

➤ **Summary of 60-Day Notice: Heat Pumps**

The following 60-Day Notice summarizes Public Service Company of Colorado's (the "Company") action to update the deemed savings, technical assumptions, and customer eligibility for air source heat pumps and heat pump water heaters. These changes impact the Residential Heating & Cooling, Whole Home Efficiency, and Income Qualified Single-family Weatherization products, as well as the Geotargeting Pilot.

The Company is including with this Notice:

- Redlined product write-up;
- Redlined Deemed Savings worksheets;
- Redlined Technical Assumptions worksheets; and
- Updated cost-benefit analyses.

A copy of this notice is available on our website at:

https://www.xcelenergy.com/company/rates_and_regulations/filings/colorado_demand-side_management

The Company is reducing the minimum qualifying efficiency levels for heat pumps, based upon feedback from stakeholders and additional Company research. The Company is also adding a measure for replacing a natural gas water heater with a heat pump water heater without demand management capabilities.

Heat Pump EER and HSPF Requirements

The Company is decreasing the minimum EER requirement for a central air source heat pump from 12.5 to 11.5. The Company is decreasing the minimum HSPF for a cold climate central air source heat pump or cold climate mini-split heat pump from 10.5 to 9.5. The Company has been working with stakeholders to determine appropriate efficiency levels which will result in customer savings and have sufficient equipment available on the market at an affordable price.

The Company is also clarifying that the HSPF minimum for a non-cold climate central air source heat pump is 9. This requirement is already included in the technical assumptions, but previously was not listed in the Residential Heating & Cooling write-up.

Heat Pump Water Heaters

In the Company's filed technical assumptions, the Company provides a heat pump water heater measure. Versions of this measure are available with or without demand management capabilities. Heat pump water heaters with demand management capabilities receive a higher rebate. For customers replacing a natural gas water heater, however, the Company inadvertently only included the version with demand management capabilities. This excludes many customers with natural gas water heaters from this beneficial electrification offering. The Company is correcting this error, so that both offerings (heat pump water heaters with and without demand management capabilities) are available to customers replacing a natural gas water heater.

Certification Requirements

The Company is also removing the North American Technician Excellence (“NATE”) certification requirements for registered contractors in the Residential Heating & Cooling product and the NATE and Building Performance Institute (“BPI”) certification requirements for registered contractors in the Whole Home Efficiency product. The Company will use other methods, including its own training classes, to qualify contractors for participation. This is intended to remove barriers to contractor participation.

Table 1: Summary of Forecasted Impacts: Residential Heating & Cooling

	2022	
	<i>As Filed</i>	<i>Revised per 60-day</i>
Electric Savings (kWh)	14,050,068	14,006,733
Electric Demand Reduction (kW)	11,614	11,554
Budget*	\$6,294,442	\$6,281,909
MTRC Test Ratio	2.03	2.01
Gas Savings (Dth)	172,736	173,070
Budget*	\$1,870,670	\$1,894,343
MTRC Test Ratio	0.99	0.99

*Rebates only. While the anticipated expenditure impacts are forecasted, the Company acknowledges that this Notice does not change the filed budget.

Table 2: Summary of Forecasted Impacts: Whole Home Efficiency

	2022	
	<i>As Filed</i>	<i>Revised per 60-day</i>
Electric Savings (kWh)	698,861	698,113
Electric Demand Reduction (kW)	210	210
Budget*	\$122,532	\$122,469
MTRC Test Ratio	1.03	1.03
Gas Savings (Dth)	9,522	9,522
Budget*	\$94,340	\$94,403
MTRC Test Ratio	0.68	0.68

*Rebates only. While the anticipated expenditure impacts are forecasted, the Company acknowledges that this Notice does not change the filed budget.

Table 3: Summary of Forecasted Impacts: IQ Single-family Weatherization

	2022	
	<i>As Filed</i>	<i>Revised per 60-day</i>
Electric Savings (kWh)	23,440,850	23,436,406
Electric Demand Reduction (kW)	3,235	3,233
Budget*	\$2,206,375	\$2,206,587
MTRC Test Ratio	5.44	5.44
Gas Savings (Dth)	60,514	60,514
Budget*	\$4,596,248	\$4,239,512
MTRC Test Ratio	0.90	0.90

*Rebates only. While the anticipated expenditure impacts are forecasted, the Company acknowledges that this Notice does not change the filed budget.

Table 4: Summary of Forecasted Impacts: Geotargeting Pilot

	2022	
	<i>As Filed</i>	<i>Revised per 60-day</i>
Electric Savings (kWh)	0	0
Electric Demand Reduction (kW)	0	0
Budget*	\$11,000	11,000
MTRC Test Ratio	1.63	1.61

*Rebates only. While the anticipated expenditure impacts are forecasted, the Company acknowledges that this Notice does not change the filed budget.

Residential Heating & Cooling

A. Description

The Residential Heating & Cooling product provides incentives to the Company's customers who purchase a variety of qualifying heating and cooling equipment for residential use, including air conditioners, evaporative coolers, heat pumps, natural gas furnaces, natural gas boilers, natural gas water heaters, electric heat pump water heaters, smart thermostats, and the Western Cooling Control device.

The Residential Heating & Cooling product combines offerings from several existing products – Evaporative Cooling, High Efficiency Air Conditioning, Residential Heating, Thermostat Optimization, and Water Heating. This new, holistic approach to residential customers' heating and cooling needs is designed to improve the experience for customers and trade partners, in order to improve participation, energy savings, and customer satisfaction.

The Company is looking into ways to provide a more comprehensive experience for our residential customers that simplifies the process of installing capital intensive energy efficient equipment. This may include an end-to-end solution where the customer chooses from any, or all, of the following as applicable:

- Advice and analysis of the available equipment options
- Financing
- Enrollment in Demand Management products
- Assistance with choosing qualified contractors
- Enrollment in green programs and/or warranty services.

As part of our strategy to increase participation in demand response products, this product will be offering AC Rewards. Further details are provided in the technical assumptions.

More details regarding the specific types of equipment rebated in this product are provided below:

- **Standard AC or ASHP systems with Quality Installation (“QI”)** - 13 to 14.99 Seasonal Energy Efficiency Ratio (“SEER”) – Defined as new central Air Conditioning (“AC”) or Air Source Heat Pump (“ASHP”) systems with “matched” indoor and outdoor components, in new or existing homes. Approximately 75 – 80% of new AC systems purchased are in this efficiency range.

According to energy.gov, approximately 27% of the rated efficiency of a new system can be achieved through Quality QI. QI is a process, based on standards developed by the Air Conditioning Contractors of America (“ACCA”) which contractors must follow to ensure that the total energy savings potential of newly installed equipment is realized. QI includes sealing all visible ducts, providing at least 400 cubic feet per minute (“CFM”) of air flow per cooling ton, applying ACCA's Manual J (load calculation) and Manual S (equipment sizing) standards to determine the right size and type of equipment for each customer's unique home, and charging the new system with refrigerant to within 3 degrees of the manufacturer's recommended sub-cool target temperature. Only participating trade

partners who have a technician with Company approve certifications and/or licenses can offer this rebate.

- **High Efficiency AC or ASHP systems with Quality Installation** – Defined as new central Air Conditioning and Air Source Heat Pump systems with “matched” indoor and outdoor components, and with thermostatic expansion valves, in new or existing homes, that meet certain energy efficiency standards as outlined in Section G below, are eligible for a rebate. The intent of the rebate is to encourage consumers to purchase units that meet or exceed the **ENERGY STAR®** high efficiency standard of at least a.) 15 SEER and 12.5 Energy Efficiency Ratio (“EER”) for air conditioners or b.) 15 SEER, 11.5 EER and 9 HSPF for heat pumps. Trade partners who have met the AC or ASHP participation requirements can offer this rebate. To be eligible for a cold climate heat pump rebate, units must have an 18 SEER, 10.59.5 HSPF, and the heating BTU at 5 degrees Fahrenheit must be at least 70% of the heating BTU at 47 degrees Fahrenheit.
- **Evaporative Coolers** - Qualifying equipment must be new, permanently installed evaporative cooling units. Portable coolers or systems with vapor compression backup are not eligible, neither is used or reconditioned equipment.
- **Mini-Split Heat Pumps (“MSHP”)** – The mini-split heat pump equipment serves residential customers who either cannot install traditional split, central air conditioning systems, or have hard-to-heat/cool areas of their homes, or who simply prefer this technology. To be eligible to participate, residential electric customers must purchase and install a unit that has a rated efficiency of 15 SEER, 11 EER, and 9 Heating Seasonal Performance Factor (“HSPF”). Variable-speed systems which meet these requirements are eligible for a rebate. The unit must be used for cooling and heating purposes. There is not a QI component, and certification is not a requirement. Any trade partner can offer this rebate. To be eligible for a cold climate heat pump rebate, units must have an 18 SEER, 10.59.5 HSPF, and the heating BTU at 5 degrees Fahrenheit must be at least 70% of the heating BTU at 47 degrees Fahrenheit.
- **Ground Source Heat Pump with Quality Installation (“GSHP”)** – The Ground Source Heat Pump equipment measure serves a small market niche of consumers who seek out the most highly efficient technology. To be eligible to participate, residential electric customers must purchase and install a unit that is ENERGY STAR® certified. The ENERGY STAR® certified GSHP performance criteria are a minimum of 3.3 Coefficient of Performance (“COP”) and 14.1 EER. Equipment must be AHRI performance-certified at standard rating conditions. Rebates will be given for GSHPs that are installed as closed loop systems and are used for both heating and cooling. Trade partners who are registered participating contractors for the AC rebates may offer this rebate.

- **Natural Gas Furnaces** – Furnace rebates are offered for a minimum furnace efficiency of 95% Annual Fuel Utilization Efficiency (“AFUE”). Equipment must be AHRI performance-certified at standard rating conditions.
- **Natural Gas Boilers** – Boiler rebates are offered for a minimum boiler efficiency of 95% Annual Fuel Utilization Efficiency (“AFUE”). Equipment must be AHRI performance-certified at standard rating conditions. Higher rebates are available for boilers with a sidearm water heater.
- **Water Heaters** - The product is applicable only for the purchase of qualifying new natural gas standard storage tank water heaters, natural gas tankless water heaters or electric heat pump water heaters installed in new or replacement applications. Qualification for an incentive is a minimum efficiency of 0.64 Uniform Energy Factor (“UEF”) for medium draw standard tanks, 0.68 UEF high draw standard tanks, 0.87 UEF tankless natural gas water heaters. ENERGY STAR® electric heat pump water heaters also qualify for an incentive. In recognition of future demand response opportunities, heat pump water heaters that are CEA/ANSI enabled will receive a higher incentive. For natural gas water heaters, customers may choose their own independent residential water heating contractor or installer or install the unit themselves. Electric heat pump water heaters must be installed by a registered contractor.
- **Smart Thermostat** - The concept of realizing energy savings by programming a thermostat is straight-forward: scheduling temperature setting changes (setbacks) during times when home occupants are away or asleep ensures no energy is wasted when no one is home or awake. Thermostats meeting the ENERGY STAR® Connected Thermostat specification have demonstrated the ability to achieve energy savings through HVAC equipment runtime reductions, specifically an 8% or higher reduction in heating equipment runtime and a 10% or higher reduction for cooling equipment runtime.

These runtime reductions are achieved by smart thermostats through a variety of methods, starting with the ease of scheduling. These devices make it easier to program efficient setback schedules compared to their non-communicating predecessors.

In addition to ongoing product innovations by thermostat manufacturers, software firms have begun to provide additional optimization functionality that promises to proactively manage customer thermostats for deeper energy efficiency and demand management functionality without negatively impacting customer comfort.

- **Western Cooling Control** – The Western Cooling Control (“WCC”) device effectively increases the capacity of a central AC or ASHP unit by capturing cooling energy left in the refrigerant within, as well as the water condensed on, the cooling coil after a cooling cycle has completed. Many newer cooling units have built-in features that provide similar benefits to the WCC device; therefore, this measure is available only to customers with

units installed in 2009 or prior. There is not a QI component to this measure; NATE certification is not a requirement. Any trade partner can offer this rebate.

B. Targets, Participants & Budgets

Targets and Participants

Participation and energy savings levels for this product are based on 2018-2019 participation, as well as increased marketing efforts to the most cost-effective equipment within the product and working through trade partners and stakeholders to engage customer participation.

Budgets

The budget forecast is based upon forecasted participation, and the majority of the budget is for direct customer incentives. For some equipment, contractors and/or retailers are also paid an incentive, to further encourage their support of these products. The budget also includes costs for verifying a percentage of the new equipment installations in the field to ensure they meet expected energy savings, including (where applicable) ACCA standards for quality installation; for advertising and marketing; and for other administrative expenses including labor and contractor training.

C. Application Process

The typical sales cycle begins with a customer hiring a contractor, learning about energy efficient models, and purchasing and installing the unit. Following installation, the customer or trade partner submits a completed Company rebate application and equipment invoice. Invoices must reflect the same information provided on the application form, specifically the model number, serial number, installation address, and purchase date. Other information gathered on the application form includes the customer's account number, mailing address if different from installation address, customer signature, trade partner signature and information related to the equipment such as efficiency ratings, heating and cooling capacity, and size.

The Company is pursuing a more comprehensive rebate application form to minimize paperwork for the customer and trade partners while still collecting all of the information needed to thoroughly review and process the applications as quickly as possible. The Company's online application tool will remain available and will comply with these requirements. The Company may also offer "instant rebates" for certain types of equipment through various retail and wholesale distribution partners, including (but not limited to) an online, Company-branded marketplace.

All information requested on the rebate applications must be provided for the rebate process to be completed. Information needed on the invoice is specified on the back of each rebate application form; this information must be provided in order for the rebate process to be completed.

Equipment eligibility is determined by using the AHRI Directory of Certified Product Performance, the list of ENERGY STAR® Qualified Products on the ENERGY STAR® website, or on the list of qualified model numbers maintained by the Company and available on the

Company's web site, as specified on the rebate application for the particular type of equipment. Rebates are typically mailed within eight weeks.

The Company reviews each rebate application and verifies that all the required data has been provided and that all product requirements have been met. When corrections are needed to rebate applications, the Company sends a request to the contractor. Applications may be resubmitted. Customers applying for instant rebates enter information that is verified through a third-party vendor partner's software, which validates the customer's premise, type of service, and eligibility before the instant rebate coupon is generated.

D. Marketing Objectives & Strategies

The Residential Heating & Cooling product seeks to increase awareness and the demand for a variety of heating and cooling products within the Company's service area, help customers and participating contractors offset costs associated with high efficiency equipment and quality installation practices, reduce customers' energy costs, meet customers' environmental goals (such as reducing carbon emissions), and increase their comfort. To support these goals, the Company plans to implement the following marketing strategies to increase product awareness:

- Use of the HVAC contractor community as the primary marketing channel. The Company's Channel Manager is responsible for conducting trade partner training, meetings, telephone calls, emails, and sending newsletters to keep the trade informed and engaged in the product. In addition, a qualified contractor list is available on the Company's website and participating contractors are expected to assist in promoting the product. The Company provides brochures for contractors to distribute to customers as well.
- Company marketing and advertising strategies will be used to create customer awareness. This may include, but is not limited to, e-mail, bill inserts, direct mail, bundled marketing campaigns, community newsletters, webinars, promotional booths at public events, radio and/or television advertising, sponsorships.
- The Company's website also includes information regarding the product and is updated as needed to more effectively reach customers. This includes information on product details, quality installation practices, and where to find qualified contractors. The site also

hosts webpages designed specifically for contractors to obtain information about the product.

- When appropriate for a particular type of equipment, the Company will provide Point of Purchase displays at big box stores and appliance retailers.

E. Product-Specific Policies

Contractors who do not comply with the product requirements and guidelines are not allowed to participate in the product. Requirements may include taking and passing Company-provided training classes, for the purpose of increasing the energy savings and/or increasing customer satisfaction with the rebate process.

These rebates are available to residential Xcel Energy account holders, with electric or natural gas service (depending on the type of equipment) provided by Xcel Energy. All equipment must be new and permanently installed. Used or reconditioned equipment is not eligible for a rebate.

For the following types of equipment, customers must have residential electric service with Xcel Energy: AC, ASHP, Electric Heat Pump Water Heaters replacing electric resistance water heater, Evaporative Coolers, MSHP, GSHP, and WCC.

For the following types of equipment, customers must have residential natural gas service with Xcel Energy: Natural Gas Furnaces, Natural Gas Boilers, Natural Gas Water Heaters.

For participants who are replacing natural gas water heating equipment with a heat pump water heater, the customer must have residential electric and natural gas service with Xcel Energy.

To be eligible for the Smart Thermostat offering, participants must be a residential customer of the Company. For customers with electric service, participants must have central air conditioning; for gas-only customers, participants must have central gas heating. Customers with electric and gas service must have central air conditioning and/or central gas heating.

Additional qualifications for particular types of equipment are as follows:

To be eligible for Standard AC or ASHP equipment with QI or High-efficiency AC/ASHP equipment with QI rebates:

- The customer must use a registered contractor ~~with a NATE-certified technician~~ for the installation of the new system and who annually pass required online classes. These contractors have agreed to the terms of the product and meet the requirements related to quality installation practices. A list of registered contractors can be found on the Xcel Energy website.
- ~~The technician's NATE certification can be used by one contractor company only, for the purpose of qualifying the company to offer these rebates. If the technician's NATE~~

~~certification is in ASHP, the technician's company meets the AC NATE certification requirement automatically.~~

- The “matched system” must be listed in AHRI’s Residential Directory. This directory is used to identify product classification, determine efficiency ratings, and confirm matched systems.
- In order to verify that the equipment has been properly installed, the equipment must be installed and tested as specified in the Xcel Energy QI guidelines based on ACCA standards. The equipment installation and testing for QI must be completed before the rebate application is submitted for processing by the Company.
- The use of a furnace’s variable speed fan to increase the SEER rating above the nominal rating is allowed for determining rebate eligibility, provided that the overall furnace and air conditioning combination rating can be found in the AHRI’s Residential Directory (www.ahridirectory.org). The furnace does not have to be new, in order to use it for an increased efficiency rating. The homeowner or contractor must supply the furnace model number and serial number on the application and invoice.

To be eligible for a Mini-Split Heat Pump rebate, the unit must be used for cooling and heating purposes; therefore, mini-split air conditioners (cooling only units) do not qualify. The AHRI certificate must be in the residential category of “Variable-speed Mini-Split and Multi-Split Heat Pumps.” Multiple head mini-split systems qualify.

To be eligible for the WCC device rebate, the existing furnace must have been installed in 2009 or prior.

To be eligible for an evaporative cooler rebate, qualifying equipment must be a permanently installed direct, indirect, or two-stage evaporative cooling unit. Customers can replace an existing evaporative cooler or central AC system, or purchase a first-time installed evaporative cooling unit, to qualify for a rebate.

There are three equipment tiers available for evaporative coolers:

- Standard Evaporative Coolers: Qualifying evaporative cooling units with airflow output of 2,500 CFM or greater.
- Premium Evaporative Coolers: Qualifying evaporative cooling units with media saturation effectiveness of 85% or greater. The units must be manufactured with remote thermostat

control and periodic purge water control (e.g. purge pump) or have these two items purchased and included on an invoice.

- **Multi-Ducted Evaporative Coolers:** In addition to 85% saturation effectiveness, remote thermostat control and periodic purge water control, qualifying evaporative cooling units must be indirect/directly cooling the whole house with a minimum of three supply ducts installed, and at least one of the supply ducts must be newly installed along with the new cooler.

To be eligible for a natural gas storage water heater rebate, the storage tank must be no larger than 55 gallons.

To be eligible for a 95% AFUE natural gas furnace rebate, an AHRI certificate must be available.

To be eligible for a 95% AFUE natural gas boiler rebate, an AHRI certificate must be available.

To be eligible for a heat pump water heater rebate, the customer must use a registered contractor for the installation of the new system. These contractors have agreed to the terms of the product.

A list of registered contractors can be found on the Xcel Energy website. To be eligible for the higher rebate for a “grid-enabled” water heater, the customer must purchase and install a water heater eligible to participate in the Company’s demand management products for water heaters.

The Company maintains a list of eligible model numbers, which is available on the Company’s web site.

To be eligible for a smart thermostat rebate, the customer must install a thermostat which meets the ENERGY STAR® Connected Thermostat standard and which is eligible to participate in the Company’s demand management products for smart thermostats, AC Rewards. The Company maintains a list of eligible model numbers, which is available on the Company’s web site.

F. Stakeholder Involvement

The Company considers its stakeholders for the Residential Heating and Cooling product to be contractors, distributors, manufacturers, retailers, SWEEP, EEBC, CEO, local municipalities within the service area, and other environmental organizations. Stakeholders are able to share their product suggestions during the Company’s quarterly DSM Roundtable Meetings. In

addition, the Company is a member of the CEE, and monitors its initiatives related to residential heating and cooling equipment.

G. Rebates & Incentives

Rebates are payable to residential account holders with electric or natural gas service (depending on the type of equipment), or to an alternate rebate recipient of their choosing. All types of equipment must meet all requirements to receive the rebate. For rebates which are based upon multiple measures of efficiency, the rebate is paid according to the lesser value of the technical requirements of the various measures, including SEER, EER, HSPF, and COP. The rebate amount shall not exceed the purchase price.

For certain types of equipment, the Company will also pay incentives associated with customer rebates to participating, registered contractors or retailers in good standing.

Homeowners may receive the equipment rebate directly or may provide written permission for the rebate to be paid directly to the contractor or to another designated alternate rebate recipient. Builders, as the original purchaser of equipment, are eligible to receive an equipment rebate; however, the rebate will only be issued once so builders should coordinate with the homeowners as to who will receive the rebate. Contractor incentives are paid to the contractor company at the same time that the associated rebate is paid to the account holder or alternate rebate recipient. Retailer incentives are paid on a quarterly basis.

Customers, contractors, or retailers who receive an incentive through another DSM product (e.g., Whole Home Efficiency or ENERGY STAR® New Homes) for the same equipment are not eligible to receive a rebate through this product. By accepting a rebate, the customer agrees to reasonably accommodate M&V consultants.

18.0 Residential HVAC Deemed Tables

Table 18.0.1: Effective Full Load Hours, Altitude	EFLH Cooling		EFLH Heat		EFLH_Heating_HP (Heat Pump Impacted heating hours) ****		Altitude Adjustment Factor	HSPF Climate Zone Adjustment Factor
	Single Family	Multi-Family	Single Family	Multi-Family	Single Family	Multi-Family		
Zone 1 - CO Front Range *	590	699	1,825	1,409	1,409	1,088	0.177	100%
Zone 2 - CO Western Slope **	837	992	1,971	1,522	1,495	1,154	0.163	100%
Zone 3 - CO Mountain Areas ***	210	249	2,104	1,625	920	710	0.244	85%
Zone 4 - CO Very High Altitude Areas ****	0	0	2,739	2,115	1,360	1,050	0.303	85%

* Zone 1 (Front Range as represented by Denver International Airport TMY3 data);
 ** Zone 2 (Western Slope as represented by Grand Junction TMY3 Data)
 *** Zone 3 (Mountain Areas as represented by Alamosa TMY3 Data)
 **** the heat pump impacted hours are determined at a cutoff temperature of 25 F.
 **** Zone 4 (Very High Altitude Areas as represented by Lake CO Airport TMY3 Data)

Table 18.0.1a: Effective Full Load Hours Cold Climate Heat Pumps	EFLH_ccHP_Heat (Cold Climate Heat Pump Impacted heating hours) *****	
	Single Family	Multi-Family
Zone 1 - CO Front Range	1,809	1,397
Zone 2 - CO Western Slope	1,971	1,522
Zone 3 - CO Mountain Areas	1,748	1,349
Zone 4 - CO Very High Altitude Areas	2,521	1,946

***** the cold climate heat pump impacted hours are determined at a cutoff temperature of 5 F.

Table 18.0.2: Minimum Qualifying Efficiency

Measure	Code Minimum						
	SEER	EER	HSPF	Heating COP	Minimum Qualifying SEER	Minimum Qualifying EER	Minimum qualifying HSPF / Full Load COP
High Efficiency Air Conditioner - Split System	13.00	11.18	N/A	N/A	15.00	12.50	N/A
High Efficiency Air Conditioner - Packaged System	14.00	11.76	N/A	N/A	15.00	12.50	N/A
Air Source Heat Pump - Split System	14.00	11.76	8.20	N/A	15.00	11.50 12.50	9.00
Air Source Heat Pump - Packaged System	14.00	11.76	8.00	N/A	15.00	11.50 12.50	9.00
Mini-Split & Multi-Split Heat Pumps	14.00	11.76	8.20	N/A	16.00	11.00	9.00
Cold Climate Air Source Heat Pumps	14.00	11.76	8.20 10.50	N/A	18.00	11.50 12.50	9.50 10.50
Cold Climate Mini-Split & Multi-Split Heat Pumps	14.00	11.76	8.20	N/A	18.00	11.00	9.50 10.50
Ground Source Heat Pump **	14.10	14.10	N/A	3.20	N/A	16.00	3.30

** Ground Loop Brine to Air with entering temperatures of 77 F cooling mode and 32 F heating mode

Table 18.0.3: Coincidence Factors, Baseline Efficiencies and Lifetimes

Equipment Type	Deemed Equipment Coincidence Factor	Deemed QI Coincidence Factor	SEER Baseline	EER Baseline	HSPF Baseline	Baseline Heating COP (Gas Fired)	Lifetime	Notes
High Efficiency Air Conditioner - Split System *	90%	100%	13.00	11.18	N/A	N/A	18	(Reference 17)
Air Source Heat Pump - Split System	90%	100%	13.00 14.00	11.18 11.76	8.20	0.80	18	(Reference 17)
Mini-Split & Multi-Split Heat Pumps	90%	N/A	14.00	Varies	8.20	0.80	15	
Cold Climate Air Source Heat Pump - Split System	90%	100%	13.00 14.00	11.18 11.76	8.20	0.80	18	(Reference 17)
Cold Climate Mini-Split & Multi-Split Heat Pumps	90%	N/A	14.00	Varies	8.20	0.80	15	
Ground Source Heat Pump **	90%	100%	13.00	11.18	N/A	0.80	20	

** Baseline for GSHP is Code minimum AC and Gas Fired Furnace.

Table 18.0.4: QI Factors (Reference 4, Reference 6, Reference 7, Reference 14)

Home Type - equipment type	Sizing Loss	Refrigeration Charge	Improper Airflow	Duct Leakage	Loss NO Field QI	Loss_Uncorr
New Home - AC/ASHP	0%	7.0%	2.0%	0.0%	9.00%	0.0%
Existing Home - AC/ASHP	2.0%	7.0%	2.0%	8.3%	17.30%	3.7%
New Home - GSHP	0%	0.0%	2.0%	0.0%	2.00%	0.0%
Existing Home - GSHP	2.0%	0.0%	2.0%	8.3%	10.30%	3.7%
New Home MSHP	0.0%	0.0%	0.0%	0.0%	0.00%	0.0%
Existing Home MSHP	0.0%	0.0%	0.0%	0.0%	0.00%	0.0%

Table 18.0.5: Conversion Factors and Constants

Conversion Factor from BTUH to kW	3,412	BTU/kW-hr
Btu to Dth	1,000,000	BTU/Dth
Therm to Dth	10	Therm/Dth
Btu to Therm	100,000	Btu/Therm
Convert from Btu/wh to kW/ton	12	Btu/wh per kW/ton
Conversion between Watts and kilowatts	1,000	watts/kilowatt
Conversion between BTU/h and tons	12,000	BTU/h / ton
Water Lb/gallon	8.34	lb/gal
Water h_fg	1,059	BTU/lb (Evaporative energy / lb water)

Table 18.0.6: Cooling & Heating Weather Data for Load Estimates	Maximum Outside Air Temperature (F)	Minimum Outside Air Temperature (F)	Balance Point OSA Temperature (F)	Balance Point Load (BTUH)
Zone 1 - CO Front Range	104	-3	60	0
Zone 2 - CO Western Slope	99	7	60	0
Zone 3 - CO Mountain Areas	87	-26	60	0
Zone 4 - CO Mountain Areas	81	-17	60	0

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)
Benefits				
Avoided Revenue Requirements				
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
Participant Benefits				
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
Total Benefits	\$38,500,710	\$16,966,064	\$16,966,064	\$37,681,030
Costs				
Utility Project Costs				
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
Utility Revenue Reduction				
Revenue Reduction - Electric	N/A	N/A	\$20,022,234	N/A
Subtotal	N/A	N/A	\$20,022,234	N/A
Participant Costs				
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
Total Costs	\$11,131,549	\$9,122,521	\$29,144,754	\$18,758,248
Net Benefit (Cost)	\$27,369,160	\$7,843,543	(\$12,178,690)	\$18,922,782
Benefit/Cost Ratio	3.46	1.86	0.58	2.01

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

2022

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant		
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%
Installation Rate (Energy)	F	100.00%
Installation Rate (Demand)	G	100.00%
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
Program Summary All Participants		
Total Budget	K	\$9,122,521
Net coincident kW Saved at Generator	L	11,554 kW
Gross Annual kWh Saved at Customer	M	14,989,494 kWh
Net Annual kWh Saved at Generator	N	14,006,733 kWh
Total MTRC Net Benefits with Adder	O	\$18,922,782
Total MTRC Net Benefits without Adder	P	\$15,529,569
Utility Program Cost per kWh Lifetime	K/(A x N)	\$0.0415
Utility Program Cost per kW at Gen	K/ L	\$790
Avoided Lifetime CO2 Emissions, Total Program (tons CO2)		64,599

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)
Benefits				
Avoided Revenue Requirements				
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
Participant Benefits				
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
Total Benefits	\$11,489,696	\$5,980,792	\$5,980,792	\$9,071,293
Costs				
Utility Project Costs				
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
Utility Revenue Reduction				
Revenue Reduction - Gas	N/A	N/A	\$9,441,871	N/A
Subtotal	N/A	N/A	\$9,441,871	N/A
Participant Costs				
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
Total Costs	\$6,922,687	\$2,918,124	\$12,359,995	\$9,167,956
Net Benefit (Cost)	\$4,567,009	\$3,062,668	(\$6,379,203)	(\$96,664)
Benefit/Cost Ratio	1.66	2.05	0.48	0.99

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

2022

GAS

GOAL

Input Summary and Totals		
Program "Inputs" per Dth		
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%
Program Summary per Participant		
Gross Annual Dth Saved	D	10.9
Net Annual Dth Saved	E	10.1
Program Summary All Participants		
Total Budget	F	\$2,918,124
Gross Annual Dth Saved	G	187,507 Dth
Net Annual Dth Saved	H	173,070 Dth
Total MTRC Net Benefits with Adder	I	(\$96,664)
Total MTRC Net Benefits without Adder	J	(\$1,292,822)
Utility Program Cost per Dth Lifetime	F / (A x H)	\$1.1039

➤ Whole Home Efficiency

A. Description

The Whole Home Efficiency product is targeted toward existing single-family homes in need of multiple energy efficiency improvements. By providing these customers with rebate incentives, the Company is able to incorporate a bundled, whole home approach to energy efficiency. Whole Home Efficiency is available to residential Xcel Energy account holders with combination electric and natural gas, electric only, or gas only service. Eligibility is dependent on the type of equipment installed.

The concept of the product is to provide the customer with one-stop for all of their home efficiency needs. This comprehensive approach requires an energy audit as a prerequisite which is then used to generate a list of recommendations. The customer may choose to complete this prerequisite through the Home Energy Audit product or a Home Energy Squad Plus visit. The contractor, who may also be the auditor, reviews the recommended improvements and completes the work. Some projects may receive an independent verification of the improvements after completion if a Quality Control (“QC”) inspection is performed. The contractor and homeowner may also request advice on recommended upgrades and rebates from the Energy Advising service offered through the Home Energy Audit product. Since this product requires an audit and deeper engagement from the customer, AMI interval data would greatly enhance the conversation and allow auditors to give customers an even better analysis of the energy usage within their home.

~~Trade partner companies interested in performing certain types of equipment installations must have one technician in each certification area that they are participating in:~~

- ~~● Building Performance Institute (“BPI”)~~
 - ~~○ Building Analyst~~
 - ~~○ Envelope Professional~~
 - ~~○ Residential Whole House Air Leakage Control Installer~~
 - ~~○ Air Leakage Control Installer~~
 - ~~○ Quality Control Inspector~~
 - ~~○ Crew Leader~~
 - ~~○ Energy Auditor~~
- ~~● North American Technician Excellence (“NATE”)~~
 - ~~○ NATE certification in Air Conditioning or Air-to-air heat pump. Service or installation certification accepted.~~

Trade partner companies interested in performing certain types of qualifying equipment and services must meet the trade partner participation requirements for the Residential Heating and Cooling program and the Insulation and Air Sealing program. ~~A technician’s certification may not be used by another trade partner company to meet the product requirements.~~ Additionally, trade contractors must complete the appropriate contractor trainings depending on the services they offer.

These trainings provide contractors with information on the product components, process, and diagnostic testing required as part of the efficient measure installations. All participating contractors must become a participating trade partner within Whole Home Efficiency before providing installations for participants in the product. A random sample of 10% of the contractor's jobs will be inspected and verified. Once contractors have completed all necessary trainings and signed the agreement, they will be included on the approved contractor list, which is included in the customer packet and on the Company's website.¹

B. Targets, Participants & Budgets

Targets and Participants

The product targets were developed based on the 2018 and 2019 product results and the Company's forecasted assumptions for increased participation as a result of the product redesign.

Budgets

The budget for this product is based on the 2018 and 2019 expenditures and includes costs for third-party implementation, software, measurement and verification inspections, trade incentive rebates, and minimal product promotion.

C. Application Process

Customers interested in participating in Whole Home Efficiency must first complete a Home Energy Audit with blower door test or a Home Energy Squad Plus visit. The customer will be provided information on the Whole Home Efficiency product, tying the specific product requirements into the audit recommendations. The customer may then sign up for Whole Home Efficiency through their auditor at the time of the audit or any time thereafter using the online signup form. The customer will have two years from the Whole Home Efficiency enrollment date to complete the equipment installs and submit applications for rebates.

The Whole Home Efficiency product information, approved contractor list, and signup form are on the Company's website. Customers can only receive applications through their registered and approved contractor. Customers may also contact the Residential Customer Care center to request product information or guidance on how to obtain rebates.

D. Marketing Objectives & Strategies

The Company will provide product information through the website and implement low-cost marketing tactics when available. The Company will also provide Whole Home Efficiency information to the Customer Education team to promote at several "green" community events throughout the year. Trade partners may also be incentivized to identify participants that may not be aware of the "whole house option" through Whole Home Efficiency.

¹www.xcelenergy.com/cotrades

Other products such as the Company's Home Energy Audit product and Home Energy Squad Plus offering will offer information on Whole Home Efficiency. The Company will monitor product participation on a monthly basis and implement additional marketing tactics if necessary, to achieve the year-end target.

In addition, the Company will attempt to utilize the trade partners who have been trained and contracted to deliver this product to customers. This is viewed as the most important marketing channel for building awareness and participation in the product. As a result, the Company is offering incentives to participating installation contractors designed to increase the number of projects performed. These incentives provide contractors with additional motivation to promote the Whole Home Efficiency product.

E. Product-Specific Policies

The Whole Home Efficiency product leverages the Company's Home Energy Audit and Home Energy Squad Plus offerings, requiring an advanced in-home blower door audit as a prerequisite to product participation. Customers are eligible for a Home Energy Audit every two years. The Company will provide the customer a list of contractors participating in the product; however, the Company does not guarantee the contractor's expertise or warrant any of the products or services, nor is one contractor promoted over another. The Company shall have no liability for contractor work or negligence. After the customer completes the audit and meets the product eligibility requirements, the customer may sign up to participate in Whole Home Efficiency.

Customers will receive the standard prescriptive rebate for all installed measures. If a customer installs three or more qualifying measures, the customer will receive an additional bonus rebate of 10% of the prescriptive rebate amount for each measure completed within the two-year time period. The bonus rebate is a one-time offer for each measure completed.² The Company will not rebate pre-existing efficient equipment. Self-installations or installations done by non-registered contractors do not qualify for rebates.

The Company is looking into ways to provide a more comprehensive experience for our residential customers that simplifies the process of installing capital intensive energy efficient equipment. This may include an end-to-end solution where the customer chooses from any, or all, of the following as applicable:

- Advice and analysis of the available equipment options
- Financing
- Enrollment in Demand Management products
- Assistance with choosing qualified contractors
- Enrollment in green programs and/or warranty services.

F. Stakeholder Involvement

²Qualifying equipment is subject to change and customer must participate under current product rules designated by the current year in which the install the additional measures.

The Company periodically meets with the Cities of Boulder, Fort Collins, Greeley, and Colorado Springs, the Center for Resource Conservation, the Platte River Valley Authority, the Colorado Energy Office, the EPA, the DOE, Electric & Gas Industries Association, and the EEBC for product feedback. The Company plans to continue meeting with these organizations, and other stakeholders, for feedback to improve the product.

G. Rebates & Incentives

Whole Home Efficiency product rebates are prescriptive and based on the specific measures installed. The rebate amounts and eligibility requirements will be communicated through the Whole Home Efficiency collateral including the rebate application.

Program	Measure Group	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost (\$)	Annual Customer kWh Savings (kWh/yr)	Annual Customer Peak Coincident Demand Savings (PCKW)	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Electric NTG (%)	Gas NTG (%)	Install Rate (%)	2021 Electric Units	2022 Electric Units	2021 Gas Units	2022 Gas Units
Whole Home Efficiency	ENERGY STAR Clothes Dryer	12	\$30	\$75	83	0.009	0.0	\$0.00	116%	116%	100%	55	85	15	25
Whole Home Efficiency	Attic Insulation - Electric Heating and Cooling	20	\$341	\$1,523	1,204	0.129	0.0	\$0.00	116%	116%	100%	10	12	0	0
Whole Home Efficiency	Attic Insulation - Electric Heating Only	20	\$364	\$1,749	2,756	0.000	0.0	\$0.00	116%	116%	100%	10	12	0	0
Whole Home Efficiency	Attic Insulation - Gas Heating / Electric Cooling	20	\$321	\$1,898	129	0.219	12.0	\$0.00	116%	116%	100%	65	82	60	75
Whole Home Efficiency	Attic Insulation - Gas Heating Only	20	\$373	\$1,656	0	0.000	15.3	\$0.00	116%	116%	100%	0	0	15	19
Whole Home Efficiency	Wall Insulation - Electric Heating and Cooling	20	\$350	\$1,800	7,246	0.554	0.0	\$0.00	116%	116%	100%	2	6	0	0
Whole Home Efficiency	Wall Insulation - Electric Heating Only	20	\$350	\$1,494	6,884	0.000	0.0	\$0.00	116%	116%	100%	2	6	0	0
Whole Home Efficiency	Wall Insulation - Gas Heating / Electric Cooling	20	\$106	\$1,977	307	0.520	28.4	\$0.00	116%	116%	100%	43	54	45	60
Whole Home Efficiency	Wall Insulation - Gas Heating Only	20	\$324	\$2,235	0	0.000	33.1	\$0.00	116%	116%	100%	0	0	6	8
Whole Home Efficiency	Air Sealing - Electric Heating and Cooling	10	\$182	\$932	1,994	0.139	0.0	\$0.00	116%	116%	100%	19	24	0	0
Whole Home Efficiency	Air Sealing - Electric Heating Only	10	\$181	\$952	2,698	0.000	0.0	\$0.00	116%	116%	100%	31	39	0	0
Whole Home Efficiency	Air Sealing - Gas Heating / Electric Cooling	10	\$143	\$921	115	0.195	15.5	\$0.00	116%	116%	100%	55	69	55	69
Whole Home Efficiency	Air Sealing - Gas Heating Only	10	\$181	\$977	0	0.000	14.9	\$0.00	116%	116%	100%	0	0	23	29
Whole Home Efficiency	High Efficiency Furnace	18	\$300	\$1,138	0	0.000	21.3	\$0.00	116%	116%	100%	0	0	25	40
Whole Home Efficiency	Standard Efficiency AC with QI	18	\$200	\$184	196	0.113	0.0	\$0.00	116%	116%	100%	20	25	0	0
Whole Home Efficiency	High Efficiency AC with QI	18	\$500	\$953	477	0.529	0.0	\$0.00	116%	116%	100%	25	35	0	0
Whole Home Efficiency	Standard Efficiency AC with QI and associated furnace	18	\$200	\$237	248	0.201	5.5	\$0.00	100%	100%	100%	5	10	5	10
Whole Home Efficiency	High Efficiency AC without QI and associated furnace	18	\$300	\$369	199	0.208	0.0	\$0.00	100%	100%	100%	3	3	0	0
Whole Home Efficiency	Quality Install of High Efficiency AC with associated furnace	18	\$200	\$235	153	0.143	4.5	\$0.00	100%	100%	100%	5	10	5	10
Whole Home Efficiency	High Efficiency Dual Fuel ASHP with QI and associated furnace	18	\$800	\$938	395	0.373	56.1	\$0.00	100%	100%	100%	4	4	4	4
Whole Home Efficiency	High Efficiency ASHP and Electric Resistance Heat Backup with QI	18	\$800	\$593	9,985	0.373	0.0	\$0.00	100%	100%	100%	1	1	0	0
Whole Home Efficiency	High Efficiency Mini-Split Heat Pump	18	\$500	\$6,655	6,612	0.697	0.0	\$0.00	100%	100%	100%	1	1	0	0
Whole Home Efficiency	High Efficiency Dual Fuel Mini-Split Heat Pump	18	\$500	\$6,855	242	0.881	46.9	\$0.00	100%	100%	100%	4	4	4	4
Whole Home Efficiency	High Efficiency GSHP with QI	20	\$945	\$10,107	11,734	1.472	0.0	\$0.00	116%	116%	100%	1	1	0	0
Whole Home Efficiency	High Efficiency GSHP with QI - AC & Gas Baseline	20	\$1,259	\$4,853	686	1.472	60.1	\$0.00	116%	116%	100%	1	1	1	1
Whole Home Efficiency	Premium evaporative cooler	15	\$675	-\$755	1,156	1.495	0.0	-\$18.13	116%	116%	100%	9	16	0	0
Whole Home Efficiency	Energy Star Smart Thermostat	10	\$50	\$215	142	0.215	5.4	\$0.00	100%	100%	100%	80	105	60	80
Whole Home Efficiency	Smart Thermostat Optimization	1	\$0	\$0	45	0.054	0.0	\$0.00	100%	100%	100%	9	12	9	12
Whole Home Efficiency	Heat Pump Water Heater	12	\$705	\$1,059	2,687	0.354	0.0	-\$8.33	116%	116%	100%	28	44	0	0
Whole Home Efficiency	Tankless Water Heater	20	\$100	\$960	0	0.000	7.4	\$0.00	100%	100%	100%	0	0	140	175
Whole Home Efficiency	Heat Pump Water Heater - Gas WH Baseline	12	\$800	\$982	27	0.000	16.0	\$0.00	100%	100%	100%	0	0	2	6
Whole Home Efficiency	ENERGY STAR Clothes Washer	11	\$30	\$121	78	0.011	2.8	\$12.57	116%	116%	100%	55	85	65	100
Whole Home Efficiency	High Efficiency Dual Fuel ccASHP with QI and associated furnace	18	\$1,000	\$3,521	515	0.373	67.6	\$0.00	116%	116%	100%	1	1	1	1
Whole Home Efficiency	High Efficiency ccASHP with QI with Electric Resistance Backup	18	\$1,000	\$3,521	12,630	0.373	0.0	\$0.00	116%	116%	100%	1	1	0	0
Whole Home Efficiency	High Efficiency Dual Fuel Cold Climate Mini-Split Heat Pump	15	\$600	\$8,563	157	0.572	39.3	\$0.00	116%	116%	100%	1	1	1	1
Whole Home Efficiency	High Efficiency Cold Climate Mini-Split Heat Pump with Electric Resistance Backup	15	\$600	\$8,563	7,163	0.572	0.0	\$0.00	116%	116%	100%	1	1	0	0

WHOLE HOME EFFICIENCY

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)
Benefits				
Avoided Revenue Requirements				
Generation Capacity	N/A	\$225,415	\$225,415	\$225,415
Trans. & Dist. Capacity	N/A	\$28,230	\$28,230	\$28,230
Marginal Energy	N/A	\$165,199	\$165,199	\$165,199
Avoided Emissions (CO2)	N/A	N/A	N/A	\$123,708
Subtotal				\$542,552
Non-Energy Benefits Adder (20.0%)				\$83,769
Subtotal	N/A	\$418,844	\$418,844	\$626,321
Participant Benefits				
Bill Reduction - Electric	\$894,010	N/A	N/A	N/A
Participant Rebates and Incentives	\$122,469	N/A	N/A	\$122,469
Incremental Capital Savings	\$12,077	N/A	N/A	\$14,009
Incremental O&M Savings	\$4,201	N/A	N/A	\$4,873
Subtotal	\$1,032,756	N/A	N/A	\$141,350
Total Benefits	\$1,032,756	\$418,844	\$418,844	\$767,671
Costs				
Utility Project Costs				
Program Planning & Design	N/A	\$0	\$0	\$0
Administration & Program Delivery	N/A	\$109,926	\$109,926	\$109,926
Advertising/Promotion/Customer Ed	N/A	\$0	\$0	\$0
Participant Rebates and Incentives	N/A	\$122,469	\$122,469	\$122,469
Equipment & Installation	N/A	\$0	\$0	\$0
Measurement and Verification	N/A	\$30,000	\$30,000	\$30,000
Subtotal	N/A	\$262,395	\$262,395	\$262,395
Utility Revenue Reduction				
Revenue Reduction - Electric	N/A	N/A	\$876,871	N/A
Subtotal	N/A	N/A	\$876,871	N/A
Participant Costs				
Incremental Capital Costs	\$453,128	N/A	N/A	\$478,228
Incremental O&M Costs	\$6,761	N/A	N/A	\$7,843
Subtotal	\$459,889	N/A	N/A	\$486,070
Total Costs	\$459,889	\$262,395	\$1,139,265	\$748,465
Net Benefit (Cost)	\$572,867	\$156,450	(\$720,421)	\$19,206
Benefit/Cost Ratio	2.25	1.60	0.37	1.03

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

2022

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant		
Lifetime (Weighted on Generator kWh)	A	14.5 years
T & D Loss Factor (Energy)	B	6.38%
T & D Loss Factor (Demand)	C	9.13%
Net-to-Gross (Energy)	D	114.84%
Net-to-Gross (Demand)	E	112.84%
Installation Rate (Energy)	F	100.00%
Installation Rate (Demand)	G	100.00%
Net coincident kW Saved at Generator	H	0.28 kW
Gross Annual kWh Saved at Customer	I	758.81 kWh
Net Annual kWh Saved at Generator	J	930.82 kWh
Program Summary All Participants		
Total Budget	K	\$262,395
Net coincident kW Saved at Generator	L	210 kW
Gross Annual kWh Saved at Customer	M	569,110 kWh
Net Annual kWh Saved at Generator	N	698,113 kWh
Total MTRC Net Benefits with Adder	O	\$19,206
Total MTRC Net Benefits without Adder	P	(\$64,562)
Utility Program Cost per kWh Lifetime	K/(A x N)	\$0.0258
Utility Program Cost per kW at Gen	K/ L	\$1,251
Avoided Lifetime CO2 Emissions, Total Program (tons CO2)		3,041

WHOLE HOME EFFICIENCY

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)
Benefits				
Avoided Revenue Requirements				
Commodity Cost Reduction	N/A	\$318,886	\$318,886	\$318,886
Variable O&M Savings	N/A	\$4,993	\$4,993	\$4,993
Demand Savings	N/A	\$34,972	\$34,972	\$34,972
Subtotal				\$358,850
Non-Energy Benefits Adder (20.0%)				\$71,770
Subtotal	N/A	\$358,850	\$358,850	\$430,620
Participant Benefits				
Bill Reduction - Gas	\$603,966	N/A	N/A	N/A
Participant Rebates and Incentives	\$94,403	N/A	N/A	\$94,403
Incremental Capital Savings	\$0	N/A	N/A	\$0
Incremental O&M Savings	\$8,669	N/A	N/A	\$10,056
Subtotal	\$707,039	N/A	N/A	\$104,460
Total Benefits	\$707,039	\$358,850	\$358,850	\$535,080
Costs				
Utility Project Costs				
Program Planning & Design	N/A	\$0	\$0	\$0
Administration & Program Delivery	N/A	\$72,360	\$72,360	\$72,360
Advertising/Promotion/ Customer Ed	N/A	\$0	\$0	\$0
Participant Rebates and Incentives	N/A	\$94,403	\$94,403	\$94,403
Equipment & Installation	N/A	\$0	\$0	\$0
Measurement and Verification	N/A	\$30,000	\$30,000	\$30,000
Subtotal	N/A	\$196,763	\$196,763	\$196,763
Utility Revenue Reduction				
Revenue Reduction - Gas	N/A	N/A	\$568,396	N/A
Subtotal	N/A	N/A	\$568,396	N/A
Participant Costs				
Incremental Capital Costs	\$561,387	N/A	N/A	\$588,758
Incremental O&M Costs	\$0	N/A	N/A	\$0
Subtotal	\$561,387	N/A	N/A	\$588,758
Total Costs	\$561,387	\$196,763	\$765,159	\$785,522
Net Benefit (Cost)	\$145,652	\$162,087	(\$406,309)	(\$250,442)
Benefit/Cost Ratio	1.26	1.82	0.47	0.68

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

2022

GAS

GOAL

Input Summary and Totals		
Program "Inputs" per Dth		
Lifetime (Weighted on Dth)	A	16.7 years
Net-to-Gross (Weighted on Dth)	B	111.23%
Install Rate (Weighted on Dth)	C	100.00%
Program Summary per Participant		
Gross Annual Dth Saved	D	11.7
Net Annual Dth Saved	E	13.1
Program Summary All Participants		
Total Budget	F	\$196,763
Gross Annual Dth Saved	G	8,561 Dth
Net Annual Dth Saved	H	9,522 Dth
Total MTRC Net Benefits with Adder	I	(\$250,442)
Total MTRC Net Benefits without Adder	J	(\$322,212)
Utility Program Cost per Dth Lifetime	F / (A x H)	\$1.2373

Program	Measure Group	Measure Lifetime (years)	Rebate Amount (\$)	Incremental Cost (\$)	Annual Customer Savings (kWh/yr)	Annual Customer Peak Coincident Demand Savings (PCKW)	Gas Savings (Dth)	Non-Energy O&M Savings (\$)	Electric NTG (%)	Gas NTG (%)	Install Rate (%)	2021 Electric Units	2022 Electric Units	2021 Gas Units	2022 Gas Units
Income Qualified SF Weatherization	Refrigerator Replacement	14	\$630	\$630	421	0.031	0.0	\$0.00	100%	100%	100%	1,203	1,203	0	0
Income Qualified SF Weatherization	Attic Insulation - Electric Heating Only	20	\$1,459	\$1,459	4,217	0.000	0.0	\$0.00	100%	100%	100%	15	15	0	0
Income Qualified SF Weatherization	Attic Insulation - Gas Heating Only	20	\$1,459	\$1,459	0	0.000	10.4	\$0.00	100%	100%	100%	0	0	853	853
Income Qualified SF Weatherization	Wall Insulation - Electric Heating Only	20	\$1,211	\$1,211	7,304	0.000	0.0	\$0.00	100%	100%	100%	2	2	0	0
Income Qualified SF Weatherization	Wall Insulation - Gas Heating Only	20	\$1,211	\$1,211	0	0.000	23.7	\$0.00	100%	100%	100%	0	0	211	211
Income Qualified SF Weatherization	Crawl Space Wall Insulation - Electric Heating Only	20	\$1,444	\$1,444	4,910	0.000	0.0	\$0.00	100%	100%	100%	5	5	0	0
Income Qualified SF Weatherization	Crawl Space Wall Insulation - Gas Heating Only	20	\$1,444	\$1,444	0	0.000	16.2	\$0.00	100%	100%	100%	0	0	432	432
Income Qualified SF Weatherization	Air Sealing - Electric Heating Only	10	\$667	\$667	1,209	0.000	0.0	\$0.00	100%	100%	100%	35	35	0	0
Income Qualified SF Weatherization	Air Sealing - Gas Heating Only	10	\$667	\$667	0	0.000	5.2	\$0.00	100%	100%	100%	0	0	1,012	1,012
Income Qualified SF Weatherization	Storm Windows - Electric Heating Only	20	\$1,003	\$1,003	4,590	0.000	0.0	\$0.00	100%	100%	100%	3	3	0	0
Income Qualified SF Weatherization	Storm Windows - Gas Heating Only	20	\$1,003	\$1,003	0	0.000	19.7	\$0.00	100%	100%	100%	0	0	182	182
Income Qualified SF Weatherization	Home Lighting DI	20	\$2	\$2	43	0.006	0.0	\$0.00	100%	100%	99%	487,558	487,558	0	0
Income Qualified SF Weatherization	High Efficiency Mini-Split Heat Pump	15	\$7,611	\$6,773	8,612	0.897	0.0	\$0.00	100%	100%	100%	5	9	0	0
Income Qualified SF Weatherization	High Efficiency Dual Fuel Mini-Split Heat Pump	15	\$9,500	\$6,716	242	0.481	46.9	\$0.00	100%	100%	100%	0	4	0	4
Income Qualified SF Weatherization	High Efficiency Furnace Tier 1	18	\$1,000	\$1,138	0	0.000	18.2	\$0.00	100%	100%	100%	0	0	401	401
Income Qualified SF Weatherization	High Efficiency Furnace Tier 2	18	\$3,760	\$1,138	0	0.000	18.2	\$0.00	100%	100%	100%	0	0	96	96
Income Qualified SF Weatherization	High Efficiency Boiler Tier 1	20	\$1,000	\$1,446	0	0.000	15.0	\$0.00	100%	100%	100%	0	0	1	1
Income Qualified SF Weatherization	High Efficiency Boiler Tier 2	20	\$4,000	\$1,446	0	0.000	15.0	\$0.00	100%	100%	100%	0	0	1	1
Income Qualified SF Weatherization	IQ-SFW Boiler/Furnace Tune-up	2	\$317	\$250	0	0.000	8.6	\$0.00	100%	100%	100%	0	0	60	60
Income Qualified SF Weatherization	Energy Star Smart Thermostat	10	\$150	\$100	0	0.000	3.1	\$0.00	100%	100%	100%	0	0	214	214
Income Qualified SF Weatherization	T-Stat Install & Programming	10	\$100	\$29	0	0.000	11.8	\$0.00	100%	100%	100%	0	0	1,115	1,115
Income Qualified SF Weatherization	High Efficiency Dual Fuel ASHP with Qi and associated furnace	18	\$9,167	\$563	334	0.373	66.6	\$0.00	100%	100%	100%	0	3	0	3
Income Qualified SF Weatherization	High Efficiency ASHP and Electric Resistance Heat Backup with Qi	18	\$6,500	\$363	9,985	0.373	0.0	\$0.00	100%	100%	100%	5	1	0	0
Income Qualified SF Weatherization	Standard evaporative cooler	15	\$1,200	-\$2,899	602	1.389	0.0	-\$11.42	100%	100%	100%	140	140	0	0
Income Qualified SF Weatherization	Single-Family Audit	1	\$150	\$150	0	0.000	0.0	\$0.00	100%	100%	100%	400	400	400	400
Income Qualified SF Weatherization	Aerators - EWH	10	\$5	\$1	60	0.008	0.0	\$3.85	100%	100%	100%	39	39	0	0
Income Qualified SF Weatherization	Aerators - GWH	10	\$4	\$1	0	0.000	0.3	\$3.89	100%	100%	100%	0	0	1,126	1,126
Income Qualified SF Weatherization	Showerheads - EWH	10	\$10	\$3	476	0.035	0.0	\$31.94	100%	100%	100%	21	21	0	0
Income Qualified SF Weatherization	Showerheads - GWH	10	\$10	\$3	0	0.000	2.0	\$31.94	100%	100%	100%	0	0	660	660
Income Qualified SF Weatherization	Water Heater Blanket Gas	7	\$75	\$75	0	0.000	1.1	\$0.00	100%	100%	100%	0	0	526	526
Income Qualified SF Weatherization	Water Heater Blanket Electric	7	\$75	\$75	254	0.029	0.0	\$0.00	100%	100%	100%	1	1	0	0
Income Qualified SF Weatherization	Gas-Fired Storage Water Heater	13	\$300	\$374	0	0.000	1.7	\$0.00	100%	100%	100%	0	0	209	209
Income Qualified SF Weatherization	Heat Pump Water Heater	12	\$2,033	\$1,059	2,264	0.334	0.0	-\$1.70	100%	100%	100%	36	36	0	0
Income Qualified SF Weatherization	Heat Pump Water Heater - Gas WH Baseline	12	\$3,046	\$992	0	0.000	16.0	\$0.00	100%	100%	100%	0	0	14	14
Income Qualified SF Weatherization	Tankless Water Heater	20	\$300	\$1,100	0	0.000	7.3	\$0.00	100%	100%	100%	0	0	5	10
Income Qualified SF Weatherization	High Efficiency ASHP and Electric Resistance Heat Backup with Qi	18	\$9,000	\$563	9,985	0.373	0.0	\$0.00	100%	100%	100%	0	2	0	0
Income Qualified SF Weatherization	High Efficiency Cold Climate Mini-Split Heat Pump with Electric Resistance Backup	15	\$9,667	\$8,563	7,163	0.572	0.0	\$0.00	100%	100%	100%	0	3	0	0
Income Qualified SF Weatherization	High Efficiency Dual Fuel Cold Climate Mini-Split Heat Pump	15	\$10,000	\$8,563	157	0.572	39.3	\$0.00	100%	100%	100%	0	4	0	4
Income Qualified SF Weatherization	High Efficiency ccASHP with Qi with Electric Resistance Backup	18	\$10,250	\$3,521	12,630	0.373	0.0	\$0.00	100%	100%	100%	0	2	0	0
Income Qualified SF Weatherization	High Efficiency Dual Fuel ccASHP with Qi and associated furnace	18	\$11,000	\$3,521	515	0.373	67.6	\$0.00	100%	100%	100%	0	2	0	2

SINGLE-FAMILY WEATHERIZATION

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)
Benefits				
Avoided Revenue Requirements				
Generation Capacity	N/A	\$4,074,174	\$4,074,174	\$4,074,174
Trans. & Dist. Capacity	N/A	\$510,239	\$510,239	\$510,239
Marginal Energy	N/A	\$7,140,905	\$7,140,905	\$7,140,905
Avoided Emissions (CO2)	N/A	N/A	N/A	\$4,913,510
Subtotal				\$16,638,828
Non-Energy Benefits Adder (50.0%)				\$5,862,659
Subtotal	N/A	\$11,725,318	\$11,725,318	\$22,501,487
Participant Benefits				
Bill Reduction - Electric	\$38,488,881	N/A	N/A	N/A
Participant Rebates and Incentives	\$2,206,587	N/A	N/A	\$2,206,587
Incremental Capital Savings	\$404,393	N/A	N/A	\$404,393
Incremental O&M Savings	\$6,731	N/A	N/A	\$6,731
Subtotal	\$41,106,592	N/A	N/A	\$2,617,711
Total Benefits	\$41,106,592	\$11,725,318	\$11,725,318	\$25,119,197
Costs				
Utility Project Costs				
Program Planning & Design	N/A	\$0	\$0	\$0
Administration & Program Delivery	N/A	\$128,456	\$128,456	\$128,456
Advertising/Promotion/Customer Ed	N/A	\$190,000	\$190,000	\$190,000
Participant Rebates and Incentives	N/A	\$2,206,587	\$2,206,587	\$2,206,587
Equipment & Installation	N/A	\$0	\$0	\$0
Measurement and Verification	N/A	\$150,000	\$150,000	\$150,000
Subtotal	N/A	\$2,675,043	\$2,675,043	\$2,675,043
Utility Revenue Reduction				
Revenue Reduction - Electric	N/A	N/A	\$38,488,881	N/A
Subtotal	N/A	N/A	\$38,488,881	N/A
Participant Costs				
Incremental Capital Costs	\$1,926,041	N/A	N/A	\$1,926,041
Incremental O&M Costs	\$18,641	N/A	N/A	\$18,641
Subtotal	\$1,944,682	N/A	N/A	\$1,944,682
Total Costs	\$1,944,682	\$2,675,043	\$41,163,924	\$4,619,725
Net Benefit (Cost)	\$39,161,910	\$9,050,275	(\$29,438,606)	\$20,499,473
Benefit/Cost Ratio	21.14	4.38	0.28	5.44

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

2022

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant		
Lifetime (Weighted on Generator kWh)	A	19.8 years
T & D Loss Factor (Energy)	B	6.38%
T & D Loss Factor (Demand)	C	9.13%
Net-to-Gross (Energy)	D	100.00%
Net-to-Gross (Demand)	E	100.00%
Installation Rate (Energy)	F	99.07%
Installation Rate (Demand)	G	99.11%
Net coincident kW Saved at Generator	H	0.01 kW
Gross Annual kWh Saved at Customer	I	45.25 kWh
Net Annual kWh Saved at Generator	J	47.88 kWh
Program Summary All Participants		
Total Budget	K	\$2,675,043
Net coincident kW Saved at Generator	L	3,233 kW
Gross Annual kWh Saved at Customer	M	22,147,237 kWh
Net Annual kWh Saved at Generator	N	23,436,406 kWh
Total MTRC Net Benefits with Adder	O	\$20,499,473
Total MTRC Net Benefits without Adder	P	\$14,636,814
Utility Program Cost per kWh Lifetime	K/(A x N)	\$0.0058
Utility Program Cost per kW at Gen	K/ L	\$827
Avoided Lifetime CO2 Emissions, Total Program (tons CO2)		126,608

SINGLE-FAMILY WEATHERIZATION

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)
Benefits				
Avoided Revenue Requirements				
Commodity Cost Reduction	N/A	\$1,865,587	\$1,865,587	\$1,865,587
Variable O&M Savings	N/A	\$29,823	\$29,823	\$29,823
Demand Savings	N/A	\$208,891	\$208,891	\$208,891
Subtotal				\$2,104,301
Non-Energy Benefits Adder (50.0%)				\$1,052,150
Subtotal	N/A	\$2,104,301	\$2,104,301	\$3,156,451
Participant Benefits				
Bill Reduction - Gas	\$3,325,301	N/A	N/A	N/A
Participant Rebates and Incentives	\$4,239,512	N/A	N/A	\$4,239,512
Incremental Capital Savings	\$0	N/A	N/A	\$0
Incremental O&M Savings	\$210,052	N/A	N/A	\$210,052
Subtotal	\$7,774,866	N/A	N/A	\$4,449,565
Total Benefits	\$7,774,866	\$2,104,301	\$2,104,301	\$7,606,016
Costs				
Utility Project Costs				
Program Planning & Design	N/A	\$0	\$0	\$0
Administration & Program Delivery	N/A	\$180,924	\$180,924	\$180,924
Advertising/Promotion/Customer Ed	N/A	\$60,000	\$60,000	\$60,000
Participant Rebates and Incentives	N/A	\$4,239,512	\$4,239,512	\$4,239,512
Equipment & Installation	N/A	\$0	\$0	\$0
Measurement and Verification	N/A	\$115,600	\$115,600	\$115,600
Subtotal	N/A	\$4,596,036	\$4,596,036	\$4,596,036
Utility Revenue Reduction				
Revenue Reduction - Gas	N/A	N/A	\$3,325,301	N/A
Subtotal	N/A	N/A	\$3,325,301	N/A
Participant Costs				
Incremental Capital Costs	\$3,868,874	N/A	N/A	\$3,868,874
Incremental O&M Costs	\$0	N/A	N/A	\$0
Subtotal	\$3,868,874	N/A	N/A	\$3,868,874
Total Costs	\$3,868,874	\$4,596,036	\$7,921,337	\$8,464,910
Net Benefit (Cost)	\$3,905,992	(\$2,491,735)	(\$5,817,037)	(\$858,894)
Benefit/Cost Ratio	2.01	0.46	0.27	0.90

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

2022

GAS

GOAL

Input Summary and Totals		
Program "Inputs" per Dth		
Lifetime (Weighted on Dth)	A	15.3 years
Net-to-Gross (Weighted on Dth)	B	100.00%
Install Rate (Weighted on Dth)	C	100.00%
Program Summary per Participant		
Gross Annual Dth Saved	D	8.0
Net Annual Dth Saved	E	8.0
Program Summary All Participants		
Total Budget	F	\$4,596,036
Gross Annual Dth Saved	G	60,514 Dth
Net Annual Dth Saved	H	60,514 Dth
Total MTRC Net Benefits with Adder	I	(\$858,894)
Total MTRC Net Benefits without Adder	J	(\$1,911,045)
Utility Program Cost per Dth Lifetime	F / (A x H)	\$4.9801

GEO-TARGETING PILOT - EE

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)
Benefits				
Avoided Revenue Requirements				
Generation Capacity	N/A	\$0	\$0	\$0
Trans. & Dist. Capacity	N/A	\$23,174	\$23,174	\$23,174
Marginal Energy	N/A	\$0	\$0	\$0
Avoided Emissions (CO2)	N/A	N/A	N/A	\$0
Subtotal				\$23,174
Non-Energy Benefits Adder (20.0%)				\$4,635
Subtotal	N/A	\$23,174	\$23,174	\$27,809
Participant Benefits				
Bill Reduction - Electric	\$0	N/A	N/A	N/A
Participant Rebates and Incentives	\$11,000	N/A	N/A	\$11,000
Incremental Capital Savings	\$0	N/A	N/A	\$0
Incremental O&M Savings	\$0	N/A	N/A	\$0
Subtotal	\$11,000	N/A	N/A	\$11,000
Total Benefits	\$11,000	\$23,174	\$23,174	\$38,809
Costs				
Utility Project Costs				
Program Planning & Design	N/A	\$0	\$0	\$0
Administration & Program Delivery	N/A	\$3,735	\$3,735	\$3,735
Advertising/Promotion/Customer Ed	N/A	\$3,735	\$3,735	\$3,735
Participant Rebates and Incentives	N/A	\$11,000	\$11,000	\$11,000
Equipment & Installation	N/A	\$0	\$0	\$0
Measurement and Verification	N/A	\$5,603	\$5,603	\$5,603
Subtotal	N/A	\$24,073	\$24,073	\$24,073
Utility Revenue Reduction				
Revenue Reduction - Electric	N/A	N/A	\$0	N/A
Subtotal	N/A	N/A	\$0	N/A
Participant Costs				
Incremental Capital Costs	\$0	N/A	N/A	\$0
Incremental O&M Costs	\$0	N/A	N/A	\$0
Subtotal	\$0	N/A	N/A	\$0
Total Costs	\$0	\$24,073	\$24,073	\$24,073
Net Benefit (Cost)	\$11,000	(\$899)	(\$899)	\$14,736
Benefit/Cost Ratio	INF	0.96	0.96	1.61

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

2022

ELECTRIC

GOAL

Input Summary and Totals

Program "Inputs" per Customer kW and per Participant		
Lifetime (Weighted on Generator kWh)	A	N/A
T & D Loss Factor (Energy)	B	N/A
T & D Loss Factor (Demand)	C	N/A
Net-to-Gross (Energy)	D	N/A
Net-to-Gross (Demand)	E	N/A
Installation Rate (Energy)	F	N/A
Installation Rate (Demand)	G	N/A
Net coincident kW Saved at Generator	H	0.00 kW
Gross Annual kWh Saved at Customer	I	0.00 kWh
Net Annual kWh Saved at Generator	J	0.00 kWh
Program Summary All Participants		
Total Budget	K	\$24,073
Net coincident kW Saved at Generator	L	0 kW
Gross Annual kWh Saved at Customer	M	0 kWh
Net Annual kWh Saved at Generator	N	0 kWh
Total MTRC Net Benefits with Adder	O	\$14,736
Total MTRC Net Benefits without Adder	P	\$10,101
Utility Program Cost per kWh Lifetime	K/(A x N)	N/A
Utility Program Cost per kW at Gen	K/ L	N/A
Avoided Lifetime CO2 Emissions, Total Program (tons CO2)		
		N/A