 0	\$ 0
<b>Program Totals</b>		<b>\$ 12,680</b>	<b>\$ 13,284</b>	<b>\$ 15,265</b>
Enabling Strategies: Program Support and Education		\$ 353	\$ 341	\$ 355
Enabling Strategies: Innovation, Codes & Standards and Evaluation		\$ 1,632	\$ 1,689	\$ 1,618
Corporate Overhead		\$ 615	\$ 614	\$ 963
<b>Total Natural Gas Costs (000's \$)</b>		<b>\$ 15,281</b>	<b>\$ 15,928</b>	<b>\$ 18,201</b>

*Note: May not add up due to rounding.*

<b>Natural Gas Program Cost-Effectiveness Metrics</b>				
<b>PACT</b>				
				<b>Levelized Cost</b>
				<b>(cents/ m<sup>3</sup>)</b>
		<b>PACT Ratio</b>	<b>PACT NPV</b>	
		<b>(A)</b>	<b>(000's \$)</b>	<b>(B)</b>
<b>Undertaking # 11</b>				
<b>RESIDENTIAL PROGRAMS</b>				
	Direct Install	0.67	(\$ 196)	26.86
	Product Rebates	0.88	(\$89)	20.57
	Home Renovation	0.89	(\$440)	22.66
	New Homes & Major Renovation	#DIV/0!	\$0	#DIV/0!
	Home Energy Efficiency Kits & Education	0.41	(\$239)	43.79
	Subtotal	0.84	(\$964)	23.51
<b>INCOME QUALIFIED PROGRAMS</b>				
	Income Qualified Offers	0.49	(\$8,888)	40.29
	Subtotal	0.49	(\$8,888)	40.29
<b>INDIGENOUS PROGRAMS</b>				
	Metis Income Qualified	0.44	(\$519)	44.94
	Subtotal	0.44	(\$519)	44.94
<b>COMMERCIAL, INDUSTRIAL &amp; AGRICULTURAL PROGRAMS</b>				
	Small Business & Appliances	2.49	\$648	7.06
	In-Suite Efficiency	4.81	\$286	3.70
	Renovation	1.64	\$3,804	11.57
	HVAC & Controls	2.59	\$3,773	7.35
	New Construction & High-Performance Buildings	0.62	(\$547)	28.01
	Custom	7.12	\$25,972	2.48
	Subtotal	3.34	\$33,935	5.42
<b>EMERGING TECHNOLOGY PROGRAMS</b>				
	Emerging Technology	#DIV/0!	\$0	#DIV/0!
	Subtotal	#DIV/0!	\$0	#DIV/0!
<b>Program Impact Totals</b>		<b>1.61</b>	<b>\$23,563</b>	<b>11.47</b>
<b>Program Support, Enabling Strategies &amp; Corporate Overhead</b>			<b>(\$7,707)</b>	
<b>Interactive Effects</b>			<b>(\$15,146)</b>	
<b>Overall Portfolio Metrics</b>		<b>1.02</b>	<b>\$710</b>	<b>17.99</b>
<i>Note: May not add up due to rounding.</i>				

**Electric Portfolio Results based on the PMVT Screening**

The following table provides a summary of the remaining electric portfolio measures based on the PMVT screening:

<b>Measure Name (as used in PUB/Daymark-8)</b>	<b>Sector</b>	<b>Program Bundle</b>
Agriculture Prescrip Biomass	Agricultural	Emerging Technology
Custom Measures	Commercial	Custom
Electric Schools Prescrip Biomass	Commercial	Emerging Technology
HVAC CO2 Sensor Elec heat building	Commercial	HVAC & Controls
HRVs Electric	Commercial	HVAC & Controls
Elec to Geo Savings	Commercial	HVAC & Controls
VFD	Commercial	HVAC & Controls
PTAC to PTHP Conversion	Commercial	HVAC & Controls
Air-Cooled Chillers	Commercial	HVAC & Controls
GREMS	Commercial	HVAC & Controls
NG to Geo Elec Load Growth	Commercial	HVAC & Controls
HVAC CO2 Sensor Gas heat Elec Cooling	Commercial	HVAC & Controls
In Suite WES EL Kitchen Aerators	Commercial	In Suite Efficiency
In Suite WES EL Bathroom Aerators	Commercial	In Suite Efficiency
In Suite WES EL Shower Head	Commercial	In Suite Efficiency
In Suite WES EL Pipe Wrap	Commercial	In Suite Efficiency
In Suite LED bulbs Combo	Commercial	In Suite Efficiency
In Suite HRV Control Electric	Commercial	In Suite Efficiency
Smart Thermostat assumptions Electric	Commercial	In Suite Efficiency
Race to Reduce Elec	Commercial	New Construction & HPB
EBOP Lite Elec	Commercial	New Construction & HPB
EBOP Elec	Commercial	New Construction & HPB
New Buildings NZE	Commercial	New Construction & HPB
EBOP Maint Elec	Commercial	New Construction & HPB
Race to Reduce 2.0 Elec	Commercial	New Construction & HPB
CLP Specialty Lamps 45000hrs	Commercial	Renovation
CLP Controls Sensors	Commercial	Renovation
CBEP Insulation - Attic Cavity SBP	Commercial	Renovation
CBEP Insulation - Heating	Commercial	Renovation
CBEP Doors - Heating	Commercial	Renovation
CBEP Windows - Heating	Commercial	Renovation
CLP TLEDs	Commercial	Renovation
CBEP Curtain Wall - Heating	Commercial	Renovation
CBEP Insulation - Air Tightness	Commercial	Renovation

<b>Measure Name (as used in PUB/Daymark-8)</b>	<b>Sector</b>	<b>Program Bundle</b>
CLP Exterior Lighting	Commercial	Renovation
CBEP Insulation - Heating - Below Grade	Commercial	Renovation
CLP Interior Fixtures	Commercial	Renovation
CLP Backlit Signage + Admin	Commercial	Renovation
CBEP Insulation - Cooling - NG Projects	Commercial	Renovation
CBEP Insulation - Cooling - EL Projects	Commercial	Renovation
CBEP Windows - Cooling - NG Projects	Commercial	Renovation
CBEP Windows - Cooling - EL Projects	Commercial	Renovation
CBEP Curtain Wall - Cooling - NG Projects	Commercial	Renovation
CBEP Curtain Wall - Cooling EL Projects	Commercial	Renovation
Spray Valve EL	Commercial	Small Business & Appliance
Kitchen Aerator EL	Commercial	Small Business & Appliance
Bathroom Aerator EL	Commercial	Small Business & Appliance
Door Closers - Electric	Commercial	Small Business & Appliance
Dishwashers Electric 20 yr	Commercial	Small Business & Appliance
Dishwashers Electric 15 yr	Commercial	Small Business & Appliance
Dishwashers Electric 10 yr	Commercial	Small Business & Appliance
Steamers Electric	Commercial	Small Business & Appliance
Gaskets & Strip Curtains - Electric	Commercial	Small Business & Appliance
Fryers Electric	Commercial	Small Business & Appliance
LED Screw-In DI 25k 5PL EI	Commercial	Small Business & Appliance
High Efficiency Compressor	Commercial	Small Business & Appliance
LED Screw-In DR 25k 9PL EL	Commercial	Small Business & Appliance
Smart Thermostat EL	Commercial	Small Business & Appliance
LED Screw-In DR 25k 5 PL EL	Commercial	Small Business & Appliance
Cases with heat-free doors, ECM & Evaporator controllers	Commercial	Small Business & Appliance
Griddle Electric	Commercial	Small Business & Appliance
Night Covers - Electric	Commercial	Small Business & Appliance
Convection Ovens Electric	Commercial	Small Business & Appliance
Cases with Doors & ASH Controls	Commercial	Small Business & Appliance
Hot Food Holding Cabinet Electric	Commercial	Small Business & Appliance
LED Screw-In DR 15k 6PL EL	Commercial	Small Business & Appliance
T8 LED Linear Lamp EL	Commercial	Small Business & Appliance
LED Screw-In DI 25k 9PL EI	Commercial	Small Business & Appliance
Admin Costs	Commercial	Small Business & Appliance
Electrical Permit EL	Commercial	Small Business & Appliance
Dimmer EL	Commercial	Small Business & Appliance

<b>Measure Name (as used in PUB/Daymark-8)</b>	<b>Sector</b>	<b>Program Bundle</b>
SBP - LED Screw-In (DR) (25K 5PL) EL IE	Commercial	Small Business & Appliance
SBP - LED Exit Sign EL IE	Commercial	Small Business & Appliance
SBP - LED Screw-In (15K 6PL) EL IE	Commercial	Small Business & Appliance
SBP - T8 8ft Tandem Ballasts EL IE	Commercial	Small Business & Appliance
SBP - LED Screw-In (25K 9PL) EL IE	Commercial	Small Business & Appliance
SBP - T8 Ballasts EL IE	Commercial	Small Business & Appliance
SBP - T8 Linear Lamps EL IE	Commercial	Small Business & Appliance
SBP - LED Screw-In (DR) (25K 9PL) EL IE	Commercial	Small Business & Appliance
SBP - LED Screw-In (DI) (25K 5PL) EL IE	Commercial	Small Business & Appliance
2020 LRP (AEP MURB - WESP) Electric CBA	Income Qualified	Income Qualified
2020 LRP (AEP Ind & Comm - WESP) Electric CBA	Income Qualified	Income Qualified
2020 LRP (AEP Ind & Comm - LED) Electric CBA	Income Qualified	Income Qualified
2020 LRP (AEP MURB - LED) Electric CBA	Income Qualified	Income Qualified
2020 LRP (AEP Ind & Comm - Insulation) Electric CBA	Income Qualified	Income Qualified
2020 LRP (AEP Ind & Comm - Insulation) Electric CBA	Income Qualified	Income Qualified
2020 LRP (AEP MURB - Air Sealing & Admin) Electric CBA	Income Qualified	Income Qualified
2020 LRP (AEP Ind & Comm Appliances) Electric CBA	Income Qualified	Income Qualified
2020 LRP (AEP Ind & Comm Smart Thermostat) Electric CBA	Income Qualified	Income Qualified
2020 LRP (AEP Ind & Comm - AS & HEA, Admin Costs) Electric CBA	Income Qualified	Income Qualified
Community Geothermal	Indigenous	Community Geothermal
FN DI Bathroom Aerator	Indigenous	Insulation and Direct Install
FN DI Kitchen Aerators	Indigenous	Insulation and Direct Install
FN DI PW	Indigenous	Insulation and Direct Install
FN Direct Install Shower Head	Indigenous	Insulation and Direct Install
2020 LRP (FN Appliances - clothes washer) Electric CBA	Indigenous	Insulation and Direct Install
Indigenous Insulation Year 2-3	Indigenous	Insulation and Direct Install
Indigenous Insulation Year 1	Indigenous	Insulation and Direct Install
2020 LRP (FN DI - LED) Electric CBA	Indigenous	Insulation and Direct Install
2020 LRP (FN Smart Thermostat) Electric CBA	Indigenous	Insulation and Direct Install
FN DI Air Sealing	Indigenous	Insulation and Direct Install
FN insulation and DI Admin	Indigenous	Insulation and Direct Install
2020 LRP (Metis - WESP) Electric CBA	Indigenous	Metis Income Qualified
2020 LRP (Metis - LED) Electric CBA	Indigenous	Metis Income Qualified
2020 LRP (Metis - Insulation) Electric CBA	Indigenous	Metis Income Qualified
2020 LRP (Metis - Appliances) Electric CBA	Indigenous	Metis Income Qualified

<b>Measure Name (as used in PUB/Daymark-8)</b>	<b>Sector</b>	<b>Program Bundle</b>
2020 LRP (Metis - Smart Thermostat) Electric CBA	Indigenous	Metis Income Qualified
2020 LRP (Metis - AS & HEA, Admin Costs) Electric CBA	Indigenous	Metis Income Qualified
SBP - Spray Valve EL	Indigenous	Small Business
FNSBP - Kitchen Aerator EL	Indigenous	Small Business
FNSBP - Bathroom Aerator EL	Indigenous	Small Business
FNSBP - LED Screw-In (DI) (25K 5PL) EL	Indigenous	Small Business
SBP - LED Screw-In (DR) (25K 9PL) EL	Indigenous	Small Business
SBP - Smart Thermostats EL	Indigenous	Small Business
SBP - LED Screw-In (DR) (25K 5PL) EL	Indigenous	Small Business
SBP - LED Screw-In (DR) (15K 6PL) EL	Indigenous	Small Business
FNSBP - T8 Linear Lamps EL	Indigenous	Small Business
FNSBP - LED Screw-In (DI) (25K 9PL) EL	Indigenous	Small Business
FNSBP - T8 8ft Tandem Ballasts EL	Indigenous	Small Business
SBP - LED Exit Sign EL	Indigenous	Small Business
SBP - T8 Ballasts EL	Indigenous	Small Business
FNSBP - Dimmer EL	Indigenous	Small Business
FNSBP - Electrical Permits	Indigenous	Small Business
FNSBP - Costs	Indigenous	Small Business
FNSBP - LED Screw-In (DR) (25K 5PL) EL IE	Indigenous	Small Business
FNSBP - LED Exit Sign EL IE	Indigenous	Small Business
FNSBP - LED Screw-In (15K 6PL) EL IE	Indigenous	Small Business
SBP - LED Screw-In (25K 9PL) EL IE	Indigenous	Small Business
SBP - T8 8ft Tandem Ballasts EL IE	Indigenous	Small Business
SBP - T8 Ballasts EL IE	Indigenous	Small Business
FNSBP - LED Screw-In (DI) (25K 5PL) EL IE	Indigenous	Small Business
FNSBP - T8 Linear Lamps EL IE	Indigenous	Small Business
SBP - LED Screw-In (DR) (25K 9PL) EL IE	Indigenous	Small Business
Industrial Expansion 1	Industrial	Custom
Large Projects	Industrial	Custom
Industrial Refrigeration	Industrial	Custom
Fans & Pumps	Industrial	Custom
Heat Pads	Industrial	Custom
Compressed Air	Industrial	Custom
Misc Electrical	Industrial	Custom
Industrial Expansion 1 (IE)	Industrial	Custom
Load Displacement – Project 1	Industrial	Load Displacement
Load Displacement – Project 2	Industrial	Load Displacement
Load Displacement – Project 3	Industrial	Load Displacement

<b>Measure Name (as used in PUB/Daymark-8)</b>	<b>Sector</b>	<b>Program Bundle</b>
DSM (Home Check Up) CBA - EL KA	Residential	Direct Install
DSM (Home Check Up) CBA - EL BA	Residential	Direct Install
DSM (Home Check Up) CBA - EL SH	Residential	Direct Install
DSM (Home Check Up) CBA - EL PW	Residential	Direct Install
DSM (Home Check Up) CBA - Weatherstripping (Electric)	Residential	Direct Install
DSM (Home Check Up HRV Control) CBA - EL	Residential	Direct Install
DSM (Home Check Up) CBA - Window Kits (E)	Residential	Direct Install
Home Check Up Electric Savings Assumptions	Residential	Direct Install
DSM School Program CBA - Outdoor Plug-In Timers (Electric)	Residential	Direct Install
Home Check Up – Costs	Residential	Direct Install
Home Check Up   A-line bulbs - Persisting (Elec)	Residential	Direct Install
DSM (School Program) CBA - EL KA	Residential	Home EE Kits & Education
DSM (School Program) CBA - EL BA	Residential	Home EE Kits & Education
DSM (EVENT) CBA - EL KA	Residential	Home EE Kits & Education
DSM (School Program) CBA - EL SH	Residential	Home EE Kits & Education
DSM (EVENT) CBA - EL BA	Residential	Home EE Kits & Education
DSM (School Program) CBA - EL PW	Residential	Home EE Kits & Education
DSM (School Program) CBA - EL Timer	Residential	Home EE Kits & Education
DSM (EVENT) CBA - EL PW	Residential	Home EE Kits & Education
DSM (EVENT) CBA - EL SH	Residential	Home EE Kits & Education
DSM (EVENT) CBA - EL Clothesline Elec	Residential	Home EE Kits & Education
DSM (School Program) CBA - Weatherstripping (Electric)	Residential	Home EE Kits & Education
DSM (School Program) CBA - Window Kits (Electric)	Residential	Home EE Kits & Education
DSM School Program CBA - Outdoor Plug-In Timers (Electric)	Residential	Home EE Kits & Education
DSM (SCHOOL LED bulbs - Persisting) CBA - EL	Residential	Home EE Kits & Education
DSM (Event) Admin Cost	Residential	Home EE Kits & Education
Home Insulation Electric 3-yr combo	Residential	Home Renovation
Windows and Doors_Doors Electric	Residential	Home Renovation
HRV Controls Electric	Residential	Home Renovation
Windows and Doors Electric Windows	Residential	Home Renovation
Air Sealing Electric	Residential	Home Renovation
Smart Thermostats Electric	Residential	Home Renovation
Appliances-Washer&Dryers Electric	Residential	Home Renovation
DWHR Electric	Residential	Home Renovation
Residential Geo Yr 1-5 Elec Savings Electric	Residential	Home Renovation



<b>Measure Name (as used in PUB/Daymark-8)</b>	<b>Sector</b>	<b>Program Bundle</b>
Audits & Bundling Bonus Electric	Residential	Home Renovation
A la Carte Elec Cabover	Residential	New Homes & MR
New Gas 20yr elec tech	Residential	New Homes & MR
New Electric 20yr Tech	Residential	New Homes & MR
Reno Electric CBA	Residential	New Homes & MR
A la Carte Elec Bungalow	Residential	New Homes & MR
New Electric 50yr Tech	Residential	New Homes & MR
Instant - Other Tech_1.5 GPM Showerheads (Electric)	Residential	Product Rebates
Instant - Other Tech_Weatherstripping (Elec)	Residential	Product Rebates
Instant - Specialty bulbs - In-year Y1 (Elec)	Residential	Product Rebates
Instant - Other Tech_Clotheslines (Electric)	Residential	Product Rebates
Instant - A-line bulbs - In-Year Y1 (Elec)	Residential	Product Rebates
Instant - Specialty bulbs - In-year Y2 (Elec)	Residential	Product Rebates
Instant - A-line bulbs - In-Year Y2 (Elec)	Residential	Product Rebates
Online - Smart Thermostats (Electric)	Residential	Product Rebates
Instant - Other Tech_Window Kits (Electric)	Residential	Product Rebates
Online - Appliance_Clothes Washers & Dryers (Electric)	Residential	Product Rebates
Instant - Fixtures - In-year Y1 (Elec)	Residential	Product Rebates
Instant - Other Tech_Outdoor Plug-In Timers (Electric)	Residential	Product Rebates
Instant - Specialty bulbs - In-year Y3 (Elec)	Residential	Product Rebates
Dehumidifiers (Electric)	Residential	Product Rebates
Refrigerators & Freezers (Electric)	Residential	Product Rebates
Online Admin Cost Elec	Residential	Product Rebates
Instant Admin Cost Elec	Residential	Product Rebates
Instant - A-line bulbs - Persisting Y4+ (Elec)	Residential	Product Rebates
Instant - Specialty bulbs - Persisting Y4+ (Elec)	Residential	Product Rebates
Instant - Fixtures - Persisting Y4+(Elec)	Residential	Product Rebates
DSM (Event) Admin Cost	Residential	Product Rebates

**Natural Gas Portfolio Results based on the PMVT Screening**

The following table provides a summary of the remaining natural gas portfolio measures based on the PMVT screening:

<b>Measure Name (as used in PUB/Daymark-8)</b>	<b>Sector</b>	<b>Program Bundle</b>
Custom Measures	Commercial	Custom
IR Heaters	Commercial	HVAC & Controls
Boilers (Gas)	Commercial	HVAC & Controls
Water Heaters - Tankless	Commercial	HVAC & Controls
NG to Geo (NG Savings)	Commercial	HVAC & Controls
Water Heaters - Tank	Commercial	HVAC & Controls
Unit Heaters	Commercial	HVAC & Controls
HVAC CO2 Sensor Gas	Commercial	HVAC & Controls
HRVs Gas	Commercial	HVAC & Controls
In Suite WES NG Kitchen Aerators	Commercial	In Suite Efficiency
In Suite WES NG Bathroom Aerators	Commercial	In Suite Efficiency
In Suite WES NG Shower Head	Commercial	In Suite Efficiency
In Suite WES NG Pipe Wrap	Commercial	In Suite Efficiency
Manitoba Race to Reduce NG	Commercial	New Construction & HPB
EBOP Lite Gas	Commercial	New Construction & HPB
EBOP Gas	Commercial	New Construction & HPB
EBOP Maint Gas	Commercial	New Construction & HPB
Manitoba Race to Reduce 2.0 Gas	Commercial	New Construction & HPB
CBEP Attic Cavity - SBP	Commercial	Renovation
CBEP Insulation - Heating	Commercial	Renovation
CBEP Windows - NG Heat	Commercial	Renovation
CBEP Doors - NG Heat	Commercial	Renovation
CBEP Insulation - Heating - Below Grade	Commercial	Renovation
CBEP Insulation - Air Tightness	Commercial	Renovation
CBEP Curtain Wall - NG Heat	Commercial	Renovation
Spray Valve NG	Commercial	Small Business & Appliance
Kitchen Aerator NG	Commercial	Small Business & Appliance
Bathroom Aerator NG	Commercial	Small Business & Appliance
Convection Ovens Gas	Commercial	Small Business & Appliance
Griddle Natural Gas	Commercial	Small Business & Appliance
Steamers Natural Gas	Commercial	Small Business & Appliance
Fryers Natural Gas	Commercial	Small Business & Appliance
2020 LRP (AEP MURB - WESP) Natural Gas CBA	Income Qualified	Income Qualified

<b>Measure Name (as used in PUB/Daymark-8)</b>	<b>Sector</b>	<b>Program Bundle</b>
2020 LRP (AEP Ind & Comm - WESP) Natural Gas CBA	Income Qualified	Income Qualified
2020 LRP (AEP MURB - Air Sealing & Admin) Natural Gas CBA	Income Qualified	Income Qualified
2020 LRP (AEP Ind & Comm - Insulation) Natural Gas CBA	Income Qualified	Income Qualified
2020 LRP (AEP FRP Boiler Ind) Natural Gas CBA	Income Qualified	Income Qualified
2020 LRP (AEP Ind & Comm - Insulation) Natural Gas CBA	Income Qualified	Income Qualified
2020 LRP (AEP FRP Std Furnace Ind & Comm) Natural Gas CBA	Income Qualified	Income Qualified
2020 LRP (AEP Ind & Comm Smart Thermostat) Natural Gas CBA	Income Qualified	Income Qualified
2020 LRP (AEP FRP Mid Furnace Ind & Comm) Natural Gas CBA	Income Qualified	Income Qualified
2020 LRP (AEP Ind & Comm - AS & HEA, Admin Costs) Natural Gas CBA	Income Qualified	Income Qualified
2020 LRP (AEP Ind & Comm Appliances) Natural Gas CBA	Income Qualified	Income Qualified
2020 LRP (AEP MURB - LED) Natural Gas CBA	Income Qualified	Income Qualified
2020 LRP (AEP Ind & Comm - LED) Natural Gas CBA	Income Qualified	Income Qualified
2020 LRP (Metis - WESP) Natural Gas CBA	Indigenous	Metis Income Qualified
2020 LRP (Metis - Insulation) Natural Gas CBA	Indigenous	Metis Income Qualified
2020 LRP (Metis - FRP Boiler) Natural Gas CBA	Indigenous	Metis Income Qualified
2020 LRP (Metis - FRP Std Furnace) Natural Gas CBA	Indigenous	Metis Income Qualified
2020 LRP (Metis - Smart Thermostat) Natural Gas CBA	Indigenous	Metis Income Qualified
2020 LRP (Metis - FRP Mid Furnace) Natural Gas CBA	Indigenous	Metis Income Qualified
2020 LRP (Metis - AS & HEA, Admin Costs) Natural Gas CBA	Indigenous	Metis Income Qualified
2020 LRP (Metis - Appliances) Natural Gas CBA	Indigenous	Metis Income Qualified
2020 LRP (Metis - LED) Natural Gas CBA	Indigenous	Metis Income Qualified
Energy Manager (SEM Cohorts) yr1	Industrial	Custom
Large Projects yr2	Industrial	Custom
Industrial Expansion 1	Industrial	Custom
NG Optimization Program	Industrial	Custom
Large Projects yr3	Industrial	Custom
DSM (Home Check Up) CBA - NG KA	Residential	Direct Install
DSM (Home Check Up) CBA - NG BA	Residential	Direct Install
DSM (Home Check Up) CBA - NG SH	Residential	Direct Install
DSM (Home Check Up) CBA - NG Timer	Residential	Direct Install
DSM (Home Check Up) CBA - NG PW	Residential	Direct Install
DSM (Home Check Up) CBA - Weatherstripping (Natural Gas)	Residential	Direct Install

<b>Measure Name (as used in PUB/Daymark-8)</b>	<b>Sector</b>	<b>Program Bundle</b>
Home Check Up - Costs	Residential	Direct Install
Home Check Up   Lighting Y1 Gas IE	Residential	Direct Install
Home Check Up   Lighting Y2 Gas IE	Residential	Direct Install
Home Check Up   Lighting Y4+ Gas IE	Residential	Direct Install
Home Check Up   Lighting Y3 Gas IE	Residential	Direct Install
DSM (School Program) CBA - NG KA	Residential	Home EE Kits & Education
DSM (School Program) CBA - NG BA	Residential	Home EE Kits & Education
DSM (EVENT) CBA - NG KA	Residential	Home EE Kits & Education
DSM (School Program) CBA - NG SH	Residential	Home EE Kits & Education
DSM (EVENT) CBA - NG BA	Residential	Home EE Kits & Education
DSM (Home Check Up) CBA - NG Timer	Residential	Home EE Kits & Education
DSM (School Program) CBA - NG Timer	Residential	Home EE Kits & Education
DSM (EVENT) CBA - NG SH	Residential	Home EE Kits & Education
DSM (School Program) CBA - NG PW	Residential	Home EE Kits & Education
DSM (EVENT) CBA - NG PW	Residential	Home EE Kits & Education
DSM (School Program)p CBA - Weatherstripping (Natural Gas)	Residential	Home EE Kits & Education
DSM (Event) Admin Cost	Residential	Home EE Kits & Education
DSM (Event) Admin Cost	Residential	Home EE Kits & Education
LED Gas Interactive Effects (IE)	Residential	Home EE Kits & Education
HRV Controls Gas	Residential	Home Renovation
Home Insulation Gas 3-yr combo	Residential	Home Renovation
Air Sealing Gas	Residential	Home Renovation
Windows and Doors Doors Gas	Residential	Home Renovation
Appliances-Washer&Dryers Gas	Residential	Home Renovation
Audits & Bundling Bonus Gas	Residential	Home Renovation
Res Reno   Appliances Combo (Natural Gas IE)	Residential	Home Renovation
Residential Pool Pumps - Natural Gas Interactive Effects	Residential	Home Renovation
Instant - Other Tech_1.5 GPM Showerheads (Natural Gas)	Residential	Product Rebates
Instant - Other Tech_Weatherstripping (Natural Gas)	Residential	Product Rebates
Online - Appliance_Clothes Washers & Dryers (Natural Gas)	Residential	Product Rebates
Online - Appliance_Dishwashers (Natural Gas)	Residential	Product Rebates
Online Admin Cost Natural Gas	Residential	Product Rebates
Instant Admin Cost Gas	Residential	Product Rebates