

GSHP					2015	ELECTRIC	GOAL
2015 Net Present Cost Benefit Summary Analysis For All Participants					Input Summary and Totals		
	Participant	Utility	Rate	Modified	Program Inputs per Customer kW		
	Test	Test	Impact	TRC	Lifetime (Weighted on Generator kWh)	A	20 years
			Test	Test	Annual Hours	B	8760
	(\$Total)	(\$Total)	(\$Total)	(\$Total)	Gross Customer kW	C	1 kW
Benefits							
Avoided Revenue Requirements							
Generation Capacity	N/A	\$1,658	\$1,658	\$1,658	Generator Peak Coincidence Factor	D	44.24%
Distribution Capacity	N/A	\$0	\$0	\$0	Gross Load Factor at Customer	E	13.26%
Marginal Energy	N/A	\$1,740	\$1,740	\$1,740	Net-to-Gross (Energy)	F	100.0%
Avoided Emissions (CO2)	N/A	N/A	N/A	\$0	Net-to-Gross (Demand)	G	100.0%
Subtotal				\$3,398	Transmission Loss Factor (Energy)	H	6.510%
Non-Energy Benefits Adder (10%)				\$340	Transmission Loss Factor (Demand)	I	6.510%
Subtotal	N/A	\$3,398	\$3,398	\$3,738	Installation Rate (Energy)	J	100.0%
					Installation Rate (Demand)	K	100.0%
					MTRC Net Benefit (Cost)	L	-\$1,289
					MTRC Non-Energy Benefit Adder	M	\$129
					Net coincident kW Saved at Generator	(G x C x K) x D / (1 - I)	
					Gross Annual kWh Saved at Customer	(B x E x C)	
					Net Annual kWh Saved at Customer	(F x (B x E x C x J))	
					Net Annual kWh Saved at Generator	(F x (B x E x C x J)) / (1 - H)	
Program Summary per Participant							
					Gross kW Saved at Customer	P	0.66 kW
					Net coincident kW Saved at Generator	(G x P x K) x D / (1 - I)	
					Gross Annual kWh Saved at Customer	(B x E x P)	
					Net Annual kWh Saved at Customer	(F x (B x E x P x J))	
					Net Annual kWh Saved at Generator	(F x (B x E x P x J)) / (1 - H)	
Program Summary All Participants							
					Total Participants	Q	4
					Total Budget	R	\$2,024
					Gross kW Saved at Customer	(Q x P)	
					Net coincident kW Saved at Generator	((G x P x K) x D / (1 - I)) x Q	
					Gross Annual kWh Saved at Customer	(B x E x P) x Q	
					Gross Installed Annual kWh Saved at Custome	(B x E x P x J) x Q	
					Net Annual kWh Saved at Customer	(F x (B x E x P x J)) x Q	
					Net Annual kWh Saved at Generator	((F x (B x E x P x J)) / (1 - H)) x Q	
					TRC Net Benefits with Adder	(Q x P x L)	
					TRC Net Benefits without Adder	(Q x P x (L - M))	
					Utility Program Cost per kWh Lifetime	\$0.0309	
					Utility Program Cost per kW at Gen	\$1,624	
Total Costs							
Net Benefit (Cost)	(\$3,255)	\$1,373	(\$480)	(\$3,394)			
Benefit/Cost Ratio	0.54	1.68	0.88	0.63			

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

GSHP					2016		ELECTRIC		GOAL		
2016 Net Present Cost Benefit Summary Analysis For All Participants					Input Summary and Totals						
					Program Inputs per Customer kW						
					Lifetime (Weighted on Generator kWh)	A	20 years				
					Annual Hours	B	8760				
					Gross Customer kW	C	1 kW				
					Generator Peak Coincidence Factor	D	44.24%				
					Gross Load Factor at Customer	E	13.26%				
					Net-to-Gross (Energy)	F	100.0%				
					Net-to-Gross (Demand)	G	100.0%				
					Transmission Loss Factor (Energy)	H	6.510%				
					Transmission Loss Factor (Demand)	I	6.510%				
					Installation Rate (Energy)	J	100.0%				
					Installation Rate (Demand)	K	100.0%				
					MTRC Net Benefit (Cost)	L	-\$1,239				
					MTRC Non-Energy Benefit Adder	M	\$134				
					Net coincident kW Saved at Generator	$(G \times C \times K) \times D / (1 - I)$		0.4732 kW			
					Gross Annual kWh Saved at Customer	$(B \times E \times C)$		1,162 kWh			
					Net Annual kWh Saved at Customer	$(F \times (B \times E \times C \times J))$		1,162 kWh			
					Net Annual kWh Saved at Generator	$(F \times (B \times E \times C \times J)) / (1 - H)$		1,243 kWh			
					Program Summary per Participant						
					Gross kW Saved at Customer	P	0.66 kW				
					Net coincident kW Saved at Generator	$(G \times P \times K) \times D / (1 - I)$		0.31 kW			
					Gross Annual kWh Saved at Customer	$(B \times E \times P)$		765 kWh			
					Net Annual kWh Saved at Customer	$(F \times (B \times E \times P \times J))$		765 kWh			
					Net Annual kWh Saved at Generator	$(F \times (B \times E \times P \times J)) / (1 - H)$		818 kWh			
					Program Summary All Participants						
					Total Participants	Q	4				
					Total Budget	R	\$2,024				
					Gross kW Saved at Customer	$(Q \times P)$		3 kW			
					Net coincident kW Saved at Generator	$((G \times P \times K) \times D / (1 - I)) \times Q$		1 kW			
					Gross Annual kWh Saved at Customer	$(B \times E \times P) \times Q$		3,059 kWh			
					Gross Installed Annual kWh Saved at Customer	$(B \times E \times P \times J) \times Q$		3,059 kWh			
					Net Annual kWh Saved at Customer	$(F \times (B \times E \times P \times J)) \times Q$		3,059 kWh			
					Net Annual kWh Saved at Generator	$((F \times (B \times E \times P \times J)) / (1 - H)) \times Q$		3,272 kWh			
					TRC Net Benefits with Adder	$(Q \times P \times L)$		(\$3,263)			
					TRC Net Benefits without Adder	$(Q \times P \times (L - M))$		(\$3,615)			
					Utility Program Cost per kWh Lifetime						
					Utility Program Cost per kW at Gen		\$0.0309				
							\$1,624				
					2016 Net Present Cost Benefit Summary Analysis For All Participants						
					Participant	Utility	Rate	Modified			
					Test	Test	Impact	TRC			
					(\$Total)	(\$Total)	(\$Total)	Test			
					(\$Total)	(\$Total)	(\$Total)	(\$Total)			
Benefits											
Avoided Revenue Requirements											
Generation Capacity	N/A	\$1,696	\$1,696	\$1,696							
Transmission & Distribution	N/A	\$0	\$0	\$0							
Marginal Energy	N/A	\$1,821	\$1,821	\$1,821							
Avoided Emissions (CO2)	N/A	N/A	N/A	\$0							
Subtotal				\$3,517							
Non-Energy Benefits Adder (10%)				\$352							
Subtotal	N/A	\$3,517	\$3,517	\$3,869							
Other Benefits											
Bill Reduction - Electric	\$1,904	N/A	N/A	N/A							
Incentives	\$2,024	N/A	N/A	\$2,024							
Incremental Capital Savings	\$0	N/A	N/A	\$0							
Incremental O&M Savings	\$0	N/A	N/A	\$0							
Subtotal	\$3,928	N/A	N/A	\$2,024							
Total Benefits	\$3,928	\$3,517	\$3,517	\$5,894							
Costs											
Utility Project Costs											
Program Planning & Design	N/A	\$0	\$0	\$0							
Administration & Program Deliv	N/A	\$0	\$0	\$0							
Advertising/Promotion/Custom	N/A	\$0	\$0	\$0							
Participant Rebates and Incentiv	N/A	\$2,024	\$2,024	\$2,024							
Equipment & Installation	N/A	\$0	\$0	\$0							
Measurement and Verification	N/A	\$0	\$0	\$0							
Subtotal	N/A	\$2,024	\$2,024	\$2,024							
Utility Revenue Reduction											
Revenue Reduction - Electric	N/A	N/A	\$1,904	N/A							
Subtotal	N/A	N/A	\$1,904	N/A							
Participant Costs											
Incremental Capital Costs	\$7,132	N/A	N/A	\$7,132							
Incremental O&M Costs	\$0	N/A	N/A	\$0							
Subtotal	\$7,132	N/A	N/A	\$7,132							
Total Costs	\$7,132	\$2,024	\$3,928	\$9,156							
Net Benefit (Cost)	(\$3,204)	\$1,493	(\$411)	(\$3,263)							
Benefit/Cost Ratio	0.55	1.74	0.90	0.64							

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