

**RESIDENTIAL HEATING & COOLING**

2022 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Modified Total Resource Test (\$Total)
<b>Benefits</b>				
<b>Avoided Revenue Requirements</b>				
Generation Capacity	N/A	\$11,834,058	\$11,834,058	\$11,834,058
Trans. & Dist. Capacity	N/A	\$1,482,068	\$1,482,068	\$1,482,068
Marginal Energy	N/A	\$3,649,938	\$3,649,938	\$3,649,938
Avoided Emissions (CO2)	N/A	N/A	N/A	\$2,605,696
Subtotal				\$19,571,760
Non-Energy Benefits Adder (20.0%)				\$3,393,213
Subtotal	N/A	\$16,966,064	\$16,966,064	\$22,964,973
<b>Participant Benefits</b>				
Bill Reduction - Electric	\$20,170,017	N/A	N/A	N/A
Participant Rebates and Incentives	\$6,281,909	N/A	N/A	\$6,281,909
Incremental Capital Savings	\$12,048,784	N/A	N/A	\$8,434,149
Incremental O&M Savings	\$0	N/A	N/A	\$0
Subtotal	\$38,500,710	N/A	N/A	\$14,716,058
<b>Total Benefits</b>	<b>\$38,500,710</b>	<b>\$16,966,064</b>	<b>\$16,966,064</b>	<b>\$37,681,030</b>
<b>Costs</b>				
<b>Utility Project Costs</b>				
Program Planning & Design	N/A	\$0	\$0	\$0
Administration & Program Delivery	N/A	\$1,544,002	\$1,544,002	\$1,544,002
Advertising/Promotion/Customer Ed	N/A	\$1,244,610	\$1,244,610	\$1,244,610
Participant Rebates and Incentives	N/A	\$6,281,909	\$6,281,909	\$6,281,909
Equipment & Installation	N/A	\$0	\$0	\$0
Measurement and Verification	N/A	\$52,000	\$52,000	\$52,000
Subtotal	N/A	\$9,122,521	\$9,122,521	\$9,122,521
<b>Utility Revenue Reduction</b>				
Revenue Reduction - Electric	N/A	N/A	\$20,022,234	N/A
Subtotal	N/A	N/A	\$20,022,234	N/A
<b>Participant Costs</b>				
Incremental Capital Costs	\$10,251,740	N/A	N/A	\$8,984,091
Incremental O&M Costs	\$879,809	N/A	N/A	\$651,637
Subtotal	\$11,131,549	N/A	N/A	\$9,635,728
<b>Total Costs</b>	<b>\$11,131,549</b>	<b>\$9,122,521</b>	<b>\$29,144,754</b>	<b>\$18,758,248</b>
<b>Net Benefit (Cost)</b>	<b>\$27,369,160</b>	<b>\$7,843,543</b>	<b>(\$12,178,690)</b>	<b>\$18,922,782</b>
<b>Benefit/Cost Ratio</b>	<b>3.46</b>	<b>1.86</b>	<b>0.58</b>	<b>2.01</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

**2022**

**ELECTRIC**

**GOAL**

Input Summary and Totals

<b>Program "Inputs" per Customer kW and per Participant</b>		
Lifetime (Weighted on Generator kWh)	A	15.7 years
T & D Loss Factor (Energy)	B	6.38%
T & D Loss Factor (Demand)	C	9.13%
Net-to-Gross (Energy)	D	87.48%
Net-to-Gross (Demand)	E	77.97%
<b>Installation Rate (Energy)</b>	<b>F</b>	<b>100.00%</b>
<b>Installation Rate (Demand)</b>	<b>G</b>	<b>100.00%</b>
Net coincident kW Saved at Generator	H	0.39 kW
Gross Annual kWh Saved at Customer	I	506.33 kWh
Net Annual kWh Saved at Generator	J	473.14 kWh
<b>Program Summary All Participants</b>		
<b>Total Budget</b>	<b>K</b>	<b>\$9,122,521</b>
<b>Net coincident kW Saved at Generator</b>	<b>L</b>	<b>11,554 kW</b>
Gross Annual kWh Saved at Customer	M	14,989,494 kWh
<b>Net Annual kWh Saved at Generator</b>	<b>N</b>	<b>14,006,733 kWh</b>
<b>Total MTRC Net Benefits with Adder</b>	<b>O</b>	<b>\$18,922,782</b>
<b>Total MTRC Net Benefits without Adder</b>	<b>P</b>	<b>\$15,529,569</b>
<b>Utility Program Cost per kWh Lifetime</b>	<b>K/(A x N)</b>	<b>\$0.0415</b>
<b>Utility Program Cost per kW at Gen</b>	<b>K/ L</b>	<b>\$790</b>
<b>Avoided Lifetime CO2 Emissions, Total Program (tons CO2)</b>		<b>64,599</b>

**RESIDENTIAL HEATING & COOLING**

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	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Modified Total Resource Test (\$Total)
<b>Benefits</b>				
<b>Avoided Revenue Requirements</b>				
Commodity Cost Reduction	N/A	\$5,297,152	\$5,297,152	\$5,297,152
Variable O&M Savings	N/A	\$85,408	\$85,408	\$85,408
Demand Savings	N/A	\$598,231	\$598,231	\$598,231
Subtotal				\$5,980,792
Non-Energy Benefits Adder (20.0%)				\$1,196,158
Subtotal	N/A	\$5,980,792	\$5,980,792	\$7,176,950
<b>Participant Benefits</b>				
Bill Reduction - Gas	\$9,595,354	N/A	N/A	N/A
Participant Rebates and Incentives	\$1,894,343	N/A	N/A	\$1,894,343
Incremental Capital Savings	\$0	N/A	N/A	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0
Subtotal	\$11,489,696	N/A	N/A	\$1,894,343
<b>Total Benefits</b>	<b>\$11,489,696</b>	<b>\$5,980,792</b>	<b>\$5,980,792</b>	<b>\$9,071,293</b>
<b>Costs</b>				
<b>Utility Project Costs</b>				
Program Planning & Design	N/A	\$0	\$0	\$0
Administration & Program Delivery	N/A	\$706,741	\$706,741	\$706,741
Advertising/Promotion/Customer Ed	N/A	\$297,040	\$297,040	\$297,040
Participant Rebates and Incentives	N/A	\$1,894,343	\$1,894,343	\$1,894,343
Equipment & Installation	N/A	\$0	\$0	\$0
Measurement and Verification	N/A	\$20,000	\$20,000	\$20,000
Subtotal	N/A	\$2,918,124	\$2,918,124	\$2,918,124
<b>Utility Revenue Reduction</b>				
Revenue Reduction - Gas	N/A	N/A	\$9,441,871	N/A
Subtotal	N/A	N/A	\$9,441,871	N/A
<b>Participant Costs</b>				
Incremental Capital Costs	\$6,922,687	N/A	N/A	\$6,249,833
Incremental O&M Costs	\$0	N/A	N/A	\$0
Subtotal	\$6,922,687	N/A	N/A	\$6,249,833
<b>Total Costs</b>	<b>\$6,922,687</b>	<b>\$2,918,124</b>	<b>\$12,359,995</b>	<b>\$9,167,956</b>
<b>Net Benefit (Cost)</b>	<b>\$4,567,009</b>	<b>\$3,062,668</b>	<b>(\$6,379,203)</b>	<b>(\$96,664)</b>
<b>Benefit/Cost Ratio</b>	<b>1.66</b>	<b>2.05</b>	<b>0.48</b>	<b>0.99</b>

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

**2022**

**GAS**

**GOAL**

<b>Input Summary and Totals</b>		
<b>Program "Inputs" per Dth</b>		
Lifetime (Weighted on Dth)	A	15.3 years
Net-to-Gross (Weighted on Dth)	B	92.30%
Install Rate (Weighted on Dth)	C	100.00%
<b>Program Summary per Participant</b>		
Gross Annual Dth Saved	D	10.9
Net Annual Dth Saved	E	10.1
<b>Program Summary All Participants</b>		
<b>Total Budget</b>	F	<b>\$2,918,124</b>
Gross Annual Dth Saved	G	<b>187,507 Dth</b>
Net Annual Dth Saved	H	<b>173,070 Dth</b>
<b>Total MTRC Net Benefits with Adder</b>	I	<b>(\$96,664)</b>
<b>Total MTRC Net Benefits without Adder</b>	J	<b>(\$1,292,822)</b>
<b>Utility Program Cost per Dth Lifetime</b>	F / (A x H)	<b>\$1.1039</b>