

**MOTOR & DRIVE EFFICIENCY** **2019 ELECTRIC** **GOAL**

2019 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Modified TRC Test (\$Total)
<b>Benefits</b>				
<b>Avoided Revenue Requirements</b>				
Generation Capacity	N/A	\$2,606,138	\$2,606,138	\$2,606,138
Trans. & Dist. Capacity	N/A	\$326,376	\$326,376	\$326,376
Marginal Energy	N/A	\$4,375,318	\$4,375,318	\$4,375,318
Avoided Emissions (CO2)	N/A	N/A	N/A	\$0
Subtotal				\$7,307,832
Non-Energy Benefits Adder (20%)				\$1,461,566
Subtotal	N/A	\$7,307,832	\$7,307,832	\$8,769,398
<b>Other Benefits</b>				
Bill Reduction - Electric	\$18,738,422	N/A	N/A	N/A
Participant Rebates and Incentives	\$2,082,423	N/A	N/A	\$2,082,423
Incremental Capital Savings	\$0	N/A	N/A	\$0
Incremental O&M Savings	\$129,655	N/A	N/A	\$84,275
Subtotal	\$20,950,499	N/A	N/A	\$2,166,698
<b>Total Benefits</b>	<b>\$20,950,499</b>	<b>\$7,307,832</b>	<b>\$7,307,832</b>	<b>\$10,936,096</b>
<b>Utility Project Costs</b>				
Program Planning & Design	N/A	\$0	\$0	\$0
Administration & Program Delivery	N/A	\$539,581	\$539,581	\$539,581
Advertising/Promotion/Customer Ed	N/A	\$36,450	\$36,450	\$36,450
Participant Rebates and Incentives	N/A	\$2,082,423	\$2,082,423	\$2,082,423
Equipment & Installation	N/A	\$0	\$0	\$0
Measurement and Verification	N/A	\$21,600	\$21,600	\$21,600
Subtotal	N/A	\$2,680,054	\$2,680,054	\$2,680,054
<b>Utility Revenue Reduction</b>				
Revenue Reduction - Electric	N/A	N/A	\$12,788,397	N/A
Subtotal	N/A	N/A	\$12,788,397	N/A
<b>Participant Costs</b>				
Incremental Capital Costs	\$6,710,220	N/A	N/A	\$4,425,350
Incremental O&M Costs	\$0	N/A	N/A	\$0
Subtotal	\$6,710,220	N/A	N/A	\$4,425,350
<b>Total Costs</b>	<b>\$6,710,220</b>	<b>\$2,680,054</b>	<b>\$15,468,451</b>	<b>\$7,105,404</b>
<b>Net Benefit (Cost)</b>	<b>\$14,240,279</b>	<b>\$4,627,778</b>	<b>(\$8,160,619)</b>	<b>\$3,830,692</b>
<b>Benefit/Cost Ratio</b>	<b>3.12</b>	<b>2.73</b>	<b>0.47</b>	<b>1.54</b>

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

**Input Summary and Totals**

<b>Program Inputs per Customer kW</b>		
Lifetime (Weighted on Generator kWh)	A	18 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	76.81%
Gross Load Factor at Customer	E	51.05%
Net-to-Gross (Energy)	F	68.0%
Net-to-Gross (Demand)	G	68.1%
Transmission Loss Factor (Energy)	H	5.332%
Transmission Loss Factor (Demand)	I	7.711%
<b>Installation Rate (Energy)</b>	<b>J</b>	<b>100.0%</b>
<b>Installation Rate (Demand)</b>	<b>K</b>	<b>100.0%</b>
MTRC Net Benefit (Cost)	<b>L</b>	\$865
MTRC Non-Energy Benefit Adder	<b>M</b>	\$330
Gross Annual kWh Saved at Customer	( B x E x C )	4,472 kWh
Net Annual kWh Saved at Customer	( F x ( B x E x C x J ) )	3,040 kWh
Net Annual kWh Saved at Generator	( F x ( B x E x C x J ) ) / ( 1 - H )	3,211 kWh

**Program Summary All Participants**

<b>Total Budget</b>	N	<b>\$2,680,054</b>
<b>Net coincident kW Saved at Generator</b>	( G x O x K ) x D / ( 1 - I )	<b>2,510 kW</b>
Net Annual kWh Saved at Customer	( F x ( B x E x O x J ) )	13,455,510 kWh
<b>Net Annual kWh Saved at Generator</b>	( F x ( B x E x O x J ) ) / ( 1 - H )	<b>14,213,395 kWh</b>
<b>TRC Net Benefits with Adder</b>	( O x L )	<b>\$3,830,692</b>
<b>TRC Net Benefits without Adder</b>	( O x ( L - M ) )	<b>\$2,369,126</b>
<b>Utility Program Cost per kWh Lifetime</b>		
		<b>\$0.0107</b>
<b>Utility Program Cost per kW at Gen</b>		
		<b>\$1,068</b>

<b>MOTOR &amp; DRIVE EFFICIENCY</b>	<b>2020</b>	<b>ELECTRIC</b>	<b>GOAL</b>
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2020 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test (\$Total)	Utility Test (\$Total)	Rate Impact Test (\$Total)	Modified TRC Test (\$Total)
<b>Benefits</b>				
<b>Avoided Revenue Requirements</b>				
Generation Capacity	N/A	\$2,964,313	\$2,964,313	\$2,964,313
Trans. & Dist. Capacity	N/A	\$378,273	\$378,273	\$378,273
Marginal Energy	N/A	\$5,291,184	\$5,291,184	\$5,291,184
Avoided Emissions (CO2)	N/A	N/A	N/A	\$0
Subtotal				\$8,633,769
Non-Energy Benefits Adder (20%)				\$1,726,754
Subtotal	N/A	\$8,633,769	\$8,633,769	\$10,360,523
<b>Other Benefits</b>				
Bill Reduction - Electric	\$20,913,391	N/A	N/A	N/A
Participant Rebates and Incentives	\$2,140,769	N/A	N/A	\$2,140,769
Incremental Capital Savings	\$0	N/A	N/A	\$0
Incremental O&M Savings	\$129,655	N/A	N/A	\$84,275
Subtotal	\$23,183,814	N/A	N/A	\$2,225,044
<b>Total Benefits</b>	<b>\$23,183,814</b>	<b>\$8,633,769</b>	<b>\$8,633,769</b>	<b>\$12,585,567</b>
<b>Utility Project Costs</b>				
Program Planning & Design	N/A	\$0	\$0	\$0
Administration & Program Delivery	N/A	\$539,581	\$539,581	\$539,581
Advertising/Promotion/Customer Ed	N/A	\$36,450	\$36,450	\$36,450
Participant Rebates and Incentives	N/A	\$2,140,769	\$2,140,769	\$2,140,769
Equipment & Installation	N/A	\$0	\$0	\$0
Measurement and Verification	N/A	\$21,600	\$21,600	\$21,600
Subtotal	N/A	\$2,738,400	\$2,738,400	\$2,738,400
<b>Utility Revenue Reduction</b>				
Revenue Reduction - Electric	N/A	N/A	\$14,812,448	N/A
Subtotal	N/A	N/A	\$14,812,448	N/A
<b>Participant Costs</b>				
Incremental Capital Costs	\$6,811,736	N/A	N/A	\$4,526,866
Incremental O&M Costs	\$0	N/A	N/A	\$0
Subtotal	\$6,811,736	N/A	N/A	\$4,526,866
<b>Total Costs</b>	<b>\$6,811,736</b>	<b>\$2,738,400</b>	<b>\$17,550,848</b>	<b>\$7,265,266</b>
<b>Net Benefit (Cost)</b>	<b>\$16,372,078</b>	<b>\$5,895,369</b>	<b>(\$8,917,079)</b>	<b>\$5,320,302</b>
<b>Benefit/Cost Ratio</b>	<b>3.40</b>	<b>3.15</b>	<b>0.49</b>	<b>1.73</b>

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

<b>Input Summary and Totals</b>		
<b>Program Inputs per Customer kW</b>		
Lifetime (Weighted on Generator kWh)	A	18 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	76.90%
Gross Load Factor at Customer	E	50.87%
Net-to-Gross (Energy)	F	70.4%
Net-to-Gross (Demand)	G	70.7%
Transmission Loss Factor (Energy)	H	5.332%
Transmission Loss Factor (Demand)	I	7.711%
<b>Installation Rate (Energy)</b>	<b>J</b>	<b>100.0%</b>
<b>Installation Rate (Demand)</b>	<b>K</b>	<b>100.0%</b>
MTRC Net Benefit (Cost)	<b>L</b>	\$1,108
MTRC Non-Energy Benefit Adder	<b>M</b>	\$360
Gross Annual kWh Saved at Customer	( B x E x C )	4,456 kWh
Net Annual kWh Saved at Customer	( F x ( B x E x C x J ) )	3,137 kWh
Net Annual kWh Saved at Generator	( F x ( B x E x C x J ) ) / ( 1 - H )	3,314 kWh
<b>Program Summary All Participant</b>		
<b>Total Budget</b>	<b>N</b>	<b>\$2,738,400</b>
<b>Net coincident kW Saved at Generator</b>	( G x O x K ) x D / ( 1 - I )	<b>2,827 kW</b>
Net Annual kWh Saved at Customer	( F x ( B x E x O x J ) )	15,062,757 kWh
<b>Net Annual kWh Saved at Generator</b>	( F x ( B x E x O x J ) ) / ( 1 - H )	<b>15,911,170 kWh</b>
<b>TRC Net Benefits with Adder</b>	( O x L )	<b>\$5,320,302</b>
<b>TRC Net Benefits without Adder</b>	( O x ( L - M ) )	<b>\$3,593,548</b>
<b>Utility Program Cost per kWh Lifetime</b>		
<b>Utility Program Cost per kWh at Gen</b>		<b>\$0.0096</b>
		<b>\$969</b>