Integrated Resource Plan

Technical Appendix

Volume 2

Demand Side Management

Exhibit DSM-1

EE Potential Report

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prepared for

EAST KENTUCKY POWER COOPERATIVE

EAST KENTUCKY POWER COOPERATIVE
A Touchstone Energy® Cooperative

2024 POTENTIAL STUDY

FINAL REPORT

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prepared by
GDS ASSOCIATES INC

Contents

LIST OF ACRONYMS

AC	Air conditioning
ACEEE	American Council for an Energy Efficient Economy
AEO	Annual Energy Outlook
BTM	Behind the meter
CBECS	Commercial Buildings Energy Consumption Survey
CP	Coincident Peak
CPP	Critical Peak Pricing
DLC	Direct Load Control
DR	Demand Response
DSM	Demand-side Management
EIA	Energy Information Administration
EKPC	East Kentucky Power Cooperative
EM&V	Evaluation, Measurement & Verification
EP	Economic Potential
EV	Electric Vehicle
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
HVAC	Heating, Ventilation and Cooling
MAP	Maximum Achievable Potential
MECS	Manufacturing Energy Consumption Survey
MW	Megawatt
MWh	Megawatt-hour
NAPEE	National Action Plan for Energy Efficiency
NPV	Net present value
PEV	Plug-in electric vehicle
RAP	Realistically Achievable Potential
RECS	Residential Energy Consumption Survey
TP	Technical Potential
TRC	Total Resource Cost Test
TRM	Technical Reference Manual
WTP	Willingness-to-participate

1 EXECUTIVE SUMMARY

1.1 BACKGROUND

This energy efficiency and demand response potential study for East Kentucky Power Cooperative (EKPC) provides a roadmap and identifies the energy efficiency and demand response measures having the greatest potential savings and the measures that are the most cost-effective. In addition to technical and economic potential estimates, the development of achievable potential estimates for a range of feasible energy efficiency measures is useful for program planning and modification purposes. Unlike achievable potential estimates, technical and economic potential estimates do not include customer acceptance considerations for energy efficiency measures, which are often among the most key factors when estimating the likely customer response to new programs.

All energy efficiency results were developed using customized residential, commercial, and industrial sector-level energy efficiency potential assessment Excel models and Company-specific cost effectiveness criteria including the most recent EKPC avoided energy and capacity cost projections for electricity. Demand response results were calculated in a separate model.

The results of this study provide detailed information on measures that are cost-effective and have potential kWh and kW savings. The data referenced in this report were the best available at the time this analysis was developed. As building and appliance codes and energy efficiency standards change, and as energy prices fluctuate, additional opportunities for energy efficiency may occur while current practices may become outdated. Actual energy and demand savings will depend upon the level and degree of voluntary member system participation in DSM programs.

1.2 STUDY SCOPE

This study examines the potential to reduce electric consumption and peak demand through the implementation of DSM technologies and practices in residential, commercial, and industrial facilities. The study assessed energy efficiency potential and demand response throughout EKPC Members' service territories over fifteen years, from 2024 through 2038.

The scope of this study distinguishes three types of energy efficiency potential: (1) technical, (2) economic, and (3) achievable.

- ***Technical Potential*** is the theoretical maximum amount of energy use that could be displaced by efficiency, disregarding all non-engineering constraints such as cost-effectiveness and the willingness of end users to adopt the efficiency measures. Technical potential is constrained only by factors such as technical feasibility and applicability of measures.
- ***Economic Potential*** refers to the subset of the technical potential that is economically cost-effective as compared to conventional supply-side energy resources. Economic potential follows the same adoption rates as technical potential. Like technical potential, the economic scenario ignores market barriers to ensuring actual implementation of efficiency. Finally, economic potential only considers the costs of efficiency measures themselves, ignoring any programmatic costs (e.g., marketing, analysis, administration) that would be necessary to capture them.[1]
- ***Achievable Potential*** is the amount of energy use that efficiency can realistically be expected to displace, assuming the most aggressive program scenario possible (e.g., providing end users with payments for the entire incremental cost of more efficient equipment). Achievable potential considers real-world barriers to encouraging end users to adopt efficiency measures, the non-measure costs of delivering programs (for

[1] National Action Plan for Energy Efficiency, "Guide for Conducting Energy Efficiency Potential Studies" (November 2007), page 2-4.

administration, marketing, tracking systems, and monitoring and evaluation), and the capability of programs and administrators to boost program activity over time. The study assessed two types of achievable potential: maximum (MAP) and realistic (RAP).

1.3 ENERGY EFFICIENCY POTENTIAL

Figure 1-1 and Table 1-1 provide the technical, economic, MAP and RAP results for the 5-year, 10-year, and 15-year timeframes. The cumulative annual 5-year technical potential is 13% of the forecasted sales, and the economic potential is 12% of forecasted sales. The cumulative annual 5-year MAP is 3.8% and the RAP is 2.7%, as a percentage of forecasted sales. Over the duration of the study timeframe the technical potential rises to 26% and the economic potential rises to 24% of forecasted sales. The MAP and RAP rise respectively to 13% and 10% of forecasted sales over the study timeframe. The gap between economic potential and MAP/RAP represents market barriers to prospective program participants, both financial and non-financial, to achieving the full amount of economic potential.

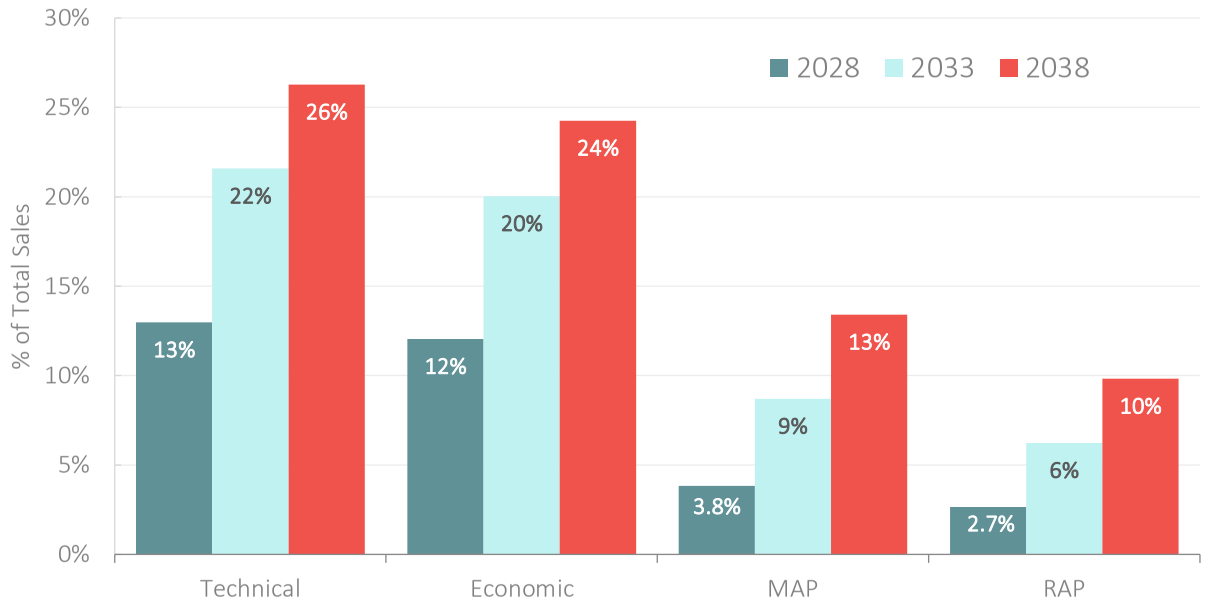

FIGURE 1-1: OVERVIEW OF ENERGY EFFICIENCY POTENTIAL

TABLE 1-1 CUMULATIVE ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY – ALL SECTORS

	2024	2025	2026	2033	2038
Energy (MWh)					
Technical	535,966	938,592	1,319,426	3,492,640	4,450,626
Economic	501,287	868,860	1,215,577	3,242,935	4,108,887
MAP	105,646	224,259	346,882	1,408,945	2,271,412
RAP	71,923	153,688	238,970	1,008,898	1,664,094
Energy Savings (as % of Forecast)					
Technical	3.5%	6.1%	8.6%	21.6%	26.3%
Economic	3.3%	5.7%	7.9%	20.0%	24.3%
MAP	0.7%	1.5%	2.2%	8.7%	13.4%
RAP	0.5%	1.0%	1.5%	6.2%	9.8%

Table 1-2 provides the incremental annual technical, economic, MAP and RAP energy savings, in total MWh and as a percentage of the sales forecast.[2] The incremental MAP ranges from 0.7% to 2.2% per year over the study horizon. The incremental RAP ranges from 0.5% to 1.8% per year over the study horizon.

TABLE 1-2 INCREMENTAL ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY – ALL SECTORS

	2024	2025	2026	2033	2038
Energy (MWh)					
Technical	535,966	539,576	542,124	569,718	554,248
Economic	501,287	503,740	506,475	528,203	514,874
MAP	105,646	121,567	130,366	283,668	374,025
RAP	71,923	84,577	92,565	226,101	309,996
Energy Savings (as % of Forecast)					
Technical	3.5%	3.5%	3.5%	3.5%	3.3%
Economic	3.3%	3.3%	3.3%	3.3%	3.0%
MAP	0.7%	0.8%	0.8%	1.8%	2.2%
RAP	0.5%	0.6%	0.6%	1.4%	1.8%

1.4 DEMAND RESPONSE POTENTIAL

Figure 1-2 provides the technical, economic, summer MAP, winter MAP, summer RAP, and winter RAP results for the 5-year, 10-year, and 15-year timeframes. The cumulative annual 5-year summer MAP is 24%, winter MAP is 28%, summer RAP is 14%, and winter RAP is 16% as a percentage of forecasted demand.

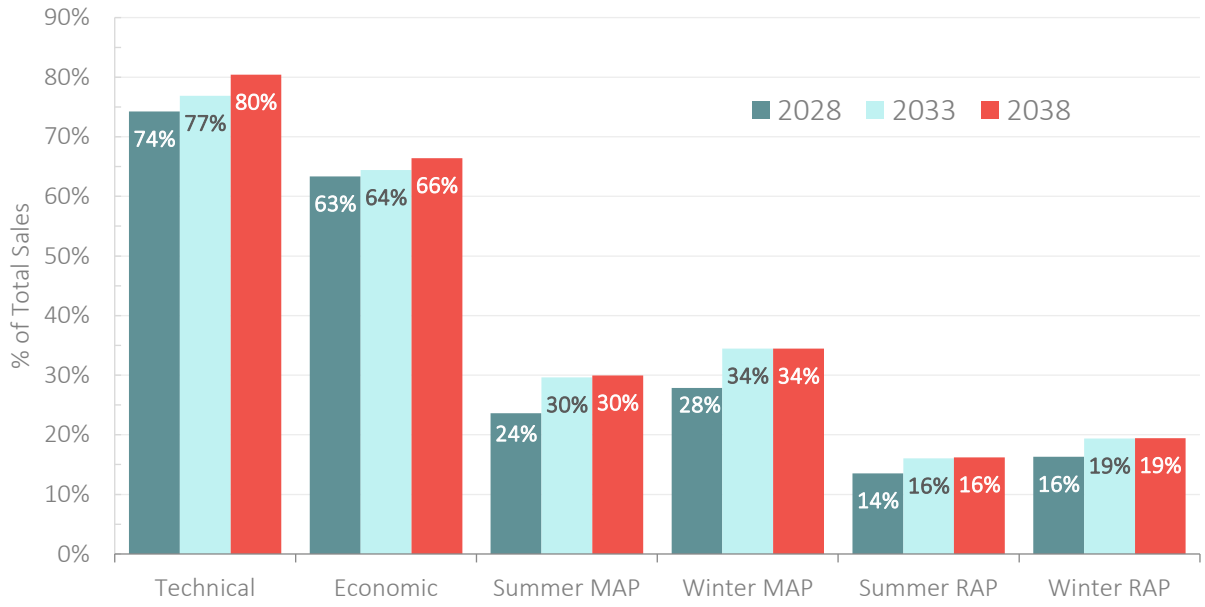

FIGURE 1-2: OVERVIEW OF DEMAND RESPONSE POTENTIAL

[2] The savings shown in Table 1-2 show the savings associated with measure installations in the years shown in the table. This compares to Table 1-1, which shows the cumulative annual savings for all measures installed to date in the years shown (e.g. 2033 shows the cumulative savings in that year associated with all measure installations in the 2024-2033 timeframe.

Table 1-3 provides 15-year summer MAP and RAP potential by residential program. The DLC Thermostat and CPP with Enabling Technology programs provide the most MAP and RAP potential, accounting for a combined 3.9% peak savings in the summer RAP scenario.

TABLE 1-3 SUMMER DEMAND RESPONSE MAP & RAP POTENTIAL – RESIDENTIAL PROGRAMS

	MAP (MW)	RAP (MW)	MAP (% of Forecast	RAP (% of Forecast
DLC Central AC Switch	0.0	0.0	0.0%	0.0%
DLC Thermostat	164.5	53.4	5.7%	1.9%
DLC Water Heaters	0.0	0.0	0.0%	0.0%
CPP with Enabling Technology	190.7	56.6	6.6%	2.0%
CPP without Enabling Technology	51.7	22.4	1.8%	0.8%
Generators	0.0	19.9	0.0%	0.7%
Total	**407.0**	**152.3**	**14.1%**	**5.3%**

Table 1-4 provides 15-year winter MAP and RAP potential by C/I program. The Interruptible Rate program provides the most MAP and RAP potential, accounting for 9.0% peak savings in the summer RAP scenario.

TABLE 1-4 SUMMER DEMAND RESPONSE MAP & RAP POTENTIAL – C/I PROGRAMS

	MAP (MW)	RAP (MW)	MAP (% of Forecast	RAP (% of Forecast
DLC Thermostat	11.2	9.1	0.4%	0.3%
DLC Water Heaters	3.3	2.4	0.1%	0.1%
DLC Agricultural Irrigation	8.3	0.0	0.3%	0.0%
Interruptible Rate	321.4	258.6	11.2%	9.0%
CPP with Enabling Technology	66.4	21.8	2.3%	0.8%
CPP without Enabling Technology	17.5	11.4	0.6%	0.4%
Demand Buyback	2.2	0.0	0.1%	0.0%
Golf Cart Charging Rate	1.4	0.0	0.0%	0.0%
Capacity Bidding	1.0	0.0	0.0%	0.0%
Generators	15.1	7.6	0.5%	0.3%
Total	**447.8**	**310.9**	**15.6%**	**10.8%**

Table 1-5 provides 15-year winter MAP and RAP potential by residential program. The DLC Thermostat and CPP with Enabling Technology programs provide the most MAP and RAP potential, accounting for a combined 2.8% peak savings in the winter RAP scenario.

TABLE 1-5 WINTER DEMAND RESPONSE MAP & RAP POTENTIAL – RESIDENTIAL PROGRAMS

	MAP (MW)	RAP (MW)	MAP (% of Forecast)	RAP (% of Forecast)
DLC Thermostat	66.9	22.5	1.8%	0.6%
DLC Water Heaters	0.0	0.0	0.0%	0.0%
CPP with Enabling Technology	199.8	59.3	5.3%	1.6%
CPP without Enabling Technology	74.1	32.1	2.0%	0.9%
Generators	0.0	19.9	0.0%	0.5%
Total	**340.8**	**133.8**	**9.1%**	**3.6%**

Table 1-6 provides 15-year winter MAP and RAP potential by C/I program. The Interruptible Rate program provides the most MAP and RAP potential, accounting for 9.0% peak savings in the winter RAP scenario.

TABLE 1-6 WINTER DEMAND RESPONSE MAP & RAP POTENTIAL – C/I PROGRAMS

	MAP (MW)	RAP (MW)	MAP (% of Forecast)	RAP (% of Forecast)
DLC Thermostat	9.5	7.7	0.3%	0.2%
DLC Water Heaters	6.6	4.9	0.2%	0.1%
Interruptible Rate	423.2	335.0	11.3%	9.0%
CPP with Enabling Technology	86.9	28.5	2.3%	0.8%
CPP without Enabling Technology	22.9	14.9	0.6%	0.4%
Demand Buyback	2.9	0.0	0.1%	0.0%
Golf Cart Charging Rate	1.4	0.0	0.0%	0.0%
Capacity Bidding	1.4	0.0	0.0%	0.0%
Generators	15.1	7.6	0.4%	0.2%
Total	**569.8**	**398.6**	**15.3%**	**10.7%**

2 BASELINE FORECAST

The chapter provides updated forecast information on electricity consumption, consumption by market segment and by energy end use in EKPC's member service territories. This chapter also provides an overview of the number of households and housing units in EKPC's service area. Developing this information is a fundamental part of any energy efficiency potential study. It is necessary to understand how energy is consumed in a state or region before one can assess the energy efficiency savings potential that remains to be tapped.

2.1 EKPC MEMBER SERVICE TERRITORIES

EKPC member service territories are in an area from central Kentucky to eastern Kentucky. Figure 2-1 shows a map of the 16 cooperatives in EKPC's service area. Note that the size of service areas varies.

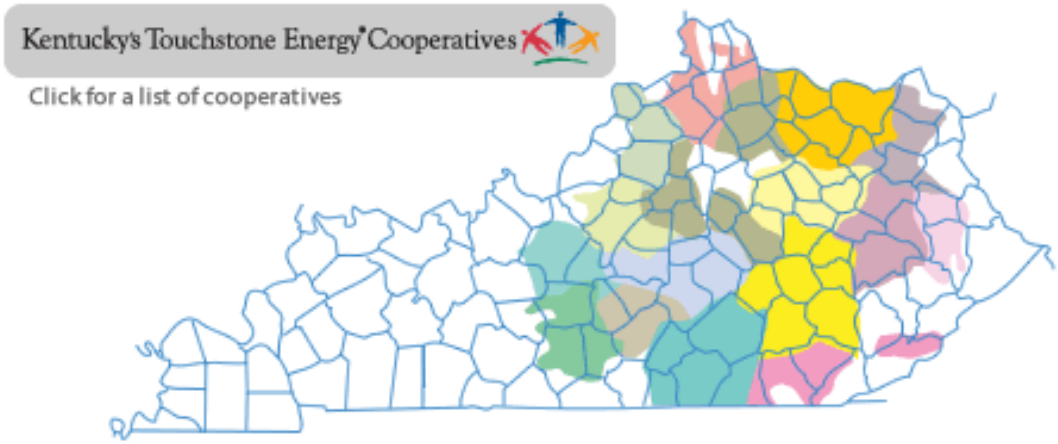

FIGURE 2-1. MAP OF THE 16 COOPERATIVES IN THE EKPC SERVICE TERRITORY

2.2 SECTOR-LEVEL FORECASTS AND MARKET SEGMENTATION

Table 2-1 provides the sales by sector across the 2024-2038 timeframe. Sales are forecasted to gradually increase over the timeframe of the study in both the residential and C/I sectors. Total sales are forecasted to be nearly 17 million MWh by 2038.

TABLE 2-1 15-YR SALES FORECASTS BY SECTOR (MWH)

Year	Residential	Commercial	Industrial	Total
2024	7,402,322	2,051,899	5,701,182	15,115,753
2025	7,428,973	2,051,899	5,786,966	15,232,214
2026	7,489,821	2,051,899	5,868,476	15,382,271
2027	7,562,150	2,051,899	5,883,552	15,477,658
2028	7,667,946	2,051,899	5,908,442	15,625,311
2029	7,718,946	2,051,899	5,939,702	15,715,369
2030	7,782,382	2,051,899	5,970,474	15,815,189
2031	7,846,863	2,051,899	5,994,749	15,909,480
2032	7,958,099	2,051,899	6,010,626	16,051,163
2033	8,023,613	2,051,899	6,034,403	16,145,427

Year	Residential	Commercial	Industrial	Total
2034	8,123,071	2,051,899	6,065,247	16,281,789
2035	8,220,988	2,051,899	6,114,680	16,438,529
2036	8,350,740	2,051,899	6,167,473	16,636,664
2037	8,431,932	2,051,899	6,192,363	16,748,365
2038	8,540,446	2,051,899	6,218,017	16,895,311

2.2.1 C&I Sector

In the C&I sector, disaggregated forecast data provides the foundation for the development of energy efficiency potential estimates. GDS received a base case sales forecast from EKPC for the residential, commercial, and industrial sectors. The forecast was further segmented into end-uses by building type using CBECS 2020 end-use survey data. Figure 2-2 provides a breakdown of commercial electric sales by building type.[3] Lodging, retail, and offices sales account for nearly 40% of sales. Assembly, education and warehouses account for approximately another 25% of sales in the commercial sector.

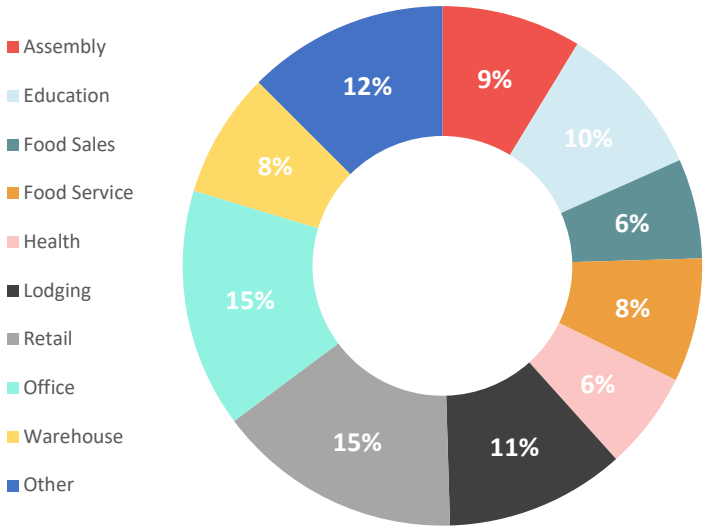

FIGURE 2-2: COMMERCIAL ELECTRIC SALES BREAKDOWN BY BUILDING TYPE

Figure 2-3 provides an illustration of the leading end-uses across all building types in the commercial sector. Lighting, space cooling, and ventilation are the primary end-uses with a significant share of load across most building types. Shares of refrigeration and office/computing are often dependent on the type of building, with refrigeration loads greatest in food sales and food service while office/computing loads are greatest in offices and education.

3 "Other" commercial building types include buildings that engage in several different activities.

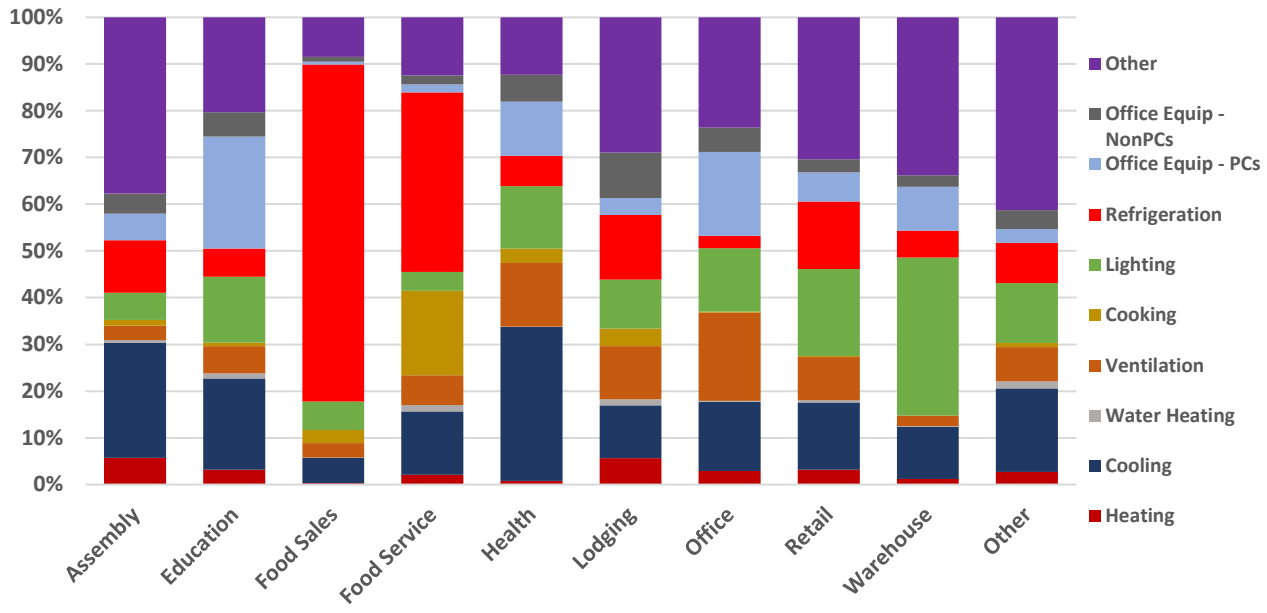

FIGURE 2-3: COMMERCIAL ELECTRIC END-USE BREAKDOWN BY BUILDING TYPE

Figure 2-4 provides a breakdown of industrial electric sales by end use. Motors and Process Heat account for more than half of the end-use consumption. HVAC and Lighting account for about a quarter of the consumption, with process related end uses and Compressed Air also each accounting for some of the end-use consumption in the industrial sector.

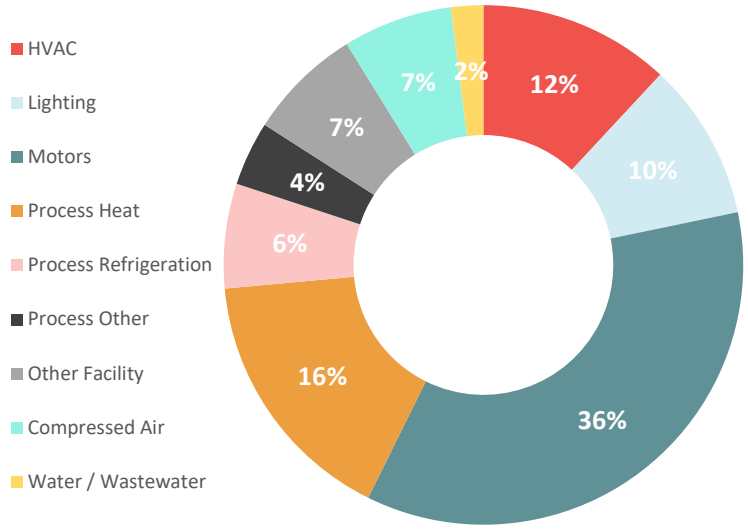

FIGURE 2-4: INDUSTRIAL ELECTRIC SALES BREAKDOWN BY BUILDING TYPE

3 METHODOLOGY

This section describes the overall methodology utilized to assess the electric energy efficiency potential in the EKPC service area. The main objectives of the study were to estimate the technical, economic, maximum, and realistic achievable potential savings from energy efficiency and demand response (see Chapter 6 for demand response methodology details) in the EKPC territory; and to quantify these estimates of potential in terms of MWh and MW savings, for each level of energy efficiency potential. This document describes the general steps and methods that were used at each stage of the analytical process necessary to produce the various estimates of energy efficiency potential. GDS did not examine delivery approaches for energy efficiency programs as this task was not included in the scope of work for this study.

Energy efficiency potential studies involve several analytical steps to produce estimates of each type of energy efficiency potential: technical, economic, and achievable. This study utilizes benefit/cost screening tools for the residential and non-residential sectors to assess the cost effectiveness of energy efficiency measures. These cost effectiveness screening tools are Excel-based models that integrate technology-specific impacts and costs, customer characteristics, utility avoided cost forecasts and more. Excel was used as the modeling platform to provide transparency to the estimation process and allow for simple customization based on EKPC's unique characteristics and the availability of specific model input data. The major analytical steps and an overview of the potential savings are summarized below, and specific changes in methodology from one sector to another have been noted throughout this section.

3.1 OVERVIEW OF APPROACH

For the residential sector, GDS took a bottom-up approach to the modeling, whereby measure-level estimates of costs, savings, and useful lives were used as the basis for developing the technical, economic, and achievable potential estimates. The measure data was used to build up the technical potential, by applying the data to each relevant market segment. The measure data allowed for benefit-cost screening to assess economic potential, which was in turn used as the basis for achievable potential, which took into consideration incentives and estimates of annual adoption rates.

For the commercial and industrial sectors, GDS took a bottom-up modeling approach to first estimate measure-level savings and costs as well as cost-effectiveness, and then applied cost-effective measure savings to all applicable shares of energy load. Disaggregated forecast data served as the foundation for the development of the energy efficiency potential estimates. The disaggregated forecast was developed using regional data from the Energy Information Administration's (EIA) Annual Energy Outlook (AEO).

3.2 MARKET CHARACTERIZATION

The initial step in the analysis was to gather a clear understanding of the current market segments in the EKPC service area. The GDS team coordinated with EKPC to gather utility sales and customer data and existing market research to define appropriate market sectors and market segments. This information served as the basis for completing a forecast disaggregation and market characterization of both the residential and nonresidential sectors.

In the commercial and industrial sectors, disaggregated forecast data provides the foundation for the development of energy efficiency potential estimates. GDS disaggregated the commercial sector sales into building type using data from the US Energy Information Administration (EIA) 2022 Annual Energy Outlook data for the East South-Central Census region. For the industrial sector, the baseline electric forecasts were disaggregated by industry type using estimates from EIA Manufacturing Energy Consumption Survey (MECS) for the same region.

GDS further disaggregated sales for each of the segments into end uses. For commercial segments, GDS again primarily used EIA data for the East South-Central Census region. For the industrial sector, the analysis relied

on the EIA's Manufacturing Energy Consumption survey to disaggregate industry-specific estimates of electric consumption into end uses.

- ***Residential.*** The residential forecast was broken out by housing type between existing income qualified[4] and market-rate customers as well as new construction.
- ***Commercial.*** Typically based on major EIA business types: assembly, retail, warehouse, food sales, office, lodging, health, food service, education, and miscellaneous.
- ***Industrial.*** As determined by actual load consumption shares and major industry types as defined by EIA's Manufacturing Energy Consumption Survey (MECS) data.

Within the residential, commercial, and industrial market segments, the sector level disaggregated forecasts were further segmented by the major end uses shown in Table 3-1.

TABLE 3-1: ELECTRIC END-USE LOADS

Residential	Commercial/Industrial
Heating	Interior Lighting
Cooling	Exterior Lighting
Water Heating	Refrigeration
Cooking	Space Cooling
Refrigerator	Space Heating
Freezer	Ventilation
Dishwasher	Water Heating
Clothes Washer	Plug Loads / Office Equipment
Dryer	Cooking
TV	Other
Light	Whole Building / Behavioral
Miscellaneous	Compressed Air
	Motors
	Industrial Process

3.3 MEASURE CHARACTERIZATION

This section of the report provides an overview of the measure lists used in the study as well as the assumptions and sources used to characterize these measures.

3.3.1 Measure Lists

The energy efficiency measures included in this study cover energy efficiency measures currently included in EKPC's energy efficiency programs, as well as additional measures suggested by the GDS Team based on existing knowledge and current databases of electric end-use technologies and energy efficiency measures. The study scope includes measures and practices that are currently commercially available as well as emerging technologies. The commercially available measures are of the most immediate interest to EKPC. However, a small number of well documented emerging technologies were considered for each sector. Emerging technology research was focused on measures that are commercially available but may not be widely accepted at the current time. These measure lists were then reviewed, discussed, and updated as necessary. A complete listing of the energy efficiency measures included in this study is provided in the Appendices of this report.

[4] Income-qualified for this study is defined as 200% of the Federal Poverty Level. The study assumed 46% of the residential customers were income-qualified based on a review of Census data for counties served by EKPC.

In addition, this study includes measures that could be relatively easily substituted for, or applied to, existing technologies on a retrofit or replace-on-burnout basis. Replace-on-burnout applies to equipment replacements that are normally made in the market when a piece of equipment is at the end of its useful life. A retrofit measure is eligible to be replaced at any time in the life of the equipment or building. Replace-on-burnout measures are generally characterized by incremental measure costs and savings (e.g. the costs and savings of a high-efficiency versus standard efficiency air conditioner); whereas retrofit measures are generally characterized by full costs and savings (e.g. the full costs and savings associated with adding ceiling insulation into an existing attic). For new construction, energy efficiency measures can be implemented when each new home or building is constructed, thus the rate of availability is a direct function of the rate of new construction.

In total, GDS analyzed 281 measure types for EKPC. Many measures required multiple permutations for different applications, such as different building types, efficiency levels, and replacement options. GDS developed a total of 1,954 measure permutations for this study. Table 3-2 provides a breakdown of the sector-level number of measures and permutations.

TABLE 3-2 MEASURE COUNTS BY SECTOR

Sector	# of Measures	Total Permutations
Residential	127	656
C/I	154	1,298
Total	281	1,954

3.3.2 Assumptions and Sources

A significant amount of data is needed to estimate the kWh and kW savings potential for individual energy efficiency and demand response measures or programs across the entire existing residential and non-residential sectors for EKPC. GDS used Kentucky specific data wherever it was available and up to date. Considerable effort was expended to identify, review, and document all available data sources.

This review has allowed the development of reasonable and supportable assumptions regarding measure lives; measure installed incremental or full costs (as appropriate); and electric savings and saturations for each energy efficiency measure included in the final list of measures in this study.

Costs and savings for new construction and replace on burnout measures are calculated as the incremental difference between the code minimum equipment and the energy efficiency measure. This approach is utilized because the consumer must select an efficiency level that is at least the code minimum equipment. The incremental cost is calculated as the difference between the cost of high efficiency and standard (code compliant) equipment. However, for retrofit measures, the measure cost is considered the "full" cost of the measure, as the baseline scenario assumes the consumer would do nothing. In general, the savings for retrofit measures are calculated as the difference between the energy use of the removed equipment and the energy use of the new high efficiency equipment (until the removed equipment would have reached the end of its useful life). For measures like insulation, the savings are calculated based on the consumption before and after the installation of improved insulation levels.

Measure Savings: GDS utilized several sources including the Illinois TRM to inform calculations supporting estimates of annual measure savings as a percentage of base equipment usage. Other sources used include:

- Mid-Atlantic TRM, Maine TRM, Minnesota TRM, and other existing deemed savings databases
- Secondary sources such as the American Council for an Energy-Efficient Economy (ACEEE), Department of Energy (DOE), Energy Information Administration (EIA), ENERGY STAR©, and other technical potential studies

Measure Costs: Measure costs represent either incremental or full costs. These costs typically include the incremental cost of measure installation, when appropriate based on the measure definition. For purposes of this study, nominal measure costs held constant over time.

GDS obtained measure cost estimates from a variety of sources, starting with the 2021 Ill TRM. Other sources leveraged include:

- Mid-Atlantic TRM, Indiana TRM, Maine TRM, Minnesota TRM, and other existing deemed savings databases
- Secondary sources such as the ACEEE, ENERGY STAR, National Renewable Energy Lab (NREL), California Database for Energy Efficient Resources (DEER) database, Northeast Energy Efficiency Partnership (NEEP) Incremental Cost Study, and other technical potential studies

Measure Life: Measure life represents the number of years that energy using equipment is expected to operate. GDS obtained measure life estimates from the 2021 Ill TRM, and used the following other data sources:

- TRMs in other states
- Manufacturer data
- Savings calculators and life-cycle cost analyses
- The California DEER database
- Other consultant research or technical reports

Building/Equipment Saturation Data: To assess the amount of electric energy efficiency savings still available, estimates of the current saturation of baseline equipment and energy efficiency measures, or for the non-residential sector, the amount of energy use that is associated with a specific end-use (such as HVAC) and percent of that energy use that is associated with energy efficient equipment are necessary. Up-to-date measure saturation data were primarily obtained from the following recent studies:

- 2022 and 2020 EKPC Member System End-Use Surveys
- 2015 EIA Residential Energy Consumption Survey (RECS)
- Energy Star Unit Shipment Data
- 2022 EIA Annual Energy Outlook
- EIA Baseline Energy Calculator
- 2023 Pennsylvania Baseline Study

3.4 ENERGY EFFICIENCY POTENTIAL

This section provides an overview of the types of potential and key considerations in assessing each level of energy efficiency potential.

3.4.1 Types of Potential

This section reviews the types of potential analyzed in this report, as well as some key methodological considerations in the development of technical, economic, and achievable potential.

The first two types of potential, technical and economic, provide a theoretical upper bound for energy savings from energy efficiency measures. Still, even the best-designed portfolio of programs is unlikely to capture 100% of the technical or economic potential. Therefore, achievable potential attempts to estimate what savings can be realistically achieved through market interventions, when it can be captured, and how much it would cost to do so. Figure 1-1 illustrates the types of energy efficiency potential considered in this analysis.

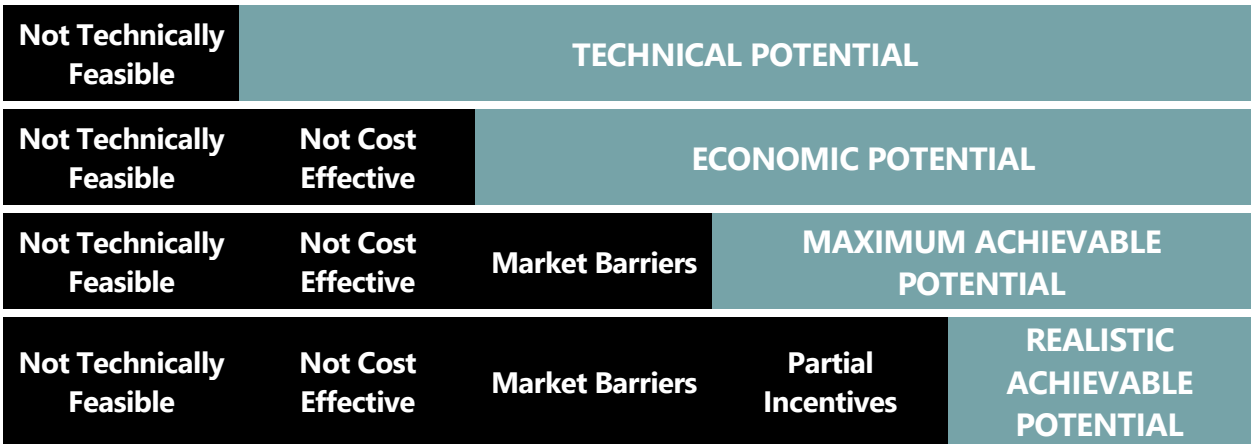

FIGURE 3-1 TYPE OF ENERGY EFFICIENCY POTENTIAL[5]

3.4.2 Technical Potential

Technical potential is the theoretical maximum amount of energy use that could be displaced by efficiency, disregarding all non-engineering constraints such as cost-effectiveness and the willingness of end users to adopt the efficiency measures. Technical potential is only constrained by factors such as technical feasibility and applicability of measures. Under technical potential, GDS assumed that 100% of new construction and market opportunity measures are adopted as those opportunities become available (e.g., as new buildings are constructed, they immediately adopt efficiency measures, or as existing measures reach the end of their useful life). For retrofit measures, implementation was assumed to be resource constrained and that it was not possible to install all retrofit measures all at once. Rather, retrofit opportunities were assumed to be replaced incrementally until 100% of stock was converted to the efficient measure over a period of no more than 20 years.

The core equation used in the residential sector energy efficiency technical potential analysis for each individual efficiency measure is shown in Equation 3-1 below. The C&I sector employs a similar analytical approach.

EQUATION 3-1 CORE EQUATION FOR RESIDENTIAL SECTOR TECHNICAL POTENTIAL

$$\text{TECHNICAL POTENTIAL OF EFFICIENT MEASURES} = \text{Total Number of Households} \times \text{Base Case End Use Intensity (kWh/unit)} \times \text{Saturation Share} \times \text{Remaining Factor} \times \text{Feasibility Factor} \times \text{Savings Factor}$$

Where…

Base Case Equipment End-Use Intensity = the electricity used per customer per year by each base-case technology in each market segment. In other words, the base case equipment end-use intensity is the consumption of the electrical energy using equipment that the efficient technology replaces or affects.

Saturation Share = the fraction of the end-use electrical energy that is applicable for the efficient technology in each market segment. For example, for residential water heating, the saturation share would be the fraction of all residential electric customers that have electric water heating in their household.

5 Reproduced from "Guide to Resource Planning with Energy Efficiency." November 2007. US Environmental Protection Agency (EPA). Figure 2-1. Modified to depict the additional levels of achievable and program potential included in this study.

Remaining Factor = the fraction of equipment that is not considered to already be energy efficient. To extend the example above, the fraction of electric water heaters that is not already energy efficient.

Feasibility Factor = (also functions as the applicability factor) the fraction of the applicable units that is technically feasible for conversion to the most efficient available technology from an engineering perspective (e.g., it may not be possible to install heat pump water heaters in all homes because of space limitations).

Savings Factor = the percentage reduction in electricity consumption resulting from the application of the efficient technology.

Competing Measures & Interactive Effects Adjustments

GDS prevents double-counting of savings, and accounts for competing measures and interactive savings effects, through three primary adjustment factors:

Baseline Saturation Adjustment. Competing measure shares are factored into the baseline saturation estimates. For example, nearly all homes can receive insulation. To account for this, GDS' analysis used multiple measure permutations that account for varying impacts of different heating/cooling combinations and baseline saturations were applied to reflect the proportions of households with each heating/cooling combination.

Applicability Factor Adjustment. Combined measures into measure groups, where total applicability factor across measures is set to 100%. For example, homes cannot receive a programmable thermostat, connected thermostat, and smart thermostat. In general, the models assign the measure with the most savings the greatest applicability factor in the measure group, with competing measures picking up any remaining share.

Interactive Savings Adjustment. As savings are introduced from select measures, the per-unit savings from other measures need to be adjusted (downward) to avoid over-counting. The analysis typically prioritizes market opportunity equipment measures (versus retrofit measures that can be installed at any time). For example, the savings from a smart thermostat and other HVAC related weatherization measures like insulation and air sealing are adjusted down to reflect the efficiency gains of installing an efficient air source heat pump.

3.4.3 Economic Potential

Economic potential refers to the subset of the technical potential that is economically cost-effective (based on screening with the TRC test) as compared to conventional supply-side energy resources.

3.4.4 Achievable Potential

Achievable potential is the amount of energy that can realistically be saved given various market barriers. Achievable potential considers real-world barriers to encouraging end users to adopt efficiency measures; the non-measure costs of delivering programs (for administration, marketing, analysis, and EM&V); and the capability of programs and administrators to boost program activity over time. Barriers include financial, customer awareness and willingness-to-participate ("WTP") in programs, technical constraints, and other barriers the "program intervention" is modeled to overcome. Additional considerations include political and/or regulatory constraints. The potential study evaluated two achievable potential scenarios:

- *MAP* estimates achievable potential on paying incentives equal to up to 100% of measure incremental costs and aggressive adoption rates.[6]
- *RAP* estimates achievable potential with EKPC paying incentive levels (as a percentage of incremental measure costs) closely calibrated to historical levels but is not constrained by any previously determined spending levels.

3.4.4.1 Market Adoption Rates

GDS assessed achievable potential on a measure-by-measure basis. In addition to accounting for the natural replacement cycle of equipment in the achievable potential scenario, GDS estimated measure specific maximum

[6] ibid.

adoption rates that reflect the presence of possible market barriers and associated difficulties in achieving the 100% market adoption assumed in the technical and economic scenarios.

The initial step was to assess the long-term market adoption potential for energy efficiency technologies. Due to the wide variety of measures across multiple end-uses, GDS employed varied measure and end-use-specific ultimate adoption rates versus a singular universal market adoption curve. These long-term market adoption estimates were based on aggregated WTP market research across several recent GDS studies. The WTP research included questions to residential homeowners and nonresidential facility managers regarding their perceived willingness to purchase and install energy efficient technologies across various end uses and incentive/payback performance levels. One caveat to this approach is that the WTP adoption score is generally a simple function of incentive levels and/or payback performance.

GDS utilized likelihood and willingness-to-participate data to estimate the long-term market adoption potential for both the maximum and realistic achievable scenarios. Table 3-3 presents the long-term market adoption rates at varied incentive levels used for the residential sector. Most end-uses are based on the WTP market research.

TABLE 3-3 RESIDENTIAL LONG-TERM MARKET ADOPTION RATES AT DISCRETE INCENTIVE LEVELS

End Use	0% Incentive	30% Incentive	50% Incentive	80% Incentive	100% Incentive
Water Heating	15.0%	26.4%	38.5%	53.8%	75.7%
HVAC Equipment	17.9%	35.8%	52.3%	66.2%	79.8%
HVAC Shell	13.9%	23.4%	35.7%	49.7%	73.9%
Appliances	18.8%	32.3%	49.9%	63.4%	79.7%

Table 3-4 presents the long-term market adoption rates used in the nonresidential sector.

TABLE 3-4 NONRESIDENTIAL LONG-TERM MARKET ADOPTION RATES AT DISCRETE PAYBACK INTERVALS

End-Use	10 Year Payback Period	5 Year Payback Period	3 Year Payback Period	1 Year Payback Period	0 Year Payback Period
Lighting	27%	43%	52%	64%	73%
HVAC	24%	38%	50%	60%	66%
Refrigeration	31%	38%	44%	53%	58%
Water Heat	30%	37%	46%	55%	62%

In the maximum achievable potential scenario, incentives were assumed to represent 100% of the measure cost (0-year payback).

GDS then estimated initial year adoption rates by reviewing the current saturation levels of efficient technologies and (if necessary) calibrating the estimates of 2022 annual potential to recent historical levels achieved by EKPC. GDS then assumed a non-linear ramp rate from the initial year market adoption rate to the various long-term market adoption rates for each specific end-use.

3.4.4.2 Non-Incentive Costs

Consistent with National Action Plan for Energy Efficiency (NAPEE) guidelines,[7] utility non-incentive costs were included in the overall assessment of cost-effectiveness at the RAP scenario. Non-incentive costs were calibrated to recent EKPC levels. Non-incentive costs were then escalated annually at the rate of inflation.[8]

[7] National Action Plan for Energy Efficiency (2007). Guide for Conducting Energy Efficiency Potential Studies. Prepared by Optimal Energy. This study notes that economic potential only considers the cost of efficiency measures themselves, ignoring programmatic costs. Conversely, achievable potential should consider the non-measures costs of delivering programs. Pg. 2-4.
[8] As noted earlier in the report, measure costs and utility incentives were not escalated over the 20-year analysis timeframe to keep those costs constant in nominal dollars.

4 RESIDENTIAL ENERGY EFFICIENCY POTENTIAL FINDINGS

This chapter provides the potential results for technical, economic, and achievable potential for the residential sector. The chapter breaks down the potential by sector, end use and market segment. The results are provided on a five, ten and fifteen-year basis. Budget and benefit-cost data are provided for the achievable potential scenarios.

Figure 4-1 and Table 4-1 provide the technical, economic, MAP and RAP results for the 5-year, 10-year, and 15-year timeframes. The cumulative annual 5-year technical potential is 27% of the residential forecasted sales, and the economic potential is 25% of forecasted sales. The cumulative annual 5-year MAP is 11% and the RAP is 8%, as a percentage of forecasted residential sales. Over the duration of the study timeframe the technical potential rises to 32% and the economic potential rises to 30% of forecasted sales. The MAP and RAP rise respectively to 17% and 13% of forecasted sales over the study timeframe. The gap between economic potential and MAP/RAP represents market barriers to prospective program participants, both financial and non-financial, to achieving the full amount of economic potential.

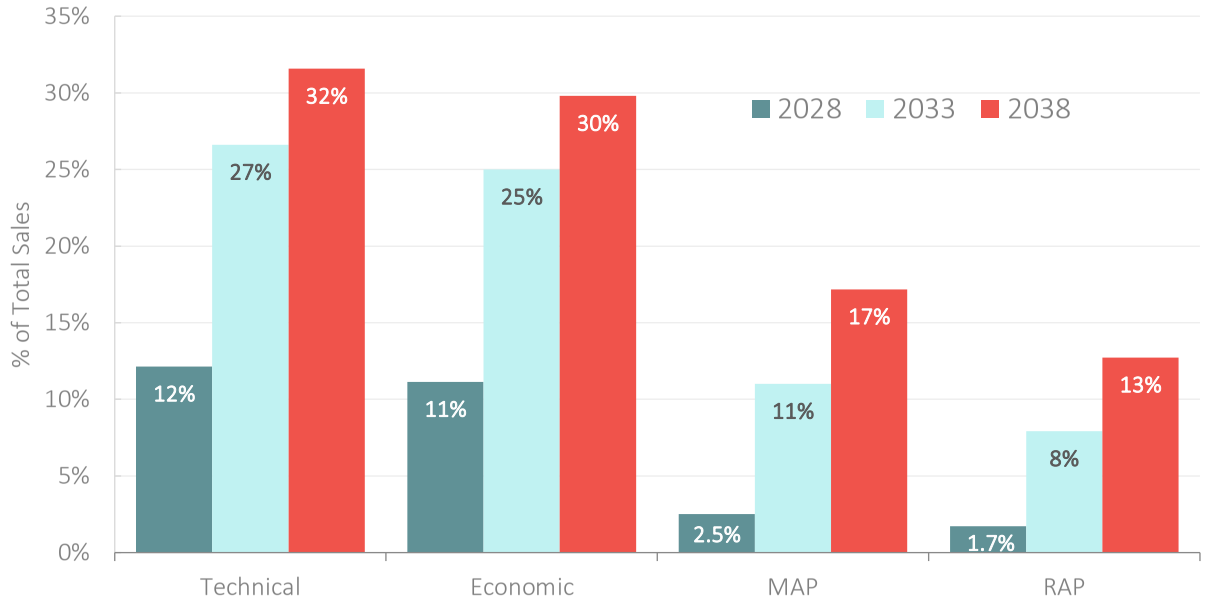

FIGURE 4-1: OVERVIEW OF RESIDENTIAL POTENTIAL

TABLE 4-1 RESIDENTIAL CUMULATIVE ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

	2024	2025	2026	2033	2038
Energy (MWh)					
Technical	407,913	673,327	909,532	2,135,185	2,696,508
Economic	381,456	621,778	834,442	2,005,906	2,545,153
MAP	52,908	117,592	188,203	883,598	1,467,394
RAP	35,631	79,882	128,620	635,232	1,087,505
Energy Savings (as % of Forecast)					
Technical	5.5%	9.1%	12.1%	26.6%	31.6%
Economic	5.2%	8.4%	11.1%	25.0%	29.8%
MAP	0.7%	1.6%	2.5%	11.0%	17.2%
RAP	0.5%	1.1%	1.7%	7.9%	12.7%

Table 4-2 provides the incremental annual technical, economic, MAP and RAP energy savings, in total MWh and as a percentage of the sector-level sales forecast.[9] The incremental MAP ranges from 0.7% to 3.1% per year over the study horizon. The incremental RAP ranges from 0.5% to 2.6% per year over the study horizon.

TABLE 4-2 RESIDENTIAL INCREMENTAL ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

	2024	2025	2026	2033	2038
Energy (MWh)					
Technical	407,913	402,363	397,496	380,789	372,944
Economic	381,456	376,489	372,422	356,431	348,002
MAP	52,908	67,639	78,354	197,971	262,201
RAP	35,631	47,063	56,021	160,195	221,269
Energy Savings (as % of Forecast)					
Technical	5.5%	5.4%	5.3%	4.7%	4.4%
Economic	5.2%	5.1%	5.0%	4.4%	4.1%
MAP	0.7%	0.9%	1.0%	2.5%	3.1%
RAP	0.5%	0.6%	0.7%	2.0%	2.6%

4.1 TECHNICAL/ECONOMIC POTENTIAL

Figure 4-2 shows the cumulative annual technical potential for energy savings. TP energy savings approach 2.7 million MWh by 2038.

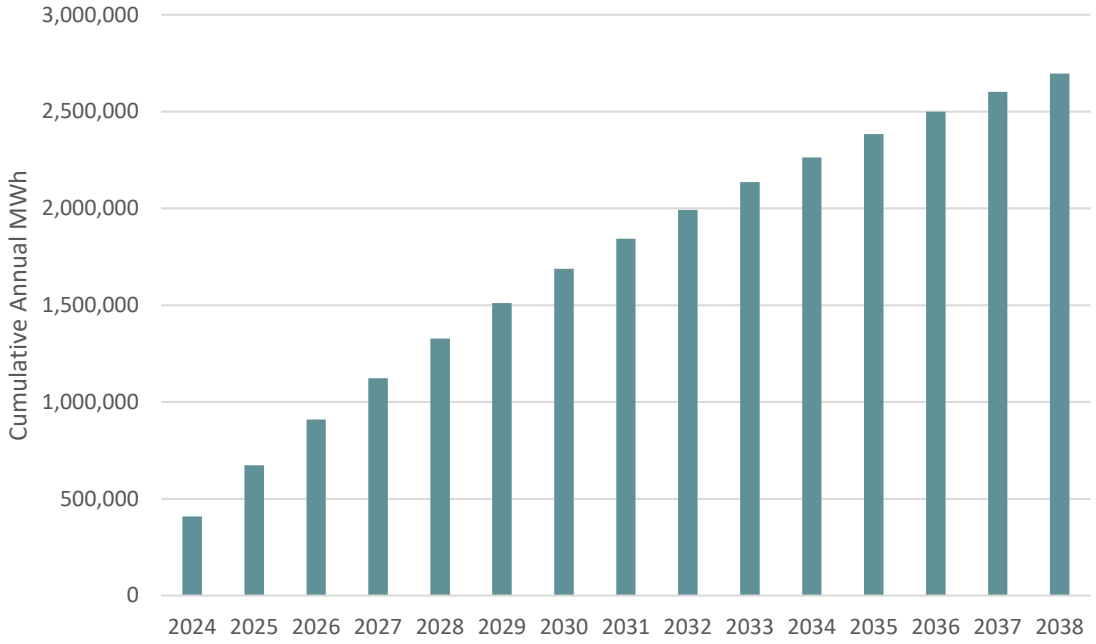

FIGURE 4-2: 15-YR RESIDENTIAL TECHNICAL POTENTIAL

Figure 4-3 shows the cumulative annual economic potential for energy savings. EP energy savings exceeds 2.5 million MWh by 2038.

[9] The savings shown in Table 4-2 show the savings associated with measure installations in the years shown in the table. This compares to Table 4-1, which shows the cumulative annual savings for all measures installed to date in the years shown (e.g. 2033 shows the cumulative savings in that year associated with all measure installations in the 2024-2033 timeframe.

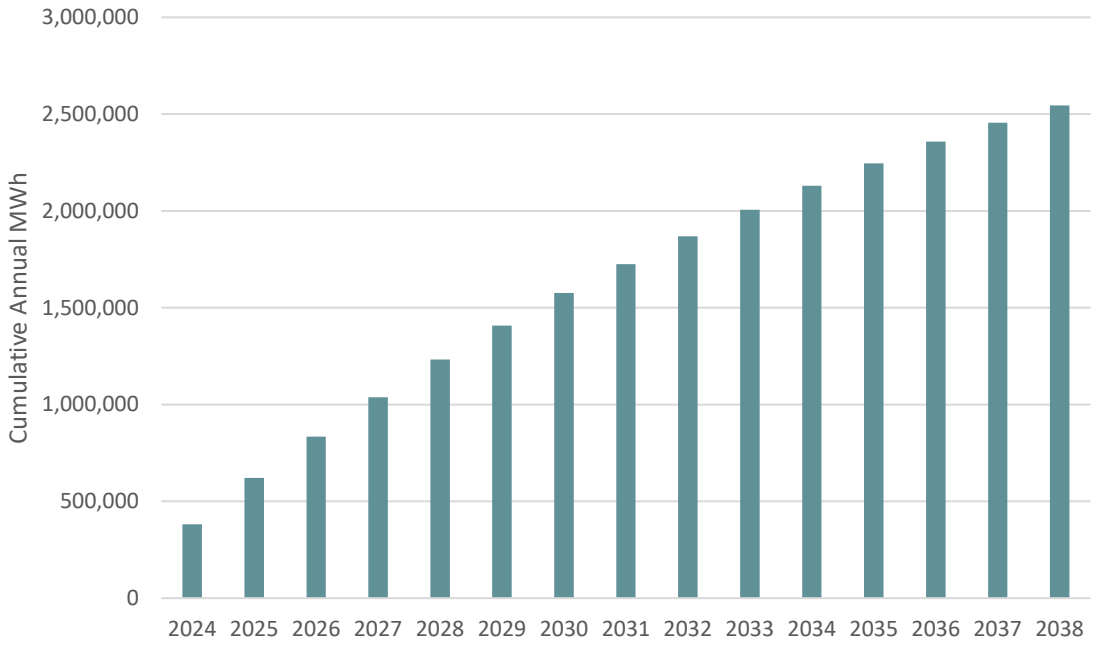

FIGURE 4-3: 15-YR RESIDENTIAL ECONOMIC POTENTIAL

4.2 ACHIEVABLE POTENTIAL

Figure 4-4 provides the MAP and RAP across the 15-yr timeframe of the study. The blue and red bars provide the respective incremental annual MAP and RAP in MWh per year energy savings. The blue and orange lines provide the corresponding cumulative annual MAP and RAP as a percentage of forecasted annual residential sector sales. The MAP rises to 17% by 2038, and the RAP rises to 13%.

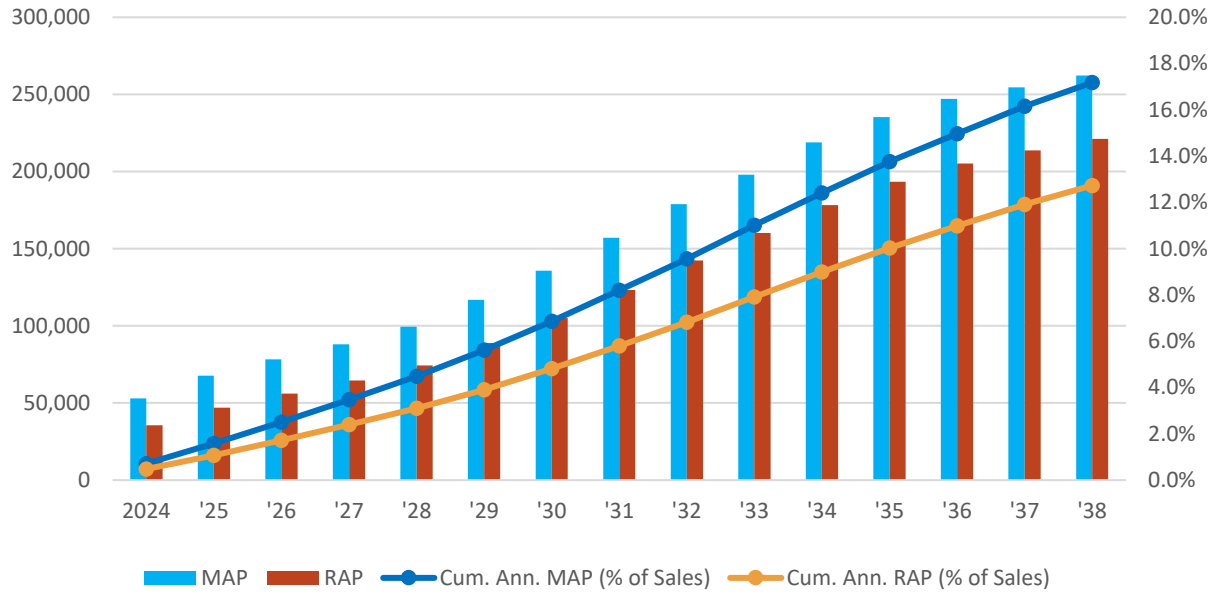

FIGURE 4-4: OVERVIEW OF RESIDENTIAL POTENTIAL – RAP 2038

Figure 4-5 provides a breakdown of the RAP potential in 2038 across residential end-uses and building type market segments.[10] In the RAP scenario, Shell and HVAC Equipment are the leading end-uses, accounting for more than 50% of the potential. Across building types and income types, residential non-low-income single-family existing homes account for 40% of the achievable potential, with non-low-income manufactured/mobile homes accounting for 7% and new construction accounting for 13%. Low-income households account for 40% of the potential (across all home types and construction vintages).

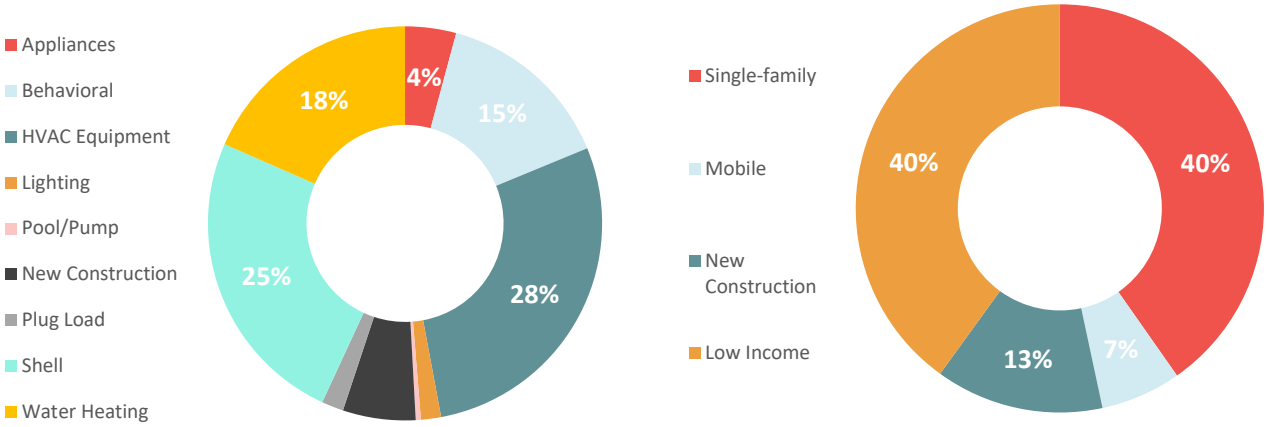

FIGURE 4-5: RESIDENTIAL POTENTIAL BY END-USE AND BUILDING TYPE – RAP 2038

Table 4-3 provides incremental and cumulative annual residential sector energy and demand savings for MAP and RAP across the next three years as well as over the 10-yr and 15-yr time horizons. Incremental RAP energy savings begin at roughly 36,000 MWh in 2024 and then grow to over 220,000 by 2038. Cumulative RAP energy savings rise to approximately 1 million MWh by 2038.

TABLE 4-3 RESIDENTIAL SECTOR MAP & RAP POTENTIAL

	2024	2025	2026	2033	2038
Incremental Annual Energy (MWh)					
MAP	52,908	67,639	78,354	197,971	262,201
RAP	35,631	47,063	56,021	160,195	221,269
Incremental Annual Demand (MW)					
MAP	6	9	11	30	40
RAP	4	6	8	24	32
Cumulative Annual Energy (MWh)					
MAP	52,908	117,592	188,203	883,598	1,467,394
RAP	35,631	79,882	128,620	635,232	1,087,505
Cumulative Annual Demand (MW)					
MAP	6	15	25	131	229
RAP	4	10	17	94	167

4.3 RESIDENTIAL BENEFITS AND COSTS

This section provides benefits and costs information for the residential sector. Table 4-4 provided the NPV benefits and costs for the MAP and RAP scenarios.[11] In the MAP scenario the NPV benefits are more than $1.1

[10] Segments with less than 4% of total end-use or building type share do not display a data label (%) in pie-charts to improve readability of data.

[11] Costs are in nominal dollars, but the non-incentive costs increase annually at the rate of inflation.

billion over the study timeframe with a TRC ratio of 2.40. In the RAP scenario, the NPV benefits are more than $750 million over the study timeframe with a TRC ratio of 2.23.

TABLE 4-4 NPV BENEFITS AND COSTS MAP & RAP POTENTIAL – 2038

	NPV Benefits	NPV Costs	TRC Ratio
MAP	$1,946	$812	2.40
RAP	$1,361	$610	2.23

Figure 4-6 provides a breakdown of the MAP and RAP annual budgets over the study timeframe. RAP budgets increase early from $12 million to $65 million over the study timeframe.

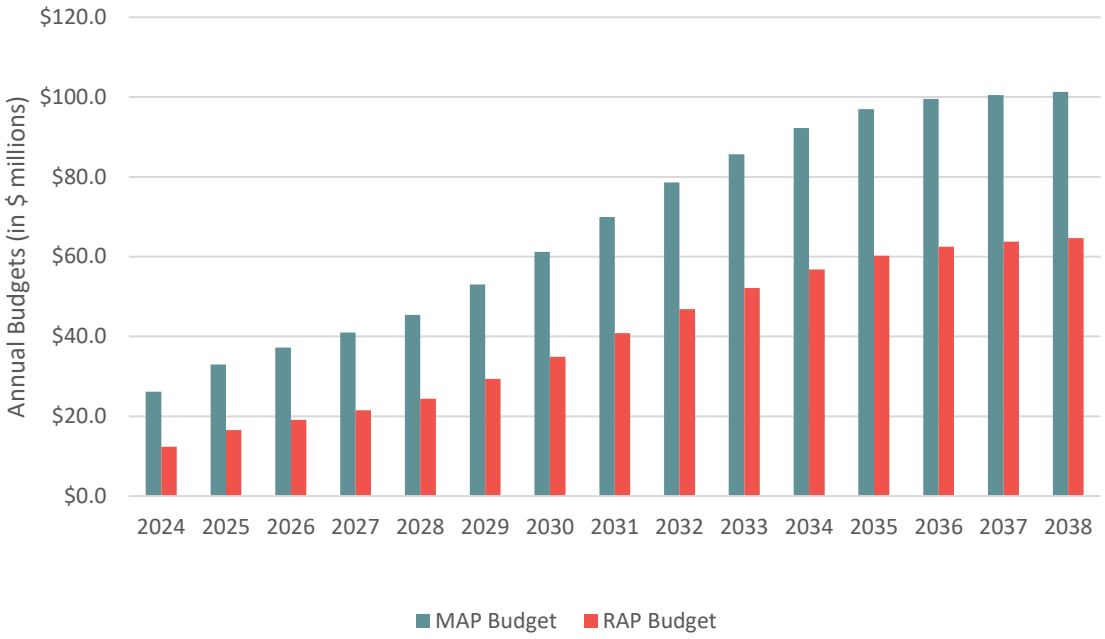

FIGURE 4-6: RESIDENTIAL ANNUAL BUDGETS FOR MAP AND RAP ($, MILLIONS)

5 COMMERCIAL AND INDUSTRIAL ENERGY EFFICIENCY POTENTIAL

This chapter provides the potential results for technical, economic, and achievable potential for the commercial and industrial sectors. The chapter breaks down the potential by sector, end use and market segment. The results are provided on a five, ten and fifteen-year basis. Budget and benefit-cost data are provided for the achievable potential scenarios.

Figure 5-1 and Table 5-1 provide the technical, economic, MAP and RAP results for the 5-year, 10-year, and 15-year timeframes. The cumulative annual 5-year technical potential is 17% of the combined commercial and industrial ("C/I") forecasted sales, and the economic potential is 10% of forecasted C/Il sales. The cumulative annual 5-year MAP is 6% and the RAP is 5%, as a percentage of forecasted C/I sales. Over the duration of the study timeframe the technical potential rises to 21% and the economic potential rises to 19% of forecasted sales. The nearly identical technical and economic potential indicate that most measures are cost-effective. The MAP and RAP rise respectively to 10% and 7% of forecasted sales over the study timeframe. The gap between economic potential and MAP/RAP represents market barriers to prospective program participants, both financial and non-financial, to achieving the full amount of economic potential.

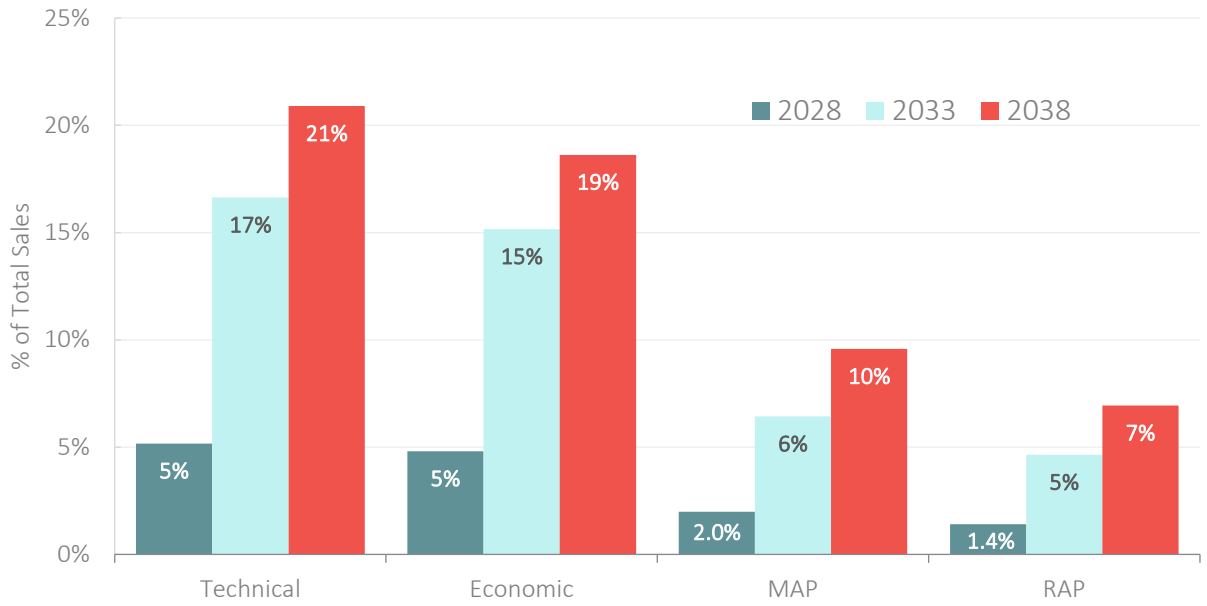

FIGURE 5-1: OVERVIEW OF C/I POTENTIAL

TABLE 5-1 C/I CUMULATIVE ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

	2024	2025	2026	2033	2038
Energy (MWh)					
Technical	128,053	265,266	409,893	1,357,455	1,754,118
Economic	119,831	247,081	381,134	1,237,029	1,563,734
MAP	52,738	106,667	158,679	525,347	804,018
RAP	36,292	73,806	110,350	373,666	576,589
Energy Savings (as % of Forecast)					
Technical	1.7%	3.4%	5.2%	16.6%	20.9%
Economic	1.5%	3.2%	4.8%	15.2%	18.6%
MAP	0.7%	1.4%	2.0%	6.4%	9.6%
RAP	0.5%	0.9%	1.4%	4.6%	6.9%

Table 5-2 provides the incremental annual technical, economic, MAP and RAP energy savings, in total MWh and as a percentage of the sector-level sales forecast. The incremental MAP ranges from 0.7% to 1.3% per year over the study horizon. The incremental RAP ranges from 0.5% to 1.1% per year over the study horizon.

TABLE 5-2 C/I INCREMENTAL ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

	2024	2025	2026	2033	2038
Energy (MWh)					
Technical	128,053	137,212	144,628	188,929	181,304
Economic	119,831	127,250	134,053	171,772	166,871
MAP	52,738	53,928	52,012	85,697	111,824
RAP	36,292	37,514	36,544	65,906	88,727
Energy Savings (as % of Forecast)					
Technical	1.7%	1.7%	1.8%	2.3%	2.2%
Economic	1.5%	1.6%	1.7%	2.1%	2.0%
MAP	0.7%	0.7%	0.7%	1.0%	1.3%
RAP	0.5%	0.5%	0.5%	0.8%	1.1%

5.1 TECHNICAL/ECONOMIC POTENTIAL

Figure 5-2 shows the cumulative annual technical potential for energy savings. TP energy savings approach 1.8 million MWh by 2038.

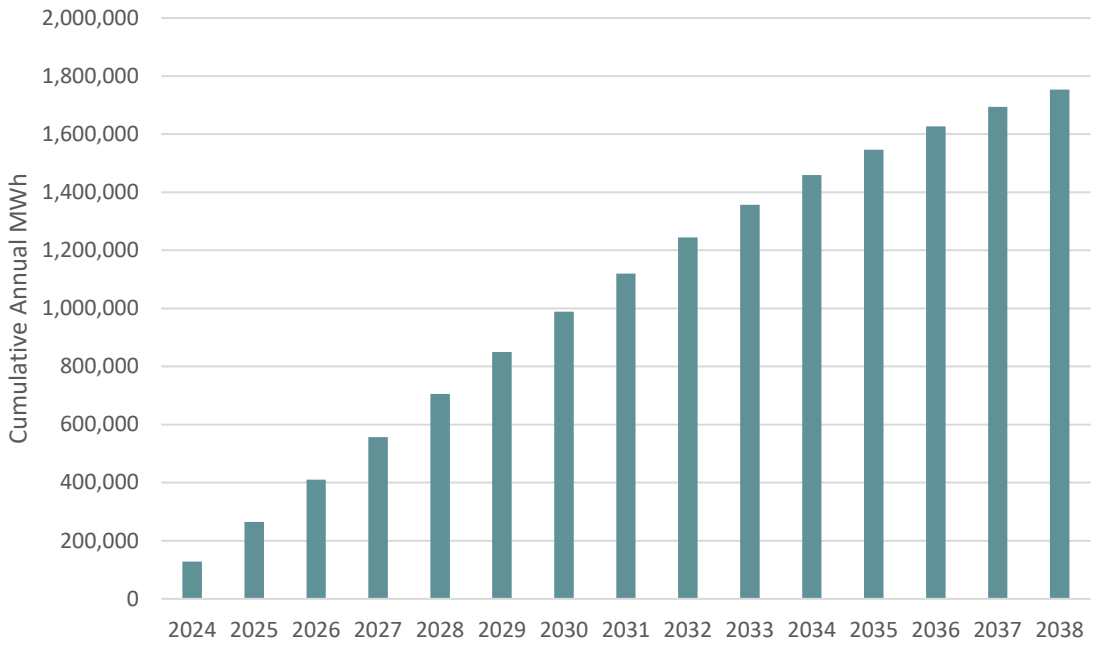

FIGURE 5-2: 15-YR C&I TECHNICAL POTENTIAL

Figure 5-3 shows the cumulative annual technical potential for energy savings. EP energy savings exceeds 1.5 million MWh by 2038.

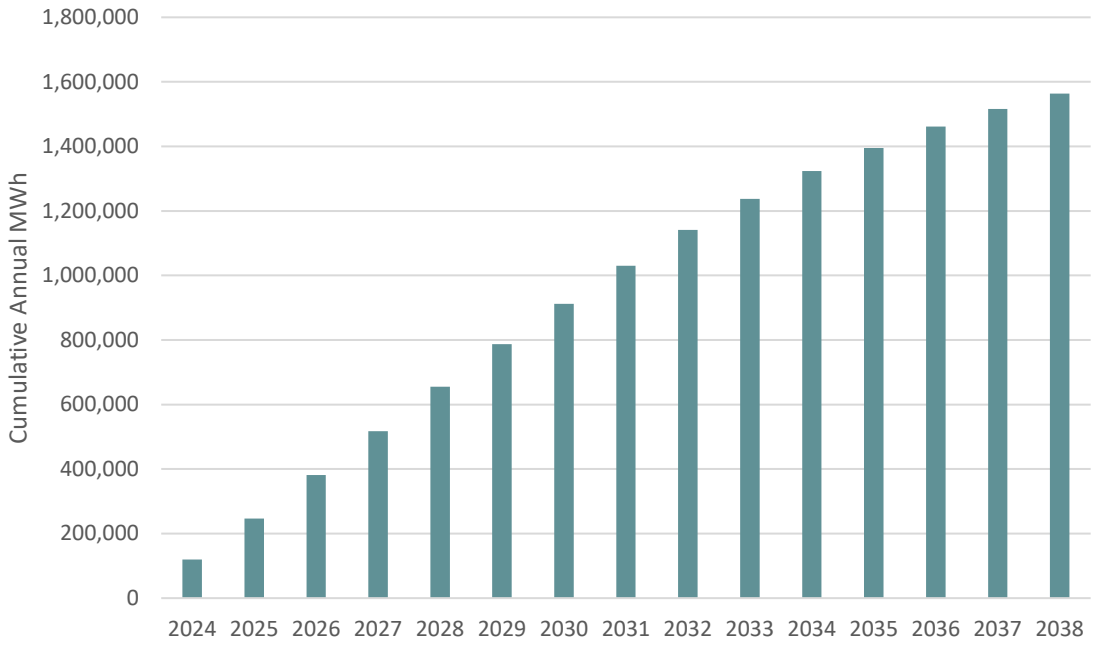

FIGURE 5-3: 15-YR C&I ECONOMIC POTENTIAL

5.2 ACHIEVABLE POTENTIAL

Figure 5-4 provides the MAP and RAP across the 15-yr timeframe of the study. The blue and red bars provide the respective incremental annual MAP and RAP in MWh per year energy savings. The blue and orange lines provide the corresponding cumulative annual MAP and RAP as a percentage of forecasted annual commercial and industrial sector sales. The MAP rises to 10% by 2038, and the RAP rises to 7%.

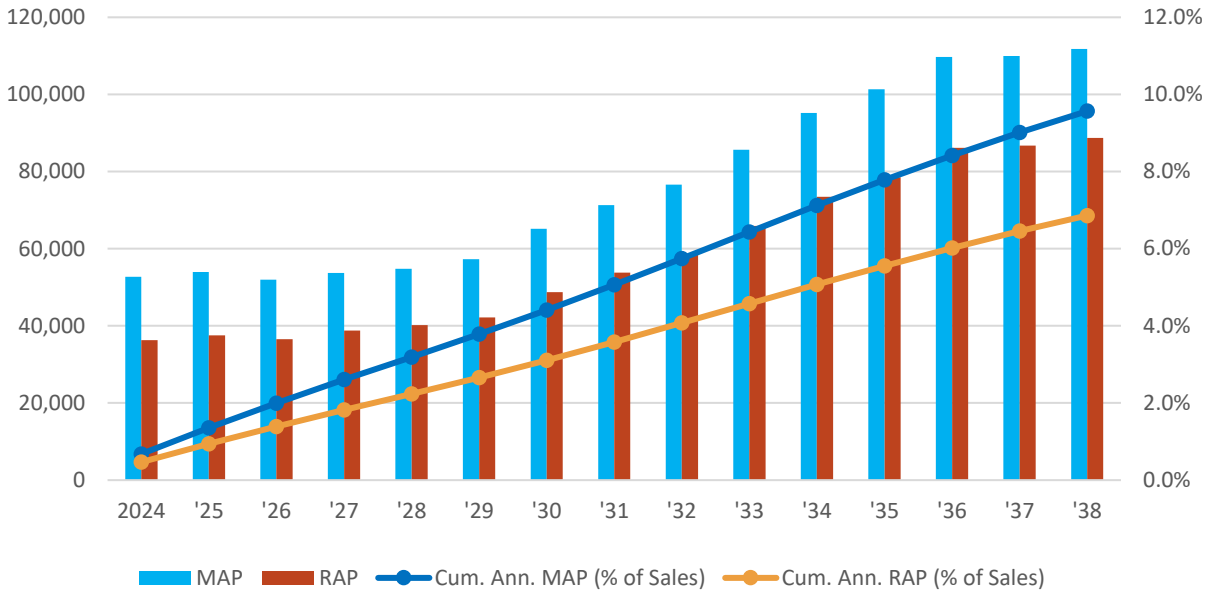

FIGURE 5-4: OVERVIEW OF C/I POTENTIAL – RAP 2038

Figure 5-5 provides a breakdown of the RAP potential in 2038 across commercial and industrial end-uses and building type market segments.[12] In the RAP scenario, Whole Building, Lighting Motors account for more than 60% of the potential. Across building types, Industrial buildings themselves account for nearly 60% of the achievable potential.

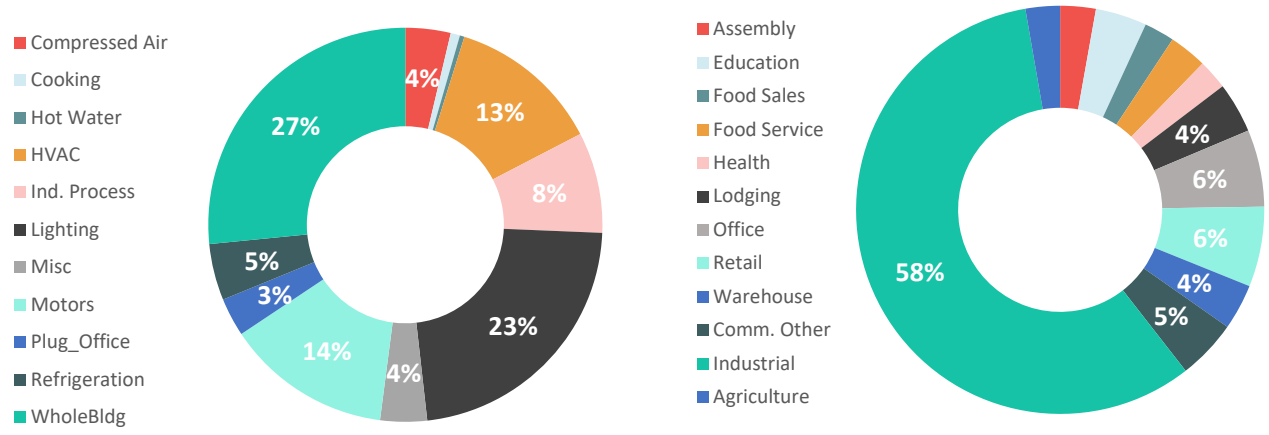

FIGURE 5-5: C/I POTENTIAL BY END-USE AND BUILDING TYPE – RAP 2038

Table 5-3 provides incremental and cumulative annual commercial and industrial sector energy and demand savings for MAP and RAP across the next three years as well as over the 10-yr and 20-yr time horizons. Incremental RAP energy savings begin at roughly 37,000 MWh in 2024 and rise to more than 88,000 MWh by 2038. Cumulative RAP energy savings rise to approximately 582,000 MWh by 2038.

TABLE 5-3 C/I SECTOR MAP & RAP POTENTIAL

	2024	2025	2026	2033	2038
Incremental Annual Energy (MWh)					
MAP	52,738	53,928	52,012	85,697	111,824
RAP	36,292	37,514	36,544	65,906	88,727
Incremental Annual Demand (MW)					
MAP	7	7	7	12	16
RAP	5	5	5	9	13
Cumulative Annual Energy (MWh)					
MAP	52,738	106,667	158,679	525,347	804,018
RAP	36,292	73,806	110,350	373,666	576,589
Cumulative Annual Demand (MW)					
MAP	7	14	21	71	112
RAP	5	10	15	51	81

5.3 BENEFITS AND COSTS

This section provides benefits and costs information for the C&I sector. Table 4-4 provided the NPV benefits and costs for the MAP and RAP scenarios. In the MAP scenario the NPV benefits are more than $640 million

[12] Segments with less than 5% of total end-use or building type share do not display a data label (%) in pie-charts to improve readability of data.

over the study timeframe with a TRC ratio of 2.76. In the RAP scenario, the NPV benefits are more than $450 million over the study timeframe with a TRC ratio of 2.61.

TABLE 5-4 NPV BENEFITS AND COSTS MAP & RAP POTENTIAL – 2038 ($ MILLIONS)

	NPV Benefits	NPV Costs	TRC Ratio
MAP	$863	$211	4.10
RAP	$588	$135	4.35

Figure 5-6 provides a breakdown of the MAP and RAP annual budgets over the study timeframe. RAP budgets increase early from $3 million to $12 million over the study timeframe.

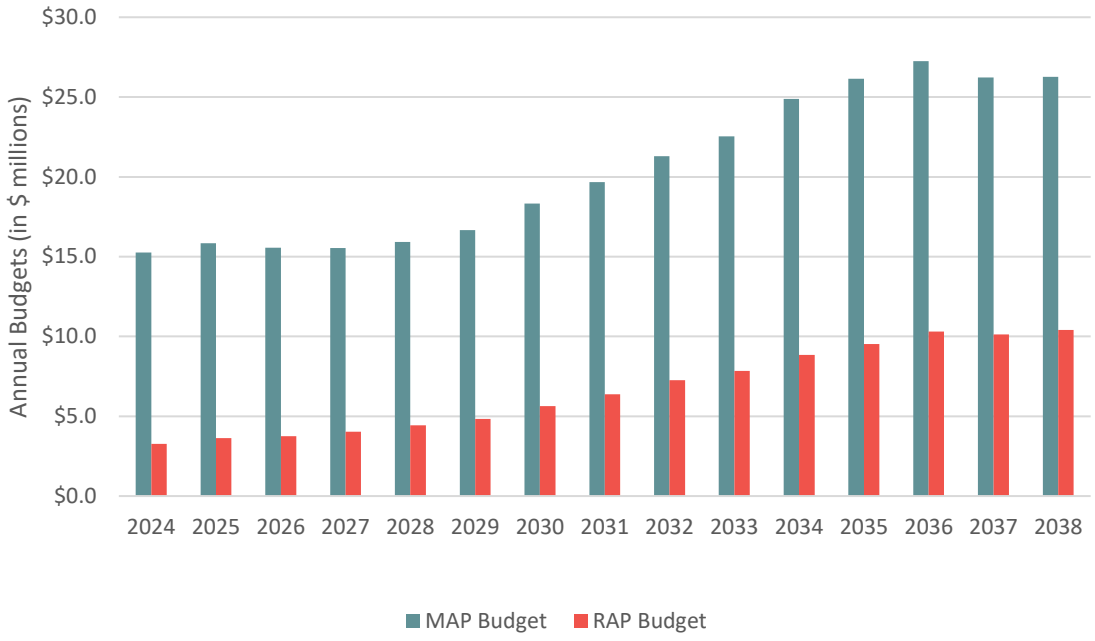

FIGURE 5-6: C&I ANNUAL BUDGETS FOR MAP AND RAP ($, MILLIONS)

6 DR POTENTIAL RESULTS

6.1 ANALYSIS APPROACH

This section provides an overview of the demand response potential methodology. Summary results of the demand response analysis are provided in Section 6.2.

6.1.1 Definition of Demand Response

According to the Federal Energy Regulatory Commission (FERC), demand response is defined as changes in electric usage by demand-side resources from their normal consumption patterns in response to changes in the price of electricity over time, or to incentive payments designed to induce lower electricity use at times of high wholesale market prices or when system reliability is jeopardized. FERC's definition of demand response conforms to the North American Electric Reliability Corporation (NERC) definition developed by a consortium of utilities and end users.

This study uses the FERC definition of demand response so that all potential DR, including rate options, are identified. East Kentucky's integrated resource planning team will analyze and adjust as necessary the identified DR potential for how DR potential will be used to construct alternative resource plans.

6.1.2 Demand Response Program Options

Table 6-1 provides a brief description of the demand response (DR) program options that were considered as part of the base analysis and identifies the eligible customer segment for each demand response program to be considered in this study. The list of DR options was determined based on a review of the 2021 East Kentucky MPS, East Kentucky's current and/or planned offerings, DR programs run by other utilities in the region, as well as new programs that East Kentucky is considering. The base case analysis includes direct load control (DLC), rate design, and aggregator options.

TABLE 6-1 DEMAND RESPONSE BASE CASE PROGRAM OPTIONS AND ELIGIBLE MARKETS

DR Program Option	Program Description	Eligible Markets
DLC AC Switch	The compressor of the air conditioner is remotely shut off (cycled) by the system operator for periods that may range from 7 ½ to 15 minutes during every 30-minute period (i.e., 25%-50% duty cycle).	Residential and Small Non-Residential Customers
DLC Thermostat	The system operator can remotely raise the AC's or lower the furnace's thermostat set point during peak load conditions, lowering HVAC load.	Residential and Small Non-Residential Customers
DLC Pool Pumps	The swimming pool pump is remotely shut off by the system operator for periods normally ranging from 2 to 4 hours.	Residential Customers
DLC Water Heaters	The water heater is remotely shut off by the system operator for periods normally ranging from 2 to 8 hours.	Residential and Small Non-Residential Customers
DLC Agricultural Irrigation	The irrigation pump is remotely shut off by the system operator for periods normally ranging from 2 to 4 hours.	Farms

DR Program Option	Program Description	Eligible Markets
Interruptible Rate	A discounted rate is offered to the customer for agreeing to interrupt or curtail load during peak period. The interruption is mandatory. No buy-through options are available on mandatory interruptions. Buy-through options are allowed for energy market interruptions.	Large Non-Residential Customers
Capacity Bidding	Flexible bidding program offering qualified businesses payments for agreeing to reduce load when an event is called. Participants make monthly nominations and receive capacity payments based on the amount of capacity reduction nominated each month, plus energy payments based on actual kilowatt-hour (kWh) energy reduction when an event is called. The amount of capacity nomination can be adjusted on a monthly basis. The program can be Internet-based, providing ready access to program information and ease-of-use. Penalties occur if load nominations are not met.	Large Non-Residential Customers
Demand Buyback	A year-round, flexible, Internet-based bidding program that offers business customers credits for voluntarily reducing power when an event is called.	Large Non-Residential Customers
Critical Peak Pricing with Enabling Technology	A retail rate at which an extra-high price for electricity is provided during a limited number of critical periods (e.g. 100 hours) of the year. Market-based prices are typically provided on a day-ahead basis, or an hour-ahead basis. Includes enabling technology that connects technologies within building. Only for customers with AC.	Residential and Non-Residential Customers
Critical Peak Pricing without Enabling Technology	A retail rate at which an extra-high price for electricity is provided during a limited number of critical periods (e.g. 100 hours) of the year. Market-based prices are typically provided on a day-ahead basis, or an hour-ahead basis.	Residential and Non-Residential Customers
PEV Off Peak Charging Rate	Special rate service for electric vehicles that charge off-peak.	Residential and Non-Residential Customers
Thermal Energy Storage Rate	The use of a cold storage medium such as ice, chilled water, or other liquids. Off-peak energy is used to produce chilled water or ice for use in cooling during peak hours. The cool storage process is limited to off-peak periods.	Non-Residential Customers
Golf Cart Charging Rate	Special rate service for golf courses that charge electric golf carts off-peak.	Golf courses
DR Generators	Allows the utility to turn customer's generator on and off for short periods of time during specific times of the day. The goal of DR is to enable the utility to reduce pressure on the grid and avoid rolling black outs during times of high usage.	Residential and Non-Residential Customers

DR Program Option	Program Description	Eligible Markets
Battery Storage	Customer-sited stationary storage systems that are connected to the distribution system on the customer's side of the utility's service meter. The systems are installed on customer premises, provide savings or other benefits to the customers, and customers are typically the principal investors in the system. The primary drivers for customer adoption of BTM are opportunities for bill reductions, improving energy resilience, and mitigating power quality.	Residential Customers

6.1.3 Demand Response Potential Assessment Approach Overview

The analysis of DR, where possible, closely follows the approach outlined for energy efficiency. The framework for assessing the cost-effectiveness of demand response programs is based *on A Framework for Evaluating the Cost-Effectiveness of Demand Response, prepared for the National Forum on the National Action Plan (NAPDR) on Demand Response*.[13] Additionally, GDS reviewed the National Standard Practice Manual published by the National Efficiency Screening Project.[14] GDS utilized this guide to define avoided ancillary services and energy and/or capacity prices.

The demand response analysis was conducted using the GDS Demand Response Model. The DR Model determines the estimated savings for each demand response program by performing a review of all benefits and costs associated with each program. GDS developed the model such that the value of future programs could be determined and will help facilitate demand response program planning strategies. The model contains approximately 50 required inputs for each program including: expected life, coincident peak ("CP") kW load reductions, proposed rebate levels, program related expenses such as vendor service fees, marketing and evaluation cost and on-going O&M expenses. This model and future program planning features can be used to standardize the cost-effectiveness screening process between East Kentucky departments interested in the deployment of demand response resources.

The TRC Test was used to determine the cost-effectiveness of each demand response program. Benefits are based on avoided generation capacity, energy (including load shifting) and T&D infrastructure costs. Costs include incremental program equipment costs (such as control switches or smart thermostats), fixed program capital costs (such as the cost of a central controller), program administrative, marketing and evaluation costs. Incremental equipment program costs are included for both new and replacement units (such as control switches) to account for units that are replaced at the end of their useful life.

The demand response analysis includes estimates of technical, economic, achievable, and program potential. Achievable potential is broken into maximum and realistic potential in this study:

MAP represents an estimate of the maximum cost-effective demand response potential that can be achieved over the study period. For this study, this will be defined as customer participation in demand response program options that reflect a "best practices" estimate of what could eventually be achieved. MAP assumes no barriers to effective delivery of programs.

RAP represents an estimate of the amount of demand response potential that can be realistically achieved over the study period. For this study, this will be defined as achieving customer participation in demand response program options that reflect a realistic estimate of what could eventually be achieved assuming typical or "average" industry experience. RAP is a discounted MAP, by considering program barriers that limit participation, therefore reducing savings that could be achieved.

[13] Study was prepared by Synapse Energy Economics and the Regulatory Assistance Project, February 2013.
[14] National Standard Practice Manual for Assessing Cost-Effectiveness of Energy Efficiency Resources, May 18, 2017, Prepared by The National Efficiency Screening Project

6.1.4 Avoided Costs

Demand response avoided costs are consistent with those utilized in the energy efficiency potential analysis and were provided by East Kentucky. The primary benefit of demand response is avoided generation capacity, resulting from a reduction in the need for new peaking generation capacity. Demand response can also produce energy related benefits. Demand response programs can also potentially delay the construction of new transmission and distribution lines and facilities, which is reflected in avoided T&D costs. If the demand response option is considered "load shifting," such as direct load control of electric water heating, the consumption of energy is shifted from the control period to the period immediately following the period of control. If the program is not considered to be "load shifting" the measure is turned off during peak control hours, and the energy is saved altogether. The number of seasonal control hours for all direct load control programs was determined by GDS. Table 6-2 provides the seasonal number of control hours assumed for DR programs.

TABLE 6-2 DEMAND RESPONSE SEASONAL NUMBER OF CONTROL HOURS

Program	Seasonal Hours of Control	Assumptions
Direct Load Control Programs	60	4 hour events, 15 events/season
Interruptible Rate	80	Based on review of other similar interruptible rate programs around the country
Critical Peak Pricing Rate	60	4 hour events, 15 events/season
Demand Buyback	80	Based on review of other similar demand buyback programs around the country
EV Off-Peak Charging Rate	640	8 hour events, 5 days/week, 16 weeks/season
Golf Cart Charging Rate	640	8 hour events, 5 days/week, 16 weeks/season
Thermal Storage Cooling Rate	640	8 hour events, 5 days/week, 16 weeks/season
Capacity Bidding	80	Based on review of other similar capacity bidding programs around the country
Battery Storage	80	Based on review of other similar battery storage programs around the country

Program	Seasonal Hours of Control	Assumptions
DR Generators	50	Based on review of other generator programs around the country

6.1.5 Demand Response Program Assumptions

This section briefly discusses the general assumptions and sources that will be used to complete the demand response potential analysis.

Load Reduction: Demand reductions were based on various secondary data sources including evaluation studies, FERC and other industry reports, and other demand response potential studies that conducted primary research. Some programs were calculated based on a per-unit kW demand reduction and other program options were assumed to reduce a percentage of the total facility peak load. These load reductions can be found in Table 6-3.

TABLE 6-3 DEMAND RESPONSE LOAD REDUCTION IMPACTS

Program	Residential Load Reduction (kW)	Non-Residential Load Reduction (kW)
DLC Central AC Switch	1 kW (Summer only)	N/A
DLC Thermostat	1.6 kW in Summer; 1.4 kW in Winter	4.1 kW in Summer; 3.5 kW in Winter
DLC Water Heating	0.37 kW in Summer; 0.52 kW in Winter	0.6 kW in Summer; 1.2 kW in Winter
DLC Pool Pumps	1.36 kW	N/A
Interruptible Rate	N/A	48% of CP Billing Demand in Summer; 50% in Winter
DLC Agricultural Irrigation	N/A	44 kW
Critical Peak Pricing with Enabling Tech	31% of CP Billing Demand in Summer; 25% in Winter	9% of CP Billing Demand
Critical Peak Pricing without Enabling Tech	12% of CP Billing Demand in Summer; 13% in Winter	6% of CP Billing Demand
Capacity Bidding	N/A	31 kW in Summer, 40 kW in Winter
Demand Buyback	N/A	7% of CP Billing Demand
Electric Vehicle Charging Rate	0.52 kW in Summer; 0.55 kW in Winter	0.02 kW in Summer; 0.03 kW in Winter
Golf Cart Charging	N/A	54 kW
Thermal Electric Storage Rate	N/A	19.4 kW
Battery Storage	3 kW	N/A

Program	Residential Load Reduction (kW)	Non-Residential Load Reduction (kW)
DR Generators	6 kW	22 kW

Eligible Control Units: The number of control units (or demand response equipment) per participant were calculated based on the average number of units in homes in the East Kentucky territory. This was used to determine the total equipment cost.

Useful Life: The useful life of equipment used in demand response programs, such as load control switches, smart thermostats, or batteries, was determined using TRMs and data from manufacturers. This useful life was used to determine when equipment needs to be re-installed in the study after the device has failed, therefore adding a second equipment cost for some participants in the study. GDS used a useful life of 11 years for smart thermostats[15], 10 years for level 2 EV chargers[16], 10 years for battery storage[17], 19 years for generators[18], and 10 years for load switches.[19]

Equipment and Incentive Costs: Equipment costs were included for each new participant. Annual incentives were included either on a per participant, per kW or per kWh basis (noted in Table 6-4). For a few of the programs, the utility is incentivizing the customer by paying for a portion of the equipment cost.

TABLE 6-4 ASSUMED BASE CASE EQUIPMENT AND INCENTIVE COSTS

	DR Program Option	Incentive Costs	Equipment Costs
Residential	DLC Central AC Switch	$20/participant-year	$188 for equipment, $300 for labor
	DLC Thermostat	$20/participant-year + one-time $110 incentive	$140
	DLC Swimming Pool Pumps	$10/participant-year	$188 for equipment, $300 for labor
	DLC Water Heating	$10/participant-year	$188 for equipment, $300 for labor
	Critical Peak Pricing with Enabling Technology	$0	$150
	Critical Peak Pricing without Enabling Technology	$0	$0
	Electric Vehicle Charging Rate	Utility pays 25% of Level 2 charger cost	$1000 for new Level 2 charger (for those that don't already have one)
	Battery Storage	Utility pays 25% of battery cost	Starts at $16,630 in 2024; decreases to $11,539 in 2043
	DR Generators	$350/participant-year	Assumed EKPC does not pay any equipment cost

[15] Illinois Technical Reference Manual 2023
[16] US DOE, Costs Associated with Non-Residential EV Supply Equipment, 2015
[17] Tesla Warranty
[18] FEMA
[19] Comverge

	DR Program Option	Incentive Costs	Equipment Costs
Non-Residential	DLC Thermostat	$50/participant-year + one-time $110 incentive	$140
	DLC Water Heaters	$25/participant-year	$188 for equipment, $300 for labor
	DLC Agricultural Irrigation	$41/kW-year	$1,804
	Interruptible Rate	$5.6/kW-year	$0
	Critical Peak Pricing with Enabling Technology	$0	$150
	Critical Peak Pricing without Enabling Technology	$0	$0
	Capacity Bidding	$21.50/kW-year	$0
	Demand Buyback	$0.5/kWh-year	$0
	Electric Vehicle Charging Rate	Utility pays 25% of Level 2 charger cost	$1000 for new Level 2 charger (for those that don't already have one)
	Golf Cart Charging Rate	$8.5/kW-year	$9,000
	Thermal Electric Storage Cooling Rate	$8.5/kW-year	$46,500
	DR Generators	$79/kW-year	Assumed EKPC does not pay any equipment cost

Program Costs: One-time program development costs of $400,000 were included in the first year of the analysis for new programs[20]. This cost was split between similar programs[21]. No program development costs are assumed for programs that already exist. Each program includes an evaluation cost, marketing cost (higher for MAP than RAP), and administration cost. All program costs were escalated each year by the general rate of inflation assumed for this study.

Eligible Market Size: For direct load control programs, the size of the eligible market was determined by multiplying the forecast of East Kentucky's customers by the saturation of the end use to be controlled. End use saturations were obtained from the 2022 Residential Appliance Saturation Survey Report as well as 2016 End Use Survey Data for data that was not included in the 2022 Report.

6.1.6 DR Program Adoption Levels

Long-term program adoption levels (or "steady state" participation) represent the enrollment rate once the fully achievable participation has been reached. GDS has reviewed industry data and program adoption levels from several utilities' DR programs.

Customer participation in new demand response programs is assumed to reach the steady state adoption rate over a five-year period. The path to steady state customer participation follows an "S-shaped" curve, in which participation growth accelerates over the first half of the five-year period, and then slows over the second half of the period (Figure 6-1). GDS used other research or potential studies to determine steady state participation rates. Table 6-5 provides the Base Case long-term adoption rates for MAP and RAP.

[20] Tennessee Valley Authority Potential Study Vol. 3: Demand Response Potential Study, Global Energy partners, December 2011

[21] These program development costs were split: $400,000 between CPP with Enabling Technology and Without Enabling Technology; $400,000 between Demand Buyback and Capacity Bidding; and $400,000 between EV Off-Peak Charging Rate, Golf Cart Charging Rate, and TES Rate.

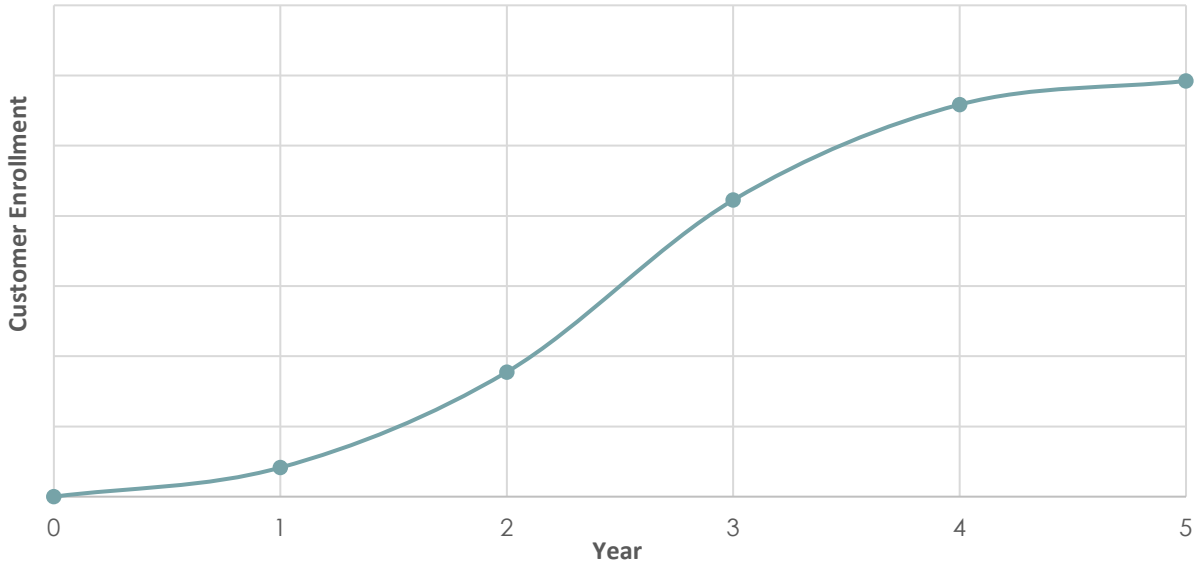

FIGURE 6-1 ILLUSTRATION OF S-SHAPED MARKET ADOPTION CURVE

TABLE 6-5 BASE CASE ADOPTION RATES

Sector	Program	Steady State MAP Adoption Rate	Steady State RAP Adoption Rate
Residential	DLC Central AC Switch	0% (Existing participants decreasing to 0 over time)	0% (Existing participants decreasing to 0 over time)
	DLC Thermostat	35%	11%
	DLC Pool Pumps	38%	19%
	DLC Water Heaters	0% (Existing participants decreasing to 0 over time)	0% (Existing participants decreasing to 0 over time)
	Critical Peak Pricing with Enabling Technology	91%	22%
	Critical Peak Pricing without Enabling Technology	82%	17%
	Electric Vehicle Charging Rate	94%	20%
	Battery Storage	10%	5%
	DR Generators	10%	5%
Non-Residential	DLC Thermostat	10%	8%
	DLC Water Heaters	30%	22%
	DLC Agricultural Irrigation	30%	15%
	Interruptible Rate	30%	15%
	Critical Peak Pricing with Enabling Technology	69%	20%
	Critical Peak Pricing without Enabling Technology	63%	18%
	Capacity Bidding	21%	3%

Sector	Program	Steady State MAP Adoption Rate	Steady State RAP Adoption Rate
	Demand Buyback	9%	1%
	Electric Vehicle Charging Rate	94%	20%
	Golf Cart Charging Rate	81%	16%
	Thermal Electric Storage Cooling Rate	81%	16%
	DR Generators	10%	5%

Double-counting savings from demand response programs that affect the same end uses is a common issue that must be addressed when calculating the demand response savings potential. For example, a customer cannot elect to participate in both DLC programs and rate programs and claim savings from both programs for curtailing the same end use. One cannot save a kW of load in a specific hour more than once. In general, the hierarchy of demand response programs is accounted for by subtracting the number participants in a higher priority program from the eligible market for a lower priority program. Table 6-6 shows the hierarchy for each sector, with 1 being the top priority.

TABLE 6-6 BASE CASE DR HIERARCHY FOR EACH SECTOR

Order	Residential Hierarchy	Small Non-Residential Hierarchy	Large Non-Residential Hierarchy
1	Direct Load Control	Generators	Interruptible Rate
2	Generators	Direct Load Control	Generators
3	Critical Peak Pricing	Demand Buyback	Capacity Bidding
4		Critical Peak Pricing	Critical Peak Pricing

6.2 DEMAND RESPONSE POTENTIAL

This section provides the potential results for technical, economic, and achievable demand response potential for all sectors. The section breaks down the potential by sector, end use, season (summer or winter) and market segment. The results are provided on a 3-, 10-, and 15-year basis. Budget and benefit-cost data are provided for the achievable potential scenarios.

Figure 6-2 provides the technical, economic, summer MAP, winter MAP, summer RAP, and winter RAP results for the 5-year, 10-year, and 15-year timeframes. The annual 5-year summer MAP is 24%, winter MAP is 28%, summer RAP is 14%, and winter RAP is 16% as a percentage of forecasted demand.

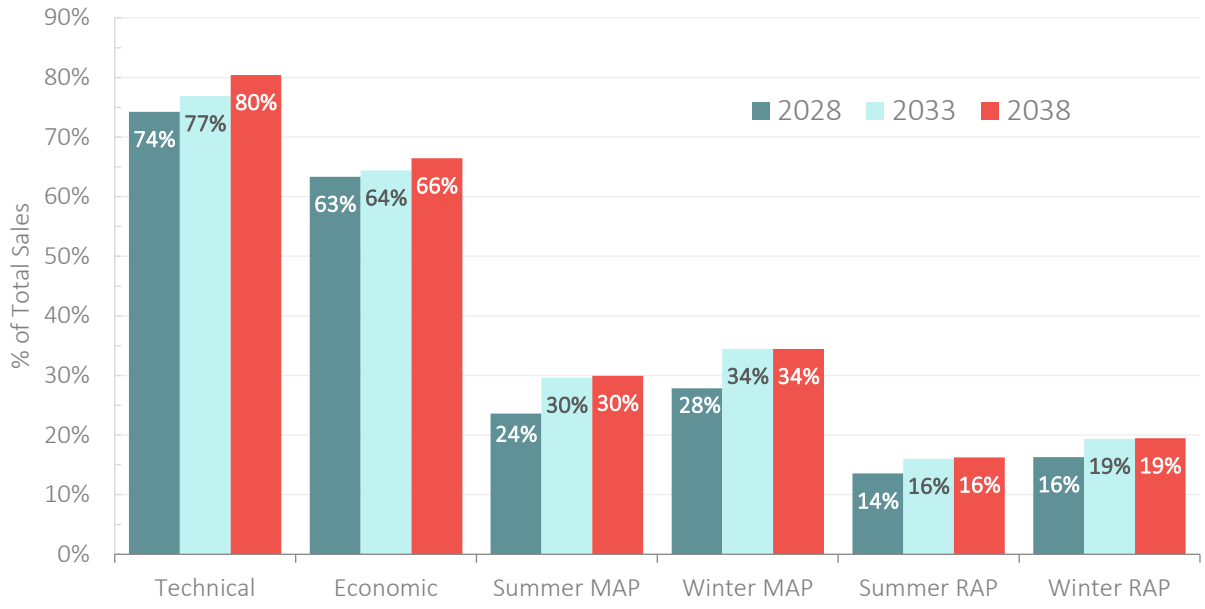

FIGURE 6-2: OVERVIEW OF DEMAND RESPONSE POTENTIAL

6.2.1 Technical/Economic Potential

Table 6-7 provides annual technical and economic potential results across the for the 1-year, 2-year, 3-year, 10-year, and 15-year timeframes. The technical potential is nearly 2,700 MW by 2038. Economic potential rises to more than 2,200 MW by 2024 as well.

TABLE 6-7 TECHNICAL & ECONOMIC DEMAND RESPONSE POTENTIAL

	2024	2025	2026	2033	2038
Peak Demand (MW)					
Technical	2,553	2,521	2,486	2,574	2,694
Economic	2,202	2,164	2,122	2,157	2,225

6.2.2 Achievable Potential

Table 6-8 and Table 6-9 provides 15-yr summer and winter MAP and RAP potential by residential program. The DLC Thermostat and CPP with Enabling Technology programs provide the most MAP and RAP potential, accounting for a combined 3.7% peak savings in the summer RAP scenario and 2.8% savings in the winter RAP scenario.

TABLE 6-8 SUMMER DEMAND RESPONSE MAP & RAP POTENTIAL – RESIDENTIAL PROGRAMS

Residential Program	MAP (MW)	RAP (MW)	MAP (% of Forecast	RAP (% of Forecast
DLC Central AC Switch	0.0	0.0	0.0%	0.0%
DLC Thermostat	164.5	53.4	5.7%	1.9%
DLC Water Heaters	0.0	0.0	0.0%	0.0%
CPP with Enabling Technology	190.7	56.6	6.6%	2.0%
CPP without Enabling Technology	51.7	22.4	1.8%	0.8%
Generators	0.0	19.9	0.0%	0.7%
Total	**407.0**	**152.3**	**14.1%**	**5.3%**

TABLE 6-9 WINTER DEMAND RESPONSE MAP & RAP POTENTIAL – RESIDENTIAL PROGRAMS

	MAP (MW)	RAP (MW)	MAP (% of Forecast)	RAP (% of Forecast)
DLC Thermostat	66.9	22.5	1.8%	0.6%
DLC Water Heaters	0.0	0.0	0.0%	0.0%
CPP with Enabling Technology	199.8	59.3	5.3%	1.6%
CPP without Enabling Technology	74.1	32.1	2.0%	0.9%
Generators	0.0	19.9	0.0%	0.5%
Total	**340.8**	**133.8**	**9.1%**	**3.6%**

Table 6-10 and Table 6-11 provides provide 15-year summer and winter MAP and RAP potential by C/I program. The Interruptible Rate program provides the most MAP and RAP potential, accounting for 9.1% peak savings in the summer RAP scenario and 9.0% in the winter RAP scenario.

TABLE 6-10 SUMMER DEMAND RESPONSE MAP & RAP POTENTIAL – C/I PROGRAMS

	MAP (MW)	RAP (MW)	MAP (% of Forecast)	RAP (% of Forecast)
DLC Thermostat	11.2	9.1	0.4%	0.3%
DLC Water Heaters	3.3	2.4	0.1%	0.1%
DLC Agricultural Irrigation	8.3	0.0	0.3%	0.0%
Interruptible Rate	321.4	258.6	11.2%	9.0%
CPP with Enabling Technology	66.4	21.8	2.3%	0.8%
CPP without Enabling Technology	17.5	11.4	0.6%	0.4%
Demand Buyback	2.2	0.0	0.1%	0.0%
Golf Cart Charging Rate	1.4	0.0	0.0%	0.0%
Capacity Bidding	1.0	0.0	0.0%	0.0%
Generators	15.1	7.6	0.5%	0.3%
Total	**447.8**	**310.9**	**15.7%**	**10.8%**

TABLE 6-11 WINTER DEMAND RESPONSE MAP & RAP POTENTIAL – C/I PROGRAMS

	MAP (MW)	RAP (MW)	MAP (% of Forecast)	RAP (% of Forecast)
DLC Thermostat	9.5	7.7	0.3%	0.2%
DLC Water Heaters	6.6	4.9	0.2%	0.1%
Interruptible Rate	423.2	335.0	11.3%	9.0%
CPP with Enabling Technology	86.9	28.5	2.3%	0.8%
CPP without Enabling Technology	22.9	14.9	0.6%	0.4%
Demand Buyback	2.9	0.0	0.1%	0.0%
Golf Cart Charging Rate	1.4	0.0	0.0%	0.0%
Capacity Bidding	1.4	0.0	0.0%	0.0%
Generators	15.1	7.6	0.4%	0.2%

	MAP (MW)	RAP (MW)	MAP (% of Forecast)	RAP (% of Forecast)
Total	**569.8**	**398.6**	**15.4%**	**10.7%**

6.3 DEMAND RESPONSE POTENTIAL BENEFITS AND COSTS

This section provides benefits and costs information for the demand response analysis. Table 6-12 provided the NPV benefits and costs for the MAP and RAP scenarios. In the MAP scenario, the NPV benefits are more than $1.5 billion over the study timeframe with a TRC ratio of 4.23. In the RAP scenario, the NPV benefits are more than $800 million over the study timeframe with a TRC ratio of 4.05.

TABLE 6-12 NPV BENEFITS AND COSTS MAP & RAP DEMAND RESPONSE POTENTIAL – 2038

	NPV Benefits	NPV Costs	TRC Ratio
MAP	$2,018	$513	3.94
RAP	$1,178	$304	3.87

Figure 6-3 provides a breakdown of the MAP and RAP annual budgets over the study timeframe. RAP budgets fluctuate over time but rise from $17 million to over $34 million in 2035.

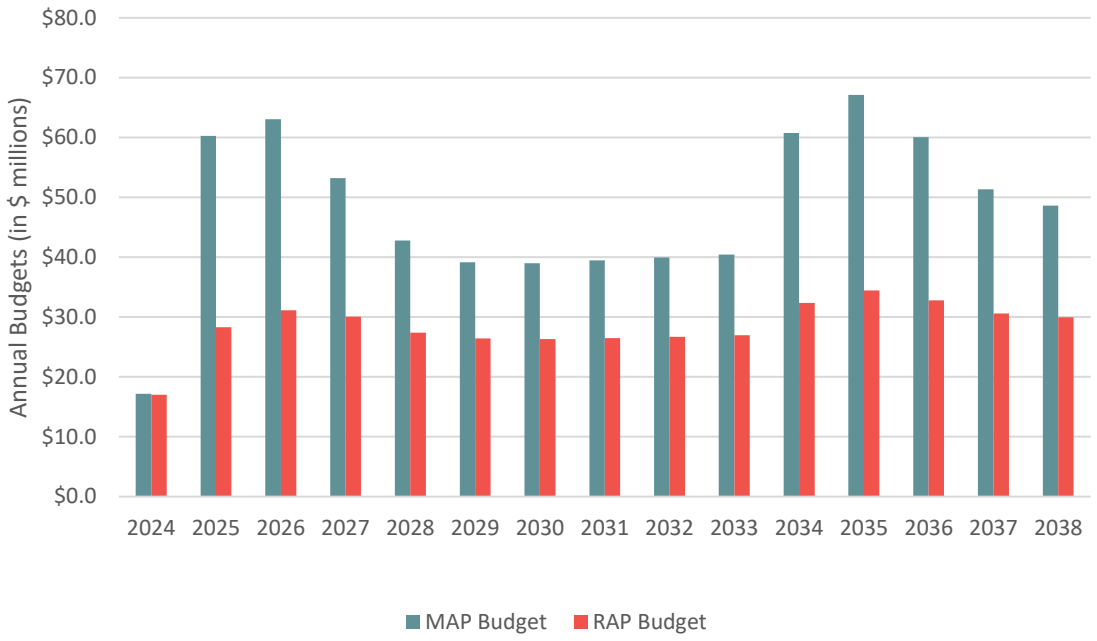

FIGURE 6-3: DEMAND RESPONSE ANNUAL BUDGETS FOR MAP AND RAP ($, MILLIONS)

7 PROGRAM SCENARIOS

The GDS Team calculated estimated savings for each EKPC program at three different spending scenarios: $7.4 million (Base), $5.4 million (Low), and $11.4 million (High). Each scenario is an increase over what EKPC spent in 2023. The first establishes program-level budgets and a total overall budget of $7.4 million, which represents a nearly $4 million increase over the 2023 spending of $3.4 million. The second scenario represents a 50% increase over the 2023 spending levels, and the third scenario represents a 200% increase over the 2023 spending levels. For each scenario, the estimated savings are based on the results of the RAP scenarios from the MPS as discussed in the preceding chapters, with the level of savings informed by the corresponding budgets in each of these three program funding scenarios. The tables below provide summary results for the savings and spending associated with each program in each funding scenario. Additional program-level detail is provided in Appendix D of the report.

Table 7-1 provides the annual energy and demand savings across all programs by funding scenario.[22] In the Base funding scenario, the annual energy savings start at 13,261 MWh in 2024 and rise to 14,715 MWh by 2026. In the Low scenario, the annual energy savings start at 9,668 MWh in 2024 and rise to 10,729 MWh by 2026. In the High scenario, the annual energy savings start at 20,446 MWh in 2024 and rise to 22,688 MWh by 2026.

TABLE 7-1 ANNUAL ENERGY AND DEMAND SAVINGS – BY PROGRAM FUNDING SCENARIO

	2024	2025	2026	2027	2028
Base					
Energy (MWh)	13,261	13,612	13,974	14,344	14,715
Demand (MW)	10.1	10.6	11.1	11.4	11.7
Low					
Energy (MWh)	9,668	9,925	10,188	10,459	10,729
Demand (MW)	3.0	3.0	3.1	3.2	3.3
High					
Energy (MWh)	20,446	20,987	21,544	22,116	22,688
Demand (MW)	23.9	27.4	30.8	33.3	34.6

Table 7-2 provides the 2024 budgets by program for each spending scenario. The program budgets are inclusive of incentives, admin, and net lost revenues, as applicable.

TABLE 7-2 2024 PROGRAM BUDGETS – BY SPENDING SCENARIO

Program	Base	Low	High
Residential Weatherization	$1,522,950	$1,115,429	$2,337,993
CARES Efficiency Program	$444,000	$325,191	$681,617
Residential HVAC Equipment	$2,494,798	$1,827,223	$3,829,949
Residential Home New Construction	$716,300	$524,627	$1,099,645
Commercial & Industrial	$614,850	$450,324	$943,902
Residential Electric Vehicle Off-peak Charging Program	$22,115	$16,197	$33,950
Direct Load Control	$1,581,080	$1,163,680	$2,415,990
Residential DR Other	$12,500	$3,500	$30,500
Total	$7,408,593	$5,426,171	$11,373,546

[22] Demand savings are Winter only and only represent savings from DR programs.

APPENDIX A: RESIDENTIAL MEASURE DETAIL

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
1001	Appliances	ENERGY STAR Refrigerator	No program	SF	MO	349	10%	35	0.005	0.005	15	$28.00	25%	126%	57%	65%	1.1	4.5	1.7	0.64
1002	Appliances	ENERGY STAR Refrigerator	No program	SF	MO	349	10%	35	0.005	0.005	15	$28.00	25%	126%	57%	65%	1.1	4.5	1.7	0.64
1003	Appliances	ENERGY STAR Refrigerator	No program	SF	NC	349	10%	35	0.005	0.005	15	$28.00	25%	126%	0%	29%	1.1	4.5	1.7	0.64
1004	Appliances	ENERGY STAR Refrigerator	No program	MH	MO	349	10%	35	0.005	0.005	15	$28.00	25%	126%	57%	65%	1.1	4.5	1.7	0.64
1005	Appliances	ENERGY STAR Refrigerator	No program	MH	MO	349	10%	35	0.005	0.005	15	$28.00	25%	126%	57%	65%	1.1	4.5	1.7	0.64
1006	Appliances	ENERGY STAR Refrigerator	No program	MH	NC	349	10%	35	0.005	0.005	15	$28.00	25%	126%	0%	29%	1.1	4.5	1.7	0.64
1007	Appliances	CEE Tier 2 Refrigerator	No program	SF	MO	349	15%	52	0.008	0.008	15	$112.00	25%	126%	57%	65%	0.4	1.7	0.8	0.53
1008	Appliances	CEE Tier 2 Refrigerator	No program	SF	MO	349	15%	52	0.008	0.008	15	$112.00	25%	126%	57%	65%	0.4	1.7	0.8	0.53
1009	Appliances	CEE Tier 2 Refrigerator	No program	SF	NC	349	15%	52	0.008	0.008	15	$112.00	25%	126%	0%	29%	0.4	1.7	0.8	0.53
1010	Appliances	CEE Tier 2 Refrigerator	No program	MH	MO	349	15%	52	0.008	0.008	15	$112.00	25%	126%	57%	65%	0.4	1.7	0.8	0.53
1011	Appliances	CEE Tier 2 Refrigerator	No program	MH	MO	349	15%	52	0.008	0.008	15	$112.00	25%	126%	57%	65%	0.4	1.7	0.8	0.53
1012	Appliances	CEE Tier 2 Refrigerator	No program	MH	NC	349	15%	52	0.008	0.008	15	$112.00	25%	126%	0%	29%	0.4	1.7	0.8	0.53
1013	Appliances	CEE Tier 3 Refrigerator	No program	SF	MO	349	20%	70	0.011	0.011	15	$134.00	25%	126%	57%	65%	0.5	1.9	0.9	0.55
1014	Appliances	CEE Tier 3 Refrigerator	No program	SF	MO	349	20%	70	0.011	0.011	15	$134.00	25%	126%	57%	65%	0.5	1.9	0.9	0.55
1015	Appliances	CEE Tier 3 Refrigerator	No program	SF	NC	349	20%	70	0.011	0.011	15	$134.00	25%	126%	0%	29%	0.5	1.9	0.9	0.55
1016	Appliances	CEE Tier 3 Refrigerator	No program	MH	MO	349	20%	70	0.011	0.011	15	$134.00	25%	126%	57%	65%	0.5	1.9	0.9	0.55
1017	Appliances	CEE Tier 3 Refrigerator	No program	MH	MO	349	20%	70	0.011	0.011	15	$134.00	25%	126%	57%	65%	0.5	1.9	0.9	0.55
1018	Appliances	CEE Tier 3 Refrigerator	No program	MH	NC	349	20%	70	0.011	0.011	15	$134.00	25%	126%	0%	29%	0.5	1.9	0.9	0.55
1019	Appliances	Refrigerator Recycling	No program	SF	Recycle	901	100%	901	0.111	0.111	7	$170.00	25%	4%	0%	29%	2.4	9.7	3.7	0.66
1020	Appliances	Refrigerator Recycling	No program	SF	Recycle	901	100%	901	0.111	0.111	7	$170.00	25%	4%	0%	29%	2.4	9.7	3.7	0.66
1021	Appliances	Refrigerator Recycling	No program	MH	Recycle	901	100%	901	0.111	0.111	7	$170.00	25%	4%	0%	29%	2.4	9.7	3.7	0.66
1022	Appliances	Refrigerator Recycling	No program	MH	Recycle	901	100%	901	0.111	0.111	7	$170.00	25%	4%	0%	29%	2.4	9.7	3.7	0.66
1023	Appliances	ENERGY STAR Clothes Washer	No program	SF	MO	590	24%	140	0.018	0.018	14	$87.00	25%	96%	57%	65%	3.6	5.4	5.3	0.66
1024	Appliances	ENERGY STAR Clothes Washer	No program	SF	MO	590	24%	140	0.018	0.018	14	$87.00	25%	96%	57%	65%	3.6	5.4	5.3	0.66
1025	Appliances	ENERGY STAR Clothes Washer	No program	SF	NC	590	24%	140	0.018	0.018	14	$87.00	25%	96%	0%	29%	3.6	5.4	5.3	0.66
1026	Appliances	ENERGY STAR Clothes Washer	No program	MH	MO	590	24%	140	0.018	0.018	14	$87.00	25%	96%	57%	65%	3.6	5.4	5.3	0.66
1027	Appliances	ENERGY STAR Clothes Washer	No program	MH	MO	590	24%	140	0.018	0.018	14	$87.00	25%	96%	57%	65%	3.6	5.4	5.3	0.66
1028	Appliances	ENERGY STAR Clothes Washer	No program	MH	NC	590	24%	140	0.018	0.018	14	$87.00	25%	96%	0%	29%	3.6	5.4	5.3	0.66
1029	Appliances	ENERGY STAR Clothes Washer (CEE Tier 2)	No program	SF	MO	590	43%	255	0.033	0.033	14	$85.00	25%	96%	57%	65%	6.1	10.2	8.8	0.69
1030	Appliances	ENERGY STAR Clothes Washer (CEE Tier 2)	No program	SF	MO	590	43%	255	0.033	0.033	14	$85.00	25%	96%	57%	65%	6.1	10.2	8.8	0.69
1031	Appliances	ENERGY STAR Clothes Washer (CEE Tier 2)	No program	SF	NC	590	43%	255	0.033	0.033	14	$85.00	25%	96%	0%	29%	6.1	10.2	8.8	0.69
1032	Appliances	ENERGY STAR Clothes Washer (CEE Tier 2)	No program	MH	MO	590	43%	255	0.033	0.033	14	$85.00	25%	96%	57%	65%	6.1	10.2	8.8	0.69
1033	Appliances	ENERGY STAR Clothes Washer (CEE Tier 2)	No program	MH	MO	590	43%	255	0.033	0.033	14	$85.00	25%	96%	57%	65%	6.1	10.2	8.8	0.69
1034	Appliances	ENERGY STAR Clothes Washer (CEE Tier 2)	No program	MH	NC	590	43%	255	0.033	0.033	14	$85.00	25%	96%	0%	29%	6.1	10.2	8.8	0.69
1035	Appliances	ENERGY STAR Clothes Washer (CEE Tier 3)	No program	SF	MO	590	47%	276	0.036	0.036	14	$99.00	25%	96%	57%	65%	5.7	9.4	8.2	0.69
1036	Appliances	ENERGY STAR Clothes Washer (CEE Tier 3)	No program	SF	MO	590	47%	276	0.036	0.036	14	$99.00	25%	96%	57%	65%	5.7	9.4	8.2	0.69
1037	Appliances	ENERGY STAR Clothes Washer (CEE Tier 3)	No program	SF	NC	590	47%	276	0.036	0.036	14	$99.00	25%	96%	0%	29%	5.7	9.4	8.2	0.69
1038	Appliances	ENERGY STAR Clothes Washer (CEE Tier 3)	No program	MH	MO	590	47%	276	0.036	0.036	14	$99.00	25%	96%	57%	65%	5.7	9.4	8.2	0.69
1039	Appliances	ENERGY STAR Clothes Washer (CEE Tier 3)	No program	MH	MO	590	47%	276	0.036	0.036	14	$99.00	25%	96%	57%	65%	5.7	9.4	8.2	0.69
1040	Appliances	ENERGY STAR Clothes Washer (CEE Tier 3)	No program	MH	NC	590	47%	276	0.036	0.036	14	$99.00	25%	96%	0%	29%	5.7	9.4	8.2	0.69
1041	Appliances	ENERGY STAR Dishwasher	No program	SF	MO	307	13%	40	0.003	0.003	11	$75.67	25%	68%	57%	65%	0.7	1.2	1.3	0.42
1042	Appliances	ENERGY STAR Dishwasher	No program	SF	MO	307	13%	40	0.003	0.003	11	$75.67	25%	68%	57%	65%	0.7	1.2	1.3	0.42
1043	Appliances	ENERGY STAR Dishwasher	No program	SF	NC	307	13%	40	0.003	0.003	11	$75.67	25%	68%	0%	29%	0.7	1.2	1.3	0.42
1044	Appliances	ENERGY STAR Dishwasher	No program	MH	MO	307	13%	40	0.003	0.003	11	$75.67	25%	68%	57%	65%	0.7	1.2	1.3	0.42
1045	Appliances	ENERGY STAR Dishwasher	No program	MH	MO	307	13%	40	0.003	0.003	11	$75.67	25%	68%	57%	65%	0.7	1.2	1.3	0.42
1046	Appliances	ENERGY STAR Dishwasher	No program	MH	NC	307	13%	40	0.003	0.003	11	$75.67	25%	68%	0%	29%	0.7	1.2	1.3	0.42
1047	Appliances	ENERGY STAR Dehumidifier	No program	SF	MO	1,095	12%	134	0.030	0.030	12	$35.00	25%	25%	84%	87%	3.6	14.4	4.1	0.87
1048	Appliances	ENERGY STAR Dehumidifier	No program	SF	MO	1,095	12%	134	0.030	0.030	12	$35.00	25%	25%	84%	87%	3.6	14.4	4.1	0.87
1049	Appliances	ENERGY STAR Dehumidifier	No program	SF	NC	1,095	12%	134	0.030	0.030	12	$35.00	25%	25%	0%	29%	3.6	14.4	4.1	0.87
1050	Appliances	ENERGY STAR Dehumidifier	No program	MH	MO	1,095	12%	134	0.030	0.030	12	$35.00	25%	25%	84%	87%	3.6	14.4	4.1	0.87
1051	Appliances	ENERGY STAR Dehumidifier	No program	MH	MO	1,095	12%	134	0.030	0.030	12	$35.00	25%	25%	84%	87%	3.6	14.4	4.1	0.87
1052	Appliances	ENERGY STAR Dehumidifier	No program	MH	NC	1,095	12%	134	0.030	0.030	12	$35.00	25%	25%	0%	29%	3.6	14.4	4.1	0.87
1053	Appliances	ENERGY STAR Most Efficient Dehumidifier	No program	SF	MO	1,095	17%	188	0.043	0.043	12	$100.00	25%	25%	84%	87%	1.8	7.2	2.2	0.83

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
1054	Appliances	ENERGY STAR Most Efficient Dehumidifier	No program	SF	MO	1,095	17%	188	0.043	0.043	12	$100.00	25%	25%	84%	87%	1.8	7.2	2.2	0.83
1055	Appliances	ENERGY STAR Most Efficient Dehumidifier	No program	SF	NC	1,095	17%	188	0.043	0.043	12	$100.00	25%	25%	0%	29%	1.8	7.2	2.2	0.83
1056	Appliances	ENERGY STAR Most Efficient Dehumidifier	No program	MH	MO	1,095	17%	188	0.043	0.043	12	$100.00	25%	25%	84%	87%	1.8	7.2	2.2	0.83
1057	Appliances	ENERGY STAR Most Efficient Dehumidifier	No program	MH	MO	1,095	17%	188	0.043	0.043	12	$100.00	25%	25%	84%	87%	1.8	7.2	2.2	0.83
1058	Appliances	ENERGY STAR Most Efficient Dehumidifier	No program	MH	NC	1,095	17%	188	0.043	0.043	12	$100.00	25%	25%	0%	29%	1.8	7.2	2.2	0.83
1059	Appliances	ENERGY STAR Freezer	No program	SF	MO	277	10%	28	0.004	0.003	21	$5.00	25%	75%	32%	45%	5.8	23.1	8.7	0.67
1060	Appliances	ENERGY STAR Freezer	No program	SF	MO	277	10%	28	0.004	0.003	21	$5.00	25%	75%	32%	45%	5.8	23.1	8.7	0.67
1061	Appliances	ENERGY STAR Freezer	No program	SF	NC	277	10%	28	0.004	0.003	21	$5.00	25%	75%	0%	29%	5.8	23.1	8.7	0.67
1062	Appliances	ENERGY STAR Freezer	No program	MH	MO	277	10%	28	0.004	0.003	21	$5.00	25%	75%	32%	45%	5.8	23.1	8.7	0.67
1063	Appliances	ENERGY STAR Freezer	No program	MH	MO	277	10%	28	0.004	0.003	21	$5.00	25%	75%	32%	45%	5.8	23.1	8.7	0.67
1064	Appliances	ENERGY STAR Freezer	No program	MH	NC	277	10%	28	0.004	0.003	21	$5.00	25%	75%	0%	29%	5.8	23.1	8.7	0.67
1065	Appliances	Freezer Recycling	No program	SF	Recycle	905	100%	905	0.106	0.090	7	$170.00	25%	3%	0%	29%	2.3	9.2	3.7	0.62
1066	Appliances	Freezer Recycling	No program	SF	Recycle	905	100%	905	0.106	0.090	7	$170.00	25%	3%	0%	29%	2.3	9.2	3.7	0.62
1067	Appliances	Freezer Recycling	No program	MH	Recycle	905	100%	905	0.106	0.090	7	$170.00	25%	3%	0%	29%	2.3	9.2	3.7	0.62
1068	Appliances	Freezer Recycling	No program	MH	Recycle	905	100%	905	0.106	0.090	7	$170.00	25%	3%	0%	29%	2.3	9.2	3.7	0.62
1069	Appliances	ENERGY STAR Clothes Dryer	No program	SF	MO	769	21%	160	0.022	0.022	16	$152.00	25%	93%	35%	48%	1.0	4.0	1.6	0.64
1070	Appliances	ENERGY STAR Clothes Dryer	No program	SF	MO	769	21%	160	0.022	0.022	16	$152.00	25%	93%	35%	48%	1.0	4.0	1.6	0.64
1071	Appliances	ENERGY STAR Clothes Dryer	No program	SF	NC	769	21%	160	0.022	0.022	16	$152.00	25%	93%	0%	29%	1.0	4.0	1.6	0.64
1072	Appliances	ENERGY STAR Clothes Dryer	No program	MH	MO	769	21%	160	0.022	0.022	16	$152.00	25%	93%	35%	48%	1.0	4.0	1.6	0.64
1073	Appliances	ENERGY STAR Clothes Dryer	No program	MH	MO	769	21%	160	0.022	0.022	16	$152.00	25%	93%	35%	48%	1.0	4.0	1.6	0.64
1074	Appliances	ENERGY STAR Clothes Dryer	No program	MH	NC	769	21%	160	0.022	0.022	16	$152.00	25%	93%	0%	29%	1.0	4.0	1.6	0.64
2001	Behavioral	Home Energy Management System	No program	SF	MO	13,791	5%	690	0.079	0.079	5	$100.00	25%	100%	0%	100%	2.4	9.6	3.6	0.67
2002	Behavioral	Home Energy Management System	No program	SF	MO	13,791	5%	690	0.079	0.079	5	$100.00	25%	100%	0%	100%	2.4	9.6	3.6	0.67
2003	Behavioral	Home Energy Management System	No program	SF	NC	13,791	5%	690	0.079	0.079	5	$100.00	25%	100%	0%	100%	2.4	9.6	3.6	0.67
2004	Behavioral	Home Energy Management System	No program	MH	MO	13,791	5%	690	0.079	0.079	5	$100.00	25%	100%	0%	100%	2.4	9.6	3.6	0.67
2005	Behavioral	Home Energy Management System	No program	MH	MO	13,791	5%	690	0.079	0.079	5	$100.00	25%	100%	0%	100%	2.4	9.6	3.6	0.67
2006	Behavioral	Home Energy Management System	No program	MH	NC	13,791	5%	690	0.079	0.079	5	$100.00	25%	100%	0%	100%	2.4	9.6	3.6	0.67
2007	Behavioral	Online Energy Audit	Residential Energy Audit	SF	MO	13,791	2%	276	0.031	0.031	1	$7.00	100%	100%	0%	100%	2.8	2.8	5.1	0.56
2008	Behavioral	Online Energy Audit	Residential Energy Audit	SF	MO	13,791	2%	276	0.031	0.031	1	$7.00	100%	100%	0%	100%	2.8	2.8	5.1	0.56
2009	Behavioral	Online Energy Audit	Residential Energy Audit	SF	NC	13,791	2%	276	0.031	0.031	1	$7.00	100%	100%	0%	100%	2.8	2.8	5.1	0.56
2010	Behavioral	Online Energy Audit	Residential Energy Audit	MH	MO	13,791	2%	276	0.031	0.031	1	$7.00	100%	100%	0%	100%	2.8	2.8	5.1	0.56
2011	Behavioral	Online Energy Audit	Residential Energy Audit	MH	MO	13,791	2%	276	0.031	0.031	1	$7.00	100%	100%	0%	100%	2.8	2.8	5.1	0.56
2012	Behavioral	Online Energy Audit	Residential Energy Audit	MH	NC	13,791	2%	276	0.031	0.031	1	$7.00	100%	100%	0%	100%	2.8	2.8	5.1	0.56
3001	HVAC Equipment	ASHP Tune Up	No program	SF	Retrofit	5,074	5%	254	0.127	0.046	3	$225.00	25%	40%	49%	60%	0.3	1.2	0.6	0.52
3002	HVAC Equipment	ASHP Tune Up	No program	SF	Retrofit	5,074	5%	254	0.127	0.046	3	$225.00	25%	40%	49%	60%	0.3	1.2	0.6	0.52
3003	HVAC Equipment	ASHP Tune Up	No program	SF	NC	5,074	5%	254	0.127	0.046	3	$225.00	25%	40%	0%	32%	0.3	1.2	0.6	0.52
3004	HVAC Equipment	ASHP Tune Up	No program	MH	Retrofit	4,228	5%	211	0.106	0.038	3	$225.00	25%	40%	49%	60%	0.3	1.0	0.5	0.48
3005	HVAC Equipment	ASHP Tune Up	No program	MH	Retrofit	4,228	5%	211	0.106	0.038	3	$225.00	25%	40%	49%	60%	0.3	1.0	0.5	0.48
3006	HVAC Equipment	ASHP Tune Up	No program	MH	NC	4,228	5%	211	0.106	0.038	3	$225.00	25%	40%	0%	32%	0.3	1.0	0.5	0.48
3007	HVAC Equipment	Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	SF	MO	5,074	10%	507	0.125	0.091	16	$636.00	100%	40%	36%	80%	3.4	0.7	4.5	0.39
3008	HVAC Equipment	Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	CARES Efficiency	SF	MO	5,074	10%	507	0.125	0.091	16	$636.00	100%	40%	36%	80%	4.0	0.8	5.1	0.42
3009	HVAC Equipment	Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	SF	NC	5,074	10%	507	0.125	0.091	16	$636.00	100%	40%	0%	80%	3.4	0.7	4.5	0.39
3010	HVAC Equipment	Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	MH	MO	4,228	10%	422	0.104	0.076	16	$530.00	100%	40%	36%	80%	3.3	0.6	4.4	0.35
3011	HVAC Equipment	Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	CARES Efficiency	MH	MO	4,228	10%	422	0.104	0.076	16	$530.00	100%	40%	36%	80%	4.6	0.8	5.8	0.42
3012	HVAC Equipment	Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	MH	NC	4,228	10%	422	0.104	0.076	16	$530.00	100%	40%	0%	80%	3.3	0.6	4.4	0.35

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
3013	HVAC Equipment	Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	SF	MO	5,074	18%	890	0.247	0.160	16	$1,273.00	59%	40%	36%	56%	2.3	1.3	3.0	0.51
3014	HVAC Equipment	Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	CARES Efficiency	SF	MO	5,074	18%	890	0.247	0.160	16	$1,273.00	100%	40%	36%	80%	2.3	0.8	3.4	0.40
3015	HVAC Equipment	Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	SF	NC	5,074	18%	890	0.247	0.160	16	$1,273.00	59%	40%	0%	56%	2.3	1.3	3.0	0.51
3016	HVAC Equipment	Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	MH	MO	4,228	18%	742	0.206	0.133	16	$1,061.00	71%	40%	36%	62%	2.6	1.1	3.5	0.48
3017	HVAC Equipment	Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	CARES Efficiency	MH	MO	4,228	18%	742	0.206	0.133	16	$1,061.00	100%	40%	36%	80%	2.6	0.8	3.8	0.40
3018	HVAC Equipment	Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	MH	NC	4,228	18%	742	0.206	0.133	16	$1,061.00	71%	40%	0%	62%	2.6	1.1	3.5	0.48
3019	HVAC Equipment	Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	SF	MO	5,074	26%	1,329	0.345	0.239	16	$1,909.00	39%	40%	36%	48%	1.8	1.9	2.3	0.59
3020	HVAC Equipment	Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	CARES Efficiency	SF	MO	5,074	26%	1,329	0.345	0.239	16	$1,909.00	100%	40%	36%	80%	1.8	0.7	2.9	0.40
3021	HVAC Equipment	Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	SF	NC	5,074	26%	1,329	0.345	0.239	16	$1,909.00	39%	40%	0%	43%	1.8	1.9	2.3	0.59
3022	HVAC Equipment	Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	MH	MO	4,228	26%	1,107	0.287	0.199	16	$1,591.00	47%	40%	36%	50%	2.0	1.6	2.6	0.55
3023	HVAC Equipment	Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	CARES Efficiency	MH	MO	4,228	26%	1,107	0.287	0.199	16	$1,591.00	100%	40%	36%	80%	2.0	0.7	3.1	0.40
3024	HVAC Equipment	Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	MH	NC	4,228	26%	1,107	0.287	0.199	16	$1,591.00	47%	40%	0%	50%	2.0	1.6	2.6	0.55
3025	HVAC Equipment	Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	SF	MO	5,074	31%	1,583	0.442	2.381	16	$2,546.00	29%	40%	36%	48%	3.1	7.9	1.9	2.15
3026	HVAC Equipment	Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	CARES Efficiency	SF	MO	5,074	31%	1,583	0.442	2.381	16	$2,546.00	100%	40%	36%	80%	3.1	2.3	2.6	1.30
3027	HVAC Equipment	Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	SF	NC	5,074	31%	1,583	0.442	2.381	16	$2,546.00	29%	40%	0%	35%	3.1	7.9	1.9	2.15
3028	HVAC Equipment	Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	MH	MO	4,228	31%	1,319	0.368	1.984	16	$2,122.00	35%	40%	36%	48%	3.3	6.5	2.1	2.04
3029	HVAC Equipment	Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	CARES Efficiency	MH	MO	4,228	31%	1,319	0.368	1.984	16	$2,122.00	100%	40%	36%	80%	3.3	2.3	2.7	1.30
3030	HVAC Equipment	Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	MH	NC	4,228	31%	1,319	0.368	1.984	16	$2,122.00	35%	40%	0%	41%	3.3	6.5	2.1	2.04
3031	HVAC Equipment	Air Source Heat Pump 19 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	SF	MO	5,074	35%	1,798	0.521	2.705	16	$3,182.00	24%	40%	36%	48%	2.7	8.9	1.6	2.23
3032	HVAC Equipment	Air Source Heat Pump 19 SEER2 - Heat pump baseline	CARES Efficiency	SF	MO	5,074	35%	1,798	0.521	2.705	16	$3,182.00	100%	40%	36%	80%	2.7	2.1	2.3	1.23
3033	HVAC Equipment	Air Source Heat Pump 19 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	SF	NC	5,074	35%	1,798	0.521	2.705	16	$3,182.00	24%	40%	0%	31%	2.7	8.9	1.6	2.23
3034	HVAC Equipment	Air Source Heat Pump 19 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	MH	MO	4,228	35%	1,499	0.434	2.254	16	$2,652.00	28%	40%	36%	48%	2.9	7.4	1.7	2.12
3035	HVAC Equipment	Air Source Heat Pump 19 SEER2 - Heat pump baseline	CARES Efficiency	MH	MO	4,228	35%	1,499	0.434	2.254	16	$2,652.00	100%	40%	36%	80%	2.9	2.1	2.5	1.23
3036	HVAC Equipment	Air Source Heat Pump 19 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	MH	NC	4,228	35%	1,499	0.434	2.254	16	$2,652.00	28%	40%	0%	34%	2.9	7.4	1.7	2.12
3037	HVAC Equipment	Air Source Heat Pump 20 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	SF	MO	5,074	39%	1,991	0.600	2.995	16	$3,819.00	20%	40%	36%	48%	2.5	9.9	1.4	2.29
3038	HVAC Equipment	Air Source Heat Pump 20 SEER2 - Heat pump baseline	CARES Efficiency	SF	MO	5,074	39%	1,991	0.600	2.995	16	$3,819.00	100%	40%	36%	80%	2.5	1.9	2.2	1.18
3039	HVAC Equipment	Air Source Heat Pump 20 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	SF	NC	5,074	39%	1,991	0.600	2.995	16	$3,819.00	20%	40%	0%	28%	2.5	9.9	1.4	2.29
3040	HVAC Equipment	Air Source Heat Pump 20 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	MH	MO	4,228	39%	1,660	0.500	2.496	16	$3,182.00	24%	40%	36%	48%	2.6	8.3	1.5	2.19
3041	HVAC Equipment	Air Source Heat Pump 20 SEER2 - Heat pump baseline	CARES Efficiency	MH	MO	4,228	39%	1,660	0.500	2.496	16	$3,182.00	100%	40%	36%	80%	2.6	1.9	2.3	1.18
3042	HVAC Equipment	Air Source Heat Pump 20 SEER2 - Heat pump baseline	HP High Efficiency Heat Pump	MH	NC	4,228	39%	1,660	0.500	2.496	16	$3,182.00	24%	40%	0%	31%	2.6	8.3	1.5	2.19
3043	HVAC Equipment	Ground Source Heat Pump 20 SEER - Heat pump baseline	No program	SF	MO	5,074	39%	1,991	0.359	0.358	25	$3,509.00	21%	40%	36%	48%	1.8	3.7	2.2	0.67
3044	HVAC Equipment	Ground Source Heat Pump 20 SEER - Heat pump baseline	No program	SF	MO	5,074	39%	1,991	0.359	0.358	25	$3,509.00	21%	40%	36%	48%	1.8	3.7	2.2	0.67

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
3045	HVAC Equipment	Ground Source Heat Pump 20 SEER - Heat pump baseline	No program	SF	NC	5,074	39%	1,991	0.359	0.358	25	$3,509.00	21%	40%	0%	29%	1.8	3.7	2.2	0.67
3046	HVAC Equipment	Ground Source Heat Pump 20 SEER - Heat pump baseline	No program	MH	MO	4,228	39%	1,660	0.299	0.298	25	$1,830.50	41%	40%	36%	48%	3.2	3.1	3.9	0.65
3047	HVAC Equipment	Ground Source Heat Pump 20 SEER - Heat pump baseline	No program	MH	MO	4,228	39%	1,660	0.299	0.298	25	$1,830.50	41%	40%	36%	48%	3.2	3.1	3.9	0.65
3048	HVAC Equipment	Ground Source Heat Pump 20 SEER - Heat pump baseline	No program	MH	NC	4,228	39%	1,660	0.299	0.298	25	$1,830.50	41%	40%	0%	44%	3.2	3.1	3.9	0.65
3049	HVAC Equipment	Ground Source Heat Pump 21.5 SEER - Heat pump baseline	No program	SF	MO	5,074	40%	2,054	0.370	0.369	25	$3,509.00	21%	40%	36%	48%	1.8	3.8	2.2	0.68
3050	HVAC Equipment	Ground Source Heat Pump 21.5 SEER - Heat pump baseline	No program	SF	MO	5,074	40%	2,054	0.370	0.369	25	$3,509.00	21%	40%	36%	48%	1.8	3.8	2.2	0.68
3051	HVAC Equipment	Ground Source Heat Pump 21.5 SEER - Heat pump baseline	No program	SF	NC	5,074	40%	2,054	0.370	0.369	25	$3,509.00	21%	40%	0%	29%	1.8	3.8	2.2	0.68
3052	HVAC Equipment	Ground Source Heat Pump 21.5 SEER - Heat pump baseline	No program	MH	MO	4,228	40%	1,711	0.308	0.307	25	$1,830.50	41%	40%	36%	48%	3.2	3.2	3.9	0.65
3053	HVAC Equipment	Ground Source Heat Pump 21.5 SEER - Heat pump baseline	No program	MH	MO	4,228	40%	1,711	0.308	0.307	25	$1,830.50	41%	40%	36%	48%	3.2	3.2	3.9	0.65
3054	HVAC Equipment	Ground Source Heat Pump 21.5 SEER - Heat pump baseline	No program	MH	NC	4,228	40%	1,711	0.308	0.307	25	$1,830.50	41%	40%	0%	44%	3.2	3.2	3.9	0.65
3055	HVAC Equipment	Ground Source Heat Pump 23.5 SEER - Heat pump baseline	No program	SF	MO	5,074	42%	2,124	0.383	0.382	25	$3,509.00	21%	40%	36%	48%	1.9	3.9	2.2	0.68
3056	HVAC Equipment	Ground Source Heat Pump 23.5 SEER - Heat pump baseline	No program	SF	MO	5,074	42%	2,124	0.383	0.382	25	$3,509.00	21%	40%	36%	48%	1.9	3.9	2.2	0.68
3057	HVAC Equipment	Ground Source Heat Pump 23.5 SEER - Heat pump baseline	No program	SF	NC	5,074	42%	2,124	0.383	0.382	25	$3,509.00	21%	40%	0%	29%	1.9	3.9	2.2	0.68
3058	HVAC Equipment	Ground Source Heat Pump 23.5 SEER - Heat pump baseline	No program	MH	MO	4,228	42%	1,770	0.319	0.318	25	$1,830.50	41%	40%	36%	48%	3.3	3.3	4.0	0.66
3059	HVAC Equipment	Ground Source Heat Pump 23.5 SEER - Heat pump baseline	No program	MH	MO	4,228	42%	1,770	0.319	0.318	25	$1,830.50	41%	40%	36%	48%	3.3	3.3	4.0	0.66
3060	HVAC Equipment	Ground Source Heat Pump 23.5 SEER - Heat pump baseline	No program	MH	NC	4,228	42%	1,770	0.319	0.318	25	$1,830.50	41%	40%	0%	44%	3.3	3.3	4.0	0.66
3061	HVAC Equipment	Ground Source Heat Pump 29 SEER - Heat pump baseline	No program	SF	MO	5,074	45%	2,268	0.409	0.407	25	$3,509.00	21%	40%	36%	48%	1.9	4.2	2.3	0.69
3062	HVAC Equipment	Ground Source Heat Pump 29 SEER - Heat pump baseline	No program	SF	MO	5,074	45%	2,268	0.409	0.407	25	$3,509.00	21%	40%	36%	48%	1.9	4.2	2.3	0.69
3063	HVAC Equipment	Ground Source Heat Pump 29 SEER - Heat pump baseline	No program	SF	NC	5,074	45%	2,268	0.409	0.407	25	$3,509.00	21%	40%	0%	29%	1.9	4.2	2.3	0.69
3064	HVAC Equipment	Ground Source Heat Pump 29 SEER - Heat pump baseline	No program	MH	MO	4,228	45%	1,890	0.340	0.340	25	$1,830.50	41%	40%	36%	48%	3.4	3.5	4.1	0.67
3065	HVAC Equipment	Ground Source Heat Pump 29 SEER - Heat pump baseline	No program	MH	MO	4,228	45%	1,890	0.340	0.340	25	$1,830.50	41%	40%	36%	48%	3.4	3.5	4.1	0.67
3066	HVAC Equipment	Ground Source Heat Pump 29 SEER - Heat pump baseline	No program	MH	NC	4,228	45%	1,890	0.340	0.340	25	$1,830.50	41%	40%	0%	44%	3.4	3.5	4.1	0.67
3067	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline	Mini-split	SF	MO	5,074	11%	536	0.131	0.096	16	$186.00	100%	40%	36%	80%	3.4	0.8	4.6	0.40
3068	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline	CARES Efficiency	SF	MO	5,074	11%	536	0.131	0.096	16	$186.00	100%	40%	36%	80%	13.8	3.1	15.4	0.66
3069	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline	Mini-split	SF	NC	5,074	11%	536	0.131	0.096	16	$186.00	100%	40%	0%	80%	3.4	0.8	4.6	0.40
3070	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline	Mini-split	MH	MO	4,228	11%	447	0.109	0.080	16	$155.00	100%	40%	36%	80%	3.3	0.6	4.4	0.36
3071	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline	CARES Efficiency	MH	MO	4,228	11%	447	0.109	0.080	16	$155.00	100%	40%	36%	80%	16.0	3.1	17.5	0.66
3072	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline	Mini-split	MH	NC	4,228	11%	447	0.109	0.080	16	$155.00	100%	40%	0%	80%	3.3	0.6	4.4	0.36
3073	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline	Mini-split	SF	MO	5,074	19%	942	0.260	0.169	16	$672.00	100%	40%	36%	80%	4.0	1.4	5.2	0.52
3074	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline	CARES Efficiency	SF	MO	5,074	19%	942	0.260	0.169	16	$672.00	100%	40%	36%	80%	4.5	1.5	5.7	0.55
3075	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline	Mini-split	SF	NC	5,074	19%	942	0.260	0.169	16	$672.00	100%	40%	0%	80%	4.0	1.4	5.2	0.52
3076	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline	Mini-split	MH	MO	4,228	19%	785	0.217	0.141	16	$560.00	100%	40%	36%	80%	3.8	1.1	5.0	0.49

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
3077	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline	CARES Efficiency	MH	MO	4,228	19%	785	0.217	0.141	16	$560.00	100%	40%	36%	80%	5.1	1.5	6.3	0.55
3078	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline	Mini-split	MH	NC	4,228	19%	785	0.217	0.141	16	$560.00	100%	40%	0%	80%	3.8	1.1	5.0	0.49
3079	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline	Mini-split	SF	MO	5,074	28%	1,406	0.363	0.252	16	$1,002.00	75%	40%	36%	64%	3.5	2.0	4.5	0.60
3080	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline	CARES Efficiency	SF	MO	5,074	28%	1,406	0.363	0.252	16	$1,002.00	100%	40%	36%	80%	3.5	1.5	4.8	0.54
3081	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline	Mini-split	SF	NC	5,074	28%	1,406	0.363	0.252	16	$1,002.00	75%	40%	0%	64%	3.5	2.0	4.5	0.60
3082	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline	Mini-split	MH	MO	4,228	28%	1,172	0.302	0.210	16	$835.00	90%	40%	36%	73%	3.9	1.7	5.1	0.56
3083	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline	CARES Efficiency	MH	MO	4,228	28%	1,172	0.302	0.210	16	$835.00	100%	40%	36%	80%	3.9	1.5	5.2	0.54
3084	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline	Mini-split	MH	NC	4,228	28%	1,172	0.302	0.210	16	$835.00	90%	40%	0%	73%	3.9	1.7	5.1	0.56
3085	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline	Mini-split	SF	MO	5,074	33%	1,675	0.455	0.301	16	$1,980.00	38%	40%	36%	48%	1.9	2.4	2.5	0.63
3086	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline	CARES Efficiency	SF	MO	5,074	33%	1,675	0.455	0.301	16	$1,980.00	100%	40%	36%	80%	1.9	0.9	3.1	0.44
3087	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline	Mini-split	SF	NC	5,074	33%	1,675	0.455	0.301	16	$1,980.00	38%	40%	0%	42%	1.9	2.4	2.5	0.63
3088	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline	Mini-split	MH	MO	4,228	33%	1,396	0.379	0.251	16	$1,650.00	45%	40%	36%	48%	2.1	2.0	2.7	0.60
3089	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline	CARES Efficiency	MH	MO	4,228	33%	1,396	0.379	0.251	16	$1,650.00	100%	40%	36%	80%	2.1	0.9	3.3	0.44
3090	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline	Mini-split	MH	NC	4,228	33%	1,396	0.379	0.251	16	$1,650.00	45%	40%	0%	48%	2.1	2.0	2.7	0.60
3091	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	SF	MO	5,074	4%	179	0.044	0.032	16	$62.00	100%	40%	36%	80%	2.2	0.3	3.2	0.20
3092	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline (1-ton offset)	CARES Efficiency	SF	MO	5,074	4%	179	0.044	0.032	16	$62.00	100%	40%	36%	80%	26.3	3.1	27.9	0.66
3093	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	SF	NC	5,074	4%	179	0.044	0.032	16	$62.00	100%	40%	0%	80%	2.2	0.3	3.2	0.20
3094	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	MH	MO	4,228	4%	179	0.044	0.032	16	$62.00	100%	40%	36%	80%	2.2	0.3	3.2	0.20
3095	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline (1-ton offset)	CARES Efficiency	MH	MO	4,228	4%	179	0.044	0.032	16	$62.00	100%	40%	36%	80%	26.3	3.1	27.9	0.66
3096	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	MH	NC	4,228	4%	179	0.044	0.032	16	$62.00	100%	40%	0%	80%	2.2	0.3	3.2	0.20
3097	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	SF	MO	5,074	6%	314	0.087	0.056	16	$224.00	100%	40%	36%	80%	2.6	0.5	3.7	0.30
3098	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline (1-ton offset)	CARES Efficiency	SF	MO	5,074	6%	314	0.087	0.056	16	$224.00	100%	40%	36%	80%	8.7	1.5	9.9	0.55
3099	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	SF	NC	5,074	6%	314	0.087	0.056	16	$224.00	100%	40%	0%	80%	2.6	0.5	3.7	0.30
3100	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	MH	MO	4,228	7%	314	0.087	0.056	16	$224.00	100%	40%	36%	80%	2.6	0.5	3.7	0.30
3101	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline (1-ton offset)	CARES Efficiency	MH	MO	4,228	7%	314	0.087	0.056	16	$224.00	100%	40%	36%	80%	8.7	1.5	9.9	0.55
3102	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	MH	NC	4,228	7%	314	0.087	0.056	16	$224.00	100%	40%	0%	80%	2.6	0.5	3.7	0.30
3103	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	SF	MO	5,074	9%	469	0.121	0.084	16	$334.00	100%	40%	36%	80%	3.0	0.7	4.1	0.37
3104	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline (1-ton offset)	CARES Efficiency	SF	MO	5,074	9%	469	0.121	0.084	16	$334.00	100%	40%	36%	80%	6.6	1.5	7.9	0.54
3105	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	SF	NC	5,074	9%	469	0.121	0.084	16	$334.00	100%	40%	0%	80%	3.0	0.7	4.1	0.37
3106	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	MH	MO	4,228	11%	469	0.121	0.084	16	$334.00	100%	40%	36%	80%	3.0	0.7	4.1	0.37
3107	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline (1-ton offset)	CARES Efficiency	MH	MO	4,228	11%	469	0.121	0.084	16	$334.00	100%	40%	36%	80%	6.6	1.5	7.9	0.54
3108	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	MH	NC	4,228	11%	469	0.121	0.084	16	$334.00	100%	40%	0%	80%	3.0	0.7	4.1	0.37

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
3109	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	SF	MO	5,074	11%	558	0.152	0.100	16	$660.00	100%	40%	36%	80%	3.5	0.8	4.6	0.41
3110	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline (1-ton offset)	CARES Efficiency	SF	MO	5,074	11%	558	0.152	0.100	16	$660.00	100%	40%	36%	80%	3.9	0.9	5.1	0.44
3111	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	SF	NC	5,074	11%	558	0.152	0.100	16	$660.00	100%	40%	0%	80%	3.5	0.8	4.6	0.41
3112	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	MH	MO	4,228	13%	558	0.152	0.100	16	$660.00	100%	40%	36%	80%	3.5	0.8	4.6	0.41
3113	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline (1-ton offset)	CARES Efficiency	MH	MO	4,228	13%	558	0.152	0.100	16	$660.00	100%	40%	36%	80%	3.9	0.9	5.1	0.44
3114	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline (1-ton offset)	Mini-split	MH	NC	4,228	13%	558	0.152	0.100	16	$660.00	100%	40%	0%	80%	3.5	0.8	4.6	0.41
3115	HVAC Equipment	Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	HP Retrofit	SF	MO	10,839	59%	6,341	0.125	1.139	16	$636.00	100%	17%	36%	80%	10.8	8.2	14.3	0.70
3116	HVAC Equipment	Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	CARES Efficiency	SF	MO	10,839	59%	6,341	0.125	1.139	16	$636.00	100%	17%	36%	80%	12.8	9.6	16.7	0.71
3117	HVAC Equipment	Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	HP Retrofit	SF	NC	10,839	59%	6,341	0.125	1.139	16	$636.00	100%	17%	0%	80%	10.8	8.2	14.3	0.70
3118	HVAC Equipment	Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	HP Retrofit	MH	MO	9,032	59%	5,284	0.104	0.949	16	$530.00	100%	17%	36%	80%	9.5	6.8	12.5	0.69
3119	HVAC Equipment	Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	CARES Efficiency	MH	MO	9,032	59%	5,284	0.104	0.949	16	$530.00	100%	17%	36%	80%	13.4	9.6	17.3	0.71
3120	HVAC Equipment	Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	HP Retrofit	MH	NC	9,032	59%	5,284	0.104	0.949	16	$530.00	100%	17%	0%	80%	9.5	6.8	12.5	0.69
3121	HVAC Equipment	Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	HP Retrofit	SF	MO	10,839	62%	6,724	0.247	1.208	16	$1,273.00	59%	17%	36%	56%	6.7	8.7	8.8	0.71
3122	HVAC Equipment	Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	CARES Efficiency	SF	MO	10,839	62%	6,724	0.247	1.208	16	$1,273.00	100%	17%	36%	80%	6.7	5.1	9.2	0.67
3123	HVAC Equipment	Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	HP Retrofit	SF	NC	10,839	62%	6,724	0.247	1.208	16	$1,273.00	59%	17%	0%	56%	6.7	8.7	8.8	0.71
3124	HVAC Equipment	Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	HP Retrofit	MH	MO	9,032	62%	5,604	0.206	1.006	16	$1,061.00	71%	17%	36%	62%	7.0	7.3	9.2	0.70
3125	HVAC Equipment	Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	CARES Efficiency	MH	MO	9,032	62%	5,604	0.206	1.006	16	$1,061.00	100%	17%	36%	80%	7.0	5.1	9.5	0.67
3126	HVAC Equipment	Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	HP Retrofit	MH	NC	9,032	62%	5,604	0.206	1.006	16	$1,061.00	71%	17%	0%	62%	7.0	7.3	9.2	0.70
3127	HVAC Equipment	Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	HP Retrofit	SF	MO	10,839	66%	7,163	0.345	1.286	16	$1,909.00	39%	17%	36%	48%	4.7	9.4	6.2	0.72
3128	HVAC Equipment	Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	CARES Efficiency	SF	MO	10,839	66%	7,163	0.345	1.286	16	$1,909.00	100%	17%	36%	80%	4.7	3.7	6.8	0.64
3129	HVAC Equipment	Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	HP Retrofit	SF	NC	10,839	66%	7,163	0.345	1.286	16	$1,909.00	39%	17%	0%	43%	4.7	9.4	6.2	0.72
3130	HVAC Equipment	Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	HP Retrofit	MH	MO	9,032	66%	5,969	0.287	1.072	16	$1,591.00	47%	17%	36%	50%	4.9	7.8	6.4	0.71
3131	HVAC Equipment	Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	CARES Efficiency	MH	MO	9,032	66%	5,969	0.287	1.072	16	$1,591.00	100%	17%	36%	80%	4.9	3.7	7.0	0.64
3132	HVAC Equipment	Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	HP Retrofit	MH	NC	9,032	66%	5,969	0.287	1.072	16	$1,591.00	47%	17%	0%	50%	4.9	7.8	6.4	0.71
3133	HVAC Equipment	Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	HP Retrofit	SF	MO	10,839	68%	7,417	0.442	4.655	16	$2,546.00	29%	17%	36%	48%	6.3	18.6	4.7	1.38
3134	HVAC Equipment	Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	CARES Efficiency	SF	MO	10,839	68%	7,417	0.442	4.655	16	$2,546.00	100%	17%	36%	80%	6.3	5.5	5.4	1.17
3135	HVAC Equipment	Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	HP Retrofit	SF	NC	10,839	68%	7,417	0.442	4.655	16	$2,546.00	29%	17%	0%	35%	6.3	18.6	4.7	1.38
3136	HVAC Equipment	Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	HP Retrofit	MH	MO	9,032	68%	6,181	0.368	3.879	16	$2,122.00	35%	17%	36%	48%	6.4	15.5	5.0	1.36
3137	HVAC Equipment	Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	CARES Efficiency	MH	MO	9,032	68%	6,181	0.368	3.879	16	$2,122.00	100%	17%	36%	80%	6.4	5.5	5.6	1.17
3138	HVAC Equipment	Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	HP Retrofit	MH	NC	9,032	68%	6,181	0.368	3.879	16	$2,122.00	35%	17%	0%	41%	6.4	15.5	5.0	1.36
3139	HVAC Equipment	Air Source Heat Pump 19 SEER2 - Electric furnace baseline	HP Retrofit	SF	MO	10,839	70%	7,633	0.521	4.790	16	$3,182.00	24%	17%	36%	48%	5.1	19.2	3.9	1.39
3140	HVAC Equipment	Air Source Heat Pump 19 SEER2 - Electric furnace baseline	CARES Efficiency	SF	MO	10,839	70%	7,633	0.521	4.790	16	$3,182.00	100%	17%	36%	80%	5.1	4.5	4.6	1.13

Residential Measure Summary:

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Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
3141	HVAC Equipment	Air Source Heat Pump 19 SEER2 - Electric furnace baseline	HP Retrofit	SF	NC	10,839	70%	7,633	0.521	4.790	16	$3,182.00	24%	17%	0%	31%	5.1	19.2	3.9	1.39
3142	HVAC Equipment	Air Source Heat Pump 19 SEER2 - Electric furnace baseline	HP Retrofit	MH	MO	9,032	70%	6,361	0.434	3.992	16	$2,652.00	28%	17%	36%	48%	5.3	16.0	4.0	1.37
3143	HVAC Equipment	Air Source Heat Pump 19 SEER2 - Electric furnace baseline	CARES Efficiency	MH	MO	9,032	70%	6,361	0.434	3.992	16	$2,652.00	100%	17%	36%	80%	5.3	4.5	4.8	1.13
3144	HVAC Equipment	Air Source Heat Pump 19 SEER2 - Electric furnace baseline	HP Retrofit	MH	NC	9,032	70%	6,361	0.434	3.992	16	$2,652.00	28%	17%	0%	34%	5.3	16.0	4.0	1.37
3145	HVAC Equipment	Air Source Heat Pump 20 SEER2 - Electric furnace baseline	HP Retrofit	SF	MO	10,839	72%	7,826	0.600	4.911	16	$3,819.00	20%	17%	36%	48%	4.4	19.7	3.3	1.40
3146	HVAC Equipment	Air Source Heat Pump 20 SEER2 - Electric furnace baseline	CARES Efficiency	SF	MO	10,839	72%	7,826	0.600	4.911	16	$3,819.00	100%	17%	36%	80%	4.4	3.9	4.1	1.08
3147	HVAC Equipment	Air Source Heat Pump 20 SEER2 - Electric furnace baseline	HP Retrofit	SF	NC	10,839	72%	7,826	0.600	4.911	16	$3,819.00	20%	17%	0%	28%	4.4	19.7	3.3	1.40
3148	HVAC Equipment	Air Source Heat Pump 20 SEER2 - Electric furnace baseline	HP Retrofit	MH	MO	9,032	72%	6,521	0.500	4.093	16	$3,182.00	24%	17%	36%	48%	4.5	16.4	3.4	1.38
3149	HVAC Equipment	Air Source Heat Pump 20 SEER2 - Electric furnace baseline	CARES Efficiency	MH	MO	9,032	72%	6,521	0.500	4.093	16	$3,182.00	100%	17%	36%	80%	4.5	3.9	4.2	1.08
3150	HVAC Equipment	Air Source Heat Pump 20 SEER2 - Electric furnace baseline	HP Retrofit	MH	NC	9,032	72%	6,521	0.500	4.093	16	$3,182.00	24%	17%	0%	31%	4.5	16.4	3.4	1.38
3151	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Electric resistance baseline	Mini-split	SF	MO	10,839	62%	6,714	0.131	1.206	16	$186.00	100%	17%	36%	80%	11.3	8.7	14.9	0.71
3152	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Electric resistance baseline	CARES Efficiency	SF	MO	10,839	62%	6,714	0.131	1.206	16	$186.00	100%	17%	36%	80%	45.7	34.9	57.1	0.75
3153	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Electric resistance baseline	Mini-split	SF	NC	10,839	62%	6,714	0.131	1.206	16	$186.00	100%	17%	0%	80%	11.3	8.7	14.9	0.71
3154	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Electric resistance baseline	Mini-split	MH	MO	9,032	62%	5,595	0.109	1.005	16	$155.00	100%	17%	36%	80%	9.9	7.2	13.0	0.70
3155	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Electric resistance baseline	CARES Efficiency	MH	MO	9,032	62%	5,595	0.109	1.005	16	$155.00	100%	17%	36%	80%	47.8	34.9	59.2	0.75
3156	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Electric resistance baseline	Mini-split	MH	NC	9,032	62%	5,595	0.109	1.005	16	$155.00	100%	17%	0%	80%	9.9	7.2	13.0	0.70
3157	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Electric resistance baseline	Mini-split	SF	MO	10,839	66%	7,119	0.260	1.279	16	$672.00	100%	17%	36%	80%	11.9	9.2	15.6	0.72
3158	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Electric resistance baseline	CARES Efficiency	SF	MO	10,839	66%	7,119	0.260	1.279	16	$672.00	100%	17%	36%	80%	13.3	10.3	17.3	0.72
3159	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Electric resistance baseline	Mini-split	SF	NC	10,839	66%	7,119	0.260	1.279	16	$672.00	100%	17%	0%	80%	11.9	9.2	15.6	0.72
3160	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Electric resistance baseline	Mini-split	MH	MO	9,032	66%	5,933	0.217	1.065	16	$560.00	100%	17%	36%	80%	10.4	7.7	13.6	0.71
3161	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Electric resistance baseline	CARES Efficiency	MH	MO	9,032	66%	5,933	0.217	1.065	16	$560.00	100%	17%	36%	80%	13.9	10.3	17.9	0.72
3162	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Electric resistance baseline	Mini-split	MH	NC	9,032	66%	5,933	0.217	1.065	16	$560.00	100%	17%	0%	80%	10.4	7.7	13.6	0.71
3163	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Electric resistance baseline	Mini-split	SF	MO	10,839	70%	7,583	0.363	1.362	16	$1,002.00	75%	17%	36%	64%	9.4	9.9	12.2	0.72
3164	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Electric resistance baseline	CARES Efficiency	SF	MO	10,839	70%	7,583	0.363	1.362	16	$1,002.00	100%	17%	36%	80%	9.4	7.4	12.5	0.71
3165	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Electric resistance baseline	Mini-split	SF	NC	10,839	70%	7,583	0.363	1.362	16	$1,002.00	75%	17%	0%	64%	9.4	9.9	12.2	0.72
3166	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Electric resistance baseline	Mini-split	MH	MO	9,032	70%	6,319	0.302	1.135	16	$835.00	90%	17%	36%	73%	9.8	8.2	12.8	0.71
3167	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Electric resistance baseline	CARES Efficiency	MH	MO	9,032	70%	6,319	0.302	1.135	16	$835.00	100%	17%	36%	80%	9.8	7.4	12.9	0.71
3168	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Electric resistance baseline	Mini-split	MH	NC	9,032	70%	6,319	0.302	1.135	16	$835.00	90%	17%	0%	73%	9.8	8.2	12.8	0.71
3169	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Electric resistance baseline	Mini-split	SF	MO	10,839	72%	7,852	0.455	1.410	16	$1,980.00	38%	17%	36%	48%	4.9	10.3	6.4	0.73
3170	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Electric resistance baseline	CARES Efficiency	SF	MO	10,839	72%	7,852	0.455	1.410	16	$1,980.00	100%	17%	36%	80%	4.9	3.9	7.0	0.65
3171	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Electric resistance baseline	Mini-split	SF	NC	10,839	72%	7,852	0.455	1.410	16	$1,980.00	38%	17%	0%	42%	4.9	10.3	6.4	0.73
3172	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Electric resistance baseline	Mini-split	MH	MO	9,032	72%	6,543	0.379	1.175	16	$1,650.00	45%	17%	36%	48%	5.1	8.6	6.6	0.72

Residential Measure Summary:

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Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
3173	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Electric resistance baseline	CARES Efficiency	MH	MO	9,032	72%	6,543	0.379	1.175	16	$1,650.00	100%	17%	36%	80%	5.1	3.9	7.2	0.65
3174	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Electric resistance baseline	Mini-split	MH	NC	9,032	72%	6,543	0.379	1.175	16	$1,650.00	45%	17%	0%	48%	5.1	8.6	6.6	0.72
3175	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	SF	MO	10,839	21%	2,238	0.044	0.402	16	$62.00	100%	17%	36%	80%	4.8	2.9	6.7	0.61
3176	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Electric resistance baseline (1-ton offset)	CARES Efficiency	SF	MO	10,839	21%	2,238	0.044	0.402	16	$62.00	100%	17%	36%	80%	58.2	34.9	69.6	0.75
3177	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	SF	NC	10,839	21%	2,238	0.044	0.402	16	$62.00	100%	17%	0%	80%	4.8	2.9	6.7	0.61
3178	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	MH	MO	9,032	25%	2,238	0.044	0.402	16	$62.00	100%	17%	36%	80%	4.8	2.9	6.7	0.61
3179	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Electric resistance baseline (1-ton offset)	CARES Efficiency	MH	MO	9,032	25%	2,238	0.044	0.402	16	$62.00	100%	17%	36%	80%	58.2	34.9	69.6	0.75
3180	HVAC Equipment	Ductless Heat Pump 8.5 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	MH	NC	9,032	25%	2,238	0.044	0.402	16	$62.00	100%	17%	0%	80%	4.8	2.9	6.7	0.61
3181	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	SF	MO	10,839	22%	2,373	0.087	0.426	16	$224.00	100%	17%	36%	80%	5.2	3.1	7.1	0.62
3182	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Electric resistance baseline (1-ton offset)	CARES Efficiency	SF	MO	10,839	22%	2,373	0.087	0.426	16	$224.00	100%	17%	36%	80%	17.5	10.3	21.5	0.72
3183	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	SF	NC	10,839	22%	2,373	0.087	0.426	16	$224.00	100%	17%	0%	80%	5.2	3.1	7.1	0.62
3184	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	MH	MO	9,032	26%	2,373	0.087	0.426	16	$224.00	100%	17%	36%	80%	5.2	3.1	7.1	0.62
3185	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Electric resistance baseline (1-ton offset)	CARES Efficiency	MH	MO	9,032	26%	2,373	0.087	0.426	16	$224.00	100%	17%	36%	80%	17.5	10.3	21.5	0.72
3186	HVAC Equipment	Ductless Heat Pump 9.4 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	MH	NC	9,032	26%	2,373	0.087	0.426	16	$224.00	100%	17%	0%	80%	5.2	3.1	7.1	0.62
3187	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	SF	MO	10,839	23%	2,528	0.121	0.454	16	$334.00	100%	17%	36%	80%	5.6	3.3	7.5	0.63
3188	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Electric resistance baseline (1-ton offset)	CARES Efficiency	SF	MO	10,839	23%	2,528	0.121	0.454	16	$334.00	100%	17%	36%	80%	12.5	7.4	15.6	0.71
3189	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	SF	NC	10,839	23%	2,528	0.121	0.454	16	$334.00	100%	17%	0%	80%	5.6	3.3	7.5	0.63
3190	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	MH	MO	9,032	28%	2,528	0.121	0.454	16	$334.00	100%	17%	36%	80%	5.6	3.3	7.5	0.63
3191	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Electric resistance baseline (1-ton offset)	CARES Efficiency	MH	MO	9,032	28%	2,528	0.121	0.454	16	$334.00	100%	17%	36%	80%	12.5	7.4	15.6	0.71
3192	HVAC Equipment	Ductless Heat Pump 10.8 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	MH	NC	9,032	28%	2,528	0.121	0.454	16	$334.00	100%	17%	0%	80%	5.6	3.3	7.5	0.63
3193	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	SF	MO	10,839	24%	2,617	0.152	0.470	16	$660.00	100%	17%	36%	80%	6.1	3.4	8.0	0.64
3194	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Electric resistance baseline (1-ton offset)	CARES Efficiency	SF	MO	10,839	24%	2,617	0.152	0.470	16	$660.00	100%	17%	36%	80%	6.9	3.9	9.0	0.65
3195	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	SF	NC	10,839	24%	2,617	0.152	0.470	16	$660.00	100%	17%	0%	80%	6.1	3.4	8.0	0.64
3196	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	MH	MO	9,032	29%	2,617	0.152	0.470	16	$660.00	100%	17%	36%	80%	6.1	3.4	8.0	0.64
3197	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Electric resistance baseline (1-ton offset)	CARES Efficiency	MH	MO	9,032	29%	2,617	0.152	0.470	16	$660.00	100%	17%	36%	80%	6.9	3.9	9.0	0.65
3198	HVAC Equipment	Ductless Heat Pump 11.7 HSPF2 - Electric resistance baseline (1-ton offset)	Mini-split	MH	NC	9,032	29%	2,617	0.152	0.470	16	$660.00	100%	17%	0%	80%	6.1	3.4	8.0	0.64
3199	HVAC Equipment	AC Tune Up	No program	SF	Retrofit	1,324	5%	66	0.086	0.000	3	$225.00	25%	43%	49%	60%	0.1	0.3	0.3	0.20
3200	HVAC Equipment	AC Tune Up	No program	SF	Retrofit	1,324	5%	66	0.086	0.000	3	$225.00	25%	43%	49%	60%	0.1	0.3	0.3	0.20
3201	HVAC Equipment	AC Tune Up	No program	SF	NC	1,324	5%	66	0.086	0.000	3	$225.00	25%	43%	0%	32%	0.1	0.3	0.3	0.20
3202	HVAC Equipment	AC Tune Up	No program	MH	Retrofit	1,104	5%	55	0.072	0.000	3	$225.00	25%	43%	49%	60%	0.1	0.2	0.3	0.17
3203	HVAC Equipment	AC Tune Up	No program	MH	Retrofit	1,104	5%	55	0.072	0.000	3	$225.00	25%	43%	49%	60%	0.1	0.2	0.3	0.17
3204	HVAC Equipment	AC Tune Up	No program	MH	NC	1,104	5%	55	0.072	0.000	3	$225.00	25%	43%	0%	32%	0.1	0.2	0.3	0.17
3205	HVAC Equipment	Central Air Conditioner 15.2 SEER2	No program	SF	MO	1,324	6%	74	0.125	0.000	18	$636.00	25%	43%	23%	38%	1.1	0.7	1.4	0.41
3206	HVAC Equipment	Central Air Conditioner 15.2 SEER2	No program	SF	MO	1,324	6%	74	0.125	0.000	18	$636.00	25%	43%	23%	38%	1.1	0.7	1.4	0.41
3207	HVAC Equipment	Central Air Conditioner 15.2 SEER2	No program	SF	NC	1,324	6%	74	0.125	0.000	18	$636.00	25%	43%	0%	32%	1.1	0.7	1.4	0.41
3208	HVAC Equipment	Central Air Conditioner 15.2 SEER2	No program	MH	MO	1,104	6%	62	0.104	0.000	18	$530.00	25%	43%	23%	38%	1.3	0.7	1.5	0.41

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
3209	HVAC Equipment	Central Air Conditioner 15.2 SEER2	No program	MH	MO	1,104	6%	62	0.104	0.000	18	$530.00	25%	43%	23%	38%	1.3	0.7	1.5	0.41
3210	HVAC Equipment	Central Air Conditioner 15.2 SEER2	No program	MH	NC	1,104	6%	62	0.104	0.000	18	$530.00	25%	43%	0%	32%	1.3	0.7	1.5	0.41
3211	HVAC Equipment	Central Air Conditioner 16.2 SEER2	No program	SF	MO	1,324	11%	146	0.247	0.000	18	$1,273.00	25%	43%	23%	38%	0.6	0.7	0.9	0.41
3212	HVAC Equipment	Central Air Conditioner 16.2 SEER2	No program	SF	MO	1,324	11%	146	0.247	0.000	18	$1,273.00	25%	43%	23%	38%	0.6	0.7	0.9	0.41
3213	HVAC Equipment	Central Air Conditioner 16.2 SEER2	No program	SF	NC	1,324	11%	146	0.247	0.000	18	$1,273.00	25%	43%	0%	32%	0.6	0.7	0.9	0.41
3214	HVAC Equipment	Central Air Conditioner 16.2 SEER2	No program	MH	MO	1,104	11%	122	0.206	0.000	18	$1,061.00	25%	43%	23%	38%	0.7	0.7	1.0	0.41
3215	HVAC Equipment	Central Air Conditioner 16.2 SEER2	No program	MH	MO	1,104	11%	122	0.206	0.000	18	$1,061.00	25%	43%	23%	38%	0.7	0.7	1.0	0.41
3216	HVAC Equipment	Central Air Conditioner 16.2 SEER2	No program	MH	NC	1,104	11%	122	0.206	0.000	18	$1,061.00	25%	43%	0%	32%	0.7	0.7	1.0	0.41
3217	HVAC Equipment	Central Air Conditioner 17.1 SEER2	No program	SF	MO	1,324	15%	204	0.345	0.000	18	$1,909.00	25%	43%	23%	38%	0.5	0.6	0.7	0.39
3218	HVAC Equipment	Central Air Conditioner 17.1 SEER2	No program	SF	MO	1,324	15%	204	0.345	0.000	18	$1,909.00	25%	43%	23%	38%	0.5	0.6	0.7	0.39
3219	HVAC Equipment	Central Air Conditioner 17.1 SEER2	No program	SF	NC	1,324	15%	204	0.345	0.000	18	$1,909.00	25%	43%	0%	32%	0.5	0.6	0.7	0.39
3220	HVAC Equipment	Central Air Conditioner 17.1 SEER2	No program	MH	MO	1,104	15%	170	0.287	0.000	18	$1,591.00	25%	43%	23%	38%	0.5	0.6	0.8	0.39
3221	HVAC Equipment	Central Air Conditioner 17.1 SEER2	No program	MH	MO	1,104	15%	170	0.287	0.000	18	$1,591.00	25%	43%	23%	38%	0.5	0.6	0.8	0.39
3222	HVAC Equipment	Central Air Conditioner 17.1 SEER2	No program	MH	NC	1,104	15%	170	0.287	0.000	18	$1,591.00	25%	43%	0%	32%	0.5	0.6	0.8	0.39
3223	HVAC Equipment	Central Air Conditioner 18.1 SEER2	No program	SF	MO	1,324	20%	262	0.442	0.000	18	$2,546.00	25%	43%	23%	38%	0.4	0.6	0.6	0.38
3224	HVAC Equipment	Central Air Conditioner 18.1 SEER2	No program	SF	MO	1,324	20%	262	0.442	0.000	18	$2,546.00	25%	43%	23%	38%	0.4	0.6	0.6	0.38
3225	HVAC Equipment	Central Air Conditioner 18.1 SEER2	No program	SF	NC	1,324	20%	262	0.442	0.000	18	$2,546.00	25%	43%	0%	32%	0.4	0.6	0.6	0.38
3226	HVAC Equipment	Central Air Conditioner 18.1 SEER2	No program	MH	MO	1,104	20%	218	0.368	0.000	18	$2,122.00	25%	43%	23%	38%	0.4	0.6	0.7	0.38
3227	HVAC Equipment	Central Air Conditioner 18.1 SEER2	No program	MH	MO	1,104	20%	218	0.368	0.000	18	$2,122.00	25%	43%	23%	38%	0.4	0.6	0.7	0.38
3228	HVAC Equipment	Central Air Conditioner 18.1 SEER2	No program	MH	NC	1,104	20%	218	0.368	0.000	18	$2,122.00	25%	43%	0%	32%	0.4	0.6	0.7	0.38
3229	HVAC Equipment	Central Air Conditioner 19 SEER2	No program	SF	MO	1,324	23%	309	0.521	0.000	18	$3,182.00	25%	43%	23%	38%	0.3	0.6	0.6	0.37
3230	HVAC Equipment	Central Air Conditioner 19 SEER2	No program	SF	MO	1,324	23%	309	0.521	0.000	18	$3,182.00	25%	43%	23%	38%	0.3	0.6	0.6	0.37
3231	HVAC Equipment	Central Air Conditioner 19 SEER2	No program	SF	NC	1,324	23%	309	0.521	0.000	18	$3,182.00	25%	43%	0%	32%	0.3	0.6	0.6	0.37
3232	HVAC Equipment	Central Air Conditioner 19 SEER2	No program	MH	MO	1,104	23%	257	0.434	0.000	18	$2,652.00	25%	43%	23%	38%	0.4	0.6	0.6	0.37
3233	HVAC Equipment	Central Air Conditioner 19 SEER2	No program	MH	MO	1,104	23%	257	0.434	0.000	18	$2,652.00	25%	43%	23%	38%	0.4	0.6	0.6	0.37
3234	HVAC Equipment	Central Air Conditioner 19 SEER2	No program	MH	NC	1,104	23%	257	0.434	0.000	18	$2,652.00	25%	43%	0%	32%	0.4	0.6	0.6	0.37
3235	HVAC Equipment	Central Air Conditioner 20 SEER2	No program	SF	MO	1,324	27%	356	0.600	0.000	18	$3,819.00	25%	43%	23%	38%	0.3	0.5	0.5	0.36
3236	HVAC Equipment	Central Air Conditioner 20 SEER2	No program	SF	MO	1,324	27%	356	0.600	0.000	18	$3,819.00	25%	43%	23%	38%	0.3	0.5	0.5	0.36
3237	HVAC Equipment	Central Air Conditioner 20 SEER2	No program	SF	NC	1,324	27%	356	0.600	0.000	18	$3,819.00	25%	43%	0%	32%	0.3	0.5	0.5	0.36
3238	HVAC Equipment	Central Air Conditioner 20 SEER2	No program	MH	MO	1,104	27%	296	0.500	0.000	18	$3,182.00	25%	43%	23%	38%	0.3	0.5	0.6	0.36
3239	HVAC Equipment	Central Air Conditioner 20 SEER2	No program	MH	MO	1,104	27%	296	0.500	0.000	18	$3,182.00	25%	43%	23%	38%	0.3	0.5	0.6	0.36
3240	HVAC Equipment	Central Air Conditioner 20 SEER2	No program	MH	NC	1,104	27%	296	0.500	0.000	18	$3,182.00	25%	43%	0%	32%	0.3	0.5	0.6	0.36
3241	HVAC Equipment	Central Air Conditioner 21 SEER2	No program	SF	MO	1,324	30%	398	0.671	0.000	18	$4,455.00	25%	43%	23%	38%	0.3	0.5	0.5	0.35
3242	HVAC Equipment	Central Air Conditioner 21 SEER2	No program	SF	MO	1,324	30%	398	0.671	0.000	18	$4,455.00	25%	43%	23%	38%	0.3	0.5	0.5	0.35
3243	HVAC Equipment	Central Air Conditioner 21 SEER2	No program	SF	NC	1,324	30%	398	0.671	0.000	18	$4,455.00	25%	43%	0%	32%	0.3	0.5	0.5	0.35
3244	HVAC Equipment	Central Air Conditioner 21 SEER2	No program	MH	MO	1,104	30%	332	0.560	0.000	18	$4,455.00	25%	43%	23%	38%	0.2	0.4	0.5	0.31
3245	HVAC Equipment	Central Air Conditioner 21 SEER2	No program	MH	MO	1,104	30%	332	0.560	0.000	18	$4,455.00	25%	43%	23%	38%	0.2	0.4	0.5	0.31
3246	HVAC Equipment	Central Air Conditioner 21 SEER2	No program	MH	NC	1,104	30%	332	0.560	0.000	18	$4,455.00	25%	43%	0%	32%	0.2	0.4	0.5	0.31
3247	HVAC Equipment	Ductless AC	No program	SF	MO	1,324	15%	198	0.334	0.000	16	$1,002.00	25%	43%	23%	38%	2.3	1.0	2.5	0.52
3248	HVAC Equipment	Ductless AC	No program	SF	MO	1,324	15%	198	0.334	0.000	16	$1,002.00	25%	43%	23%	38%	2.3	1.0	2.5	0.52
3249	HVAC Equipment	Ductless AC	No program	SF	NC	1,324	15%	198	0.334	0.000	16	$1,002.00	25%	43%	0%	32%	2.3	1.0	2.5	0.52
3250	HVAC Equipment	Ductless AC	No program	MH	MO	1,104	15%	165	0.279	0.000	16	$835.00	25%	43%	23%	38%	2.7	1.0	2.9	0.52
3251	HVAC Equipment	Ductless AC	No program	MH	MO	1,104	15%	165	0.279	0.000	16	$835.00	25%	43%	23%	38%	2.7	1.0	2.9	0.52
3252	HVAC Equipment	Ductless AC	No program	MH	NC	1,104	15%	165	0.279	0.000	16	$835.00	25%	43%	0%	32%	2.7	1.0	2.9	0.52
3253	HVAC Equipment	Ductless AC (1-ton offset)	No program	SF	MO	1,324	5%	66	0.111	0.000	16	$334.00	25%	43%	23%	38%	5.4	1.0	5.6	0.52
3254	HVAC Equipment	Ductless AC (1-ton offset)	No program	SF	MO	1,324	5%	66	0.111	0.000	16	$334.00	25%	43%	23%	38%	5.4	1.0	5.6	0.52
3255	HVAC Equipment	Ductless AC (1-ton offset)	No program	SF	NC	1,324	5%	66	0.111	0.000	16	$334.00	25%	43%	0%	32%	5.4	1.0	5.6	0.52
3256	HVAC Equipment	Ductless AC (1-ton offset)	No program	MH	MO	1,104	6%	66	0.111	0.000	16	$334.00	25%	43%	23%	38%	5.4	1.0	5.6	0.52
3257	HVAC Equipment	Ductless AC (1-ton offset)	No program	MH	MO	1,104	6%	66	0.111	0.000	16	$334.00	25%	43%	23%	38%	5.4	1.0	5.6	0.52
3258	HVAC Equipment	Ductless AC (1-ton offset)	No program	MH	NC	1,104	6%	66	0.111	0.000	16	$334.00	25%	43%	0%	32%	5.4	1.0	5.6	0.52
3259	HVAC Equipment	Smart Thermostat - Heat pump baseline	No program	SF	Retrofit	5,074	8%	430	0.240	0.077	11	$129.00	25%	40%	43%	55%	3.0	11.9	3.4	0.87
3260	HVAC Equipment	Smart Thermostat - Heat pump baseline	No program	SF	Retrofit	5,074	8%	430	0.240	0.077	11	$129.00	25%	40%	43%	55%	3.0	11.9	3.4	0.87
3261	HVAC Equipment	Smart Thermostat - Heat pump baseline	No program	SF	NC	5,074	8%	430	0.240	0.077	11	$129.00	25%	40%	0%	32%	3.0	11.9	3.4	0.87

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
3262	HVAC Equipment	Smart Thermostat - Heat pump baseline	No program	MH	Retrofit	4,228	8%	358	0.200	0.064	11	$129.00	25%	40%	43%	55%	2.5	9.9	2.9	0.86
3263	HVAC Equipment	Smart Thermostat - Heat pump baseline	No program	MH	Retrofit	4,228	8%	358	0.200	0.064	11	$129.00	25%	40%	43%	55%	2.5	9.9	2.9	0.86
3264	HVAC Equipment	Smart Thermostat - Heat pump baseline	No program	MH	NC	4,228	8%	358	0.200	0.064	11	$129.00	25%	40%	0%	32%	2.5	9.9	2.9	0.86
3265	HVAC Equipment	Smart Thermostat - Furnace baseline	No program	SF	Retrofit	10,839	8%	920	0.240	0.165	11	$129.00	25%	17%	43%	55%	5.7	22.9	7.0	0.82
3266	HVAC Equipment	Smart Thermostat - Furnace baseline	No program	SF	Retrofit	10,839	8%	920	0.240	0.165	11	$129.00	25%	17%	43%	55%	5.7	22.9	7.0	0.82
3267	HVAC Equipment	Smart Thermostat - Furnace baseline	No program	SF	NC	10,839	8%	920	0.240	0.165	11	$129.00	25%	17%	0%	32%	5.7	22.9	7.0	0.82
3268	HVAC Equipment	Smart Thermostat - Furnace baseline	No program	MH	Retrofit	9,032	8%	767	0.200	0.138	11	$129.00	25%	17%	43%	55%	4.8	19.1	5.9	0.81
3269	HVAC Equipment	Smart Thermostat - Furnace baseline	No program	MH	Retrofit	9,032	8%	767	0.200	0.138	11	$129.00	25%	17%	43%	55%	4.8	19.1	5.9	0.81
3270	HVAC Equipment	Smart Thermostat - Furnace baseline	No program	MH	NC	9,032	8%	767	0.200	0.138	11	$129.00	25%	17%	0%	32%	4.8	19.1	5.9	0.81
3271	HVAC Equipment	Smart Thermostat - Gas/CAC baseline	No program	SF	Retrofit	2,095	5%	111	0.240	0.001	11	$129.00	25%	16%	43%	55%	2.3	3.7	4.7	0.88
3272	HVAC Equipment	Smart Thermostat - Gas/CAC baseline	No program	SF	Retrofit	2,095	5%	111	0.240	0.001	11	$129.00	25%	16%	43%	55%	2.3	3.7	4.7	0.88
3273	HVAC Equipment	Smart Thermostat - Gas/CAC baseline	No program	SF	NC	2,095	5%	111	0.240	0.001	11	$129.00	25%	16%	0%	32%	2.3	3.7	4.7	0.88
3274	HVAC Equipment	Smart Thermostat - Gas/CAC baseline	No program	MH	Retrofit	1,874	5%	93	0.200	0.001	11	$129.00	25%	16%	43%	55%	2.1	3.1	4.6	0.84
3275	HVAC Equipment	Smart Thermostat - Gas/CAC baseline	No program	MH	Retrofit	1,874	5%	93	0.200	0.001	11	$129.00	25%	16%	43%	55%	2.1	3.1	4.6	0.84
3276	HVAC Equipment	Smart Thermostat - Gas/CAC baseline	No program	MH	NC	1,874	5%	93	0.200	0.001	11	$129.00	25%	16%	0%	32%	2.1	3.1	4.6	0.84
3277	HVAC Equipment	ENERGY STAR Room Air Conditioner	No program	SF	MO	499	9%	44	0.034	0.000	12	$40.00	25%	12%	53%	62%	0.8	3.2	1.4	0.58
3278	HVAC Equipment	ENERGY STAR Room Air Conditioner	No program	SF	MO	499	9%	44	0.034	0.000	12	$40.00	25%	12%	53%	62%	0.8	3.2	1.4	0.58
3279	HVAC Equipment	ENERGY STAR Room Air Conditioner	No program	SF	NC	499	9%	44	0.034	0.000	12	$40.00	25%	12%	0%	32%	0.8	3.2	1.4	0.58
3280	HVAC Equipment	ENERGY STAR Room Air Conditioner	No program	MH	MO	499	9%	44	0.034	0.000	12	$40.00	25%	12%	53%	62%	0.8	3.2	1.4	0.58
3281	HVAC Equipment	ENERGY STAR Room Air Conditioner	No program	MH	MO	499	9%	44	0.034	0.000	12	$40.00	25%	12%	53%	62%	0.8	3.2	1.4	0.58
3282	HVAC Equipment	ENERGY STAR Room Air Conditioner	No program	MH	NC	499	9%	44	0.034	0.000	12	$40.00	25%	12%	0%	32%	0.8	3.2	1.4	0.58
3283	HVAC Equipment	Room Air Conditioner Recycling	No program	SF	Recycle	336	100%	336	0.260	0.000	4	$64.89	25%	12%	0%	32%	1.3	5.4	2.3	0.59
3284	HVAC Equipment	Room Air Conditioner Recycling	No program	SF	Recycle	336	100%	336	0.260	0.000	4	$64.89	25%	12%	0%	32%	1.3	5.4	2.3	0.59
3285	HVAC Equipment	Room Air Conditioner Recycling	No program	MH	Recycle	336	100%	336	0.260	0.000	4	$64.89	25%	12%	0%	32%	1.3	5.4	2.3	0.59
3286	HVAC Equipment	Room Air Conditioner Recycling	No program	MH	Recycle	336	100%	336	0.260	0.000	4	$64.89	25%	12%	0%	32%	1.3	5.4	2.3	0.59
4001	Lighting	9W LED	No program	SF	MO	8	37%	3	0.000	0.001	20	$1.45	25%	3003%	76%	81%	2.6	10.2	3.1	0.83
4002	Lighting	9W LED	No program	SF	MO	8	37%	3	0.000	0.001	20	$1.45	25%	3003%	76%	81%	2.6	10.2	3.1	0.83
4003	Lighting	9W LED	No program	SF	NC	8	37%	3	0.000	0.001	20	$1.45	25%	3003%	0%	29%	2.6	10.2	3.1	0.83
4004	Lighting	9W LED	No program	MH	MO	8	37%	3	0.000	0.001	20	$1.45	25%	3003%	76%	81%	2.6	10.2	3.1	0.83
4005	Lighting	9W LED	No program	MH	MO	8	37%	3	0.000	0.001	20	$1.45	25%	3003%	76%	81%	2.6	10.2	3.1	0.83
4006	Lighting	9W LED	No program	MH	NC	8	37%	3	0.000	0.001	20	$1.45	25%	3003%	0%	29%	2.6	10.2	3.1	0.83
4007	Lighting	13W LED	No program	SF	MO	11	31%	3	0.000	0.001	20	$1.45	25%	3003%	76%	81%	3.1	12.4	3.7	0.84
4008	Lighting	13W LED	No program	SF	MO	11	31%	3	0.000	0.001	20	$1.45	25%	3003%	76%	81%	3.1	12.4	3.7	0.84
4009	Lighting	13W LED	No program	SF	NC	11	31%	3	0.000	0.001	20	$1.45	25%	3003%	0%	29%	3.1	12.4	3.7	0.84
4010	Lighting	13W LED	No program	MH	MO	11	31%	3	0.000	0.001	20	$1.45	25%	3003%	76%	81%	3.1	12.4	3.7	0.84
4011	Lighting	13W LED	No program	MH	MO	11	31%	3	0.000	0.001	20	$1.45	25%	3003%	76%	81%	3.1	12.4	3.7	0.84
4012	Lighting	13W LED	No program	MH	NC	11	31%	3	0.000	0.001	20	$1.45	25%	3003%	0%	29%	3.1	12.4	3.7	0.84
4013	Lighting	LED 5W Globe	No program	SF	MO	12	44%	5	0.006	0.001	20	$1.65	25%	738%	76%	81%	6.0	24.1	4.9	1.24
4014	Lighting	LED 5W Globe	No program	SF	MO	12	44%	5	0.006	0.001	20	$1.65	25%	738%	76%	81%	6.0	24.1	4.9	1.24
4015	Lighting	LED 5W Globe	No program	SF	NC	12	44%	5	0.006	0.001	20	$1.65	25%	738%	0%	29%	6.0	24.1	4.9	1.24
4016	Lighting	LED 5W Globe	No program	MH	MO	12	44%	5	0.006	0.001	20	$1.65	25%	738%	76%	81%	6.0	24.1	4.9	1.24
4017	Lighting	LED 5W Globe	No program	MH	MO	12	44%	5	0.006	0.001	20	$1.65	25%	738%	76%	81%	6.0	24.1	4.9	1.24
4018	Lighting	LED 5W Globe	No program	MH	NC	12	44%	5	0.006	0.001	20	$1.65	25%	738%	0%	29%	6.0	24.1	4.9	1.24
4019	Lighting	LED R30 Dimmable	No program	SF	MO	12	57%	7	0.008	0.002	20	$1.65	25%	284%	76%	81%	7.8	31.1	6.2	1.25
4020	Lighting	LED R30 Dimmable	No program	SF	MO	12	57%	7	0.008	0.002	20	$1.65	25%	284%	76%	81%	7.8	31.1	6.2	1.25
4021	Lighting	LED R30 Dimmable	No program	SF	NC	12	57%	7	0.008	0.002	20	$1.65	25%	284%	0%	29%	7.8	31.1	6.2	1.25
4022	Lighting	LED R30 Dimmable	No program	MH	MO	12	57%	7	0.008	0.002	20	$1.65	25%	284%	76%	81%	7.8	31.1	6.2	1.25
4023	Lighting	LED R30 Dimmable	No program	MH	MO	12	57%	7	0.008	0.002	20	$1.65	25%	284%	76%	81%	7.8	31.1	6.2	1.25
4024	Lighting	LED R30 Dimmable	No program	MH	NC	12	57%	7	0.008	0.002	20	$1.65	25%	284%	0%	29%	7.8	31.1	6.2	1.25
4025	Lighting	LED Nightlights	No program	SF	MO	26	85%	22	0.000	0.005	12	$3.35	25%	40%	76%	81%	5.9	23.6	6.9	0.86
4026	Lighting	LED Nightlights	No program	SF	MO	26	85%	22	0.000	0.005	12	$3.35	25%	40%	76%	81%	5.9	23.6	6.9	0.86
4027	Lighting	LED Nightlights	No program	SF	NC	26	85%	22	0.000	0.005	12	$3.35	25%	40%	0%	29%	5.9	23.6	6.9	0.86
4028	Lighting	LED Nightlights	No program	MH	MO	26	85%	22	0.000	0.005	12	$3.35	25%	40%	76%	81%	5.9	23.6	6.9	0.86

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
4029	Lighting	LED Nightlights	No program	MH	MO	26	85%	22	0.000	0.005	12	$3.35	25%	40%	76%	81%	5.9	23.6	6.9	0.86
4030	Lighting	LED Nightlights	No program	MH	NC	26	85%	22	0.000	0.005	12	$3.35	25%	40%	0%	29%	5.9	23.6	6.9	0.86
4031	Lighting	Exterior LED Lamp	No program	SF	MO	60	57%	35	0.000	0.006	4	$1.65	25%	289%	76%	81%	6.3	25.4	8.5	0.75
4032	Lighting	Exterior LED Lamp	No program	SF	MO	60	57%	35	0.000	0.006	4	$1.65	25%	289%	76%	81%	6.3	25.4	8.5	0.75
4033	Lighting	Exterior LED Lamp	No program	SF	NC	60	57%	35	0.000	0.006	4	$1.65	25%	289%	0%	29%	6.3	25.4	8.5	0.75
4034	Lighting	Exterior LED Lamp	No program	MH	MO	60	57%	35	0.000	0.006	4	$1.65	25%	289%	76%	81%	6.3	25.4	8.5	0.75
4035	Lighting	Exterior LED Lamp	No program	MH	MO	60	57%	35	0.000	0.006	4	$1.65	25%	289%	76%	81%	6.3	25.4	8.5	0.75
4036	Lighting	Exterior LED Lamp	No program	MH	NC	60	57%	35	0.000	0.006	4	$1.65	25%	289%	0%	29%	6.3	25.4	8.5	0.75
4037	Lighting	Linear LED	No program	SF	MO	41	45%	18	0.002	0.004	10	$9.98	25%	509%	76%	81%	1.5	5.8	1.8	0.79
4038	Lighting	Linear LED	No program	SF	MO	41	45%	18	0.002	0.004	10	$9.98	25%	509%	76%	81%	1.5	5.8	1.8	0.79
4039	Lighting	Linear LED	No program	SF	NC	41	45%	18	0.002	0.004	10	$9.98	25%	509%	0%	29%	1.5	5.8	1.8	0.79
4040	Lighting	Linear LED	No program	MH	MO	41	45%	18	0.002	0.004	10	$9.98	25%	509%	76%	81%	1.5	5.8	1.8	0.79
4041	Lighting	Linear LED	No program	MH	MO	41	45%	18	0.002	0.004	10	$9.98	25%	509%	76%	81%	1.5	5.8	1.8	0.79
4042	Lighting	Linear LED	No program	MH	NC	41	45%	18	0.002	0.004	10	$9.98	25%	509%	0%	29%	1.5	5.8	1.8	0.79
4043	Lighting	LED Fixture	No program	SF	MO	87	75%	65	0.009	0.016	20	$26.00	25%	3003%	76%	81%	3.4	13.4	3.9	0.86
4044	Lighting	LED Fixture	No program	SF	MO	87	75%	65	0.009	0.016	20	$26.00	25%	3003%	76%	81%	3.4	13.4	3.9	0.86
4045	Lighting	LED Fixture	No program	SF	NC	87	75%	65	0.009	0.016	20	$26.00	25%	3003%	0%	29%	3.4	13.4	3.9	0.86
4046	Lighting	LED Fixture	No program	MH	MO	87	75%	65	0.009	0.016	20	$26.00	25%	3003%	76%	81%	3.4	13.4	3.9	0.86
4047	Lighting	LED Fixture	No program	MH	MO	87	75%	65	0.009	0.016	20	$26.00	25%	3003%	76%	81%	3.4	13.4	3.9	0.86
4048	Lighting	LED Fixture	No program	MH	NC	87	75%	65	0.009	0.016	20	$26.00	25%	3003%	0%	29%	3.4	13.4	3.9	0.86
4049	Lighting	Occupancy Sensor	No program	SF	Retrofit	302	30%	89	0.008	0.022	10	$30.00	25%	100%	42%	54%	2.4	9.6	2.9	0.84
4050	Lighting	Occupancy Sensor	No program	SF	Retrofit	302	30%	89	0.008	0.022	10	$30.00	25%	100%	42%	54%	2.4	9.6	2.9	0.84
4051	Lighting	Occupancy Sensor	No program	SF	NC	302	30%	89	0.008	0.022	10	$30.00	25%	100%	0%	29%	2.4	9.6	2.9	0.84
4052	Lighting	Occupancy Sensor	No program	MH	Retrofit	302	30%	89	0.008	0.022	10	$30.00	25%	100%	42%	54%	2.4	9.6	2.9	0.84
4053	Lighting	Occupancy Sensor	No program	MH	Retrofit	302	30%	89	0.008	0.022	10	$30.00	25%	100%	42%	54%	2.4	9.6	2.9	0.84
4054	Lighting	Occupancy Sensor	No program	MH	NC	302	30%	89	0.008	0.022	10	$30.00	25%	100%	0%	29%	2.4	9.6	2.9	0.84
4055	Lighting	Exterior Lighting Controls	No program	SF	Retrofit	108	80%	86	0.000	0.015	10	$3.00	25%	41%	42%	54%	19.1	76.6	25.4	0.75
4056	Lighting	Exterior Lighting Controls	No program	SF	Retrofit	108	80%	86	0.000	0.015	10	$3.00	25%	41%	42%	54%	19.1	76.6	25.4	0.75
4057	Lighting	Exterior Lighting Controls	No program	SF	NC	108	80%	86	0.000	0.015	10	$3.00	25%	41%	0%	29%	19.1	76.6	25.4	0.75
4058	Lighting	Exterior Lighting Controls	No program	MH	Retrofit	108	80%	86	0.000	0.015	10	$3.00	25%	41%	42%	54%	19.1	76.6	25.4	0.75
4059	Lighting	Exterior Lighting Controls	No program	MH	Retrofit	108	80%	86	0.000	0.015	10	$3.00	25%	41%	42%	54%	19.1	76.6	25.4	0.75
4060	Lighting	Exterior Lighting Controls	No program	MH	NC	108	80%	86	0.000	0.015	10	$3.00	25%	41%	0%	29%	19.1	76.6	25.4	0.75
5001	Pool/Pump	Heat Pump Pool Heater	No program	SF	MO	14,585	71%	10,418	0.000	1.520	15	$1,916.00	25%	3%	2%	29%	4.8	19.1	6.8	0.70
5002	Pool/Pump	Heat Pump Pool Heater	No program	SF	MO	14,585	71%	10,418	0.000	1.520	15	$1,916.00	25%	3%	2%	29%	4.8	19.1	6.8	0.70
5003	Pool/Pump	Heat Pump Pool Heater	No program	SF	NC	14,585	71%	10,418	0.000	1.520	15	$1,916.00	25%	3%	0%	29%	4.8	19.1	6.8	0.70
5004	Pool/Pump	Heat Pump Pool Heater	No program	MH	MO	14,585	71%	10,418	0.000	1.520	15	$1,916.00	25%	3%	2%	29%	4.8	19.1	6.8	0.70
5005	Pool/Pump	Heat Pump Pool Heater	No program	MH	MO	14,585	71%	10,418	0.000	1.520	15	$1,916.00	25%	3%	2%	29%	4.8	19.1	6.8	0.70
5006	Pool/Pump	Heat Pump Pool Heater	No program	MH	NC	14,585	71%	10,418	0.000	1.520	15	$1,916.00	25%	3%	0%	29%	4.8	19.1	6.8	0.70
5007	Pool/Pump	Variable Speed Pool Pump	No program	SF	MO	1,167	26%	308	0.215	0.042	7	$314.00	25%	10%	36%	49%	0.6	2.3	0.9	0.66
5008	Pool/Pump	Variable Speed Pool Pump	No program	SF	MO	1,167	26%	308	0.215	0.042	7	$314.00	25%	10%	36%	49%	0.6	2.3	0.9	0.66
5009	Pool/Pump	Variable Speed Pool Pump	No program	SF	NC	1,167	26%	308	0.215	0.042	7	$314.00	25%	10%	0%	29%	0.6	2.3	0.9	0.66
5010	Pool/Pump	Variable Speed Pool Pump	No program	MH	MO	1,167	26%	308	0.215	0.042	7	$314.00	25%	10%	36%	49%	0.6	2.3	0.9	0.66
5011	Pool/Pump	Variable Speed Pool Pump	No program	MH	MO	1,167	26%	308	0.215	0.042	7	$314.00	25%	10%	36%	49%	0.6	2.3	0.9	0.66
5012	Pool/Pump	Variable Speed Pool Pump	No program	MH	NC	1,167	26%	308	0.215	0.042	7	$314.00	25%	10%	0%	29%	0.6	2.3	0.9	0.66
5013	Pool/Pump	Well Pump	No program	SF	MO	411	33%	136	0.015	0.023	20	$110.00	25%	4%	36%	49%	1.4	5.7	2.1	0.69
5014	Pool/Pump	Well Pump	No program	SF	MO	411	33%	136	0.015	0.023	20	$110.00	25%	4%	36%	49%	1.4	5.7	2.1	0.69
5015	Pool/Pump	Well Pump	No program	SF	NC	411	33%	136	0.015	0.023	20	$110.00	25%	4%	0%	29%	1.4	5.7	2.1	0.69
5016	Pool/Pump	Well Pump	No program	MH	MO	411	33%	136	0.015	0.023	20	$110.00	25%	4%	36%	49%	1.4	5.7	2.1	0.69
5017	Pool/Pump	Well Pump	No program	MH	MO	411	33%	136	0.015	0.023	20	$110.00	25%	4%	36%	49%	1.4	5.7	2.1	0.69
5018	Pool/Pump	Well Pump	No program	MH	NC	411	33%	136	0.015	0.000	20	$110.00	25%	4%	0%	29%	0.9	3.8	2.1	0.46
6001	New Construction	New Construction - 15% more efficient (w/AC only)	Residential Home New Construction	SF	NC	12,068	15%	1,810	0.367	0.072	20	$990.00	76%	16%	0%	47%	2.0	2.3	4.2	0.50
6002	New Construction	New Construction - 15% more efficient (w/Elec. HP)	Residential Home New Construction	SF	NC	14,766	15%	2,215	0.321	0.659	20	$761.00	99%	62%	0%	72%	4.3	4.4	5.3	0.82

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
6003	New Construction	New Construction - 30% more efficient (w/AC only)	Residential Home New Construction	SF	NC	12,068	30%	3,620	0.733	0.144	20	$1,980.00	38%	16%	0%	28%	2.0	4.5	3.8	0.56
6004	New Construction	New Construction - 30% more efficient (w/Elec. HP)	Residential Home New Construction	SF	NC	14,766	30%	4,430	0.643	1.318	20	$1,522.00	49%	62%	0%	35%	4.3	8.8	4.8	0.91
6005	New Construction	New Construction - 15% more efficient (w/AC only)	Residential New Manufactured Housing	MH	NC	9,871	15%	1,481	0.331	0.062	20	$990.00	76%	16%	0%	47%	1.7	1.9	3.7	0.48
6006	New Construction	New Construction - 15% more efficient (w/Elec. HP)	Residential New Manufactured Housing	MH	NC	12,747	15%	1,912	0.307	0.601	20	$761.00	99%	62%	0%	72%	3.8	3.9	4.7	0.82
6007	New Construction	New Construction - 30% more efficient (w/AC only)	Residential New Manufactured Housing	MH	NC	9,871	30%	2,961	0.663	0.124	20	$1,980.00	38%	16%	0%	28%	1.7	3.7	3.3	0.55
6008	New Construction	New Construction - 30% more efficient (w/Elec. HP)	Residential New Manufactured Housing	MH	NC	12,747	30%	3,824	0.614	1.202	20	$1,522.00	49%	62%	0%	35%	3.8	7.8	4.2	0.92
7001	Plug Load	Smart Power Strips - Tier 1	No program	SF	Retrofit	466	12%	57	0.006	0.006	7	$10.00	25%	100%	30%	44%	2.5	10.1	3.9	0.65
7002	Plug Load	Smart Power Strips - Tier 1	No program	SF	Retrofit	466	12%	57	0.006	0.006	7	$10.00	25%	100%	30%	44%	2.5	10.1	3.9	0.65
7003	Plug Load	Smart Power Strips - Tier 1	No program	SF	NC	466	12%	57	0.006	0.006	7	$10.00	25%	100%	0%	29%	2.5	10.1	3.9	0.65
7004	Plug Load	Smart Power Strips - Tier 1	No program	MH	Retrofit	466	12%	57	0.006	0.006	7	$10.00	25%	100%	30%	44%	2.5	10.1	3.9	0.65
7005	Plug Load	Smart Power Strips - Tier 1	No program	MH	Retrofit	466	12%	57	0.006	0.006	7	$10.00	25%	100%	30%	44%	2.5	10.1	3.9	0.65
7006	Plug Load	Smart Power Strips - Tier 1	No program	MH	NC	466	12%	57	0.006	0.006	7	$10.00	25%	100%	0%	29%	2.5	10.1	3.9	0.65
7007	Plug Load	Smart Power Strips - Tier 2	No program	SF	Retrofit	466	29%	136	0.015	0.015	7	$20.00	25%	100%	30%	44%	3.0	12.2	4.7	0.65
7008	Plug Load	Smart Power Strips - Tier 2	No program	SF	Retrofit	466	29%	136	0.015	0.015	7	$20.00	25%	100%	30%	44%	3.0	12.2	4.7	0.65
7009	Plug Load	Smart Power Strips - Tier 2	No program	SF	NC	466	29%	136	0.015	0.015	7	$20.00	25%	100%	0%	29%	3.0	12.2	4.7	0.65
7010	Plug Load	Smart Power Strips - Tier 2	No program	MH	Retrofit	466	29%	136	0.015	0.015	7	$20.00	25%	100%	30%	44%	3.0	12.2	4.7	0.65
7011	Plug Load	Smart Power Strips - Tier 2	No program	MH	Retrofit	466	29%	136	0.015	0.015	7	$20.00	25%	100%	30%	44%	3.0	12.2	4.7	0.65
7012	Plug Load	Smart Power Strips - Tier 2	No program	MH	NC	466	29%	136	0.015	0.015	7	$20.00	25%	100%	0%	29%	3.0	12.2	4.7	0.65
7013	Plug Load	ENERGY STAR TV	No program	SF	Retrofit	457	20%	91	0.011	0.013	5	$60.00	25%	200%	59%	67%	0.6	2.2	1.0	0.56
7014	Plug Load	ENERGY STAR TV	No program	SF	Retrofit	457	20%	91	0.011	0.013	5	$60.00	25%	200%	59%	67%	0.6	2.2	1.0	0.56
7015	Plug Load	ENERGY STAR TV	No program	SF	NC	457	20%	91	0.011	0.013	5	$60.00	25%	200%	0%	29%	0.6	2.2	1.0	0.56
7016	Plug Load	ENERGY STAR TV	No program	MH	Retrofit	457	20%	91	0.011	0.013	5	$60.00	25%	200%	59%	67%	0.6	2.2	1.0	0.56
7017	Plug Load	ENERGY STAR TV	No program	MH	Retrofit	457	20%	91	0.011	0.013	5	$60.00	25%	200%	59%	67%	0.6	2.2	1.0	0.56
7018	Plug Load	ENERGY STAR TV	No program	MH	NC	457	20%	91	0.011	0.013	5	$60.00	25%	200%	0%	29%	0.6	2.2	1.0	0.56
8001	Shell	Duct Sealing - Inadequate Sealing - Heat pump	Button Up (HVAC Duct Seal)	SF	Retrofit	5,074	14%	729	0.243	0.131	20	$738.01	100%	40%	76%	81%	1.5	1.3	2.7	0.52
8002	Shell	Duct Sealing - Inadequate Sealing - Heat pump	CARES Efficiency	SF	Retrofit	5,074	14%	729	0.243	0.131	20	$738.01	100%	40%	76%	81%	1.6	1.3	2.7	0.52
8003	Shell	Duct Sealing - Inadequate Sealing - Heat pump	Button Up (HVAC Duct Seal)	MH	Retrofit	4,228	17%	729	0.243	0.131	20	$491.40	100%	40%	76%	81%	1.4	1.3	2.6	0.52
8004	Shell	Duct Sealing - Inadequate Sealing - Heat pump	CARES Efficiency	MH	Retrofit	4,228	17%	729	0.243	0.131	20	$491.40	100%	40%	76%	81%	2.2	1.9	3.5	0.60
8005	Shell	Duct Sealing - Inadequate Sealing - Electric furnace	Button Up (HVAC Duct Seal)	SF	Retrofit	10,839	10%	1,130	0.243	0.203	20	$738.01	100%	22%	76%	81%	2.1	1.8	3.5	0.58
8006	Shell	Duct Sealing - Inadequate Sealing - Electric furnace	CARES Efficiency	SF	Retrofit	10,839	10%	1,130	0.243	0.203	20	$738.01	100%	22%	76%	81%	2.2	1.9	3.5	0.58
8007	Shell	Duct Sealing - Inadequate Sealing - Electric furnace	Button Up (HVAC Duct Seal)	MH	Retrofit	9,032	13%	1,130	0.243	0.203	20	$491.40	100%	22%	76%	81%	2.0	1.8	3.4	0.58
8008	Shell	Duct Sealing - Inadequate Sealing - Electric furnace	CARES Efficiency	MH	Retrofit	9,032	13%	1,130	0.243	0.203	20	$491.40	100%	22%	76%	81%	3.1	2.8	4.7	0.65
8009	Shell	Duct Sealing - Inadequate Sealing - Gas Heating	Button Up (HVAC Duct Seal)	SF	Retrofit	2,095	9%	186	0.243	0.002	20	$738.01	100%	16%	76%	81%	1.1	0.3	2.8	0.26
8010	Shell	Duct Sealing - Inadequate Sealing - Gas Heating	CARES Efficiency	SF	Retrofit	2,095	9%	186	0.243	0.002	20	$738.01	100%	16%	76%	81%	1.1	0.4	2.8	0.26
8011	Shell	Duct Sealing - Inadequate Sealing - Gas Heating	Button Up (HVAC Duct Seal)	MH	Retrofit	1,874	10%	186	0.243	0.002	20	$491.40	100%	16%	76%	81%	1.0	0.3	2.8	0.26
8012	Shell	Duct Sealing - Inadequate Sealing - Gas Heating	CARES Efficiency	MH	Retrofit	1,874	10%	186	0.243	0.002	20	$491.40	100%	16%	76%	81%	1.6	0.5	3.8	0.34
8013	Shell	Wall Insulation - Heat pump	Button Up (Building Shell Measures)	SF	Retrofit	5,074	25%	1,257	0.123	0.226	30	$1,574.30	48%	40%	80%	84%	1.5	2.5	2.3	0.60
8014	Shell	Wall Insulation - Heat pump	CARES Efficiency	SF	Retrofit	5,074	25%	1,257	0.123	0.226	30	$1,574.30	100%	40%	80%	84%	1.5	1.2	2.8	0.47
8015	Shell	Wall Insulation - Heat pump	Button Up (Building Shell Measures)	MH	Retrofit	4,228	16%	687	0.067	0.123	30	$861.25	87%	40%	80%	84%	1.5	1.3	2.7	0.50

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
8016	Shell	Wall Insulation - Heat pump	CARES Efficiency	MH	Retrofit	4,228	16%	687	0.067	0.123	30	$861.25	100%	40%	80%	84%	1.5	1.2	2.8	0.47
8017	Shell	Wall Insulation - Electric furnace	Button Up (Building Shell Measures)	SF	Retrofit	10,839	18%	1,989	0.123	0.357	30	$1,574.30	48%	22%	80%	84%	2.1	3.8	3.1	0.64
8018	Shell	Wall Insulation - Electric furnace	CARES Efficiency	SF	Retrofit	10,839	18%	1,989	0.123	0.357	30	$1,574.30	100%	22%	80%	84%	2.1	1.8	3.7	0.54
8019	Shell	Wall Insulation - Electric furnace	Button Up (Building Shell Measures)	MH	Retrofit	9,032	12%	1,088	0.067	0.195	30	$861.25	87%	22%	80%	84%	2.1	2.1	3.5	0.56
8020	Shell	Wall Insulation - Electric furnace	CARES Efficiency	MH	Retrofit	9,032	12%	1,088	0.067	0.195	30	$861.25	100%	22%	80%	84%	2.1	1.8	3.7	0.54
8021	Shell	Wall Insulation - Gas Heating	Button Up (Building Shell Measures)	SF	Retrofit	2,095	17%	348	0.123	0.004	30	$1,574.30	48%	16%	80%	84%	1.1	0.6	2.5	0.30
8022	Shell	Wall Insulation - Gas Heating	CARES Efficiency	SF	Retrofit	2,095	17%	348	0.123	0.004	30	$1,574.30	100%	16%	80%	84%	1.1	0.3	3.0	0.19
8023	Shell	Wall Insulation - Gas Heating	Button Up (Building Shell Measures)	MH	Retrofit	1,874	12%	228	0.067	0.002	30	$861.25	87%	16%	80%	84%	1.3	0.3	3.4	0.22
8024	Shell	Wall Insulation - Gas Heating	CARES Efficiency	MH	Retrofit	1,874	12%	228	0.067	0.002	30	$861.25	100%	16%	80%	84%	1.3	0.3	3.6	0.20
8025	Shell	Air Sealing Inadequate Sealing - Heat pump	Button Up (Building Shell Measures)	SF	MO	5,074	19%	987	0.429	0.177	20	$1,479.71	51%	40%	76%	81%	1.2	1.8	1.8	0.60
8026	Shell	Air Sealing Inadequate Sealing - Heat pump	CARES Efficiency	SF	MO	5,074	19%	987	0.429	0.177	20	$1,479.71	100%	40%	76%	81%	1.2	0.9	2.3	0.45
8027	Shell	Air Sealing Inadequate Sealing - Heat pump	Button Up (Building Shell Measures)	MH	MO	4,228	23%	987	0.429	0.177	20	$986.23	76%	40%	76%	81%	1.6	1.8	2.5	0.60
8028	Shell	Air Sealing Inadequate Sealing - Heat pump	CARES Efficiency	MH	MO	4,228	23%	987	0.429	0.177	20	$986.23	100%	40%	76%	81%	1.6	1.3	2.8	0.54
8029	Shell	Air Sealing Inadequate Sealing - Electric furnace	Button Up (Building Shell Measures)	SF	MO	10,839	14%	1,473	0.429	0.265	20	$1,479.71	51%	22%	76%	81%	1.6	2.5	2.3	0.64
8030	Shell	Air Sealing Inadequate Sealing - Electric furnace	CARES Efficiency	SF	MO	10,839	14%	1,473	0.429	0.265	20	$1,479.71	100%	22%	76%	81%	1.6	1.3	2.8	0.51
8031	Shell	Air Sealing Inadequate Sealing - Electric furnace	Button Up (Building Shell Measures)	MH	MO	9,032	16%	1,473	0.429	0.265	20	$986.23	76%	22%	76%	81%	2.2	2.5	3.2	0.64
8032	Shell	Air Sealing Inadequate Sealing - Electric furnace	CARES Efficiency	MH	MO	9,032	16%	1,473	0.429	0.265	20	$986.23	100%	22%	76%	81%	2.2	1.9	3.5	0.59
8033	Shell	Air Sealing - Inadequate Sealing - Gas Heating	Button Up (Building Shell Measures)	SF	MO	2,095	19%	401	0.429	0.004	20	$1,479.71	51%	16%	76%	81%	1.1	0.7	2.4	0.38
8034	Shell	Air Sealing - Inadequate Sealing - Gas Heating	CARES Efficiency	SF	MO	2,095	19%	401	0.429	0.004	20	$1,479.71	100%	16%	76%	81%	1.1	0.3	2.9	0.25
8035	Shell	Air Sealing - Inadequate Sealing - Gas Heating	Button Up (Building Shell Measures)	MH	MO	1,874	21%	401	0.429	0.004	20	$986.23	76%	16%	76%	81%	1.6	0.7	3.7	0.38
8036	Shell	Air Sealing - Inadequate Sealing - Gas Heating	CARES Efficiency	MH	MO	1,874	21%	401	0.429	0.004	20	$986.23	100%	16%	76%	81%	1.6	0.5	4.0	0.33
8037	Shell	Attic Insulation - Inadequate Insulation - Heat pump	Button Up (Building Shell Measures)	SF	Retrofit	5,074	10%	486	0.117	0.087	30	$1,270.50	59%	40%	80%	84%	0.9	1.0	1.6	0.46
8038	Shell	Attic Insulation - Inadequate Insulation - Heat pump	CARES Efficiency	SF	Retrofit	5,074	10%	486	0.117	0.087	30	$1,270.50	100%	40%	80%	84%	0.9	0.6	2.0	0.35
8039	Shell	Attic Insulation - Inadequate Insulation - Electric furnace	Button Up (Building Shell Measures)	SF	Retrofit	10,839	7%	770	0.117	0.138	30	$1,270.50	59%	22%	80%	84%	1.2	1.6	2.0	0.53
8040	Shell	Attic Insulation - Inadequate Insulation - Electric furnace	CARES Efficiency	SF	Retrofit	10,839	7%	770	0.117	0.138	30	$1,270.50	100%	22%	80%	84%	1.2	0.9	2.4	0.43
8041	Shell	Attic Insulation - Inadequate Insulation - Gas Heating	Button Up (Building Shell Measures)	SF	Retrofit	2,095	15%	313	0.117	0.003	30	$1,270.50	59%	16%	80%	84%	1.2	0.5	2.8	0.28
8042	Shell	Attic Insulation - Inadequate Insulation - Gas Heating	CARES Efficiency	SF	Retrofit	2,095	15%	313	0.117	0.003	30	$1,270.50	100%	16%	80%	84%	1.2	0.3	3.2	0.20
8043	Shell	Radiant Barrier - Heat pump	No program	SF	Retrofit	5,074	11%	554	0.000	0.000	25	$496.65	25%	40%	75%	80%	0.9	3.6	2.1	0.43
8044	Shell	Radiant Barrier - Heat pump	No program	SF	Retrofit	5,074	11%	554	0.000	0.000	25	$496.65	25%	40%	75%	80%	0.9	3.6	2.1	0.43
8045	Shell	Radiant Barrier - Electric furnace	No program	SF	Retrofit	10,839	5%	554	0.000	0.000	25	$496.65	25%	22%	75%	80%	0.9	3.6	2.1	0.43
8046	Shell	Radiant Barrier - Electric furnace	No program	SF	Retrofit	10,839	5%	554	0.000	0.000	25	$496.65	25%	22%	75%	80%	0.9	3.6	2.1	0.43
8047	Shell	Radiant Barrier - Gas furnace	No program	SF	Retrofit	2,095	26%	554	0.000	0.000	25	$496.65	25%	16%	75%	80%	0.9	3.5	2.1	0.42
8048	Shell	Radiant Barrier - Gas furnace	No program	SF	Retrofit	2,095	26%	554	0.000	0.000	25	$496.65	25%	16%	75%	80%	0.9	3.5	2.1	0.42
8049	Shell	Cool Roof - Heat pump	No program	SF	Retrofit	2,095	1%	28	0.005	0.005	20	$508.73	25%	40%	75%	80%	0.1	0.3	0.3	0.20
8050	Shell	Cool Roof - Heat pump	No program	SF	Retrofit	2,095	1%	28	0.005	0.005	20	$508.73	25%	40%	75%	80%	0.1	0.3	0.3	0.20
8051	Shell	Cool Roof - Electric furnace	No program	SF	Retrofit	2,095	1%	28	0.005	0.005	20	$508.73	25%	22%	75%	80%	0.1	0.3	0.3	0.20
8052	Shell	Cool Roof - Electric furnace	No program	SF	Retrofit	2,095	1%	28	0.005	0.005	20	$508.73	25%	22%	75%	80%	0.1	0.3	0.3	0.20
8053	Shell	Cool Roof - Gas furnace	No program	SF	Retrofit	2,095	1%	28	0.013	0.000	20	$508.73	25%	16%	75%	80%	0.1	0.2	0.6	0.16
8054	Shell	Cool Roof - Gas furnace	No program	SF	Retrofit	2,095	1%	28	0.013	0.000	20	$508.73	25%	16%	75%	80%	0.1	0.2	0.6	0.16
8055	Shell	ENERGY STAR Windows - Heat pump	No program	SF	Retrofit	5,074	40%	2,052	0.370	0.369	20	$2,986.40	25%	40%	70%	76%	1.0	3.3	1.5	0.66
8056	Shell	ENERGY STAR Windows - Heat pump	No program	SF	Retrofit	5,074	40%	2,052	0.370	0.369	20	$2,986.40	25%	40%	70%	76%	1.0	3.3	1.5	0.66
8057	Shell	ENERGY STAR Windows - Heat pump	No program	MH	Retrofit	4,228	32%	1,370	0.247	0.246	20	$1,893.55	25%	40%	70%	76%	1.2	3.5	1.6	0.67
8058	Shell	ENERGY STAR Windows - Heat pump	No program	MH	Retrofit	4,228	32%	1,370	0.247	0.246	20	$1,893.55	25%	40%	70%	76%	1.2	3.5	1.6	0.67

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
8059	Shell	ENERGY STAR Windows - Electric furnace	No program	SF	Retrofit	10,839	47%	5,125	0.923	0.921	20	$2,986.40	25%	22%	70%	76%	2.3	8.3	3.0	0.75
8060	Shell	ENERGY STAR Windows - Electric furnace	No program	SF	Retrofit	10,839	47%	5,125	0.923	0.921	20	$2,986.40	25%	22%	70%	76%	2.3	8.3	3.0	0.75
8061	Shell	ENERGY STAR Windows - Electric furnace	No program	MH	Retrofit	9,032	38%	3,423	0.616	0.615	20	$1,893.55	25%	22%	70%	76%	2.5	8.7	3.2	0.75
8062	Shell	ENERGY STAR Windows - Electric furnace	No program	MH	Retrofit	9,032	38%	3,423	0.616	0.615	20	$1,893.55	25%	22%	70%	76%	2.5	8.7	3.2	0.75
8063	Shell	ENERGY STAR Windows - Gas Heating	No program	SF	Retrofit	2,095	15%	322	0.149	0.003	20	$2,986.40	25%	16%	70%	76%	0.5	0.4	1.1	0.25
8064	Shell	ENERGY STAR Windows - Gas Heating	No program	SF	Retrofit	2,095	15%	322	0.149	0.003	20	$2,986.40	25%	16%	70%	76%	0.5	0.4	1.1	0.25
8065	Shell	ENERGY STAR Windows - Gas Heating	No program	MH	Retrofit	1,874	13%	244	0.113	0.003	20	$1,893.55	25%	16%	70%	76%	0.7	0.5	1.4	0.28
8066	Shell	ENERGY STAR Windows - Gas Heating	No program	MH	Retrofit	1,874	13%	244	0.113	0.003	20	$1,893.55	25%	16%	70%	76%	0.7	0.5	1.4	0.28
8067	Shell	Basement Sidewall Insulation - Heat pump	Button Up (Building Shell Measures)	SF	Retrofit	5,074	17%	882	0.159	0.158	30	$5,171.40	15%	40%	80%	84%	0.5	1.8	0.7	0.56
8068	Shell	Basement Sidewall Insulation - Heat pump	CARES Efficiency	SF	Retrofit	5,074	17%	882	0.159	0.158	30	$5,171.40	100%	40%	80%	84%	0.5	0.3	1.6	0.20
8069	Shell	Basement Sidewall Insulation - Electric furnace	Button Up (Building Shell Measures)	SF	Retrofit	10,839	14%	1,535	0.276	0.276	30	$5,171.40	15%	22%	80%	84%	0.7	3.1	0.9	0.65
8070	Shell	Basement Sidewall Insulation - Electric furnace	CARES Efficiency	SF	Retrofit	10,839	14%	1,535	0.276	0.276	30	$5,171.40	100%	22%	80%	84%	0.7	0.5	1.8	0.29
8071	Shell	Basement Sidewall Insulation - Gas Heating	Button Up (Building Shell Measures)	SF	Retrofit	2,095	3%	70	0.027	0.003	30	$5,171.40	15%	16%	80%	84%	0.3	0.1	0.5	0.11
8072	Shell	Basement Sidewall Insulation - Gas Heating	CARES Efficiency	SF	Retrofit	2,095	3%	70	0.027	0.003	30	$5,171.40	100%	16%	80%	84%	0.3	0.0	1.3	0.02
8073	Shell	Floor Insulation Above Crawlspace - Heat pump	Button Up (Building Shell Measures)	SF	Retrofit	5,074	22%	1,091	0.197	0.196	30	$981.75	76%	40%	80%	84%	2.0	2.2	3.1	0.60
8074	Shell	Floor Insulation Above Crawlspace - Heat pump	CARES Efficiency	SF	Retrofit	5,074	22%	1,091	0.197	0.196	30	$981.75	100%	40%	80%	84%	2.0	1.7	3.4	0.55
8075	Shell	Floor Insulation Above Crawlspace - Heat pump	Button Up (Building Shell Measures)	MH	Retrofit	4,228	26%	1,091	0.197	0.196	30	$981.75	76%	40%	80%	84%	2.0	2.2	3.1	0.60
8076	Shell	Floor Insulation Above Crawlspace - Heat pump	CARES Efficiency	MH	Retrofit	4,228	26%	1,091	0.197	0.196	30	$981.75	100%	40%	80%	84%	2.0	1.7	3.4	0.55
8077	Shell	Floor Insulation Above Crawlspace - Electric furnace	Button Up (Building Shell Measures)	SF	Retrofit	10,839	17%	1,792	0.323	0.322	30	$981.75	76%	22%	80%	84%	3.1	3.7	4.5	0.67
8078	Shell	Floor Insulation Above Crawlspace - Electric furnace	CARES Efficiency	SF	Retrofit	10,839	17%	1,792	0.323	0.322	30	$981.75	100%	22%	80%	84%	3.1	2.8	4.7	0.64
8079	Shell	Floor Insulation Above Crawlspace - Electric furnace	Button Up (Building Shell Measures)	MH	Retrofit	9,032	20%	1,792	0.323	0.322	30	$981.75	76%	22%	80%	84%	3.1	3.7	4.5	0.67
8080	Shell	Floor Insulation Above Crawlspace - Electric furnace	CARES Efficiency	MH	Retrofit	9,032	20%	1,792	0.323	0.322	30	$981.75	100%	22%	80%	84%	3.1	2.8	4.7	0.64
8081	Shell	Floor Insulation Above Crawlspace - Gas Heating	Button Up (Building Shell Measures)	SF	Retrofit	2,095	10%	206	0.095	0.002	30	$981.75	76%	16%	80%	84%	1.1	0.4	2.7	0.23
8082	Shell	Floor Insulation Above Crawlspace - Gas Heating	CARES Efficiency	SF	Retrofit	2,095	10%	206	0.095	0.002	30	$981.75	100%	16%	80%	84%	1.1	0.3	2.9	0.19
8083	Shell	Floor Insulation Above Crawlspace - Gas Heating	Button Up (Building Shell Measures)	MH	Retrofit	1,874	11%	206	0.095	0.002	30	$981.75	76%	16%	80%	84%	1.1	0.4	2.9	0.23
8084	Shell	Floor Insulation Above Crawlspace - Gas Heating	CARES Efficiency	MH	Retrofit	1,874	11%	206	0.095	0.002	30	$981.75	100%	16%	80%	84%	1.1	0.3	3.1	0.19
8085	Shell	ENERGY STAR Door - Heat pump	No program	SF	Retrofit	5,074	5%	276	0.050	0.049	20	$1,275.00	25%	40%	75%	80%	0.3	1.0	0.6	0.46
8086	Shell	ENERGY STAR Door - Heat pump	No program	SF	Retrofit	5,074	5%	276	0.050	0.049	20	$1,275.00	25%	40%	75%	80%	0.3	1.0	0.6	0.46
8087	Shell	ENERGY STAR Door - Heat pump	No program	MH	Retrofit	4,228	7%	276	0.050	0.049	20	$1,275.00	25%	40%	75%	80%	0.3	1.0	0.6	0.46
8088	Shell	ENERGY STAR Door - Heat pump	No program	MH	Retrofit	4,228	7%	276	0.050	0.049	20	$1,275.00	25%	40%	75%	80%	0.3	1.0	0.6	0.46
8089	Shell	ENERGY STAR Door - Electric furnace	No program	SF	Retrofit	10,839	2%	196	0.035	0.035	20	$1,275.00	25%	22%	75%	80%	0.2	0.7	0.5	0.39
8090	Shell	ENERGY STAR Door - Electric furnace	No program	SF	Retrofit	10,839	2%	196	0.035	0.035	20	$1,275.00	25%	22%	75%	80%	0.2	0.7	0.5	0.39
8091	Shell	ENERGY STAR Door - Electric furnace	No program	MH	Retrofit	9,032	2%	196	0.035	0.035	20	$1,275.00	25%	22%	75%	80%	0.2	0.7	0.5	0.39
8092	Shell	ENERGY STAR Door - Electric furnace	No program	MH	Retrofit	9,032	2%	196	0.035	0.035	20	$1,275.00	25%	22%	75%	80%	0.2	0.7	0.5	0.39
8093	Shell	ENERGY STAR Door - Gas Heating	No program	SF	Retrofit	2,095	1%	20	0.009	0.000	20	$1,275.00	25%	16%	75%	80%	0.0	0.1	0.3	0.06
8094	Shell	ENERGY STAR Door - Gas Heating	No program	SF	Retrofit	2,095	1%	20	0.009	0.000	20	$1,275.00	25%	16%	75%	80%	0.0	0.1	0.3	0.06
8095	Shell	ENERGY STAR Door - Gas Heating	No program	MH	Retrofit	1,874	1%	20	0.009	0.000	20	$1,275.00	25%	16%	75%	80%	0.0	0.1	0.4	0.06
8096	Shell	ENERGY STAR Door - Gas Heating	No program	MH	Retrofit	1,874	1%	20	0.009	0.000	20	$1,275.00	25%	16%	75%	80%	0.0	0.1	0.4	0.06
9001	Water Heating	Pipe Wrap	No program	SF	Retrofit	3,242	8%	247	0.010	0.010	15	$18.00	25%	85%	75%	80%	9.3	37.1	16.7	0.56
9002	Water Heating	Pipe Wrap	No program	SF	Retrofit	3,242	8%	247	0.010	0.010	15	$18.00	25%	85%	75%	80%	9.3	37.1	16.7	0.56
9003	Water Heating	Pipe Wrap	No program	SF	NC	3,242	8%	247	0.010	0.010	15	$18.00	25%	85%	0%	24%	9.3	37.1	16.7	0.56
9004	Water Heating	Pipe Wrap	No program	MH	Retrofit	3,242	8%	247	0.010	0.010	15	$18.00	25%	85%	75%	80%	9.3	37.1	16.7	0.56
9005	Water Heating	Pipe Wrap	No program	MH	Retrofit	3,242	8%	247	0.010	0.010	15	$18.00	25%	85%	75%	80%	9.3	37.1	16.7	0.56
9006	Water Heating	Pipe Wrap	No program	MH	NC	3,242	8%	247	0.010	0.010	15	$18.00	25%	85%	0%	24%	9.3	37.1	16.7	0.56
9007	Water Heating	Bathroom Aerator 1.0 gpm	No program	SF	Retrofit	3,242	1%	35	0.048	0.007	10	$3.00	25%	212%	49%	59%	25.3	49.5	28.8	1.19
9008	Water Heating	Bathroom Aerator 1.0 gpm	No program	SF	Retrofit	3,242	1%	35	0.048	0.007	10	$3.00	25%	212%	49%	59%	25.3	49.5	28.8	1.19

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
9009	Water Heating	Bathroom Aerator 1.0 gpm	No program	SF	NC	3,242	1%	35	0.048	0.007	10	$3.00	25%	212%	0%	24%	25.3	49.5	28.8	1.19
9010	Water Heating	Bathroom Aerator 1.0 gpm	No program	MH	Retrofit	3,242	1%	35	0.048	0.007	10	$3.00	25%	170%	49%	59%	25.3	49.5	28.8	1.19
9011	Water Heating	Bathroom Aerator 1.0 gpm	No program	MH	Retrofit	3,242	1%	35	0.048	0.007	10	$3.00	25%	170%	49%	59%	25.3	49.5	28.8	1.19
9012	Water Heating	Bathroom Aerator 1.0 gpm	No program	MH	NC	3,242	1%	35	0.048	0.007	10	$3.00	25%	170%	0%	24%	25.3	49.5	28.8	1.19
9013	Water Heating	Kitchen Flip Aerator 1.5 gpm	No program	SF	Retrofit	3,242	8%	269	0.053	0.053	10	$3.00	25%	85%	49%	59%	132.6	272.1	171.2	0.86
9014	Water Heating	Kitchen Flip Aerator 1.5 gpm	No program	SF	Retrofit	3,242	8%	269	0.053	0.053	10	$3.00	25%	85%	49%	59%	132.6	272.1	171.2	0.86
9015	Water Heating	Kitchen Flip Aerator 1.5 gpm	No program	SF	NC	3,242	8%	269	0.053	0.053	10	$3.00	25%	85%	0%	24%	132.6	272.1	171.2	0.86
9016	Water Heating	Kitchen Flip Aerator 1.5 gpm	No program	MH	Retrofit	3,242	8%	269	0.053	0.053	10	$3.00	25%	85%	49%	59%	132.6	272.1	171.2	0.86
9017	Water Heating	Kitchen Flip Aerator 1.5 gpm	No program	MH	Retrofit	3,242	8%	269	0.053	0.053	10	$3.00	25%	85%	49%	59%	132.6	272.1	171.2	0.86
9018	Water Heating	Kitchen Flip Aerator 1.5 gpm	No program	MH	NC	3,242	8%	269	0.053	0.053	10	$3.00	25%	85%	0%	24%	132.6	272.1	171.2	0.86
9019	Water Heating	Low Flow Showerhead 1.5 gpm	No program	SF	Retrofit	3,242	7%	217	0.022	0.022	10	$7.00	25%	170%	61%	69%	42.2	73.9	61.4	0.68
9020	Water Heating	Low Flow Showerhead 1.5 gpm	No program	SF	Retrofit	3,242	7%	217	0.022	0.022	10	$7.00	25%	170%	61%	69%	42.2	73.9	61.4	0.68
9021	Water Heating	Low Flow Showerhead 1.5 gpm	No program	SF	NC	3,242	7%	217	0.022	0.022	10	$7.00	25%	170%	0%	24%	42.2	73.9	61.4	0.68
9022	Water Heating	Low Flow Showerhead 1.5 gpm	No program	MH	Retrofit	3,242	7%	217	0.022	0.022	10	$7.00	25%	170%	61%	69%	42.2	73.9	61.4	0.68
9023	Water Heating	Low Flow Showerhead 1.5 gpm	No program	MH	Retrofit	3,242	7%	217	0.022	0.022	10	$7.00	25%	170%	61%	69%	42.2	73.9	61.4	0.68
9024	Water Heating	Low Flow Showerhead 1.5 gpm	No program	MH	NC	3,242	7%	217	0.022	0.022	10	$7.00	25%	170%	0%	24%	42.2	73.9	61.4	0.68
9025	Water Heating	Thermostatic Restrictor Shower Valve	No program	SF	Retrofit	3,242	2%	77	0.005	0.005	10	$30.00	25%	170%	10%	28%	3.4	5.5	5.4	0.56
9026	Water Heating	Thermostatic Restrictor Shower Valve	No program	SF	Retrofit	3,242	2%	77	0.005	0.005	10	$30.00	25%	170%	10%	28%	3.4	5.5	5.4	0.56
9027	Water Heating	Thermostatic Restrictor Shower Valve	No program	SF	NC	3,242	2%	77	0.005	0.005	10	$30.00	25%	170%	0%	24%	3.4	5.5	5.4	0.56
9028	Water Heating	Thermostatic Restrictor Shower Valve	No program	MH	Retrofit	3,242	2%	77	0.005	0.005	10	$30.00	25%	170%	10%	28%	3.4	5.5	5.4	0.56
9029	Water Heating	Thermostatic Restrictor Shower Valve	No program	MH	Retrofit	3,242	2%	77	0.005	0.005	10	$30.00	25%	170%	10%	28%	3.4	5.5	5.4	0.56
9030	Water Heating	Thermostatic Restrictor Shower Valve	No program	MH	NC	3,242	2%	77	0.005	0.005	10	$30.00	25%	170%	0%	24%	3.4	5.5	5.4	0.56
9031	Water Heating	Heat Pump Water Heater (UEF 2.0)-electric resistance heat	Heat Pump Water Heater	SF	MO	2,942	61%	1,783	0.084	0.620	15	$1,030.00	25%	14%	19%	35%	2.8	8.8	2.9	0.94
9032	Water Heating	Heat Pump Water Heater (UEF 2.0)-electric resistance heat	Heat Pump Water Heater	SF	MO	2,942	61%	1,783	0.084	0.620	15	$1,030.00	25%	14%	19%	35%	2.8	8.8	2.9	0.94
9033	Water Heating	Heat Pump Water Heater (UEF 2.0)-electric resistance heat	Heat Pump Water Heater	SF	NC	2,942	61%	1,783	0.084	0.620	15	$1,030.00	25%	14%	0%	24%	2.8	8.8	2.9	0.94
9034	Water Heating	Heat Pump Water Heater (UEF 2.0)-electric resistance heat	Heat Pump Water Heater	MH	MO	2,942	56%	1,635	0.077	0.568	15	$1,030.00	25%	14%	19%	35%	2.6	8.0	2.8	0.93
9035	Water Heating	Heat Pump Water Heater (UEF 2.0)-electric resistance heat	Heat Pump Water Heater	MH	MO	3,242	50%	1,635	0.077	0.568	15	$1,030.00	25%	14%	19%	35%	2.6	8.0	2.8	0.93
9036	Water Heating	Heat Pump Water Heater (UEF 2.0)-electric resistance heat	Heat Pump Water Heater	MH	NC	3,242	50%	1,635	0.077	0.568	15	$1,030.00	25%	14%	0%	24%	2.6	8.0	2.8	0.93
9037	Water Heating	Heat Pump Water Heater (UEF 2.0)-heat pump heat	Heat Pump Water Heater	SF	MO	2,660	67%	1,791	0.085	0.622	15	$1,030.00	25%	38%	19%	35%	2.8	8.8	2.9	0.94
9038	Water Heating	Heat Pump Water Heater (UEF 2.0)-heat pump heat	Heat Pump Water Heater	SF	MO	2,660	67%	1,791	0.085	0.622	15	$1,030.00	25%	38%	19%	35%	2.8	8.8	2.9	0.94
9039	Water Heating	Heat Pump Water Heater (UEF 2.0)-heat pump heat	Heat Pump Water Heater	SF	NC	2,660	67%	1,791	0.085	0.622	15	$1,030.00	25%	38%	0%	24%	2.8	8.8	2.9	0.94
9040	Water Heating	Heat Pump Water Heater (UEF 2.0)-heat pump heat	Heat Pump Water Heater	MH	MO	3,242	51%	1,642	0.078	0.571	15	$1,030.00	25%	38%	19%	35%	2.6	8.1	2.8	0.94
9041	Water Heating	Heat Pump Water Heater (UEF 2.0)-heat pump heat	Heat Pump Water Heater	MH	MO	3,242	51%	1,642	0.078	0.571	15	$1,030.00	25%	38%	19%	35%	2.6	8.1	2.8	0.94
9042	Water Heating	Heat Pump Water Heater (UEF 2.0)-heat pump heat	Heat Pump Water Heater	MH	NC	3,242	51%	1,642	0.078	0.571	15	$1,030.00	25%	38%	0%	24%	2.6	8.1	2.8	0.94
9043	Water Heating	Heat Pump Water Heater (UEF 2.0)-gas heat	Heat Pump Water Heater	SF	MO	2,660	68%	1,800	0.085	0.625	15	$1,030.00	25%	14%	19%	35%	4.1	8.9	6.5	0.94
9044	Water Heating	Heat Pump Water Heater (UEF 2.0)-gas heat	Heat Pump Water Heater	SF	MO	2,660	68%	1,800	0.085	0.625	15	$1,030.00	25%	14%	19%	35%	4.1	8.9	6.5	0.94
9045	Water Heating	Heat Pump Water Heater (UEF 2.0)-gas heat	Heat Pump Water Heater	SF	NC	2,660	68%	1,800	0.085	0.625	15	$1,030.00	25%	14%	0%	24%	4.1	8.9	6.5	0.94
9046	Water Heating	Heat Pump Water Heater (UEF 2.0)-gas heat	Heat Pump Water Heater	MH	MO	3,242	51%	1,650	0.078	0.573	15	$1,030.00	25%	14%	19%	35%	3.4	8.1	5.0	0.94
9047	Water Heating	Heat Pump Water Heater (UEF 2.0)-gas heat	Heat Pump Water Heater	MH	MO	3,242	51%	1,650	0.078	0.573	15	$1,030.00	25%	14%	19%	35%	3.4	8.1	5.0	0.94
9048	Water Heating	Heat Pump Water Heater (UEF 2.0)-gas heat	Heat Pump Water Heater	MH	MO	3,242	51%	1,650	0.078	0.573	15	$1,030.00	25%	14%	19%	35%	3.4	8.1	5.0	0.94
9049	Water Heating	Heat Pump Water Heater (UEF 2.6)-electric resistance heat	Heat Pump Water Heater	SF	MO	2,660	80%	2,120	0.100	0.737	15	$1,199.00	25%	14%	19%	35%	2.8	9.0	2.9	0.95

Residential Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
9050	Water Heating	Heat Pump Water Heater (UEF 2.6)-electric resistance heat	Heat Pump Water Heater	SF	MO	2,660	80%	2,120	0.100	0.737	15	$1,199.00	25%	14%	19%	35%	2.8	9.0	2.9	0.95
9051	Water Heating	Heat Pump Water Heater (UEF 2.6)-electric resistance heat	Heat Pump Water Heater	SF	NC	2,660	80%	2,120	0.100	0.737	15	$1,199.00	25%	14%	0%	24%	2.8	9.0	2.9	0.95
9052	Water Heating	Heat Pump Water Heater (UEF 2.6)-electric resistance heat	Heat Pump Water Heater	MH	MO	3,242	60%	1,944	0.092	0.675	15	$1,199.00	25%	14%	19%	35%	2.6	8.2	2.8	0.94
9053	Water Heating	Heat Pump Water Heater (UEF 2.6)-electric resistance heat	Heat Pump Water Heater	MH	MO	3,242	60%	1,944	0.092	0.675	15	$1,199.00	25%	14%	19%	35%	2.6	8.2	2.8	0.94
9054	Water Heating	Heat Pump Water Heater (UEF 2.6)-electric resistance heat	Heat Pump Water Heater	MH	NC	3,242	60%	1,944	0.092	0.675	15	$1,199.00	25%	14%	0%	24%	2.6	8.2	2.8	0.94
9055	Water Heating	Heat Pump Water Heater (UEF 2.6)-heat pump heat	Heat Pump Water Heater	SF	MO	2,660	80%	2,129	0.101	0.740	15	$1,199.00	25%	38%	19%	35%	2.8	9.0	2.9	0.95
9056	Water Heating	Heat Pump Water Heater (UEF 2.6)-heat pump heat	Heat Pump Water Heater	SF	MO	2,660	80%	2,129	0.101	0.740	15	$1,199.00	25%	38%	19%	35%	2.8	9.0	2.9	0.95
9057	Water Heating	Heat Pump Water Heater (UEF 2.6)-heat pump heat	Heat Pump Water Heater	SF	NC	2,660	80%	2,129	0.101	0.740	15	$1,199.00	25%	38%	0%	24%	2.8	9.0	2.9	0.95
9058	Water Heating	Heat Pump Water Heater (UEF 2.6)-heat pump heat	Heat Pump Water Heater	MH	MO	3,242	60%	1,952	0.092	0.678	15	$1,199.00	25%	38%	19%	35%	2.6	8.3	2.8	0.94
9059	Water Heating	Heat Pump Water Heater (UEF 2.6)-heat pump heat	Heat Pump Water Heater	MH	MO	3,242	60%	1,952	0.092	0.678	15	$1,199.00	25%	38%	19%	35%	2.6	8.3	2.8	0.94
9060	Water Heating	Heat Pump Water Heater (UEF 2.6)-heat pump heat	Heat Pump Water Heater	MH	NC	3,242	60%	1,952	0.092	0.678	15	$1,199.00	25%	38%	0%	24%	2.6	8.3	2.8	0.94
9061	Water Heating	Heat Pump Water Heater (UEF 2.6)-gas heat	Heat Pump Water Heater	SF	MO	2,660	80%	2,140	0.101	0.744	15	$1,199.00	25%	14%	19%	35%	4.2	9.0	6.6	0.95
9062	Water Heating	Heat Pump Water Heater (UEF 2.6)-gas heat	Heat Pump Water Heater	SF	MO	2,660	80%	2,140	0.101	0.744	15	$1,199.00	25%	14%	19%	35%	4.2	9.0	6.6	0.95
9063	Water Heating	Heat Pump Water Heater (UEF 2.6)-gas heat	Heat Pump Water Heater	SF	NC	2,660	80%	2,140	0.101	0.744	15	$1,199.00	25%	14%	0%	24%	4.2	9.0	6.6	0.95
9064	Water Heating	Heat Pump Water Heater (UEF 2.6)-gas heat	Heat Pump Water Heater	MH	MO	3,242	61%	1,963	0.093	0.682	15	$1,199.00	25%	14%	19%	35%	3.5	8.3	5.0	0.94
9065	Water Heating	Heat Pump Water Heater (UEF 2.6)-gas heat	Heat Pump Water Heater	MH	MO	3,242	61%	1,963	0.093	0.682	15	$1,199.00	25%	14%	19%	35%	3.5	8.3	5.0	0.94
9066	Water Heating	Heat Pump Water Heater (UEF 2.6)-gas heat	Heat Pump Water Heater	MH	MO	3,242	61%	1,963	0.093	0.682	15	$1,199.00	25%	14%	19%	35%	3.5	8.3	5.0	0.94
9067	Water Heating	Water Heater Wrap	No program	SF	Retrofit	3,242	8%	246	0.028	0.333	5	$64.47	25%	85%	12%	30%	5.2	21.0	2.1	2.51
9068	Water Heating	Water Heater Wrap	No program	SF	Retrofit	3,242	8%	246	0.028	0.333	5	$64.47	25%	85%	12%	30%	5.2	21.0	2.1	2.51
9069	Water Heating	Water Heater Wrap	No program	SF	NC	3,242	8%	246	0.028	0.333	5	$64.47	25%	85%	0%	24%	5.2	21.0	2.1	2.51
9070	Water Heating	Water Heater Wrap	No program	MH	Retrofit	3,242	8%	246	0.028	0.333	5	$64.47	25%	85%	12%	30%	5.2	21.0	2.1	2.51
9071	Water Heating	Water Heater Wrap	No program	MH	Retrofit	3,242	8%	246	0.028	0.333	5	$64.47	25%	85%	12%	30%	5.2	21.0	2.1	2.51
9072	Water Heating	Water Heater Wrap	No program	MH	NC	3,242	8%	246	0.028	0.333	5	$64.47	25%	85%	0%	24%	5.2	21.0	2.1	2.51
9073	Water Heating	Drain water Heat Recovery	No program	SF	Retrofit	3,242	19%	601	0.006	0.006	30	$744.00	25%	85%	10%	28%	0.8	3.1	1.8	0.44
9074	Water Heating	Drain water Heat Recovery	No program	SF	Retrofit	3,242	19%	601	0.006	0.006	30	$744.00	25%	85%	10%	28%	0.8	3.1	1.8	0.44
9075	Water Heating	Drain water Heat Recovery	No program	SF	NC	3,242	19%	601	0.006	0.006	30	$744.00	25%	85%	0%	24%	0.8	3.1	1.8	0.44
9076	Water Heating	Drain water Heat Recovery	No program	MH	Retrofit	3,242	19%	601	0.006	0.006	30	$744.00	25%	85%	10%	28%	0.8	3.1	1.8	0.44
9077	Water Heating	Drain water Heat Recovery	No program	MH	Retrofit	3,242	19%	601	0.006	0.006	30	$744.00	25%	85%	10%	28%	0.8	3.1	1.8	0.44
9078	Water Heating	Drain water Heat Recovery	No program	MH	NC	3,242	19%	601	0.006	0.006	30	$744.00	25%	85%	0%	24%	0.8	3.1	1.8	0.44
9079	Water Heating	Shower Timer	No program	SF	Retrofit	3,242	3%	81	0.038	0.064	2	$25.99	25%	170%	1%	24%	1.9	5.1	1.8	1.43
9080	Water Heating	Shower Timer	No program	SF	Retrofit	3,242	3%	81	0.038	0.064	2	$25.99	25%	170%	1%	24%	1.9	5.1	1.8	1.43
9081	Water Heating	Shower Timer	No program	SF	NC	3,242	3%	81	0.038	0.064	2	$25.99	25%	170%	0%	24%	1.9	5.1	1.8	1.43
9082	Water Heating	Shower Timer	No program	MH	Retrofit	3,242	3%	81	0.038	0.057	2	$25.99	25%	170%	1%	24%	1.8	4.7	1.8	1.32
9083	Water Heating	Shower Timer	No program	MH	Retrofit	3,242	3%	81	0.038	0.057	2	$25.99	25%	170%	1%	24%	1.8	4.7	1.8	1.32
9084	Water Heating	Shower Timer	No program	MH	NC	3,242	3%	81	0.038	0.057	2	$25.99	25%	170%	0%	24%	1.8	4.7	1.8	1.32

APPENDIX B: COMMERCIAL AND INDUSTRIAL MEASURE DETAIL

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
1	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Assembly	MO	19496	39%	7532	1.841	0.802	12	$2,270.00	50%	17%	53%	51%	2.7	5.4	4.0	0.68
2	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Assembly	MO	10864	19%	2064	0.505	0.220	12	$960.00	50%	17%	53%	47%	1.7	3.5	2.8	0.63
3	Cooking	Commercial Electric Griddle	Biz - Custom	Assembly	MO	17056	15%	2596	0.634	0.277	12	$0.00		14%	20%	44%	#DIV/0!	0.0	0.0	0.00
4	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Assembly	MO	16915	80%	13507	3.301	1.439	12	$2,757.00	50%	6%	45%	53%	4.0	8.0	5.6	0.71
5	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Assembly	MO	35655	44%	15766	3.853	1.679	16	$466.50	50%	26%	61%	57%	34.3	68.7	44.9	0.77
6	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Assembly	MO	38282	16%	6279	1.535	0.669	15	$1,550.00	50%	26%	61%	52%	3.9	7.8	5.6	0.70
7	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Assembly	MO	18955	17%	3274	0.800	0.349	12	$1,500.00	50%	27%	24%	47%	1.8	3.5	2.8	0.64
8	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Assembly	MO	1478	37%	545	0.133	0.058	12	$1,000.00	50%	3%	16%	32%	0.4	0.9	1.1	0.41
9	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Assembly	RETRO	6	17%	1	0.000	0.000	3	$0.08	50%	100%	39%	64%	2.7	5.5	4.4	0.62
10	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - RCx	Assembly	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	100%	20%	60%	1.6	3.2	2.8	0.58
11	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Assembly	MO	23742	21%	4935	0.611	0.589	13	$3,367.84	50%	100%	20%	48%	1.1	2.3	2.1	0.54
12	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Assembly	RETRO	476154	0%	1970	0.244	0.235	10	$244.00	50%	100%	5%	63%	5.1	10.3	7.8	0.66
13	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Assembly	MO	1130	50%	565	0.070	0.067	15	$57.00	50%	5%	20%	63%	8.7	17.3	12.9	0.67
14	Cooling	Air Conditioner - 17 IEER (5-20 Tons)	Biz - Prescriptive	Assembly	MO	757	14%	107	0.051	0.001	15	$153.28	50%	23%	5%	32%	0.6	1.3	1.4	0.46
15	Cooling	Air Conditioner - 18 IEER (5-20 Tons)	Biz - Prescriptive	Assembly	MO	757	19%	143	0.069	0.001	15	$214.59	50%	23%	5%	31%	0.6	1.2	1.3	0.45
16	Cooling	Air Conditioner - 21 IEER (5-20 Tons)	Biz - Prescriptive	Assembly	MO	757	30%	231	0.111	0.002	15	$398.52	50%	23%	5%	28%	0.5	1.1	1.2	0.43
17	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Assembly	MO	850	9%	77	0.037	0.001	15	$71.00	50%	23%	5%	41%	1.0	2.0	1.9	0.53
18	Cooling	Air Conditioner - 15 IEER (20+ Tons)	Biz - Prescriptive	Assembly	MO	850	13%	113	0.055	0.001	15	$109.23	50%	23%	5%	39%	0.9	1.9	1.8	0.52
19	Cooling	Air Conditioner - 17 IEER (20+ Tons)	Biz - Prescriptive	Assembly	MO	850	24%	200	0.096	0.002	15	$218.46	50%	23%	5%	37%	0.8	1.7	1.6	0.51
20	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Assembly	RETRO	921	7%	65	0.031	0.001	3	$11.42	50%	46%	50%	46%	1.2	2.4	2.3	0.53
21	Cooling	Air Side Economizer	Biz - Custom	Assembly	RETRO	757	20%	151	0.073	0.001	10	$126.67	50%	46%	25%	32%	0.8	1.5	1.6	0.49
22	Cooling	HVAC Occupancy Controls	Biz - Custom	Assembly	RETRO	799	20%	160	0.077	0.002	15	$197.50	50%	46%	20%	26%	1.2	1.5	2.5	0.49
23	Cooling	Air Conditioner - 16 SEER (<5 Tons)	Biz - Prescriptive	Assembly	MO	790	13%	99	0.048	0.001	15	$115.00	50%	23%	5%	36%	0.8	1.6	1.6	0.50
24	Cooling	Air Conditioner - 18 SEER(<5 Tons)	Biz - Prescriptive	Assembly	MO	790	22%	175	0.085	0.002	15	$514.00	50%	23%	5%	21%	0.3	0.6	0.9	0.33
25	Cooling	Air Conditioner - 21 SEER (<5 Tons)	Biz - Prescriptive	Assembly	MO	790	33%	263	0.127	0.003	15	$630.50	50%	23%	5%	23%	0.4	0.8	1.0	0.37
26	Cooling	Smart Thermostat	Biz - Prescriptive	Assembly	RETRO	4532	14%	642	0.309	0.006	11	$175.00	50%	23%	20%	58%	4.2	5.1	7.5	0.63
27	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Custom	Assembly	MO	1019	15%	148	0.071	0.001	8	$84.00	50%	0%	20%	38%	0.9	1.9	1.8	0.51
28	Cooling	Air Cooled Chiller	Biz - Prescriptive	Assembly	MO	807	9%	73	0.035	0.001	23	$126.00	50%	28%	5%	28%	0.7	1.5	1.5	0.50
29	Cooling	Water Cooled Chiller	Biz - Prescriptive	Assembly	MO	405	23%	92	0.044	0.001	23	$61.00	50%	3%	5%	48%	1.9	3.8	3.0	0.63
30	Cooling	Window Film	Biz - Custom	Assembly	RETRO	6364	4%	280	0.135	0.003	10	$153.81	50%	100%	25%	39%	0.6	2.3	-0.2	0.55
31	Cooling	Triple Pane Windows	Biz - Custom	Assembly	MO	6364	6%	382	0.184	0.004	25	$700.00	50%	100%	2%	20%	0.7	1.5	1.5	0.50
32	Cooling	Energy Recovery Ventilator	Biz - Custom	Assembly	RETRO	850	0%	0	0.000	0.000	15	$1,500.00		100%	2%	50%	0.0	0.0	0.0	0.00
33	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Assembly	MO	2492	7%	173	0.028	0.038	15	$135.00	50%	23%	15%	45%	1.4	2.8	2.1	0.68
34	Heating	Heat Pump - 18 SEER(<5 Tons)	Biz - Prescriptive	Assembly	MO	2492	13%	333	0.054	0.074	15	$445.76	50%	23%	15%	33%	0.8	1.7	1.4	0.58
35	Heating	Heat Pump - 21 SEER(<5 Tons)	Biz - Prescriptive	Assembly	MO	2492	19%	468	0.076	0.103	15	$520.06	50%	23%	15%	36%	1.0	2.0	1.6	0.61
36	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Assembly	MO	2732	6%	166	0.027	0.037	15	$100.00	50%	16%	15%	50%	1.8	3.7	2.6	0.72
37	Heating	Heat Pump - 16.0 IEER COP 3.8 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Assembly	MO	2732	11%	308	0.050	0.068	15	$171.08	50%	16%	15%	51%	2.0	4.0	2.8	0.73
38	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Assembly	MO	2827	6%	183	0.030	0.040	15	$100.00	50%	15%	15%	51%	2.0	4.1	2.8	0.73
39	Heating	Heat Pump - 15.5 IEER COP 3.7 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Assembly	MO	2827	12%	334	0.054	0.074	15	$158.10	50%	15%	15%	53%	2.3	4.7	3.1	0.75
40	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Assembly	MO	2951	6%	187	0.030	0.041	15	$100.00	50%	15%	15%	52%	2.1	4.1	2.8	0.73
41	Heating	Heat Pump - 13 IEER 3.6 COP (>239,000 Btu/hr)	Biz - Prescriptive	Assembly	MO	2951	12%	362	0.059	0.080	15	$201.80	50%	15%	15%	51%	2.0	4.0	2.7	0.73
42	Heating	Geothermal HP - 17 EER < 135kbtu	Biz - Prescriptive	Assembly	MO	2829	44%	1240	0.201	0.274	25	$4,361.00	50%	4%	15%	18%	0.4	0.9	1.0	0.44
43	Heating	Geothermal HP - 19 EER < 135kbtu	Biz - Prescriptive	Assembly	MO	2829	47%	1333	0.216	0.295	25	$4,361.00	50%	4%	15%	19%	0.5	0.9	1.0	0.45
44	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Custom	Assembly	MO	1625	17%	271	0.044	0.060	15	$84.00	50%	0%	15%	43%	3.6	7.2	4.5	0.79
45	Hot Water	Heat Pump Water Heater	Biz - Custom	Assembly	MO	10591	73%	7766	1.053	1.212	15	$1,797.00	50%	100%	0%	41%	4.2	8.4	5.9	0.71
46	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Assembly	RETRO	395	32%	128	0.017	0.020	10	$8.00	50%	20%	85%	45%	11.4	22.7	15.0	0.76
47	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Custom	Assembly	RETRO	18059	54%	9789	1.327	1.528	5	$54.00	50%	20%	85%	46%	71.1	142.2	91.2	0.78
48	Hot Water	Ozone Commercial Laundry	Biz - Custom	Assembly	RETRO	2984	25%	746	0.101	0.116	10	$20,309.70	50%	0%	20%	15%	1.1	0.1	2.9	0.05
49	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Assembly	RETRO	996	76%	755	0.000	0.087	10	$97.00	22%	13%	70%	64%	4.3	19.1	7.3	0.59
50	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Assembly	RETRO	1744	71%	1239	0.000	0.143	10	$123.81	29%	13%	70%	67%	5.5	19.1	9.4	0.59
51	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Assembly	RETRO	2490	67%	1659	0.000	0.192	10	$134.35	36%	13%	70%	68%	6.8	19.1	11.6	0.59
52	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Assembly	RETRO	3984	65%	2570	0.000	0.297	10	$196.16	38%	13%	70%	69%	7.2	19.1	12.3	0.59
53	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Assembly	RETRO	9467	70%	6666	0.000	0.770	10	$319.31	60%	13%	70%	71%	11.5	19.1	19.6	0.59
54	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Assembly	RETRO	489	76%	370	0.000	0.043	10	$97.00	11%	7%	70%	56%	2.1	19.1	3.6	0.59
55	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Assembly	RETRO	856	71%	608	0.000	0.070	10	$123.81	14%	7%	70%	60%	2.7	19.1	4.6	0.59

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
56	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Assembly	RETRO	1222	67%	814	0.000	0.094	10	$134.35	18%	7%	70%	62%	3.3	19.1	5.7	0.59
57	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Assembly	RETRO	1956	65%	1262	0.000	0.146	10	$196.16	19%	7%	70%	63%	3.6	19.1	6.0	0.59
58	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Assembly	RETRO	4647	70%	3272	0.000	0.378	10	$319.31	30%	7%	70%	67%	5.7	19.1	9.6	0.59
59	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Assembly	RETRO	126	74%	93	0.012	0.012	15	$59.00	5%	19%	60%	40%	1.3	27.7	2.3	0.71
60	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Assembly	RETRO	91	51%	47	0.006	0.006	10	$15.00	10%	46%	40%	53%	1.8	20.2	3.8	0.70
61	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Assembly	RETRO	94	34%	32	0.004	0.004	15	$22.00	5%	46%	40%	38%	1.2	27.7	2.1	0.71
62	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Assembly	RETRO	184	51%	95	0.012	0.012	15	$61.00	5%	46%	40%	40%	1.3	27.7	2.3	0.71
63	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Assembly	RETRO	273	54%	148	0.019	0.019	15	$76.00	6%	46%	40%	44%	1.5	27.7	3.1	0.71
64	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Assembly	RETRO	364	54%	198	0.025	0.026	15	$104.00	6%	46%	40%	44%	1.5	27.7	3.0	0.71
65	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Assembly	RETRO	184	50%	92	0.012	0.012	15	$46.67	7%	46%	40%	45%	1.6	27.7	3.2	0.71
66	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Assembly	RETRO	485	53%	258	0.033	0.034	15	$152.00	6%	46%	40%	42%	1.4	27.7	2.5	0.71
67	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Assembly	RETRO	508	67%	340	0.043	0.045	15	$42.88	26%	5%	40%	65%	4.6	27.7	-54.6	0.71
68	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Assembly	RETRO	950	57%	542	0.069	0.071	15	$48.07	37%	6%	40%	68%	5.6	27.7	-19.4	0.71
69	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Assembly	RETRO	3815	72%	2758	0.352	0.362	15	$187.94	48%	17%	40%	70%	6.5	27.7	-14.4	0.71
70	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Assembly	RETRO	81	100%	81	0.010	0.011	11	$18.50	14%	46%	0%	59%	2.5	21.8	7.7	0.71
71	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Assembly	RETRO	422	30%	126	0.016	0.017	15	$65.40	6%	90%	15%	44%	1.8	27.7	2.5	0.71
72	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Assembly	RETRO	540	28%	151	0.019	0.020	15	$57.50	9%	90%	15%	50%	2.4	27.7	3.4	0.71
73	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Assembly	RETRO	241	38%	92	0.012	0.012	15	$75.00	4%	90%	15%	34%	1.1	27.7	1.6	0.71
74	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Assembly	RETRO	241	61%	147	0.019	0.019	15	$56.00	9%	90%	15%	50%	2.4	27.7	3.4	0.71
75	Lighting_Int	Networked Lighting Control	Biz - Custom	Assembly	RETRO	2	35%	1	0.000	0.000	15	$0.41	6%	90%	15%	31%	1.5	27.7	2.2	0.71
76	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Assembly	RETRO	66	71%	47	0.006	0.006	5	$32.50	5%	1%	85%	38%	0.5	11.1	0.8	0.69
77	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Assembly	RETRO	385	61%	237	0.029	0.028	5	$233.00	50%	0%	31%	44%	0.4	0.7	1.0	0.35
78	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Custom	Assembly	MO	0	0%	0	0.000	0.000	20	$1.73		32%	24%	54%	0.0	0.0	0.0	0.00
79	Misc	High Efficiency Hand Dryers	Biz - Custom	Assembly	MO	2093	83%	1737	0.215	0.207	10	$483.00	50%	1%	50%	46%	2.3	4.6	3.8	0.61
80	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Assembly	RETRO	3125	4%	114	0.014	0.014	15	$59.00	50%	1%	73%	41%	1.7	3.4	2.9	0.58
81	Misc	Miscellaneous Custom	Biz - Custom	Assembly	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	67%	10%	44%	1.6	3.2	2.8	0.57
82	Motors	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Assembly	MO	1503	28%	417	0.000	0.095	15	$198.32	50%	100%	25%	53%	2.1	4.2	3.1	0.68
83	Motors	Power Drive Systems	Biz - Custom	Assembly	RETRO	4	23%	1	0.000	0.000	15	$0.13	50%	100%	25%	47%	7.7	15.5	10.1	0.76
84	Motors	Switch Reluctance Motors	Biz - Custom	Assembly	MO	33406	31%	10222	0.000	2.326	15	$527.50	50%	100%	1%	49%	19.5	39.0	24.7	0.79
85	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Assembly	MO	418	26%	110	0.014	0.013	6	$0.00		17%	95%	54%	#DIV/0!	0.0	0.0	0.00
86	Plug_Office	Advanced Power Strip – Teri 1 Commercial Use	Biz - Custom	Assembly	RETRO	188	58%	109	0.013	0.013	7	$10.00	50%	17%	20%	52%	5.1	10.3	7.8	0.66
87	Plug_Office	Smart Socket	Biz - Custom	Assembly	RETRO	80	61%	48	0.006	0.006	7	$9.00	50%	17%	20%	49%	2.5	5.1	4.1	0.62
88	Plug_Office	Energy Star Server	Biz - Custom	Assembly	MO	2167	30%	650	0.080	0.078	9	$300.95	50%	20%	25%	42%	1.3	2.5	2.3	0.55
89	Plug_Office	Server Virtualization	Biz - Custom	Assembly	RETRO	2167	14%	301	0.037	0.036	9	$26.97	50%	20%	25%	52%	6.5	13.1	9.8	0.67
90	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Assembly	RETRO	86783	18%	15778	1.953	1.882	15	$480.00	50%	20%	25%	53%	28.7	57.4	41.6	0.69
91	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Assembly	RETRO	764	47%	358	0.044	0.043	15	$82.00	50%	20%	25%	48%	3.8	7.6	6.0	0.64
92	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Assembly	MO	8940	25%	2265	0.280	0.270	20	$750.00	50%	20%	25%	45%	3.2	6.5	5.1	0.63
93	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Assembly	RETRO	13	8%	1	0.000	0.000	10	$0.23	50%	20%	25%	48%	2.8	5.6	4.5	0.62
94	Refrigeration	Strip Curtains	Biz - Prescriptive	Assembly	RETRO	0	0%	0	0.000	0.000	4	$10.22		3%	26%	58%	0.0	0.0	0.0	0.00
95	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Assembly	RETRO	1228	25%	307	0.043	0.034	15	$431.00	50%	2%	25%	27%	0.6	1.2	1.4	0.44
96	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Assembly	RETRO	2884	55%	1586	0.224	0.173	15	$305.00	50%	3%	80%	53%	4.5	9.0	7.0	0.64
97	Refrigeration	Evaporator Fan Motor Controls	Biz - Prescriptive	Assembly	RETRO	1298	23%	293	0.041	0.032	13	$161.75	50%	2%	25%	45%	1.4	2.8	2.5	0.56
98	Refrigeration	Variable Speed Condenser Fan	Biz - Prescriptive	Assembly	RETRO	3158	48%	1500	0.212	0.164	15	$1,170.00	50%	3%	25%	42%	1.1	2.2	2.1	0.53
99	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Assembly	RETRO	579	42%	240	0.034	0.026	10	$79.50	50%	21%	25%	50%	1.9	3.8	3.2	0.59
100	Refrigeration	Automated Door Closer for Refrigerator	Biz - Prescriptive	Assembly	RETRO	1259893	0%	2399	0.338	0.262	8	$502.00	50%	15%	27%	53%	2.5	5.0	4.1	0.61
101	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Assembly	RETRO	45880	10%	4588	0.647	0.501	10	$311.54	50%	15%	27%	42%	9.3	18.6	13.9	0.67
102	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Prescriptive	Assembly	RETRO	1558	50%	779	0.110	0.085	15	$390.00	50%	6%	25%	46%	1.7	3.5	3.0	0.58
103	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Assembly	RETRO	2884	55%	1586	0.224	0.173	15	$305.00	50%	3%	80%	53%	4.5	9.0	7.0	0.64
104	Refrigeration	Q-Sync Motor for Walk-In and Reach-in Evaporator Fan Motor	Biz - Custom	Assembly	RETRO	2091	24%	505	0.071	0.055	10	$96.00	50%	3%	2%	40%	3.3	6.6	5.3	0.63
105	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Assembly	RETRO	1511	9%	136	0.019	0.015	5	$42.00	50%	20%	55%	51%	1.1	2.2	2.1	0.53
106	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Assembly	RETRO	2016	33%	655	0.092	0.072	10	$79.50	50%	7%	25%	55%	5.2	10.4	8.0	0.65
107	Refrigeration	Automated Door Closer for Freezer	Biz - Prescriptive	Assembly	RETRO	1259893	1%	6949	0.980	0.759	8	$502.00	50%	7%	27%	56%	7.2	14.5	11.0	0.66
108	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Assembly	RETRO	2349	9%	211	0.030	0.023	5	$42.00	50%	7%	55%	53%	1.7	3.5	3.0	0.58
109	Refrigeration	Refrigeration - Custom	Biz - Custom	Assembly	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	90%	25%	36%	1.6	3.1	2.8	0.57

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
110	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - RCx	Assembly	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	90%	25%	52%	1.6	3.1	2.8	0.57
111	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Assembly	MO	1278	12%	153	0.022	0.017	14	$500.00	50%	2%	31%	18%	0.3	0.5	0.9	0.29
112	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Assembly	RETRO	1663	23%	390	0.055	0.043	5	$245.00	50%	2%	31%	44%	0.6	1.1	1.3	0.43
113	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Assembly	MO	5551	8%	440	0.062	0.048	9	$222.00	50%	4%	44%	46%	1.1	2.3	2.2	0.53
114	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Assembly	MO	115	74%	84	0.012	0.009	9	$11.00	50%	12%	35%	55%	4.4	8.9	6.9	0.64
115	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Assembly	RETRO	7655	59%	4516	0.784	0.695	15	$2,250.00	50%	40%	33%	53%	2.0	4.0	3.0	0.66
116	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Assembly	RETRO	17237	3%	534	0.080	0.071	15	$381.00	50%	40%	10%	35%	1.3	2.6	2.3	0.58
117	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Assembly	RETRO	13	8%	1	0.000	0.000	15	$0.40	50%	100%	20%	41%	2.3	4.6	3.6	0.63
118	WholeBldg_HVAC	GREM Controls	Biz - Custom	Assembly	RETRO	0	0%	0	0.000	0.000	15	$0.00	0%	0%	20%	50%	#DIV/0!	0.0	0.0	0.00
119	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Assembly	RETRO	1920	20%	384	0.062	0.049	10	$235.60	50%	100%	10%	37%	2.3	2.2	4.5	0.55
120	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Assembly	RETRO	5	36%	2	0.000	0.000	15	$15.22	50%	100%	1%	12%	0.1	0.2	0.7	0.17
121	WholeBldg_HVAC	Advanced Rooftop Controls	Biz - Custom	Assembly	RETRO	0	0%	0	0.000	0.000	10	$341.21		42%	33%	50%	0.0	0.0	0.0	0.00
122	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - RCx	Assembly	RETRO	13	8%	1	0.000	0.000	15	$0.12	50%	100%	0%	63%	7.7	15.3	10.9	0.70
123	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Assembly	RETRO	222	2%	4	0.001	0.001	10	$8.00	50%	100%	25%	20%	0.4	0.7	1.0	0.37
124	WholeBldg	WholeBlg - Com RET	Biz - Custom	Assembly	RETRO	7	15%	1	0.000	0.000	15	$0.40	50%	80%	0%	44%	2.3	4.6	3.6	0.63
125	WholeBldg	Strategic Energy Management	Biz - RCx	Assembly	RETRO	0	0%	0	0.000	0.000	5	$0.27		100%	0%	73%	0.5	0.0	0.0	0.00
126	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Assembly	RETRO	990	1%	6	0.001	0.001	30	$6.27	50%	100%	20%	31%	1.3	2.6	2.2	0.57
127	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Assembly	NC	4	25%	1	0.000	0.000	15	$0.40	50%	100%	60%	44%	2.3	4.6	3.6	0.63
128	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Education	MO	19496	39%	7532	0.081	0.289	12	$2,270.00	50%	17%	53%	51%	2.0	4.1	4.0	0.51
129	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Education	MO	10864	19%	2064	0.022	0.079	12	$960.00	50%	17%	53%	47%	1.3	2.6	2.8	0.48
130	Cooking	Commercial Electric Griddle	Biz - Custom	Education	MO	17056	15%	2596	0.028	0.100	12	$0.00		14%	20%	44%	#DIV/0!	0.0	0.0	0.00
131	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Education	MO	16915	80%	13507	0.145	0.518	12	$2,757.00	50%	6%	45%	53%	3.0	6.0	5.6	0.53
132	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Education	MO	35655	44%	15766	0.169	0.604	16	$466.50	50%	26%	61%	57%	25.9	51.7	44.9	0.58
133	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Education	MO	38282	16%	6279	0.067	0.241	15	$1,550.00	50%	26%	61%	52%	3.0	5.9	5.6	0.53
134	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Education	MO	18955	17%	3274	0.035	0.125	12	$1,500.00	50%	27%	24%	47%	1.3	2.7	2.8	0.48
135	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Education	MO	1478	37%	545	0.006	0.021	12	$1,000.00	50%	3%	16%	32%	0.3	0.7	1.1	0.31
136	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Education	RETRO	6	17%	1	0.000	0.000	3	$0.08	50%	100%	39%	64%	2.6	5.3	4.4	0.60
137	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - RCx	Education	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	100%	20%	60%	1.5	3.1	2.8	0.55
138	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Education	MO	23742	21%	4935	0.468	0.554	13	$3,367.84	50%	100%	20%	48%	1.1	2.2	2.1	0.52
139	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Education	RETRO	476154	0%	1970	0.187	0.221	10	$244.00	50%	100%	5%	63%	5.0	9.9	7.8	0.63
140	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Education	MO	1130	50%	565	0.054	0.063	15	$57.00	50%	5%	20%	63%	8.3	16.7	12.9	0.65
141	Cooling	Air Conditioner - 17 IEER (5-20 Tons)	Biz - Prescriptive	Education	MO	546	14%	77	0.041	0.000	15	$153.28	50%	28%	5%	25%	0.5	0.9	1.1	0.41
142	Cooling	Air Conditioner - 18 IEER (5-20 Tons)	Biz - Prescriptive	Education	MO	546	19%	103	0.054	0.001	15	$214.59	50%	28%	5%	24%	0.4	0.9	1.1	0.40
143	Cooling	Air Conditioner - 21 IEER (5-20 Tons)	Biz - Prescriptive	Education	MO	546	30%	167	0.088	0.001	15	$398.52	50%	28%	5%	23%	0.4	0.8	1.0	0.38
144	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Education	MO	614	9%	56	0.029	0.000	15	$71.00	50%	28%	5%	34%	0.7	1.5	1.5	0.49
145	Cooling	Air Conditioner - 15 IEER (20+ Tons)	Biz - Prescriptive	Education	MO	614	13%	82	0.043	0.001	15	$109.23	50%	28%	5%	33%	0.7	1.4	1.4	0.48
146	Cooling	Air Conditioner - 17 IEER (20+ Tons)	Biz - Prescriptive	Education	MO	614	24%	144	0.076	0.001	15	$218.46	50%	28%	5%	31%	0.6	1.2	1.3	0.46
147	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Education	RETRO	665	7%	47	0.025	0.000	3	$11.42	50%	55%	50%	44%	0.9	1.7	1.8	0.49
148	Cooling	Air Side Economizer	Biz - Custom	Education	RETRO	546	20%	109	0.058	0.001	10	$126.67	50%	55%	25%	27%	0.6	1.1	1.3	0.44
149	Cooling	HVAC Occupancy Controls	Biz - Custom	Education	RETRO	577	20%	115	0.061	0.001	15	$197.50	50%	55%	20%	21%	0.9	1.1	1.9	0.44
150	Cooling	Air Conditioner - 16 SEER (<5 Tons)	Biz - Prescriptive	Education	MO	570	13%	71	0.038	0.000	15	$115.00	50%	0%	5%	30%	0.6	1.1	1.3	0.45
151	Cooling	Air Conditioner - 18 SEER(<5 Tons)	Biz - Prescriptive	Education	MO	570	22%	127	0.067	0.001	15	$514.00	50%	0%	5%	16%	0.2	0.5	0.8	0.28
152	Cooling	Air Conditioner - 21 SEER (<5 Tons)	Biz - Prescriptive	Education	MO	570	33%	190	0.100	0.001	15	$630.50	50%	0%	5%	19%	0.3	0.6	0.9	0.32
153	Cooling	Smart Thermostat	Biz - Prescriptive	Education	RETRO	3270	14%	463	0.244	0.003	11	$175.00	50%	0%	20%	56%	3.0	3.8	5.5	0.61
154	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Custom	Education	MO	735	15%	107	0.057	0.001	8	$84.00	50%	0%	20%	33%	0.7	1.4	1.5	0.47
155	Cooling	Air Cooled Chiller	Biz - Prescriptive	Education	MO	582	9%	52	0.028	0.000	23	$126.00	50%	41%	5%	23%	0.5	1.1	1.2	0.45
156	Cooling	Water Cooled Chiller	Biz - Prescriptive	Education	MO	292	23%	66	0.035	0.000	23	$61.00	50%	5%	5%	41%	1.4	2.8	2.3	0.60
157	Cooling	Window Film	Biz - Custom	Education	RETRO	6364	4%	280	0.148	0.002	10	$153.81	50%	100%	25%	39%	0.6	2.4	-0.2	0.56
158	Cooling	Triple Pane Windows	Biz - Custom	Education	MO	6364	6%	382	0.202	0.002	25	$700.00	50%	100%	2%	20%	0.8	1.5	1.5	0.51
159	Cooling	Energy Recovery Ventilator	Biz - Custom	Education	RETRO	614	0%	0	0.000	0.000	15	$1,500.00		100%	2%	50%	0.0	0.0	0.0	0.00
160	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Education	MO	1755	7%	123	0.022	0.031	15	$135.00	50%	0%	15%	36%	1.1	2.2	1.6	0.66
161	Heating	Heat Pump - 18 SEER(<5 Tons)	Biz - Prescriptive	Education	MO	1755	13%	237	0.042	0.060	15	$445.76	50%	0%	15%	26%	0.6	1.3	1.2	0.54
162	Heating	Heat Pump - 21 SEER(<5 Tons)	Biz - Prescriptive	Education	MO	1755	19%	332	0.059	0.084	15	$520.06	50%	0%	15%	30%	0.8	1.5	1.3	0.58
163	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Education	MO	1922	6%	117	0.021	0.030	15	$100.00	50%	23%	15%	42%	1.4	2.8	2.0	0.71

C&I Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
164	Heating	Heat Pump - 16.0 IEER COP 3.8 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Education	MO	1922	11%	217	0.039	0.055	15	$171.08	50%	23%	15%	44%	1.5	3.0	2.1	0.72
165	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Education	MO	1989	6%	129	0.023	0.033	15	$100.00	50%	22%	15%	45%	1.5	3.1	2.1	0.72
166	Heating	Heat Pump - 15.5 IEER COP 3.7 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Education	MO	1989	12%	235	0.042	0.060	15	$158.10	50%	22%	15%	48%	1.8	3.5	2.4	0.75
167	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Education	MO	2077	6%	132	0.024	0.033	15	$100.00	50%	22%	15%	45%	1.6	3.1	2.1	0.73
168	Heating	Heat Pump - 13 IEER 3.6 COP (>239,000 Btu/hr)	Biz - Prescriptive	Education	MO	2077	12%	255	0.046	0.065	15	$201.80	50%	22%	15%	44%	1.5	3.0	2.1	0.72
169	Heating	Geothermal HP - 17 EER < 135kbtu	Biz - Prescriptive	Education	MO	1990	44%	867	0.155	0.220	25	$4,361.00	50%	5%	15%	16%	0.3	0.7	0.9	0.38
170	Heating	Geothermal HP - 19 EER < 135kbtu	Biz - Prescriptive	Education	MO	1990	47%	933	0.167	0.237	25	$4,361.00	50%	5%	15%	16%	0.4	0.7	0.9	0.40
171	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Custom	Education	MO	3982	17%	664	0.119	0.169	15	$84.00	50%	0%	15%	47%	9.4	18.7	10.4	0.90
172	Hot Water	Heat Pump Water Heater	Biz - Custom	Education	MO	17641	73%	12936	1.328	2.056	15	$1,797.00	50%	100%	13%	43%	6.9	13.7	9.5	0.72
173	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Education	RETRO	474	32%	153	0.016	0.024	10	$8.00	50%	20%	85%	45%	13.4	26.7	17.9	0.75
174	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Custom	Education	RETRO	18059	54%	9789	1.005	1.556	5	$54.00	50%	20%	85%	46%	69.8	139.7	91.2	0.77
175	Hot Water	Ozone Commercial Laundry	Biz - Custom	Education	MO	2984	25%	746	0.077	0.119	10	$20,309.70	50%	0%	20%	15%	1.1	0.1	2.9	0.05
176	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Education	RETRO	996	76%	755	0.000	0.087	10	$97.00	22%	13%	70%	64%	4.3	19.2	7.3	0.59
177	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Education	RETRO	1744	71%	1239	0.000	0.142	10	$123.81	29%	13%	70%	67%	5.5	19.2	9.4	0.59
178	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Education	RETRO	2490	67%	1659	0.000	0.191	10	$134.35	35%	13%	70%	68%	6.8	19.2	11.6	0.59
179	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Education	RETRO	3984	65%	2570	0.000	0.295	10	$196.16	38%	13%	70%	69%	7.2	19.2	12.3	0.59
180	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Education	RETRO	9467	70%	6666	0.000	0.766	10	$319.31	60%	13%	70%	71%	11.5	19.2	19.6	0.59
181	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Education	RETRO	489	76%	370	0.000	0.043	10	$97.00	11%	7%	70%	56%	2.1	19.2	3.6	0.59
182	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Education	RETRO	856	71%	608	0.000	0.070	10	$123.81	14%	7%	70%	60%	2.7	19.2	4.6	0.59
183	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Education	RETRO	1222	67%	814	0.000	0.094	10	$134.35	17%	7%	70%	62%	3.3	19.2	5.7	0.59
184	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Education	RETRO	1956	65%	1262	0.000	0.145	10	$196.16	18%	7%	70%	63%	3.5	19.2	6.0	0.59
185	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Education	RETRO	4647	70%	3272	0.000	0.376	10	$319.31	29%	7%	70%	67%	5.7	19.2	9.6	0.59
186	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Education	RETRO	127	74%	94	0.009	0.011	15	$59.00	5%	11%	60%	40%	1.3	28.2	2.1	0.67
187	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Education	RETRO	92	51%	47	0.004	0.006	10	$15.00	10%	69%	40%	53%	1.9	20.6	3.2	0.67
188	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Education	RETRO	95	34%	32	0.003	0.004	15	$22.00	4%	69%	40%	39%	1.2	28.2	1.9	0.67
189	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Education	RETRO	186	51%	96	0.009	0.012	15	$61.00	5%	69%	40%	40%	1.3	28.2	2.1	0.67
190	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Education	RETRO	275	54%	149	0.014	0.018	15	$76.00	6%	69%	40%	44%	1.6	28.2	2.7	0.67
191	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Education	RETRO	367	54%	199	0.019	0.024	15	$104.00	6%	69%	40%	44%	1.6	28.2	2.6	0.67
192	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Education	RETRO	185	50%	93	0.009	0.011	15	$46.67	6%	69%	40%	45%	1.6	28.2	2.7	0.67
193	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Education	RETRO	489	53%	260	0.025	0.032	15	$152.00	5%	69%	40%	42%	1.4	28.2	2.3	0.67
194	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Education	RETRO	512	67%	343	0.033	0.042	15	$42.88	24%	8%	50%	65%	5.8	28.2	15.4	0.67
195	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Education	RETRO	958	57%	546	0.052	0.067	15	$48.07	35%	6%	40%	68%	7.8	28.2	28.8	0.67
196	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Education	RETRO	3847	72%	2781	0.264	0.339	15	$187.94	45%	2%	50%	70%	9.6	28.2	54.9	0.67
197	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Education	RETRO	82	100%	82	0.008	0.010	11	$18.50	13%	69%	0%	59%	2.8	22.2	5.1	0.67
198	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Education	RETRO	425	30%	128	0.012	0.016	15	$65.40	6%	90%	15%	44%	1.7	28.2	2.5	0.67
199	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Education	RETRO	544	28%	152	0.014	0.019	15	$57.50	8%	90%	15%	50%	2.3	28.2	3.4	0.67
200	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Education	RETRO	243	38%	92	0.009	0.011	15	$75.00	4%	90%	15%	34%	1.1	28.2	1.6	0.67
201	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Education	RETRO	243	61%	148	0.014	0.018	15	$56.00	8%	90%	15%	50%	2.3	28.2	3.4	0.67
202	Lighting_Int	Networked Lighting Control	Biz - Custom	Education	RETRO	2	35%	1	0.000	0.000	15	$0.41	5%	90%	15%	31%	1.5	28.2	2.2	0.67
203	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Education	RETRO	66	71%	47	0.004	0.006	5	$32.50	4%	1%	85%	38%	0.5	11.4	0.8	0.65
204	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Education	RETRO	385	61%	237	0.022	0.027	5	$233.00	50%	0%	31%	44%	0.3	0.7	1.0	0.34
205	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Custom	Education	MO	5	50%	3	0.000	0.000	20	$1.73	50%	45%	24%	38%	1.6	3.2	2.9	0.55
206	Misc	High Efficiency Hand Dryers	Biz - Custom	Education	MO	2093	83%	1737	0.165	0.195	10	$483.00	50%	1%	50%	46%	2.2	4.4	3.8	0.59
207	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Education	RETRO	3125	4%	114	0.011	0.013	15	$59.00	50%	1%	73%	41%	1.6	3.3	2.9	0.56
208	Misc	Miscellaneous Custom	Biz - Custom	Education	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	53%	10%	44%	1.5	3.1	2.8	0.55
209	Motors	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Education	MO	2296	28%	637	0.077	0.113	15	$198.32	50%	100%	25%	58%	3.2	6.4	4.5	0.71
210	Motors	Power Drive Systems	Biz - Custom	Education	RETRO	4	23%	1	0.000	0.000	15	$0.13	50%	100%	25%	47%	7.6	15.3	10.1	0.76
211	Motors	Switch Reluctance Motors	Biz - Custom	Education	MO	33406	31%	10222	1.234	1.806	15	$527.50	50%	100%	1%	49%	19.3	38.5	24.7	0.78
212	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Education	MO	418	26%	110	0.010	0.012	6	$0.00		7%	95%	54%	#DIV/0!	0.0	0.0	0.00
213	Plug_Office	Advanced Power Strip – Teri 1 Commercial Use	Biz - Custom	Education	RETRO	188	58%	109	0.010	0.012	7	$10.00	50%	25%	20%	52%	4.9	9.9	7.8	0.63
214	Plug_Office	Smart Socket	Biz - Custom	Education	RETRO	80	61%	48	0.005	0.005	7	$9.00	50%	25%	20%	49%	2.5	4.9	4.1	0.60
215	Plug_Office	Energy Star Server	Biz - Custom	Education	MO	2167	30%	650	0.062	0.073	9	$300.95	50%	29%	25%	42%	1.2	2.4	2.3	0.53
216	Plug_Office	Server Virtualization	Biz - Custom	Education	RETRO	2167	14%	301	0.029	0.034	9	$26.97	50%	29%	25%	52%	6.3	12.6	9.8	0.64
217	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Education	RETRO	86783	18%	15778	1.495	1.772	15	$480.00	50%	29%	25%	53%	27.6	55.3	41.6	0.66

C&I Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
218	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Education	RETRO	764	47%	358	0.034	0.040	15	$82.00	50%	29%	25%	48%	3.7	7.3	6.0	0.62
219	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Education	MO	8940	25%	2265	0.215	0.254	20	$750.00	50%	29%	25%	45%	3.1	6.2	5.1	0.60
220	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Education	RETRO	13	8%	1	0.000	0.000	10	$0.23	50%	29%	25%	48%	2.7	5.4	4.5	0.60
221	Refrigeration	Strip Curtains	Biz - Prescriptive	Education	RETRO	0	0%	0	0.000	0.000	4	$10.22		8%	26%	58%	0.0	0.0	0.0	0.00
222	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Education	RETRO	1228	25%	307	0.044	0.034	15	$431.00	50%	5%	25%	27%	0.6	1.2	1.4	0.44
223	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Education	RETRO	2884	55%	1586	0.226	0.175	15	$305.00	50%	2%	80%	53%	4.5	9.0	7.0	0.64
224	Refrigeration	Evaporator Fan Motor Controls	Biz - Prescriptive	Education	RETRO	1298	23%	293	0.042	0.032	13	$161.75	50%	5%	25%	45%	1.4	2.8	2.5	0.56
225	Refrigeration	Variable Speed Condenser Fan	Biz - Prescriptive	Education	RETRO	3158	48%	1500	0.213	0.165	15	$1,170.00	50%	6%	25%	42%	1.1	2.2	2.1	0.53
226	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Education	RETRO	579	42%	240	0.034	0.026	10	$79.50	50%	16%	25%	50%	1.9	3.8	3.2	0.59
227	Refrigeration	Automated Door Closer for Refrigerator	Biz - Prescriptive	Education	RETRO	1259893	0%	2399	0.341	0.264	8	$502.00	50%	11%	58%	53%	2.5	5.0	4.1	0.61
228	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Education	RETRO	45880	10%	4588	0.652	0.505	10	$311.54	50%	11%	58%	42%	9.3	18.6	13.9	0.67
229	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Prescriptive	Education	RETRO	1558	50%	779	0.111	0.086	15	$390.00	50%	5%	25%	46%	1.7	3.5	3.0	0.58
230	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Education	RETRO	2884	55%	1586	0.226	0.175	15	$305.00	50%	2%	80%	53%	4.5	9.0	7.0	0.64
231	Refrigeration	Q-Sync Motor for Walk-In and Reach-in Evaporator Fan Motor	Biz - Custom	Education	RETRO	2091	24%	505	0.072	0.056	10	$96.00	50%	2%	2%	40%	3.3	6.6	5.3	0.63
232	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Education	RETRO	1511	9%	136	0.019	0.015	5	$42.00	50%	15%	55%	51%	1.1	2.2	2.1	0.53
233	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Education	RETRO	2016	33%	655	0.093	0.072	10	$79.50	50%	5%	25%	55%	5.2	10.4	8.0	0.65
234	Refrigeration	Automated Door Closer for Freezer	Biz - Prescriptive	Education	RETRO	1259893	1%	6949	0.988	0.765	8	$502.00	50%	5%	58%	56%	7.3	14.5	11.0	0.66
235	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Education	RETRO	2349	9%	211	0.030	0.023	5	$42.00	50%	5%	55%	53%	1.7	3.5	3.0	0.58
236	Refrigeration	Refrigeration - Custom	Biz - Custom	Education	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	90%	25%	36%	1.6	3.2	2.8	0.57
237	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - RCx	Education	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	90%	25%	52%	1.6	3.2	2.8	0.57
238	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Education	MO	1278	12%	153	0.022	0.017	14	$500.00	50%	3%	31%	18%	0.3	0.5	0.9	0.29
239	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Education	RETRO	1663	23%	390	0.055	0.043	5	$245.00	50%	3%	31%	44%	0.6	1.1	1.3	0.43
240	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Education	MO	5551	8%	440	0.063	0.048	9	$222.00	50%	3%	44%	46%	1.1	2.3	2.2	0.53
241	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Education	MO	115	74%	84	0.012	0.009	9	$11.00	50%	9%	35%	55%	4.5	8.9	6.9	0.64
242	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Education	RETRO	7655	59%	4516	0.816	0.737	15	$2,250.00	50%	40%	50%	53%	2.0	4.0	3.0	0.67
243	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Education	RETRO	17237	3%	534	0.083	0.075	15	$381.00	50%	40%	10%	35%	1.3	2.7	2.3	0.59
244	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Education	RETRO	13	8%	1	0.000	0.000	15	$0.40	50%	100%	20%	41%	2.4	4.8	3.6	0.67
245	WholeBldg_HVAC	GREM Controls	Biz - Custom	Education	RETRO	0	0%	0	0.000	0.000	15	$0.00	0%	0%	20%	50%	#DIV/0!	0.0	0.0	0.00
246	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Education	RETRO	1920	20%	384	0.066	0.057	10	$235.60	50%	100%	10%	37%	2.3	2.3	4.5	0.58
247	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Education	RETRO	5	36%	2	0.000	0.000	15	$15.22	50%	100%	1%	12%	0.1	0.2	0.7	0.18
248	WholeBldg_HVAC	Advanced Rooftop Controls	Biz - Custom	Education	RETRO	684	61%	415	0.071	0.062	10	$341.21	50%	55%	50%	33%	1.6	1.7	3.1	0.54
249	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - RCx	Education	RETRO	13	8%	1	0.000	0.000	15	$0.12	50%	100%	0%	63%	8.1	16.1	10.9	0.74
250	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Education	RETRO	222	2%	4	0.001	0.001	10	$8.00	50%	100%	25%	20%	0.4	0.8	1.0	0.39
251	WholeBldg	WholeBlg - Com RET	Biz - Custom	Education	RETRO	7	15%	1	0.000	0.000	15	$0.40	50%	80%	0%	44%	2.4	4.8	3.6	0.67
252	WholeBldg	Strategic Energy Management	Biz - RCx	Education	RETRO	33	3%	1	0.000	0.000	5	$0.27	50%	100%	0%	62%	1.4	2.9	2.4	0.61
253	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Education	RETRO	990	1%	6	0.001	0.001	30	$6.27	50%	100%	20%	31%	1.3	2.7	2.2	0.60
254	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Education	NC	4	25%	1	0.000	0.000	15	$0.40	50%	100%	60%	44%	2.4	4.8	3.6	0.67
255	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Food Sales	MO	19496	39%	7532	1.530	0.951	12	$2,270.00	50%	17%	53%	51%	2.7	5.3	4.0	0.67
256	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Food Sales	MO	10864	19%	2064	0.419	0.261	12	$960.00	50%	17%	53%	47%	1.7	3.4	2.8	0.62
257	Cooking	Commercial Electric Griddle	Biz - Custom	Food Sales	MO	17056	15%	2596	0.527	0.328	12	$0.00		14%	20%	44%	#DIV/0!	0.0	0.0	0.00
258	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Food Sales	MO	16915	80%	13507	2.743	1.705	12	$2,757.00	50%	6%	45%	53%	3.9	7.8	5.6	0.69
259	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Food Sales	MO	35655	44%	15766	3.202	1.990	16	$466.50	50%	26%	61%	57%	33.7	67.4	44.9	0.75
260	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Food Sales	MO	38282	16%	6279	1.275	0.793	15	$1,550.00	50%	26%	61%	52%	3.9	7.7	5.6	0.69
261	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Food Sales	MO	18955	17%	3274	0.665	0.413	12	$1,500.00	50%	27%	24%	47%	1.7	3.5	2.8	0.63
262	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Food Sales	MO	1478	37%	545	0.111	0.069	12	$1,000.00	50%	3%	16%	32%	0.4	0.9	1.1	0.41
263	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Food Sales	RETRO	6	17%	1	0.000	0.000	3	$0.08	50%	100%	39%	64%	2.8	5.5	4.4	0.63
264	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - RCx	Food Sales	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	100%	20%	60%	1.6	3.2	2.8	0.58
265	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Food Sales	MO	23742	21%	4935	0.762	0.566	13	$3,367.84	50%	100%	20%	48%	1.2	2.3	2.1	0.54
266	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Food Sales	RETRO	476154	0%	1970	0.304	0.226	10	$244.00	50%	100%	5%	63%	5.2	10.4	7.8	0.67
267	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Food Sales	MO	1130	50%	565	0.087	0.065	15	$57.00	50%	5%	20%	63%	8.8	17.6	12.9	0.68
268	Cooling	Air Conditioner - 17 IEER (5-20 Tons)	Biz - Prescriptive	Food Sales	MO	930	14%	131	0.086	0.000	15	$153.28	50%	20%	5%	36%	0.9	1.7	1.6	0.55
269	Cooling	Air Conditioner - 18 IEER (5-20 Tons)	Biz - Prescriptive	Food Sales	MO	930	19%	176	0.115	0.000	15	$214.59	50%	20%	5%	35%	0.8	1.7	1.5	0.55
270	Cooling	Air Conditioner - 21 IEER (5-20 Tons)	Biz - Prescriptive	Food Sales	MO	930	30%	283	0.186	0.000	15	$398.52	50%	20%	5%	32%	0.7	1.4	1.4	0.52
271	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Food Sales	MO	1045	9%	95	0.062	0.000	15	$71.00	50%	20%	5%	46%	1.4	2.7	2.2	0.62

C&I Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
272	Cooling	Air Conditioner - 15 IEER (20+ Tons)	Biz - Prescriptive	Food Sales	MO	1045	13%	139	0.091	0.000	15	$109.23	50%	20%	5%	45%	1.3	2.6	2.1	0.62
273	Cooling	Air Conditioner - 17 IEER (20+ Tons)	Biz - Prescriptive	Food Sales	MO	1045	24%	246	0.161	0.000	15	$218.46	50%	20%	5%	41%	1.1	2.3	1.9	0.60
274	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Food Sales	RETRO	1132	7%	79	0.052	0.000	3	$11.42	50%	41%	50%	47%	1.6	3.2	2.7	0.60
275	Cooling	Air Side Economizer	Biz - Custom	Food Sales	RETRO	930	20%	186	0.122	0.000	10	$126.67	50%	41%	25%	36%	1.1	2.1	1.8	0.57
276	Cooling	HVAC Occupancy Controls	Biz - Custom	Food Sales	RETRO	982	20%	196	0.129	0.000	15	$197.50	50%	41%	20%	28%	1.4	2.0	2.6	0.58
277	Cooling	Air Conditioner - 16 SEER (<5 Tons)	Biz - Prescriptive	Food Sales	MO	970	13%	121	0.080	0.000	15	$115.00	50%	18%	5%	40%	1.1	2.1	1.8	0.59
278	Cooling	Air Conditioner - 18 SEER(<5 Tons)	Biz - Prescriptive	Food Sales	MO	970	22%	216	0.141	0.000	15	$514.00	50%	18%	5%	23%	0.4	0.9	1.0	0.42
279	Cooling	Air Conditioner - 21 SEER (<5 Tons)	Biz - Prescriptive	Food Sales	MO	970	33%	323	0.212	0.000	15	$630.50	50%	18%	5%	25%	0.5	1.0	1.1	0.46
280	Cooling	Smart Thermostat	Biz - Prescriptive	Food Sales	RETRO	5568	14%	788	0.517	0.000	11	$175.00	50%	18%	20%	60%	4.9	7.0	7.8	0.71
281	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Custom	Food Sales	MO	1252	15%	182	0.120	0.000	8	$84.00	50%	41%	20%	40%	1.3	2.5	2.1	0.60
282	Cooling	Air Cooled Chiller	Biz - Prescriptive	Food Sales	MO	991	9%	89	0.059	0.000	23	$126.00	50%	0%	5%	32%	1.0	2.0	1.7	0.60
283	Cooling	Water Cooled Chiller	Biz - Prescriptive	Food Sales	MO	498	23%	113	0.074	0.000	23	$61.00	50%	0%	5%	52%	2.6	5.3	3.6	0.73
284	Cooling	Window Film	Biz - Custom	Food Sales	RETRO	6364	4%	280	0.184	0.000	10	$153.81	50%	100%	25%	39%	0.7	2.6	-0.2	0.61
285	Cooling	Triple Pane Windows	Biz - Custom	Food Sales	MO	6364	6%	382	0.250	0.000	25	$700.00	50%	100%	2%	20%	0.8	1.6	1.5	0.56
286	Cooling	Energy Recovery Ventilator	Biz - Custom	Food Sales	RETRO	1045	0%	0	0.000	0.000	15	$1,500.00		100%	2%	50%	0.0	0.0	0.0	0.00
287	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Food Sales	MO	2390	8%	183	0.040	0.049	15	$135.00	50%	23%	15%	46%	1.7	3.4	2.2	0.77
288	Heating	Heat Pump - 18 SEER(<5 Tons)	Biz - Prescriptive	Food Sales	MO	2390	15%	347	0.076	0.092	15	$445.76	50%	23%	15%	34%	1.0	1.9	1.5	0.66
289	Heating	Heat Pump - 21 SEER(<5 Tons)	Biz - Prescriptive	Food Sales	MO	2390	21%	494	0.108	0.131	15	$520.06	50%	23%	15%	37%	1.2	2.4	1.7	0.70
290	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Food Sales	MO	2593	6%	161	0.035	0.043	15	$100.00	50%	17%	15%	50%	2.0	4.0	2.5	0.80
291	Heating	Heat Pump - 16.0 IEER COP 3.8 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Food Sales	MO	2593	12%	298	0.065	0.079	15	$171.08	50%	17%	15%	51%	2.2	4.3	2.7	0.81
292	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Food Sales	MO	2686	7%	180	0.039	0.048	15	$100.00	50%	17%	15%	51%	2.2	4.5	2.7	0.81
293	Heating	Heat Pump - 15.5 IEER COP 3.7 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Food Sales	MO	2686	12%	325	0.071	0.086	15	$158.10	50%	17%	15%	53%	2.6	5.1	3.1	0.83
294	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Food Sales	MO	2816	7%	187	0.041	0.050	15	$100.00	50%	17%	15%	52%	2.3	4.7	2.8	0.82
295	Heating	Heat Pump - 13 IEER 3.6 COP (>239,000 Btu/hr)	Biz - Prescriptive	Food Sales	MO	2816	13%	355	0.078	0.094	15	$201.80	50%	17%	15%	51%	2.2	4.4	2.7	0.81
296	Heating	Geothermal HP - 17 EER < 135kbtu	Biz - Prescriptive	Food Sales	MO	2688	41%	1096	0.239	0.290	25	$4,361.00	50%	0%	15%	16%	0.4	0.9	0.9	0.46
297	Heating	Geothermal HP - 19 EER < 135kbtu	Biz - Prescriptive	Food Sales	MO	2688	44%	1189	0.260	0.315	25	$4,361.00	50%	0%	15%	18%	0.5	0.9	1.0	0.48
298	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Custom	Food Sales	MO	5100	17%	850	0.186	0.225	15	$84.00	50%	10%	15%	48%	12.6	25.2	13.2	0.96
299	Hot Water	Heat Pump Water Heater	Biz - Custom	Food Sales	MO	16398	73%	12025	1.618	1.813	15	$1,797.00	50%	100%	0%	43%	6.4	12.7	8.9	0.72
300	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Food Sales	RETRO	288	32%	93	0.013	0.014	10	$8.00	50%	20%	85%	44%	8.1	16.2	11.1	0.73
301	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Custom	Food Sales	RETRO	18059	54%	9789	1.317	1.476	5	$54.00	50%	20%	85%	46%	69.4	138.9	91.2	0.76
302	Hot Water	Ozone Commercial Laundry	Biz - Custom	Food Sales	MO	2984	25%	746	0.100	0.112	10	$20,309.70	50%	0%	20%	15%	1.1	0.1	2.9	0.05
303	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Food Sales	RETRO	996	76%	755	0.000	0.096	10	$97.00	25%	13%	70%	65%	4.5	18.3	7.3	0.62
304	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Food Sales	RETRO	1744	71%	1239	0.000	0.157	10	$123.81	32%	13%	70%	67%	5.8	18.3	9.4	0.62
305	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Food Sales	RETRO	2490	67%	1659	0.000	0.210	10	$134.35	39%	13%	70%	68%	7.2	18.3	11.6	0.62
306	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Food Sales	RETRO	3984	65%	2570	0.000	0.325	10	$196.16	41%	13%	70%	69%	7.6	18.3	12.3	0.62
307	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Food Sales	RETRO	9467	70%	6666	0.000	0.844	10	$319.31	66%	13%	70%	71%	12.1	18.3	19.6	0.62
308	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Food Sales	RETRO	489	76%	370	0.000	0.047	10	$97.00	12%	7%	70%	57%	2.2	18.3	3.6	0.62
309	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Food Sales	RETRO	856	71%	608	0.000	0.077	10	$123.81	16%	7%	70%	60%	2.8	18.3	4.6	0.62
310	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Food Sales	RETRO	1222	67%	814	0.000	0.103	10	$134.35	19%	7%	70%	62%	3.5	18.3	5.7	0.62
311	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Food Sales	RETRO	1956	65%	1262	0.000	0.160	10	$196.16	20%	7%	70%	63%	3.7	18.3	6.0	0.62
312	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Food Sales	RETRO	4647	70%	3272	0.000	0.414	10	$319.31	32%	7%	70%	67%	5.9	18.3	9.6	0.62
313	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Food Sales	RETRO	220	74%	162	0.020	0.019	12	$59.00	8%	8%	60%	51%	1.8	24.9	3.4	0.68
314	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Food Sales	RETRO	159	51%	82	0.010	0.010	10	$15.00	16%	53%	40%	61%	3.0	21.5	6.8	0.68
315	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Food Sales	RETRO	164	34%	56	0.007	0.007	12	$22.00	7%	53%	40%	50%	1.7	24.9	3.1	0.68
316	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Food Sales	RETRO	321	51%	165	0.020	0.019	12	$61.00	8%	53%	40%	51%	1.8	24.9	3.3	0.68
317	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Food Sales	RETRO	475	54%	257	0.031	0.030	12	$76.00	10%	53%	40%	55%	2.2	24.9	4.4	0.68
318	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Food Sales	RETRO	634	54%	344	0.042	0.040	12	$104.00	10%	53%	40%	54%	2.2	24.9	4.3	0.68
319	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Food Sales	RETRO	320	50%	161	0.020	0.019	12	$46.67	10%	53%	40%	55%	2.3	24.9	4.5	0.68
320	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Food Sales	RETRO	844	53%	449	0.054	0.053	12	$152.00	9%	53%	40%	52%	2.0	24.9	3.7	0.68
321	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Food Sales	RETRO	883	67%	592	0.072	0.070	12	$42.88	41%	6%	50%	69%	7.0	24.9	131.4	0.68
322	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Food Sales	RETRO	1654	57%	943	0.114	0.111	12	$48.07	58%	23%	40%	71%	8.8	24.9	-73.5	0.68
323	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Food Sales	RETRO	6639	72%	4801	0.582	0.566	12	$187.94	75%	9%	50%	72%	10.3	24.9	-39.6	0.68
324	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Food Sales	RETRO	141	100%	141	0.017	0.017	11	$18.50	22%	53%	0%	64%	4.3	23.2	13.3	0.68
325	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Food Sales	RETRO	734	30%	220	0.027	0.026	15	$65.40	10%	90%	15%	54%	2.9	29.5	4.3	0.68

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
326	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Food Sales	RETRO	940	28%	263	0.032	0.031	15	$57.50	13%	90%	15%	59%	4.0	29.5	5.9	0.68
327	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Food Sales	RETRO	419	38%	159	0.019	0.019	15	$75.00	6%	90%	15%	46%	1.8	29.5	2.7	0.68
328	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Food Sales	RETRO	419	61%	256	0.031	0.030	15	$56.00	13%	90%	15%	59%	4.0	29.5	5.8	0.68
329	Lighting_Int	Networked Lighting Control	Biz - Custom	Food Sales	RETRO	3	35%	1	0.000	0.000	15	$0.71	5%	90%	15%	31%	1.5	29.5	2.2	0.68
330	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Food Sales	RETRO	63	71%	45	0.005	0.005	5	$32.50	4%	1%	85%	37%	0.5	11.8	0.7	0.66
331	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Food Sales	RETRO	385	61%	237	0.048	0.030	5	$233.00	50%	0%	31%	44%	0.4	0.8	1.0	0.38
332	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Custom	Food Sales	MO	5	50%	3	0.001	0.000	20	$1.73	50%	18%	24%	38%	1.8	3.6	2.9	0.63
333	Misc	High Efficiency Hand Dryers	Biz - Custom	Food Sales	MO	3819	83%	3170	0.644	0.400	10	$483.00	50%	1%	50%	50%	4.5	9.1	6.5	0.70
334	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Food Sales	RETRO	3125	4%	114	0.023	0.014	15	$59.00	50%	0%	73%	41%	1.8	3.7	2.9	0.63
335	Misc	Miscellaneous Custom	Biz - Custom	Food Sales	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	81%	10%	44%	1.7	3.5	2.8	0.62
336	Motors	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Food Sales	MO	3823	28%	1060	0.133	0.109	15	$198.32	50%	100%	25%	61%	4.6	9.1	7.2	0.64
337	Motors	Power Drive Systems	Biz - Custom	Food Sales	RETRO	4	23%	1	0.000	0.000	15	$0.13	50%	100%	25%	47%	6.6	13.1	10.1	0.65
338	Motors	Switch Reluctance Motors	Biz - Custom	Food Sales	MO	37735	31%	11547	1.446	1.190	15	$527.50	50%	100%	1%	49%	18.7	37.4	27.9	0.67
339	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Food Sales	MO	418	26%	110	0.022	0.014	6	$0.00		26%	95%	54%	#DIV/0!	0.0	0.0	0.00
340	Plug_Office	Advanced Power Strip – Teri 1 Commercial Use	Biz - Custom	Food Sales	RETRO	188	58%	109	0.022	0.014	7	$10.00	50%	10%	20%	52%	5.6	11.1	7.8	0.71
341	Plug_Office	Smart Socket	Biz - Custom	Food Sales	RETRO	80	61%	48	0.010	0.006	7	$9.00	50%	10%	20%	49%	2.8	5.5	4.1	0.67
342	Plug_Office	Energy Star Server	Biz - Custom	Food Sales	MO	2167	30%	650	0.132	0.082	9	$300.95	50%	12%	25%	42%	1.4	2.7	2.3	0.60
343	Plug_Office	Server Virtualization	Biz - Custom	Food Sales	RETRO	2167	14%	301	0.061	0.038	9	$26.97	50%	12%	25%	52%	7.1	14.2	9.8	0.72
344	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Food Sales	RETRO	86783	18%	15778	3.205	1.992	15	$480.00	50%	12%	25%	53%	31.3	62.5	41.6	0.75
345	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Food Sales	RETRO	764	47%	358	0.073	0.045	15	$82.00	50%	12%	25%	48%	4.2	8.3	6.0	0.70
346	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Food Sales	MO	8940	25%	2265	0.460	0.286	20	$750.00	50%	12%	25%	45%	3.5	7.1	5.1	0.69
347	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Food Sales	RETRO	13	8%	1	0.000	0.000	10	$0.23	50%	12%	25%	48%	3.0	6.1	4.5	0.68
348	Refrigeration	Strip Curtains	Biz - Prescriptive	Food Sales	RETRO	412	50%	206	0.025	0.024	4	$10.22	50%	16%	26%	57%	5.7	11.5	8.7	0.66
349	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Food Sales	RETRO	1228	25%	307	0.037	0.036	15	$431.00	50%	11%	25%	27%	0.6	1.2	1.4	0.45
350	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Food Sales	RETRO	2884	55%	1586	0.193	0.187	15	$305.00	50%	1%	80%	53%	4.5	9.0	7.0	0.65
351	Refrigeration	Evaporator Fan Motor Controls	Biz - Prescriptive	Food Sales	RETRO	1298	23%	293	0.036	0.035	13	$161.75	50%	10%	25%	45%	1.4	2.8	2.5	0.56
352	Refrigeration	Variable Speed Condenser Fan	Biz - Prescriptive	Food Sales	RETRO	3158	48%	1500	0.182	0.177	15	$1,170.00	50%	14%	25%	42%	1.1	2.2	2.1	0.53
353	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Food Sales	RETRO	579	42%	240	0.029	0.028	10	$79.50	50%	8%	25%	50%	1.9	3.8	3.2	0.59
354	Refrigeration	Automated Door Closer for Refrigerator	Biz - Prescriptive	Food Sales	RETRO	1259893	0%	2399	0.292	0.283	8	$502.00	50%	6%	32%	53%	2.5	5.0	4.1	0.61
355	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Food Sales	RETRO	45880	10%	4588	0.558	0.542	10	$311.54	50%	6%	32%	42%	9.3	18.7	13.9	0.67
356	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Prescriptive	Food Sales	RETRO	1558	50%	779	0.095	0.092	15	$390.00	50%	2%	25%	46%	1.7	3.5	3.0	0.58
357	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Food Sales	RETRO	2884	55%	1586	0.193	0.187	15	$305.00	50%	1%	80%	53%	4.5	9.0	7.0	0.65
358	Refrigeration	Q-Sync Motor for Walk-In and Reach-in Evaporator Fan Motor	Biz - Custom	Food Sales	RETRO	2091	24%	505	0.061	0.060	10	$96.00	50%	1%	2%	40%	3.3	6.7	5.3	0.63
359	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Food Sales	RETRO	1511	9%	136	0.017	0.016	5	$42.00	50%	8%	55%	51%	1.1	2.3	2.1	0.53
360	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Food Sales	RETRO	2016	33%	655	0.080	0.077	10	$79.50	50%	3%	25%	55%	5.2	10.5	8.0	0.65
361	Refrigeration	Automated Door Closer for Freezer	Biz - Prescriptive	Food Sales	RETRO	1259893	1%	6949	0.845	0.821	8	$502.00	50%	3%	32%	56%	7.3	14.6	11.0	0.67
362	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Food Sales	RETRO	2349	9%	211	0.026	0.025	5	$42.00	50%	3%	55%	53%	1.8	3.5	3.0	0.58
363	Refrigeration	Refrigeration - Custom	Biz - Custom	Food Sales	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	90%	25%	36%	1.6	3.2	2.8	0.57
364	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - RCx	Food Sales	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	90%	25%	52%	1.6	3.2	2.8	0.57
365	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Food Sales	MO	1278	12%	153	0.019	0.018	14	$500.00	50%	0%	31%	18%	0.3	0.5	0.9	0.29
366	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Food Sales	RETRO	1663	23%	390	0.047	0.046	5	$245.00	50%	0%	31%	44%	0.6	1.1	1.3	0.43
367	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Food Sales	MO	5551	8%	440	0.054	0.052	9	$222.00	50%	0%	44%	46%	1.2	2.3	2.2	0.54
368	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Food Sales	MO	115	74%	84	0.010	0.010	9	$11.00	50%	5%	35%	55%	4.5	8.9	6.9	0.65
369	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Food Sales	RETRO	16266	59%	9596	1.619	1.567	15	$2,250.00	50%	30%	33%	59%	4.3	8.6	5.8	0.74
370	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Food Sales	RETRO	19471	3%	604	0.088	0.085	15	$381.00	50%	30%	10%	37%	1.5	3.0	2.5	0.61
371	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Food Sales	RETRO	13	8%	1	0.000	0.000	15	$0.40	50%	100%	20%	41%	2.2	4.4	3.6	0.61
372	WholeBldg_HVAC	GREM Controls	Biz - Custom	Food Sales	RETRO	0	0%	0	0.000	0.000	15	$0.00	0%	0%	20%	50%	#DIV/0!	0.0	0.0	0.00
373	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Food Sales	RETRO	0	0%	0	0.000	0.000	10	$235.60		100%	10%	50%	0.0	0.0	0.0	0.00
374	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Food Sales	RETRO	5	36%	2	0.000	0.000	15	$15.22	50%	100%	1%	12%	0.1	0.2	0.7	0.17
375	WholeBldg_HVAC	Advanced Rooftop Controls	Biz - Custom	Food Sales	RETRO	1108	44%	491	0.076	0.056	10	$341.21	50%	38%	33%	35%	1.7	1.9	3.4	0.51
376	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - RCx	Food Sales	RETRO	13	8%	1	0.000	0.000	15	$0.12	50%	100%	0%	63%	7.4	14.8	10.9	0.68
377	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Food Sales	RETRO	222	2%	4	0.001	0.001	10	$8.00	50%	100%	25%	20%	0.4	0.7	1.0	0.36
378	WholeBldg	WholeBlg - Com RET	Biz - Custom	Food Sales	RETRO	7	15%	1	0.000	0.000	15	$0.40	50%	80%	0%	44%	2.2	4.4	3.6	0.61
379	WholeBldg	Strategic Energy Management	Biz - RCx	Food Sales	RETRO	0	0%	0	0.000	0.000	5	$0.27		100%	0%	73%	0.5	0.0	0.0	0.00

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
380	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Food Sales	RETRO	990	1%	6	0.001	0.001	30	$6.27	50%	100%	20%	31%	1.2	2.5	2.2	0.55
381	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Food Sales	NC	4	25%	1	0.000	0.000	15	$0.40	50%	100%	60%	44%	2.2	4.4	3.6	0.61
382	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Food Service	MO	19496	39%	7532	1.072	1.236	12	$2,270.00	50%	17%	53%	51%	2.8	5.5	4.0	0.69
383	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Food Service	MO	10864	19%	2064	0.294	0.339	12	$960.00	50%	17%	53%	47%	1.8	3.6	2.8	0.65
384	Cooking	Commercial Electric Griddle	Biz - Custom	Food Service	MO	17056	15%	2596	0.369	0.426	12	$0.00		14%	20%	44%	#DIV/0!	0.0	0.0	0.00
385	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Food Service	MO	16915	80%	13507	1.922	2.217	12	$2,757.00	50%	6%	45%	53%	4.1	8.2	5.6	0.72
386	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Food Service	MO	35655	44%	15766	2.244	2.587	16	$466.50	50%	26%	61%	57%	35.0	70.0	44.9	0.78
387	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Food Service	MO	38282	16%	6279	0.894	1.030	15	$1,550.00	50%	26%	61%	52%	4.0	8.0	5.6	0.72
388	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Food Service	MO	18955	17%	3274	0.466	0.537	12	$1,500.00	50%	27%	24%	47%	1.8	3.6	2.8	0.65
389	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Food Service	MO	1478	37%	545	0.078	0.089	12	$1,000.00	50%	3%	16%	32%	0.5	0.9	1.1	0.42
390	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Food Service	RETRO	6	17%	1	0.000	0.000	3	$0.08	50%	100%	39%	64%	2.7	5.3	4.4	0.61
391	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - RCx	Food Service	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	100%	20%	60%	1.6	3.1	2.8	0.56
392	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Food Service	MO	23742	21%	4935	0.641	0.546	13	$3,367.84	50%	100%	20%	48%	1.1	2.2	2.1	0.52
393	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Food Service	RETRO	476154	0%	1970	0.256	0.218	10	$244.00	50%	100%	5%	63%	5.0	10.0	7.8	0.64
394	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Food Service	MO	1130	50%	565	0.073	0.062	15	$57.00	50%	5%	20%	63%	8.5	16.9	12.9	0.66
395	Cooling	Air Conditioner - 17 IEER (5-20 Tons)	Biz - Prescriptive	Food Service	MO	1029	14%	145	0.074	0.001	15	$153.28	50%	22%	5%	37%	0.9	1.8	1.7	0.52
396	Cooling	Air Conditioner - 18 IEER (5-20 Tons)	Biz - Prescriptive	Food Service	MO	1029	19%	194	0.099	0.002	15	$214.59	50%	22%	5%	36%	0.8	1.7	1.6	0.51
397	Cooling	Air Conditioner - 21 IEER (5-20 Tons)	Biz - Prescriptive	Food Service	MO	1029	30%	314	0.159	0.003	15	$398.52	50%	22%	5%	34%	0.7	1.5	1.5	0.49
398	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Food Service	MO	1155	9%	105	0.053	0.001	15	$71.00	50%	22%	5%	48%	1.4	2.7	2.3	0.58
399	Cooling	Air Conditioner - 15 IEER (20+ Tons)	Biz - Prescriptive	Food Service	MO	1155	13%	154	0.078	0.001	15	$109.23	50%	22%	5%	47%	1.3	2.6	2.3	0.58
400	Cooling	Air Conditioner - 17 IEER (20+ Tons)	Biz - Prescriptive	Food Service	MO	1155	24%	272	0.138	0.002	15	$218.46	50%	22%	5%	44%	1.2	2.3	2.1	0.56
401	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Food Service	RETRO	1252	7%	88	0.045	0.001	3	$11.42	50%	44%	50%	47%	1.6	3.3	2.9	0.57
402	Cooling	Air Side Economizer	Biz - Custom	Food Service	RETRO	1029	20%	206	0.105	0.002	10	$126.67	50%	44%	25%	37%	1.1	2.1	2.0	0.54
403	Cooling	HVAC Occupancy Controls	Biz - Custom	Food Service	RETRO	1086	20%	217	0.110	0.002	15	$197.50	50%	44%	20%	31%	1.4	2.0	2.6	0.54
404	Cooling	Air Conditioner - 16 SEER (<5 Tons)	Biz - Prescriptive	Food Service	MO	1073	13%	134	0.068	0.001	15	$115.00	50%	19%	5%	42%	1.1	2.2	2.0	0.55
405	Cooling	Air Conditioner - 18 SEER(<5 Tons)	Biz - Prescriptive	Food Service	MO	1073	22%	238	0.121	0.002	15	$514.00	50%	19%	5%	24%	0.4	0.9	1.1	0.40
406	Cooling	Air Conditioner - 21 SEER (<5 Tons)	Biz - Prescriptive	Food Service	MO	1073	33%	358	0.182	0.003	15	$630.50	50%	19%	5%	28%	0.5	1.1	1.2	0.43
407	Cooling	Smart Thermostat	Biz - Prescriptive	Food Service	RETRO	6158	14%	872	0.444	0.007	11	$175.00	50%	19%	20%	60%	4.7	7.1	7.9	0.66
408	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Custom	Food Service	MO	1384	15%	202	0.103	0.002	8	$84.00	50%	38%	20%	41%	1.3	2.6	2.3	0.56
409	Cooling	Air Cooled Chiller	Biz - Prescriptive	Food Service	MO	1096	9%	99	0.050	0.001	23	$126.00	50%	0%	5%	34%	1.0	2.0	1.8	0.56
410	Cooling	Water Cooled Chiller	Biz - Prescriptive	Food Service	MO	551	23%	125	0.064	0.001	23	$61.00	50%	0%	5%	53%	2.6	5.3	4.0	0.67
411	Cooling	Window Film	Biz - Custom	Food Service	RETRO	6364	4%	280	0.142	0.002	10	$153.81	50%	100%	25%	39%	0.6	2.4	-0.2	0.56
412	Cooling	Triple Pane Windows	Biz - Custom	Food Service	MO	6364	6%	382	0.194	0.003	25	$700.00	50%	100%	2%	20%	0.7	1.5	1.5	0.51
413	Cooling	Energy Recovery Ventilator	Biz - Custom	Food Service	RETRO	1155	0%	0	0.000	0.000	15	$1,500.00		100%	2%	50%	0.0	0.0	0.0	0.00
414	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Food Service	MO	2301	8%	187	0.032	0.038	15	$135.00	50%	23%	15%	47%	1.5	3.0	2.2	0.67
415	Heating	Heat Pump - 18 SEER(<5 Tons)	Biz - Prescriptive	Food Service	MO	2301	15%	352	0.060	0.071	15	$445.76	50%	23%	15%	34%	0.9	1.7	1.5	0.57
416	Heating	Heat Pump - 21 SEER(<5 Tons)	Biz - Prescriptive	Food Service	MO	2301	22%	505	0.086	0.101	15	$520.06	50%	23%	15%	37%	1.0	2.1	1.7	0.61
417	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Food Service	MO	2477	6%	157	0.027	0.031	15	$100.00	50%	18%	15%	49%	1.7	3.4	2.5	0.69
418	Heating	Heat Pump - 16.0 IEER COP 3.8 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Food Service	MO	2477	12%	289	0.049	0.058	15	$171.08	50%	18%	15%	50%	1.8	3.6	2.6	0.70
419	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Food Service	MO	2568	7%	176	0.030	0.035	15	$100.00	50%	17%	15%	51%	1.9	3.8	2.7	0.70
420	Heating	Heat Pump - 15.5 IEER COP 3.7 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Food Service	MO	2568	12%	316	0.054	0.063	15	$158.10	50%	17%	15%	53%	2.2	4.3	3.0	0.72
421	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Food Service	MO	2701	7%	185	0.032	0.037	15	$100.00	50%	17%	15%	52%	2.0	4.0	2.8	0.71
422	Heating	Heat Pump - 13 IEER 3.6 COP (>239,000 Btu/hr)	Biz - Prescriptive	Food Service	MO	2701	13%	348	0.059	0.070	15	$201.80	50%	17%	15%	51%	1.9	3.7	2.7	0.70
423	Heating	Geothermal HP - 17 EER < 135kbtu	Biz - Prescriptive	Food Service	MO	2570	39%	994	0.169	0.199	25	$4,361.00	50%	3%	15%	16%	0.3	0.7	0.9	0.38
424	Heating	Geothermal HP - 19 EER < 135kbtu	Biz - Prescriptive	Food Service	MO	2570	42%	1086	0.185	0.217	25	$4,361.00	50%	3%	15%	16%	0.4	0.8	0.9	0.40
425	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Custom	Food Service	MO	4675	17%	779	0.133	0.156	15	$84.00	50%	0%	15%	47%	10.0	20.0	12.1	0.83
426	Hot Water	Heat Pump Water Heater	Biz - Custom	Food Service	MO	19318	73%	14166	2.391	2.221	15	$1,797.00	50%	46%	18%	43%	7.8	15.5	10.4	0.75
427	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Food Service	RETRO	1001	32%	324	0.055	0.051	10	$8.00	50%	9%	85%	46%	29.1	58.2	37.3	0.78
428	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Custom	Food Service	RETRO	18059	54%	9789	1.652	1.535	5	$54.00	50%	9%	85%	46%	71.7	143.5	91.2	0.79
429	Hot Water	Ozone Commercial Laundry	Biz - Custom	Food Service	MO	2984	25%	746	0.126	0.117	10	$20,309.70	50%	54%	20%	15%	1.1	0.1	2.9	0.05
430	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Food Service	RETRO	996	76%	755	0.000	0.087	10	$97.00	23%	13%	70%	64%	4.3	19.1	7.3	0.59
431	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Food Service	RETRO	1744	71%	1239	0.000	0.143	10	$123.81	29%	13%	70%	67%	5.5	19.1	9.4	0.59
432	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Food Service	RETRO	2490	67%	1659	0.000	0.192	10	$134.35	36%	13%	70%	68%	6.8	19.1	11.6	0.59
433	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Food Service	RETRO	3984	65%	2570	0.000	0.297	10	$196.16	38%	13%	70%	69%	7.2	19.1	12.3	0.59

C&I Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
434	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Food Service	RETRO	9467	70%	6666	0.000	0.771	10	$319.31	60%	13%	70%	71%	11.5	19.1	19.6	0.59
435	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Food Service	RETRO	489	76%	370	0.000	0.043	10	$97.00	11%	7%	70%	56%	2.1	19.1	3.6	0.59
436	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Food Service	RETRO	856	71%	608	0.000	0.070	10	$123.81	14%	7%	70%	60%	2.7	19.1	4.6	0.59
437	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Food Service	RETRO	1222	67%	814	0.000	0.094	10	$134.35	18%	7%	70%	62%	3.4	19.1	5.7	0.59
438	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Food Service	RETRO	1956	65%	1262	0.000	0.146	10	$196.16	19%	7%	70%	63%	3.6	19.1	6.0	0.59
439	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Food Service	RETRO	4647	70%	3272	0.000	0.379	10	$319.31	30%	7%	70%	67%	5.7	19.1	9.6	0.59
440	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Food Service	RETRO	230	74%	170	0.026	0.022	12	$59.00	10%	5%	60%	52%	2.1	23.8	3.5	0.73
441	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Food Service	RETRO	166	51%	85	0.013	0.011	10	$15.00	19%	64%	40%	62%	3.4	20.6	7.0	0.72
442	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Food Service	RETRO	172	34%	58	0.009	0.008	12	$22.00	9%	64%	40%	50%	1.9	23.8	3.2	0.73
443	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Food Service	RETRO	336	51%	173	0.026	0.023	12	$61.00	9%	64%	40%	52%	2.1	23.8	3.5	0.73
444	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Food Service	RETRO	498	54%	269	0.041	0.036	12	$76.00	12%	64%	40%	56%	2.5	23.8	4.5	0.73
445	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Food Service	RETRO	664	54%	360	0.055	0.048	12	$104.00	11%	64%	40%	55%	2.5	23.8	4.4	0.73
446	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Food Service	RETRO	335	50%	169	0.026	0.022	12	$46.67	12%	64%	40%	56%	2.6	23.8	4.7	0.73
447	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Food Service	RETRO	884	53%	470	0.071	0.062	12	$152.00	10%	64%	40%	53%	2.2	23.8	3.8	0.73
448	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Food Service	RETRO	926	67%	620	0.094	0.082	12	$42.88	48%	7%	50%	70%	8.1	23.8	82.1	0.73
449	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Food Service	RETRO	1734	57%	988	0.150	0.131	12	$48.07	68%	3%	40%	71%	10.3	23.8	-127.9	0.73
450	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Food Service	RETRO	6958	72%	5031	0.765	0.665	12	$187.94	88%	1%	50%	72%	12.0	23.8	-53.1	0.73
451	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Food Service	RETRO	148	100%	148	0.022	0.020	11	$18.50	26%	64%	0%	65%	4.9	22.3	13.2	0.73
452	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Food Service	RETRO	769	30%	231	0.035	0.030	15	$65.40	12%	90%	15%	55%	3.3	28.3	4.5	0.73
453	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Food Service	RETRO	985	28%	276	0.042	0.036	15	$57.50	16%	90%	15%	60%	4.5	28.3	6.2	0.73
454	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Food Service	RETRO	439	38%	167	0.025	0.022	15	$75.00	7%	90%	15%	47%	2.1	28.3	2.9	0.73
455	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Food Service	RETRO	439	61%	268	0.041	0.035	15	$56.00	16%	90%	15%	60%	4.5	28.3	6.1	0.73
456	Lighting_Int	Networked Lighting Control	Biz - Custom	Food Service	RETRO	4	35%	1	0.000	0.000	15	$0.74	6%	90%	15%	31%	1.6	28.3	2.2	0.73
457	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Food Service	RETRO	65	71%	46	0.007	0.006	5	$32.50	5%	1%	85%	38%	0.5	11.3	0.8	0.70
458	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Food Service	RETRO	385	61%	237	0.031	0.026	5	$233.00	50%	0%	31%	44%	0.3	0.7	1.0	0.34
459	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Custom	Food Service	MO	2	50%	1	0.000	0.000	20	$1.73	50%	20%	24%	27%	0.7	1.5	1.6	0.46
460	Misc	High Efficiency Hand Dryers	Biz - Custom	Food Service	MO	1909	83%	1585	0.206	0.175	10	$483.00	50%	1%	50%	46%	2.0	4.1	3.5	0.59
461	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Food Service	RETRO	3125	4%	114	0.015	0.013	15	$59.00	50%	0%	73%	41%	1.7	3.3	2.9	0.57
462	Misc	Miscellaneous Custom	Biz - Custom	Food Service	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	79%	10%	44%	1.6	3.1	2.8	0.56
463	Motors	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Food Service	MO	1611	28%	447	0.057	0.049	15	$198.32	50%	100%	25%	54%	2.0	3.9	3.3	0.59
464	Motors	Power Drive Systems	Biz - Custom	Food Service	RETRO	4	23%	1	0.000	0.000	15	$0.13	50%	100%	25%	47%	6.7	13.4	10.1	0.66
465	Motors	Switch Reluctance Motors	Biz - Custom	Food Service	MO	33406	31%	10222	1.296	1.131	15	$527.50	50%	100%	1%	49%	16.9	33.8	24.7	0.68
466	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Food Service	MO	418	26%	110	0.014	0.012	6	$0.00		21%	95%	54%	#DIV/0!	0.0	0.0	0.00
467	Plug_Office	Advanced Power Strip – Teri 1 Commercial Use	Biz - Custom	Food Service	RETRO	188	58%	109	0.014	0.012	7	$10.00	50%	14%	20%	52%	5.0	10.0	7.8	0.64
468	Plug_Office	Smart Socket	Biz - Custom	Food Service	RETRO	80	61%	48	0.006	0.005	7	$9.00	50%	14%	20%	49%	2.5	5.0	4.1	0.60
469	Plug_Office	Energy Star Server	Biz - Custom	Food Service	MO	2167	30%	650	0.084	0.072	9	$300.95	50%	16%	25%	42%	1.2	2.5	2.3	0.54
470	Plug_Office	Server Virtualization	Biz - Custom	Food Service	RETRO	2167	14%	301	0.039	0.033	9	$26.97	50%	16%	25%	52%	6.4	12.7	9.8	0.65
471	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Food Service	RETRO	86783	18%	15778	2.048	1.745	15	$480.00	50%	16%	25%	53%	28.0	56.1	41.6	0.67
472	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Food Service	RETRO	764	47%	358	0.046	0.040	15	$82.00	50%	16%	25%	48%	3.7	7.4	6.0	0.62
473	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Food Service	MO	8940	25%	2265	0.294	0.250	20	$750.00	50%	16%	25%	45%	3.2	6.3	5.1	0.61
474	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Food Service	RETRO	13	8%	1	0.000	0.000	10	$0.23	50%	16%	25%	48%	2.7	5.5	4.5	0.61
475	Refrigeration	Strip Curtains	Biz - Prescriptive	Food Service	RETRO	88	50%	44	0.006	0.005	4	$10.22	50%	7%	26%	52%	1.2	2.4	2.3	0.54
476	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Food Service	RETRO	1228	25%	307	0.044	0.033	15	$431.00	50%	5%	25%	27%	0.6	1.2	1.4	0.44
477	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Food Service	RETRO	2884	55%	1586	0.226	0.171	15	$305.00	50%	2%	80%	53%	4.5	9.0	7.0	0.64
478	Refrigeration	Evaporator Fan Motor Controls	Biz - Prescriptive	Food Service	RETRO	1298	23%	293	0.042	0.032	13	$161.75	50%	5%	25%	45%	1.4	2.8	2.5	0.55
479	Refrigeration	Variable Speed Condenser Fan	Biz - Prescriptive	Food Service	RETRO	3158	48%	1500	0.214	0.162	15	$1,170.00	50%	6%	25%	42%	1.1	2.2	2.1	0.53
480	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Food Service	RETRO	579	42%	240	0.034	0.026	10	$79.50	50%	16%	25%	50%	1.9	3.8	3.2	0.58
481	Refrigeration	Automated Door Closer for Refrigerator	Biz - Prescriptive	Food Service	RETRO	1259893	0%	2399	0.342	0.258	8	$502.00	50%	12%	54%	53%	2.5	5.0	4.1	0.61
482	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Food Service	RETRO	45880	10%	4588	0.655	0.494	10	$311.54	50%	12%	54%	42%	9.3	18.5	13.9	0.67
483	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Prescriptive	Food Service	RETRO	1558	50%	779	0.111	0.084	15	$390.00	50%	5%	25%	46%	1.7	3.4	3.0	0.57
484	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Food Service	RETRO	2884	55%	1586	0.226	0.171	15	$305.00	50%	2%	80%	53%	4.5	9.0	7.0	0.64
485	Refrigeration	Q-Sync Motor for Walk-In and Reach-in Evaporator Fan Motor	Biz - Custom	Food Service	RETRO	2091	24%	505	0.072	0.054	10	$96.00	50%	2%	2%	40%	3.3	6.6	5.3	0.63
486	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Food Service	RETRO	1511	9%	136	0.019	0.015	5	$42.00	50%	16%	55%	51%	1.1	2.2	2.1	0.53
487	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Food Service	RETRO	2016	33%	655	0.094	0.071	10	$79.50	50%	5%	25%	55%	5.2	10.4	8.0	0.65

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
488	Refrigeration	Automated Door Closer for Freezer	Biz - Prescriptive	Food Service	RETRO	1259893	1%	6949	0.992	0.748	8	$502.00	50%	5%	54%	56%	7.2	14.5	11.0	0.66
489	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Food Service	RETRO	2349	9%	211	0.030	0.023	5	$42.00	50%	5%	55%	53%	1.7	3.5	3.0	0.58
490	Refrigeration	Refrigeration - Custom	Biz - Custom	Food Service	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	90%	25%	36%	1.6	3.1	2.8	0.57
491	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - RCx	Food Service	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	90%	25%	52%	1.6	3.1	2.8	0.57
492	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Food Service	MO	1278	12%	153	0.022	0.017	14	$500.00	50%	0%	31%	18%	0.3	0.5	0.9	0.29
493	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Food Service	RETRO	1663	23%	390	0.056	0.042	5	$245.00	50%	0%	31%	44%	0.5	1.1	1.3	0.42
494	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Food Service	MO	5551	8%	440	0.063	0.047	9	$222.00	50%	4%	44%	46%	1.1	2.3	2.2	0.53
495	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Food Service	MO	115	74%	84	0.012	0.009	9	$11.00	50%	10%	35%	55%	4.4	8.9	6.9	0.64
496	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Food Service	RETRO	13903	59%	8202	1.432	1.257	15	$2,250.00	50%	26%	30%	58%	3.6	7.2	5.1	0.71
497	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Food Service	RETRO	17237	3%	534	0.081	0.071	15	$381.00	50%	26%	10%	35%	1.3	2.6	2.3	0.58
498	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Food Service	RETRO	13	8%	1	0.000	0.000	15	$0.40	50%	100%	20%	41%	2.3	4.7	3.6	0.64
499	WholeBldg_HVAC	GREM Controls	Biz - Custom	Food Service	RETRO	0	0%	0	0.000	0.000	15	$0.00	0%	0%	20%	50%	#DIV/0!	0.0	0.0	0.00
500	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Food Service	RETRO	2550	20%	510	0.087	0.066	10	$235.60	50%	100%	10%	40%	3.0	2.9	5.6	0.60
501	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Food Service	RETRO	5	36%	2	0.000	0.000	15	$15.22	50%	100%	1%	12%	0.1	0.2	0.7	0.17
502	WholeBldg_HVAC	Advanced Rooftop Controls	Biz - Custom	Food Service	RETRO	1237	47%	580	0.099	0.075	10	$341.21	50%	42%	30%	38%	1.4	2.3	2.5	0.56
503	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - RCx	Food Service	RETRO	13	8%	1	0.000	0.000	15	$0.12	50%	100%	0%	63%	7.8	15.5	10.9	0.71
504	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Food Service	RETRO	222	2%	4	0.001	0.001	10	$8.00	50%	100%	25%	20%	0.4	0.8	1.0	0.38
505	WholeBldg	WholeBlg - Com RET	Biz - Custom	Food Service	RETRO	7	15%	1	0.000	0.000	15	$0.40	50%	80%	0%	44%	2.3	4.7	3.6	0.64
506	WholeBldg	Strategic Energy Management	Biz - RCx	Food Service	RETRO	0	0%	0	0.000	0.000	5	$0.27		100%	0%	73%	0.5	0.0	0.0	0.00
507	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Food Service	RETRO	990	1%	6	0.001	0.001	30	$6.27	50%	100%	20%	31%	1.3	2.6	2.2	0.58
508	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Food Service	NC	4	25%	1	0.000	0.000	15	$0.40	50%	100%	60%	44%	2.3	4.7	3.6	0.64
509	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Health	MO	19496	39%	7532	2.273	0.760	12	$2,270.00	50%	17%	53%	51%	2.7	5.4	4.0	0.67
510	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Health	MO	10864	19%	2064	0.623	0.208	12	$960.00	50%	17%	53%	47%	1.7	3.5	2.8	0.63
511	Cooking	Commercial Electric Griddle	Biz - Custom	Health	MO	17056	15%	2596	0.783	0.262	12	$0.00		14%	20%	44%	#DIV/0!	0.0	0.0	0.00
512	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Health	MO	16915	80%	13507	4.076	1.362	12	$2,757.00	50%	6%	45%	53%	4.0	7.9	5.6	0.70
513	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Health	MO	35655	44%	15766	4.758	1.590	16	$466.50	50%	26%	61%	57%	34.2	68.4	44.9	0.76
514	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Health	MO	38282	16%	6279	1.895	0.633	15	$1,550.00	50%	26%	61%	52%	3.9	7.8	5.6	0.70
515	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Health	MO	18955	17%	3274	0.988	0.330	12	$1,500.00	50%	27%	24%	47%	1.8	3.5	2.8	0.63
516	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Health	MO	1478	37%	545	0.165	0.055	12	$1,000.00	50%	3%	16%	32%	0.4	0.9	1.1	0.41
517	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Health	RETRO	6	17%	1	0.000	0.000	3	$0.08	50%	100%	39%	64%	2.7	5.4	4.4	0.61
518	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - RCx	Health	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	100%	20%	60%	1.6	3.1	2.8	0.56
519	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Health	MO	23742	21%	4935	0.616	0.536	13	$3,367.84	50%	100%	20%	48%	1.1	2.3	2.1	0.53
520	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Health	RETRO	476154	0%	1970	0.246	0.214	10	$244.00	50%	100%	5%	63%	5.1	10.1	7.8	0.65
521	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Health	MO	1130	50%	565	0.071	0.061	15	$57.00	50%	5%	20%	63%	8.5	17.0	12.9	0.66
522	Cooling	Air Conditioner - 17 IEER (5-20 Tons)	Biz - Prescriptive	Health	MO	1216	14%	172	0.048	0.006	15	$153.28	50%	29%	5%	41%	0.9	1.8	1.9	0.48
523	Cooling	Air Conditioner - 18 IEER (5-20 Tons)	Biz - Prescriptive	Health	MO	1216	19%	230	0.064	0.008	15	$214.59	50%	29%	5%	40%	0.9	1.7	1.8	0.47
524	Cooling	Air Conditioner - 21 IEER (5-20 Tons)	Biz - Prescriptive	Health	MO	1216	30%	371	0.103	0.013	15	$398.52	50%	29%	5%	37%	0.7	1.5	1.7	0.45
525	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Health	MO	1366	9%	124	0.035	0.004	15	$71.00	50%	29%	5%	51%	1.4	2.8	2.7	0.52
526	Cooling	Air Conditioner - 15 IEER (20+ Tons)	Biz - Prescriptive	Health	MO	1366	13%	182	0.051	0.006	15	$109.23	50%	29%	5%	50%	1.3	2.7	2.6	0.52
527	Cooling	Air Conditioner - 17 IEER (20+ Tons)	Biz - Prescriptive	Health	MO	1366	24%	321	0.090	0.011	15	$218.46	50%	29%	5%	48%	1.2	2.4	2.3	0.51
528	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Health	RETRO	1480	7%	104	0.029	0.004	3	$11.42	50%	59%	50%	47%	1.8	3.5	3.3	0.53
529	Cooling	Air Side Economizer	Biz - Custom	Health	RETRO	1216	20%	243	0.068	0.008	10	$126.67	50%	59%	25%	39%	1.1	2.2	2.2	0.50
530	Cooling	HVAC Occupancy Controls	Biz - Custom	Health	RETRO	1284	20%	257	0.072	0.009	15	$197.50	50%	59%	20%	34%	1.5	2.1	3.0	0.49
531	Cooling	Air Conditioner - 16 SEER (<5 Tons)	Biz - Prescriptive	Health	MO	1268	13%	159	0.044	0.005	15	$115.00	50%	0%	5%	46%	1.1	2.2	2.2	0.50
532	Cooling	Air Conditioner - 18 SEER(<5 Tons)	Biz - Prescriptive	Health	MO	1268	22%	282	0.079	0.010	15	$514.00	50%	0%	5%	27%	0.4	0.9	1.2	0.37
533	Cooling	Air Conditioner - 21 SEER (<5 Tons)	Biz - Prescriptive	Health	MO	1268	33%	423	0.118	0.014	15	$630.50	50%	0%	5%	31%	0.5	1.1	1.3	0.40
534	Cooling	Smart Thermostat	Biz - Prescriptive	Health	RETRO	7280	14%	1031	0.287	0.035	11	$175.00	50%	0%	20%	61%	5.1	7.4	9.3	0.59
535	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Custom	Health	MO	1637	15%	238	0.066	0.008	8	$84.00	50%	0%	20%	42%	1.4	2.7	2.6	0.51
536	Cooling	Air Cooled Chiller	Biz - Prescriptive	Health	MO	1296	9%	117	0.033	0.004	23	$126.00	50%	37%	5%	37%	1.0	2.1	2.1	0.50
537	Cooling	Water Cooled Chiller	Biz - Prescriptive	Health	MO	651	23%	148	0.041	0.005	23	$61.00	50%	4%	5%	55%	2.7	5.4	4.6	0.59
538	Cooling	Window Film	Biz - Custom	Health	RETRO	6364	4%	280	0.078	0.009	10	$153.81	50%	100%	25%	39%	0.5	2.1	-0.2	0.49
539	Cooling	Triple Pane Windows	Biz - Custom	Health	MO	6364	6%	382	0.106	0.013	25	$700.00	50%	100%	2%	20%	0.6	1.3	1.5	0.44
540	Cooling	Energy Recovery Ventilator	Biz - Custom	Health	RETRO	1366	33%	446	0.124	0.015	15	$1,500.00	50%	100%	2%	14%	0.2	0.5	0.9	0.28
541	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Health	MO	2780	8%	224	0.021	0.052	15	$135.00	50%	0%	15%	50%	1.8	3.6	2.6	0.70
542	Heating	Heat Pump - 18 SEER(<5 Tons)	Biz - Prescriptive	Health	MO	2780	15%	422	0.039	0.099	15	$445.76	50%	0%	15%	37%	1.0	2.0	1.7	0.61

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
543	Heating	Heat Pump - 21 SEER(<5 Tons)	Biz - Prescriptive	Health	MO	2780	22%	604	0.056	0.141	15	$520.06	50%	0%	15%	42%	1.3	2.5	2.0	0.64
544	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Health	MO	2998	6%	189	0.018	0.044	15	$100.00	50%	17%	15%	52%	2.0	4.1	2.9	0.71
545	Heating	Heat Pump - 16.0 IEER COP 3.8 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Health	MO	2998	12%	349	0.032	0.082	15	$171.08	50%	17%	15%	53%	2.2	4.4	3.0	0.72
546	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Health	MO	3107	7%	212	0.020	0.050	15	$100.00	50%	17%	15%	53%	2.3	4.6	3.1	0.73
547	Heating	Heat Pump - 15.5 IEER COP 3.7 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Health	MO	3107	12%	381	0.035	0.089	15	$158.10	50%	17%	15%	55%	2.6	5.2	3.5	0.74
548	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Health	MO	3266	7%	223	0.021	0.052	15	$100.00	50%	17%	15%	54%	2.4	4.8	3.3	0.73
549	Heating	Heat Pump - 13 IEER 3.6 COP (>239,000 Btu/hr)	Biz - Prescriptive	Health	MO	3266	13%	419	0.039	0.098	15	$201.80	50%	17%	15%	53%	2.2	4.5	3.1	0.72
550	Heating	Geothermal HP - 17 EER < 135kbtu	Biz - Prescriptive	Health	MO	3109	39%	1213	0.113	0.284	25	$4,361.00	50%	0%	15%	18%	0.4	0.8	1.0	0.42
551	Heating	Geothermal HP - 19 EER < 135kbtu	Biz - Prescriptive	Health	MO	3109	43%	1325	0.123	0.310	25	$4,361.00	50%	0%	15%	19%	0.5	0.9	1.0	0.44
552	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Custom	Health	MO	5698	17%	950	0.088	0.222	15	$84.00	50%	0%	15%	48%	12.2	24.4	14.6	0.83
553	Hot Water	Heat Pump Water Heater	Biz - Custom	Health	MO	24473	73%	17947	1.817	2.087	15	$1,797.00	50%	71%	17%	44%	8.5	17.0	13.0	0.66
554	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Health	RETRO	1297	34%	447	0.045	0.052	10	$14.27	50%	14%	85%	46%	19.5	39.0	29.0	0.67
555	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Custom	Health	RETRO	18059	54%	9789	0.991	1.138	5	$54.00	50%	14%	85%	46%	62.2	124.4	91.2	0.68
556	Hot Water	Ozone Commercial Laundry	Biz - Custom	Health	MO	2984	25%	746	0.076	0.087	10	$20,309.70	50%	29%	20%	15%	1.1	0.0	2.9	0.04
557	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Health	RETRO	996	76%	755	0.000	0.087	10	$97.00	22%	13%	70%	64%	4.3	19.2	7.3	0.59
558	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Health	RETRO	1744	71%	1239	0.000	0.142	10	$123.81	29%	13%	70%	67%	5.5	19.2	9.4	0.59
559	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Health	RETRO	2490	67%	1659	0.000	0.191	10	$134.35	35%	13%	70%	68%	6.8	19.2	11.6	0.59
560	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Health	RETRO	3984	65%	2570	0.000	0.295	10	$196.16	38%	13%	70%	69%	7.2	19.2	12.3	0.59
561	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Health	RETRO	9467	70%	6666	0.000	0.766	10	$319.31	60%	13%	70%	71%	11.5	19.2	19.6	0.59
562	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Health	RETRO	489	76%	370	0.000	0.043	10	$97.00	11%	7%	70%	56%	2.1	19.2	3.6	0.59
563	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Health	RETRO	856	71%	608	0.000	0.070	10	$123.81	14%	7%	70%	60%	2.7	19.2	4.6	0.59
564	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Health	RETRO	1222	67%	814	0.000	0.094	10	$134.35	17%	7%	70%	62%	3.3	19.2	5.7	0.59
565	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Health	RETRO	1956	65%	1262	0.000	0.145	10	$196.16	18%	7%	70%	63%	3.5	19.2	6.0	0.59
566	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Health	RETRO	4647	70%	3272	0.000	0.376	10	$319.31	29%	7%	70%	67%	5.6	19.2	9.6	0.59
567	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Health	RETRO	251	74%	185	0.024	0.018	12	$59.00	8%	16%	60%	53%	2.0	29.4	3.9	0.66
568	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Health	RETRO	181	51%	93	0.012	0.009	10	$15.00	15%	43%	40%	62%	3.3	25.5	7.9	0.65
569	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Health	RETRO	187	34%	64	0.008	0.006	12	$22.00	7%	43%	40%	51%	1.9	29.4	3.5	0.66
570	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Health	RETRO	366	51%	188	0.024	0.018	12	$61.00	7%	43%	40%	53%	2.0	29.4	3.8	0.66
571	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Health	RETRO	543	54%	294	0.037	0.028	12	$76.00	9%	43%	40%	56%	2.5	29.4	5.0	0.66
572	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Health	RETRO	724	54%	393	0.050	0.038	12	$104.00	9%	43%	40%	56%	2.4	29.4	4.9	0.66
573	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Health	RETRO	365	50%	184	0.023	0.018	12	$46.67	9%	43%	40%	57%	2.5	29.4	5.2	0.66
574	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Health	RETRO	964	53%	513	0.065	0.049	12	$152.00	8%	43%	40%	54%	2.2	29.4	4.2	0.66
575	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Health	RETRO	1009	67%	676	0.086	0.065	12	$42.88	38%	5%	50%	69%	7.7	29.4	175.5	0.66
576	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Health	RETRO	1890	57%	1077	0.137	0.103	12	$48.07	54%	7%	40%	71%	9.7	29.4	-77.9	0.66
577	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Health	RETRO	7584	72%	5484	0.698	0.526	12	$187.94	70%	1%	50%	72%	11.2	29.4	-43.4	0.66
578	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Health	RETRO	161	100%	161	0.021	0.015	11	$18.50	21%	43%	0%	65%	4.7	27.5	15.5	0.66
579	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Health	RETRO	838	30%	251	0.032	0.024	15	$65.40	9%	90%	15%	56%	3.2	35.0	4.9	0.66
580	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Health	RETRO	1073	28%	301	0.038	0.029	15	$57.50	13%	90%	15%	60%	4.4	35.0	6.7	0.66
581	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Health	RETRO	479	38%	182	0.023	0.017	15	$75.00	6%	90%	15%	48%	2.0	35.0	3.1	0.66
582	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Health	RETRO	479	61%	292	0.037	0.028	15	$56.00	13%	90%	15%	60%	4.4	35.0	6.6	0.66
583	Lighting_Int	Networked Lighting Control	Biz - Custom	Health	RETRO	4	35%	1	0.000	0.000	15	$0.81	4%	90%	15%	31%	1.4	35.0	2.2	0.66
584	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Health	RETRO	69	71%	49	0.006	0.005	5	$32.50	4%	1%	85%	39%	0.5	14.0	0.8	0.64
585	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Health	RETRO	385	61%	237	0.030	0.026	5	$233.00	50%	1%	31%	44%	0.4	0.7	1.0	0.35
586	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Custom	Health	MO	5	50%	3	0.000	0.000	20	$1.73	50%	32%	24%	38%	1.6	3.2	2.9	0.57
587	Misc	High Efficiency Hand Dryers	Biz - Custom	Health	MO	1909	83%	1585	0.198	0.172	10	$483.00	50%	1%	50%	46%	2.1	4.1	3.5	0.59
588	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Health	RETRO	3125	4%	114	0.014	0.012	15	$59.00	50%	1%	73%	41%	1.7	3.3	2.9	0.57
589	Misc	Miscellaneous Custom	Biz - Custom	Health	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	66%	10%	44%	1.6	3.1	2.8	0.57
590	Motors	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Health	MO	4349	28%	1206	0.170	0.122	15	$198.32	50%	100%	25%	61%	5.1	10.3	8.1	0.63
591	Motors	Power Drive Systems	Biz - Custom	Health	RETRO	4	23%	1	0.000	0.000	15	$0.13	50%	100%	25%	47%	6.5	13.0	10.1	0.64
592	Motors	Switch Reluctance Motors	Biz - Custom	Health	MO	33406	31%	10222	1.439	1.033	15	$527.50	50%	100%	1%	49%	16.4	32.8	24.7	0.66
593	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Health	MO	418	26%	110	0.014	0.012	6	$0.00		13%	95%	54%	#DIV/0!	0.0	0.0	0.00
594	Plug_Office	Advanced Power Strip – Teri 1 Commercial Use	Biz - Custom	Health	RETRO	188	58%	109	0.014	0.012	7	$10.00	50%	20%	20%	52%	5.0	10.1	7.8	0.65
595	Plug_Office	Smart Socket	Biz - Custom	Health	RETRO	80	61%	48	0.006	0.005	7	$9.00	50%	20%	20%	49%	2.5	5.0	4.1	0.61

C&I Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
596	Plug_Office	Energy Star Server	Biz - Custom	Health	MO	2167	30%	650	0.081	0.071	9	$300.95	50%	23%	25%	42%	1.2	2.5	2.3	0.54
597	Plug_Office	Server Virtualization	Biz - Custom	Health	RETRO	2167	14%	301	0.038	0.033	9	$26.97	50%	23%	25%	52%	6.4	12.8	9.8	0.65
598	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Health	RETRO	86783	18%	15778	1.971	1.714	15	$480.00	50%	23%	25%	53%	28.3	56.5	41.6	0.68
599	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Health	RETRO	764	47%	358	0.045	0.039	15	$82.00	50%	23%	25%	48%	3.8	7.5	6.0	0.63
600	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Health	MO	8940	25%	2265	0.283	0.246	20	$750.00	50%	23%	25%	45%	3.2	6.4	5.1	0.62
601	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Health	RETRO	13	8%	1	0.000	0.000	10	$0.23	50%	23%	25%	48%	2.8	5.5	4.5	0.61
602	Refrigeration	Strip Curtains	Biz - Prescriptive	Health	RETRO	0	0%	0	0.000	0.000	4	$10.22		6%	26%	58%	0.0	0.0	0.0	0.00
603	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Health	RETRO	1228	25%	307	0.048	0.035	15	$431.00	50%	4%	25%	27%	0.6	1.3	1.4	0.46
604	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Health	RETRO	2884	55%	1586	0.248	0.181	15	$305.00	50%	2%	80%	53%	4.6	9.2	7.0	0.66
605	Refrigeration	Evaporator Fan Motor Controls	Biz - Prescriptive	Health	RETRO	1298	23%	293	0.046	0.034	13	$161.75	50%	4%	25%	45%	1.4	2.9	2.5	0.57
606	Refrigeration	Variable Speed Condenser Fan	Biz - Prescriptive	Health	RETRO	3158	48%	1500	0.234	0.172	15	$1,170.00	50%	5%	25%	42%	1.1	2.3	2.1	0.54
607	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Health	RETRO	579	42%	240	0.037	0.027	10	$79.50	50%	17%	25%	50%	2.0	3.9	3.2	0.60
608	Refrigeration	Automated Door Closer for Refrigerator	Biz - Prescriptive	Health	RETRO	1259893	0%	2399	0.374	0.274	8	$502.00	50%	12%	27%	53%	2.6	5.1	4.1	0.63
609	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Health	RETRO	45880	10%	4588	0.716	0.525	10	$311.54	50%	12%	27%	42%	9.5	19.1	13.9	0.69
610	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Prescriptive	Health	RETRO	1558	50%	779	0.122	0.089	15	$390.00	50%	5%	25%	46%	1.8	3.6	3.0	0.59
611	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Health	RETRO	2884	55%	1586	0.248	0.181	15	$305.00	50%	2%	80%	53%	4.6	9.2	7.0	0.66
612	Refrigeration	Q-Sync Motor for Walk-In and Reach-in Evaporator Fan Motor	Biz - Custom	Health	RETRO	2091	24%	505	0.079	0.058	10	$96.00	50%	2%	2%	40%	3.4	6.8	5.3	0.65
613	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Health	RETRO	1511	9%	136	0.021	0.016	5	$42.00	50%	16%	55%	51%	1.2	2.3	2.1	0.54
614	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Health	RETRO	2016	33%	655	0.102	0.075	10	$79.50	50%	6%	25%	55%	5.3	10.7	8.0	0.67
615	Refrigeration	Automated Door Closer for Freezer	Biz - Prescriptive	Health	RETRO	1259893	1%	6949	1.085	0.795	8	$502.00	50%	6%	27%	56%	7.5	14.9	11.0	0.68
616	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Health	RETRO	2349	9%	211	0.033	0.024	5	$42.00	50%	5%	55%	53%	1.8	3.6	3.0	0.59
617	Refrigeration	Refrigeration - Custom	Biz - Custom	Health	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	90%	25%	36%	1.6	3.2	2.8	0.58
618	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - RCx	Health	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	90%	25%	52%	1.6	3.2	2.8	0.58
619	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Health	MO	1278	12%	153	0.024	0.018	14	$500.00	50%	3%	31%	18%	0.3	0.5	0.9	0.30
620	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Health	RETRO	1663	23%	390	0.061	0.045	5	$245.00	50%	3%	31%	44%	0.6	1.1	1.3	0.44
621	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Health	MO	5551	8%	440	0.069	0.050	9	$222.00	50%	5%	44%	46%	1.2	2.4	2.2	0.55
622	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Health	MO	115	74%	84	0.013	0.010	9	$11.00	50%	10%	35%	55%	4.6	9.1	6.9	0.66
623	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Health	RETRO	11036	59%	6510	0.967	0.871	15	$2,250.00	50%	22%	64%	57%	2.7	5.3	4.1	0.65
624	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Health	RETRO	17237	3%	534	0.069	0.062	15	$381.00	50%	22%	10%	35%	1.2	2.4	2.3	0.54
625	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Health	RETRO	13	8%	1	0.000	0.000	15	$0.40	50%	100%	20%	41%	2.1	4.3	3.6	0.59
626	WholeBldg_HVAC	GREM Controls	Biz - Custom	Health	RETRO	0	0%	0	0.000	0.000	15	$0.00	0%	0%	20%	50%	#DIV/0!	0.0	0.0	0.00
627	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Health	RETRO	305	20%	61	0.009	0.006	10	$235.60	50%	100%	10%	13%	0.8	0.3	2.1	0.22
628	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Health	RETRO	5	36%	2	0.000	0.000	15	$15.22	50%	100%	1%	12%	0.1	0.2	0.7	0.16
629	WholeBldg_HVAC	Advanced Rooftop Controls	Biz - Custom	Health	RETRO	0	0%	0	0.000	0.000	10	$341.21		57%	64%	50%	0.0	0.0	0.0	0.00
630	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - RCx	Health	RETRO	13	8%	1	0.000	0.000	15	$0.12	50%	100%	0%	63%	7.1	14.3	10.9	0.65
631	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Health	RETRO	222	2%	4	0.001	0.000	10	$8.00	50%	100%	25%	20%	0.3	0.7	1.0	0.34
632	WholeBldg	WholeBlg - Com RET	Biz - Custom	Health	RETRO	7	15%	1	0.000	0.000	15	$0.40	50%	80%	0%	44%	2.1	4.3	3.6	0.59
633	WholeBldg	Strategic Energy Management	Biz - RCx	Health	RETRO	33	3%	1	0.000	0.000	5	$0.27	50%	100%	0%	62%	1.3	2.5	2.4	0.54
634	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Health	RETRO	990	1%	6	0.001	0.001	30	$6.27	50%	100%	20%	31%	1.2	2.4	2.2	0.53
635	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Health	NC	4	25%	1	0.000	0.000	15	$0.40	50%	100%	60%	44%	2.1	4.3	3.6	0.59
636	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Lodging	MO	19496	39%	7532	2.382	0.739	12	$2,270.00	50%	17%	53%	51%	2.7	5.4	4.0	0.67
637	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Lodging	MO	10864	19%	2064	0.653	0.203	12	$960.00	50%	17%	53%	47%	1.7	3.5	2.8	0.63
638	Cooking	Commercial Electric Griddle	Biz - Custom	Lodging	MO	17056	15%	2596	0.821	0.255	12	$0.00		14%	20%	44%	#DIV/0!	0.0	0.0	0.00
639	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Lodging	MO	16915	80%	13507	4.272	1.325	12	$2,757.00	50%	6%	45%	53%	4.0	7.9	5.6	0.70
640	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Lodging	MO	35655	44%	15766	4.987	1.547	16	$466.50	50%	26%	61%	57%	34.3	68.7	44.9	0.77
641	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Lodging	MO	38282	16%	6279	1.986	0.616	15	$1,550.00	50%	26%	61%	52%	3.9	7.8	5.6	0.70
642	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Lodging	MO	18955	17%	3274	1.036	0.321	12	$1,500.00	50%	27%	24%	47%	1.8	3.5	2.8	0.63
643	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Lodging	MO	1478	37%	545	0.172	0.054	12	$1,000.00	50%	3%	16%	32%	0.4	0.9	1.1	0.41
644	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Lodging	RETRO	6	17%	1	0.000	0.000	3	$0.08	50%	100%	39%	64%	2.9	5.8	4.4	0.66
645	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - RCx	Lodging	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	100%	20%	60%	1.7	3.4	2.8	0.61
646	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Lodging	MO	23742	21%	4935	0.612	0.683	13	$3,367.84	50%	100%	20%	48%	1.2	2.4	2.1	0.56
647	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Lodging	RETRO	476154	0%	1970	0.244	0.273	10	$244.00	50%	100%	5%	63%	5.4	10.8	7.8	0.69
648	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Lodging	MO	1130	50%	565	0.070	0.078	15	$57.00	50%	5%	20%	63%	9.1	18.2	12.9	0.71
649	Cooling	Air Conditioner - 17 IEER (5-20 Tons)	Biz - Prescriptive	Lodging	MO	1174	14%	166	0.053	0.003	15	$153.28	50%	16%	5%	40%	0.9	1.8	1.9	0.48

C&I Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
650	Cooling	Air Conditioner - 18 IEER (5-20 Tons)	Biz - Prescriptive	Lodging	MO	1174	19%	222	0.072	0.005	15	$214.59	50%	16%	5%	39%	0.8	1.7	1.8	0.47
651	Cooling	Air Conditioner - 21 IEER (5-20 Tons)	Biz - Prescriptive	Lodging	MO	1174	30%	358	0.115	0.007	15	$398.52	50%	16%	5%	36%	0.7	1.5	1.6	0.45
652	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Lodging	MO	1319	9%	120	0.039	0.002	15	$71.00	50%	16%	5%	50%	1.4	2.8	2.6	0.53
653	Cooling	Air Conditioner - 15 IEER (20+ Tons)	Biz - Prescriptive	Lodging	MO	1319	13%	176	0.057	0.004	15	$109.23	50%	16%	5%	50%	1.3	2.6	2.5	0.52
654	Cooling	Air Conditioner - 17 IEER (20+ Tons)	Biz - Prescriptive	Lodging	MO	1319	24%	310	0.100	0.006	15	$218.46	50%	16%	5%	47%	1.2	2.3	2.3	0.51
655	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Lodging	RETRO	1429	7%	100	0.032	0.002	3	$11.42	50%	32%	50%	47%	1.7	3.4	3.2	0.52
656	Cooling	Air Side Economizer	Biz - Custom	Lodging	RETRO	1174	20%	235	0.076	0.005	10	$126.67	50%	32%	25%	39%	1.1	2.2	2.2	0.50
657	Cooling	HVAC Occupancy Controls	Biz - Custom	Lodging	RETRO	1239	20%	248	0.080	0.005	15	$197.50	50%	32%	20%	33%	1.4	2.0	3.0	0.50
658	Cooling	Air Conditioner - 16 SEER (<5 Tons)	Biz - Prescriptive	Lodging	MO	1225	13%	153	0.049	0.003	15	$115.00	50%	0%	5%	46%	1.1	2.2	2.2	0.50
659	Cooling	Air Conditioner - 18 SEER(<5 Tons)	Biz - Prescriptive	Lodging	MO	1225	22%	272	0.088	0.006	15	$514.00	50%	0%	5%	26%	0.4	0.9	1.2	0.37
660	Cooling	Air Conditioner - 21 SEER (<5 Tons)	Biz - Prescriptive	Lodging	MO	1225	33%	408	0.132	0.008	15	$630.50	50%	0%	5%	31%	0.5	1.1	1.3	0.40
661	Cooling	Smart Thermostat	Biz - Prescriptive	Lodging	RETRO	7028	14%	995	0.321	0.021	11	$175.00	50%	0%	20%	61%	5.1	7.2	9.2	0.59
662	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Custom	Lodging	MO	1580	15%	230	0.074	0.005	8	$84.00	50%	15%	20%	42%	1.3	2.6	2.6	0.51
663	Cooling	Air Cooled Chiller	Biz - Prescriptive	Lodging	MO	1251	9%	113	0.036	0.002	23	$126.00	50%	43%	5%	36%	1.0	2.0	2.0	0.50
664	Cooling	Water Cooled Chiller	Biz - Prescriptive	Lodging	MO	629	23%	143	0.046	0.003	23	$61.00	50%	5%	5%	55%	2.6	5.3	4.4	0.59
665	Cooling	Window Film	Biz - Custom	Lodging	RETRO	6364	4%	280	0.090	0.006	10	$153.81	50%	100%	25%	39%	0.6	2.1	-0.2	0.49
666	Cooling	Triple Pane Windows	Biz - Custom	Lodging	MO	6364	6%	382	0.123	0.008	25	$700.00	50%	100%	2%	20%	0.7	1.3	1.5	0.44
667	Cooling	Energy Recovery Ventilator	Biz - Custom	Lodging	RETRO	1319	0%	0	0.000	0.000	15	$1,500.00		100%	2%	50%	0.0	0.0	0.0	0.00
668	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Lodging	MO	2753	8%	220	0.024	0.045	15	$135.00	50%	0%	15%	50%	1.7	3.4	2.5	0.67
669	Heating	Heat Pump - 18 SEER(<5 Tons)	Biz - Prescriptive	Lodging	MO	2753	15%	414	0.046	0.085	15	$445.76	50%	0%	15%	37%	1.0	1.9	1.7	0.58
670	Heating	Heat Pump - 21 SEER(<5 Tons)	Biz - Prescriptive	Lodging	MO	2753	21%	592	0.065	0.121	15	$520.06	50%	0%	15%	42%	1.2	2.4	1.9	0.61
671	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Lodging	MO	2972	6%	187	0.021	0.038	15	$100.00	50%	9%	15%	52%	1.9	3.9	2.8	0.68
672	Heating	Heat Pump - 16.0 IEER COP 3.8 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Lodging	MO	2972	12%	345	0.038	0.070	15	$171.08	50%	9%	15%	53%	2.1	4.2	3.0	0.69
673	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Lodging	MO	3081	7%	209	0.023	0.043	15	$100.00	50%	8%	15%	53%	2.2	4.3	3.1	0.70
674	Heating	Heat Pump - 15.5 IEER COP 3.7 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Lodging	MO	3081	12%	377	0.042	0.077	15	$158.10	50%	8%	15%	55%	2.5	4.9	3.5	0.71
675	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Lodging	MO	3237	7%	220	0.024	0.045	15	$100.00	50%	8%	15%	54%	2.3	4.6	3.2	0.70
676	Heating	Heat Pump - 13 IEER 3.6 COP (>239,000 Btu/hr)	Biz - Prescriptive	Lodging	MO	3237	13%	414	0.046	0.085	15	$201.80	50%	8%	15%	53%	2.1	4.3	3.1	0.69
677	Heating	Geothermal HP - 17 EER < 135kbtu	Biz - Prescriptive	Lodging	MO	3083	39%	1215	0.134	0.248	25	$4,361.00	50%	7%	15%	18%	0.4	0.8	1.0	0.41
678	Heating	Geothermal HP - 19 EER < 135kbtu	Biz - Prescriptive	Lodging	MO	3083	43%	1325	0.146	0.271	25	$4,361.00	50%	7%	15%	19%	0.4	0.9	1.0	0.42
679	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Custom	Lodging	MO	5695	17%	949	0.105	0.194	15	$84.00	50%	15%	15%	48%	11.7	23.5	14.6	0.80
680	Hot Water	Heat Pump Water Heater	Biz - Custom	Lodging	MO	22206	73%	16284	1.679	2.591	15	$1,797.00	50%	52%	13%	44%	8.6	17.2	11.8	0.73
681	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Lodging	RETRO	123	32%	40	0.004	0.006	10	$8.00	50%	10%	85%	41%	3.5	6.9	5.0	0.69
682	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Custom	Lodging	RETRO	18059	54%	9789	1.009	1.558	5	$54.00	50%	10%	85%	46%	69.8	139.7	91.2	0.77
683	Hot Water	Ozone Commercial Laundry	Biz - Custom	Lodging	MO	2984	25%	746	0.077	0.119	10	$20,309.70	50%	48%	20%	15%	1.1	0.1	2.9	0.05
684	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Lodging	RETRO	996	76%	755	0.000	0.087	10	$97.00	22%	13%	70%	64%	4.3	19.1	7.3	0.59
685	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Lodging	RETRO	1744	71%	1239	0.000	0.143	10	$123.81	29%	13%	70%	67%	5.5	19.1	9.4	0.59
686	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Lodging	RETRO	2490	67%	1659	0.000	0.192	10	$134.35	36%	13%	70%	68%	6.8	19.1	11.6	0.59
687	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Lodging	RETRO	3984	65%	2570	0.000	0.297	10	$196.16	38%	13%	70%	69%	7.2	19.1	12.3	0.59
688	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Lodging	RETRO	9467	70%	6666	0.000	0.770	10	$319.31	60%	13%	70%	71%	11.5	19.1	19.6	0.59
689	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Lodging	RETRO	489	76%	370	0.000	0.043	10	$97.00	11%	7%	70%	56%	2.1	19.1	3.6	0.59
690	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Lodging	RETRO	856	71%	608	0.000	0.070	10	$123.81	14%	7%	70%	60%	2.7	19.1	4.6	0.59
691	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Lodging	RETRO	1222	67%	814	0.000	0.094	10	$134.35	17%	7%	70%	62%	3.3	19.1	5.7	0.59
692	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Lodging	RETRO	1956	65%	1262	0.000	0.146	10	$196.16	19%	7%	70%	63%	3.6	19.1	6.0	0.59
693	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Lodging	RETRO	4647	70%	3272	0.000	0.378	10	$319.31	30%	7%	70%	67%	5.7	19.1	9.6	0.59
694	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Lodging	RETRO	178	74%	131	0.013	0.017	15	$59.00	7%	15%	60%	47%	1.7	27.4	3.7	0.68
695	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Lodging	RETRO	128	51%	66	0.006	0.008	10	$15.00	14%	44%	40%	59%	2.3	20.1	6.5	0.68
696	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Lodging	RETRO	133	34%	45	0.004	0.006	15	$22.00	6%	44%	40%	45%	1.6	27.4	3.3	0.68
697	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Lodging	RETRO	260	51%	133	0.013	0.017	15	$61.00	7%	44%	40%	47%	1.7	27.4	3.6	0.68
698	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Lodging	RETRO	385	54%	208	0.020	0.026	15	$76.00	9%	44%	40%	51%	2.0	27.4	5.0	0.68
699	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Lodging	RETRO	513	54%	278	0.027	0.035	15	$104.00	8%	44%	40%	51%	2.0	27.4	4.9	0.68
700	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Lodging	RETRO	259	50%	130	0.013	0.017	15	$46.67	9%	44%	40%	51%	2.0	27.4	5.2	0.68
701	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Lodging	RETRO	683	53%	363	0.035	0.046	15	$152.00	8%	44%	40%	49%	1.8	27.4	4.1	0.68
702	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Lodging	RETRO	715	67%	479	0.046	0.061	15	$42.88	35%	5%	50%	68%	5.5	27.4	-22.6	0.68
703	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Lodging	RETRO	1339	57%	764	0.074	0.097	15	$48.07	50%	0%	40%	70%	6.6	27.4	-14.8	0.68

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
704	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Lodging	RETRO	5375	72%	3886	0.377	0.493	15	$187.94	66%	1%	50%	71%	7.4	27.4	-12.4	0.68
705	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Lodging	RETRO	114	100%	114	0.011	0.014	11	$18.50	20%	44%	0%	63%	3.2	21.6	16.4	0.68
706	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Lodging	RETRO	594	30%	178	0.017	0.023	15	$65.40	9%	90%	15%	51%	2.4	27.4	3.5	0.68
707	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Lodging	RETRO	761	28%	213	0.021	0.027	15	$57.50	12%	90%	15%	56%	3.2	27.4	4.8	0.68
708	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Lodging	RETRO	339	38%	129	0.013	0.016	15	$75.00	5%	90%	15%	42%	1.5	27.4	2.2	0.68
709	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Lodging	RETRO	339	61%	207	0.020	0.026	15	$56.00	12%	90%	15%	56%	3.2	27.4	4.7	0.68
710	Lighting_Int	Networked Lighting Control	Biz - Custom	Lodging	RETRO	3	35%	1	0.000	0.000	15	$0.57	5%	90%	15%	31%	1.5	27.4	2.2	0.68
711	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Lodging	RETRO	66	71%	47	0.005	0.006	5	$32.50	5%	1%	85%	38%	0.5	11.1	0.7	0.66
712	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Lodging	RETRO	385	61%	237	0.029	0.033	5	$233.00	50%	0%	31%	44%	0.4	0.8	1.0	0.37
713	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Custom	Lodging	MO	5	50%	3	0.000	0.000	20	$1.73	50%	27%	24%	38%	1.7	3.4	2.9	0.60
714	Misc	High Efficiency Hand Dryers	Biz - Custom	Lodging	MO	262	83%	217	0.027	0.030	10	$483.00	50%	1%	50%	19%	0.3	0.6	0.9	0.33
715	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Lodging	RETRO	3125	4%	114	0.014	0.016	15	$59.00	50%	0%	73%	41%	1.8	3.6	2.9	0.61
716	Misc	Miscellaneous Custom	Biz - Custom	Lodging	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	72%	10%	44%	1.7	3.4	2.8	0.60
717	Motors	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Lodging	MO	3628	28%	1006	0.129	0.132	15	$198.32	50%	100%	25%	60%	4.6	9.1	6.8	0.67
718	Motors	Power Drive Systems	Biz - Custom	Lodging	RETRO	4	23%	1	0.000	0.000	15	$0.13	50%	100%	25%	47%	6.9	13.8	10.1	0.68
719	Motors	Switch Reluctance Motors	Biz - Custom	Lodging	MO	56602	31%	17320	2.215	2.279	15	$527.50	50%	100%	1%	49%	29.5	59.0	41.6	0.71
720	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Lodging	MO	418	26%	110	0.014	0.015	6	$0.00		29%	95%	54%	#DIV/0!	0.0	0.0	0.00
721	Plug_Office	Advanced Power Strip – Teri 1 Commercial Use	Biz - Custom	Lodging	RETRO	188	58%	109	0.013	0.015	7	$10.00	50%	8%	20%	52%	5.4	10.8	7.8	0.69
722	Plug_Office	Smart Socket	Biz - Custom	Lodging	RETRO	80	61%	48	0.006	0.007	7	$9.00	50%	8%	20%	49%	2.7	5.3	4.1	0.65
723	Plug_Office	Energy Star Server	Biz - Custom	Lodging	MO	2167	30%	650	0.081	0.090	9	$300.95	50%	9%	25%	42%	1.3	2.7	2.3	0.58
724	Plug_Office	Server Virtualization	Biz - Custom	Lodging	RETRO	2167	14%	301	0.037	0.042	9	$26.97	50%	9%	25%	52%	6.9	13.7	9.8	0.70
725	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Lodging	RETRO	86783	18%	15778	1.956	2.185	15	$480.00	50%	9%	25%	53%	30.1	60.3	41.6	0.72
726	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Lodging	RETRO	764	47%	358	0.044	0.050	15	$82.00	50%	9%	25%	48%	4.0	8.0	6.0	0.67
727	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Lodging	MO	8940	25%	2265	0.281	0.314	20	$750.00	50%	9%	25%	45%	3.4	6.8	5.1	0.66
728	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Lodging	RETRO	13	8%	1	0.000	0.000	10	$0.23	50%	9%	25%	48%	3.0	5.9	4.5	0.66
729	Refrigeration	Strip Curtains	Biz - Prescriptive	Lodging	RETRO	0	0%	0	0.000	0.000	4	$10.22		7%	26%	58%	0.0	0.0	0.0	0.00
730	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Lodging	RETRO	1228	25%	307	0.042	0.034	15	$431.00	50%	5%	25%	27%	0.6	1.2	1.4	0.44
731	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Lodging	RETRO	2884	55%	1586	0.219	0.174	15	$305.00	50%	2%	80%	53%	4.5	9.0	7.0	0.64
732	Refrigeration	Evaporator Fan Motor Controls	Biz - Prescriptive	Lodging	RETRO	1298	23%	293	0.040	0.032	13	$161.75	50%	4%	25%	45%	1.4	2.8	2.5	0.56
733	Refrigeration	Variable Speed Condenser Fan	Biz - Prescriptive	Lodging	RETRO	3158	48%	1500	0.207	0.165	15	$1,170.00	50%	6%	25%	42%	1.1	2.2	2.1	0.53
734	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Lodging	RETRO	579	42%	240	0.033	0.026	10	$79.50	50%	16%	25%	50%	1.9	3.8	3.2	0.59
735	Refrigeration	Automated Door Closer for Refrigerator	Biz - Prescriptive	Lodging	RETRO	1259893	0%	2399	0.331	0.264	8	$502.00	50%	12%	27%	53%	2.5	5.0	4.1	0.61
736	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Lodging	RETRO	45880	10%	4588	0.634	0.504	10	$311.54	50%	12%	27%	42%	9.3	18.5	13.9	0.67
737	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Prescriptive	Lodging	RETRO	1558	50%	779	0.108	0.086	15	$390.00	50%	5%	25%	46%	1.7	3.5	3.0	0.58
738	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Lodging	RETRO	2884	55%	1586	0.219	0.174	15	$305.00	50%	2%	80%	53%	4.5	9.0	7.0	0.64
739	Refrigeration	Q-Sync Motor for Walk-In and Reach-in Evaporator Fan Motor	Biz - Custom	Lodging	RETRO	2091	24%	505	0.070	0.055	10	$96.00	50%	2%	2%	40%	3.3	6.6	5.3	0.63
740	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Lodging	RETRO	1511	9%	136	0.019	0.015	5	$42.00	50%	15%	55%	51%	1.1	2.2	2.1	0.53
741	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Lodging	RETRO	2016	33%	655	0.091	0.072	10	$79.50	50%	5%	25%	55%	5.2	10.4	8.0	0.65
742	Refrigeration	Automated Door Closer for Freezer	Biz - Prescriptive	Lodging	RETRO	1259893	1%	6949	0.960	0.764	8	$502.00	50%	5%	27%	56%	7.2	14.5	11.0	0.66
743	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Lodging	RETRO	2349	9%	211	0.029	0.023	5	$42.00	50%	5%	55%	53%	1.7	3.5	3.0	0.58
744	Refrigeration	Refrigeration - Custom	Biz - Custom	Lodging	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	90%	25%	36%	1.6	3.1	2.8	0.57
745	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - RCx	Lodging	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	90%	25%	52%	1.6	3.1	2.8	0.57
746	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Lodging	MO	1278	12%	153	0.021	0.017	14	$500.00	50%	5%	31%	18%	0.3	0.5	0.9	0.29
747	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Lodging	RETRO	1663	23%	390	0.054	0.043	5	$245.00	50%	5%	31%	44%	0.6	1.1	1.3	0.42
748	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Lodging	MO	5551	8%	440	0.061	0.048	9	$222.00	50%	5%	44%	46%	1.1	2.3	2.2	0.53
749	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Lodging	MO	115	74%	84	0.012	0.009	9	$11.00	50%	9%	35%	55%	4.4	8.9	6.9	0.64
750	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Lodging	RETRO	10560	59%	6229	0.862	0.947	15	$2,250.00	50%	35%	46%	56%	2.6	5.3	4.0	0.66
751	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Lodging	RETRO	29207	3%	905	0.108	0.119	15	$381.00	50%	35%	10%	41%	2.1	4.3	3.5	0.61
752	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Lodging	RETRO	13	8%	1	0.000	0.000	15	$0.40	50%	15%	20%	41%	2.2	4.5	3.6	0.62
753	WholeBldg_HVAC	GREM Controls	Biz - Custom	Lodging	RETRO	4853	19%	936	0.139	0.113	15	$260.00	50%	85%	20%	44%	3.2	6.5	5.0	0.65
754	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Lodging	RETRO	2045	20%	409	0.061	0.050	10	$235.60	50%	100%	10%	38%	1.4	2.3	2.7	0.55
755	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Lodging	RETRO	5	36%	2	0.000	0.000	15	$15.22	50%	100%	1%	12%	0.1	0.2	0.7	0.17
756	WholeBldg_HVAC	Advanced Rooftop Controls	Biz - Custom	Lodging	RETRO	0	0%	0	0.000	0.000	10	$341.21		27%	46%	50%	0.0	0.0	0.0	0.00
757	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - RCx	Lodging	RETRO	13	8%	1	0.000	0.000	15	$0.12	50%	100%	0%	63%	7.5	15.0	10.9	0.69

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
758	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Lodging	RETRO	222	2%	4	0.001	0.001	10	$8.00	50%	100%	25%	20%	0.4	0.7	1.0	0.36
759	WholeBldg	WholeBlg - Com RET	Biz - Custom	Lodging	RETRO	7	15%	1	0.000	0.000	15	$0.40	50%	80%	0%	44%	2.2	4.5	3.6	0.62
760	WholeBldg	Strategic Energy Management	Biz - RCx	Lodging	RETRO	0	0%	0	0.000	0.000	5	$0.27		100%	0%	73%	0.5	0.0	0.0	0.00
761	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Lodging	RETRO	990	1%	6	0.001	0.001	30	$6.27	50%	100%	20%	31%	1.2	2.5	2.2	0.56
762	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Lodging	NC	4	25%	1	0.000	0.000	15	$0.40	50%	100%	60%	44%	2.2	4.5	3.6	0.62
763	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Retail	MO	19496	39%	7532	1.841	0.802	12	$2,270.00	50%	17%	53%	51%	2.7	5.4	4.0	0.68
764	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Retail	MO	10864	19%	2064	0.505	0.220	12	$960.00	50%	17%	53%	47%	1.8	3.5	2.8	0.64
765	Cooking	Commercial Electric Griddle	Biz - Custom	Retail	MO	17056	15%	2596	0.634	0.277	12	$0.00		14%	20%	44%	#DIV/0!	0.0	0.0	0.00
766	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Retail	MO	16915	80%	13507	3.301	1.439	12	$2,757.00	50%	6%	45%	53%	4.0	8.0	5.6	0.71
767	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Retail	MO	35655	44%	15766	3.853	1.679	16	$466.50	50%	26%	61%	57%	34.6	69.2	44.9	0.77
768	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Retail	MO	38282	16%	6279	1.535	0.669	15	$1,550.00	50%	26%	61%	52%	3.9	7.9	5.6	0.71
769	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Retail	MO	18955	17%	3274	0.800	0.349	12	$1,500.00	50%	27%	24%	47%	1.8	3.6	2.8	0.64
770	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Retail	MO	1478	37%	545	0.133	0.058	12	$1,000.00	50%	3%	16%	32%	0.4	0.9	1.1	0.42
771	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Retail	RETRO	6	17%	1	0.000	0.000	3	$0.08	50%	100%	39%	64%	2.7	5.4	4.4	0.61
772	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - RCx	Retail	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	100%	20%	60%	1.6	3.1	2.8	0.56
773	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Retail	MO	23742	21%	4935	0.530	0.568	13	$3,367.84	50%	100%	20%	48%	1.1	2.3	2.1	0.53
774	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Retail	RETRO	476154	0%	1970	0.212	0.227	10	$244.00	50%	100%	5%	63%	5.0	10.1	7.8	0.64
775	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Retail	MO	1130	50%	565	0.061	0.065	15	$57.00	50%	5%	20%	63%	8.5	17.0	12.9	0.66
776	Cooling	Air Conditioner - 17 IEER (5-20 Tons)	Biz - Prescriptive	Retail	MO	626	14%	88	0.036	0.001	15	$153.28	50%	18%	5%	28%	0.5	1.0	1.2	0.41
777	Cooling	Air Conditioner - 18 IEER (5-20 Tons)	Biz - Prescriptive	Retail	MO	626	19%	118	0.048	0.002	15	$214.59	50%	18%	5%	27%	0.5	1.0	1.2	0.41
778	Cooling	Air Conditioner - 21 IEER (5-20 Tons)	Biz - Prescriptive	Retail	MO	626	30%	191	0.078	0.003	15	$398.52	50%	18%	5%	24%	0.4	0.8	1.1	0.38
779	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Retail	MO	703	9%	64	0.026	0.001	15	$71.00	50%	18%	5%	36%	0.8	1.6	1.6	0.49
780	Cooling	Air Conditioner - 15 IEER (20+ Tons)	Biz - Prescriptive	Retail	MO	703	13%	94	0.038	0.001	15	$109.23	50%	18%	5%	36%	0.8	1.5	1.6	0.48
781	Cooling	Air Conditioner - 17 IEER (20+ Tons)	Biz - Prescriptive	Retail	MO	703	24%	166	0.067	0.003	15	$218.46	50%	18%	5%	34%	0.7	1.3	1.4	0.46
782	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Retail	RETRO	762	7%	53	0.022	0.001	3	$11.42	50%	36%	50%	45%	1.0	1.9	2.0	0.49
783	Cooling	Air Side Economizer	Biz - Custom	Retail	RETRO	626	20%	125	0.051	0.002	10	$126.67	50%	36%	25%	28%	0.6	1.2	1.4	0.44
784	Cooling	HVAC Occupancy Controls	Biz - Custom	Retail	RETRO	661	20%	132	0.054	0.002	15	$197.50	50%	36%	20%	23%	0.9	1.2	2.1	0.44
785	Cooling	Air Conditioner - 16 SEER (<5 Tons)	Biz - Prescriptive	Retail	MO	653	13%	82	0.033	0.001	15	$115.00	50%	18%	5%	32%	0.6	1.2	1.4	0.45
786	Cooling	Air Conditioner - 18 SEER(<5 Tons)	Biz - Prescriptive	Retail	MO	653	22%	145	0.059	0.002	15	$514.00	50%	18%	5%	18%	0.2	0.5	0.9	0.29
787	Cooling	Air Conditioner - 21 SEER (<5 Tons)	Biz - Prescriptive	Retail	MO	653	33%	218	0.089	0.003	15	$630.50	50%	18%	5%	21%	0.3	0.6	0.9	0.32
788	Cooling	Smart Thermostat	Biz - Prescriptive	Retail	RETRO	3749	14%	531	0.216	0.008	11	$175.00	50%	18%	20%	57%	3.2	4.1	6.0	0.59
789	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Custom	Retail	MO	843	15%	123	0.050	0.002	8	$84.00	50%	18%	20%	36%	0.8	1.5	1.6	0.47
790	Cooling	Air Cooled Chiller	Biz - Prescriptive	Retail	MO	667	9%	60	0.024	0.001	23	$126.00	50%	25%	5%	24%	0.6	1.2	1.3	0.44
791	Cooling	Water Cooled Chiller	Biz - Prescriptive	Retail	MO	335	23%	76	0.031	0.001	23	$61.00	50%	3%	5%	44%	1.5	3.0	2.6	0.58
792	Cooling	Window Film	Biz - Custom	Retail	RETRO	6364	4%	280	0.114	0.004	10	$153.81	50%	100%	25%	39%	0.6	2.3	-0.2	0.53
793	Cooling	Triple Pane Windows	Biz - Custom	Retail	MO	6364	6%	382	0.155	0.006	25	$700.00	50%	100%	2%	20%	0.7	1.4	1.5	0.48
794	Cooling	Energy Recovery Ventilator	Biz - Custom	Retail	RETRO	703	5%	35	0.014	0.001	15	$1,500.00	50%	100%	2%	12%	0.0	0.0	0.5	0.04
795	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Retail	MO	1896	7%	136	0.018	0.030	15	$135.00	50%	22%	15%	38%	1.1	2.2	1.8	0.63
796	Heating	Heat Pump - 18 SEER(<5 Tons)	Biz - Prescriptive	Retail	MO	1896	14%	260	0.035	0.058	15	$445.76	50%	22%	15%	28%	0.6	1.3	1.2	0.52
797	Heating	Heat Pump - 21 SEER(<5 Tons)	Biz - Prescriptive	Retail	MO	1896	19%	367	0.050	0.082	15	$520.06	50%	22%	15%	32%	0.8	1.6	1.4	0.56
798	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Retail	MO	2071	6%	127	0.017	0.028	15	$100.00	50%	15%	15%	44%	1.4	2.8	2.1	0.67
799	Heating	Heat Pump - 16.0 IEER COP 3.8 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Retail	MO	2071	11%	235	0.032	0.053	15	$171.08	50%	15%	15%	46%	1.5	3.0	2.2	0.68
800	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Retail	MO	2144	7%	140	0.019	0.031	15	$100.00	50%	15%	15%	47%	1.5	3.1	2.3	0.68
801	Heating	Heat Pump - 15.5 IEER COP 3.7 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Retail	MO	2144	12%	255	0.035	0.057	15	$158.10	50%	15%	15%	50%	1.8	3.5	2.5	0.70
802	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Retail	MO	2241	6%	144	0.020	0.032	15	$100.00	50%	15%	15%	47%	1.6	3.2	2.3	0.69
803	Heating	Heat Pump - 13 IEER 3.6 COP (>239,000 Btu/hr)	Biz - Prescriptive	Retail	MO	2241	12%	277	0.038	0.062	15	$201.80	50%	15%	15%	46%	1.5	3.0	2.2	0.68
804	Heating	Geothermal HP - 17 EER < 135kbtu	Biz - Prescriptive	Retail	MO	2145	43%	920	0.125	0.205	25	$4,361.00	50%	5%	15%	16%	0.3	0.6	0.9	0.37
805	Heating	Geothermal HP - 19 EER < 135kbtu	Biz - Prescriptive	Retail	MO	2145	46%	992	0.135	0.222	25	$4,361.00	50%	5%	15%	16%	0.3	0.7	0.9	0.39
806	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Custom	Retail	MO	4239	17%	706	0.096	0.158	15	$84.00	50%	10%	15%	47%	9.2	18.5	11.0	0.84
807	Hot Water	Heat Pump Water Heater	Biz - Custom	Retail	MO	16398	73%	12025	1.572	1.561	15	$1,797.00	50%	100%	9%	43%	6.2	12.4	8.9	0.70
808	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Retail	RETRO	288	32%	93	0.012	0.012	10	$8.00	50%	20%	85%	44%	7.8	15.7	11.1	0.71
809	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Custom	Retail	RETRO	18059	54%	9789	1.280	1.270	5	$54.00	50%	20%	85%	46%	67.2	134.4	91.2	0.74
810	Hot Water	Ozone Commercial Laundry	Biz - Custom	Retail	MO	2984	25%	746	0.098	0.097	10	$20,309.70	50%	0%	20%	15%	1.1	0.0	2.9	0.05
811	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Retail	RETRO	996	76%	755	0.000	0.088	10	$97.00	23%	13%	70%	64%	4.3	19.1	7.3	0.59

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
812	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Retail	RETRO	1744	71%	1239	0.000	0.144	10	$123.81	29%	13%	70%	67%	5.5	19.1	9.4	0.59
813	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Retail	RETRO	2490	67%	1659	0.000	0.192	10	$134.35	36%	13%	70%	68%	6.8	19.1	11.6	0.59
814	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Retail	RETRO	3984	65%	2570	0.000	0.298	10	$196.16	38%	13%	70%	69%	7.3	19.1	12.3	0.59
815	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Retail	RETRO	9467	70%	6666	0.000	0.773	10	$319.31	61%	13%	70%	71%	11.6	19.1	19.6	0.59
816	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Retail	RETRO	489	76%	370	0.000	0.043	10	$97.00	11%	7%	70%	56%	2.1	19.1	3.6	0.59
817	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Retail	RETRO	856	71%	608	0.000	0.070	10	$123.81	14%	7%	70%	60%	2.7	19.1	4.6	0.59
818	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Retail	RETRO	1222	67%	814	0.000	0.094	10	$134.35	18%	7%	70%	62%	3.4	19.1	5.7	0.59
819	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Retail	RETRO	1956	65%	1262	0.000	0.146	10	$196.16	19%	7%	70%	63%	3.6	19.1	6.0	0.59
820	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Retail	RETRO	4647	70%	3272	0.000	0.379	10	$319.31	30%	7%	70%	67%	5.7	19.1	9.6	0.59
821	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Retail	RETRO	171	74%	126	0.013	0.013	15	$59.00	6%	4%	60%	46%	1.6	32.5	3.4	0.67
822	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Retail	RETRO	123	51%	63	0.007	0.007	10	$15.00	11%	63%	40%	58%	2.2	23.7	5.7	0.67
823	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Retail	RETRO	127	34%	43	0.004	0.005	15	$22.00	5%	63%	40%	44%	1.5	32.5	3.0	0.67
824	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Retail	RETRO	249	51%	128	0.013	0.013	15	$61.00	6%	63%	40%	46%	1.6	32.5	3.3	0.67
825	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Retail	RETRO	370	54%	200	0.021	0.021	15	$76.00	7%	63%	40%	50%	1.9	32.5	4.5	0.67
826	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Retail	RETRO	493	54%	267	0.028	0.028	15	$104.00	7%	63%	40%	50%	1.9	32.5	4.4	0.67
827	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Retail	RETRO	249	50%	125	0.013	0.013	15	$46.67	7%	63%	40%	50%	2.0	32.5	4.7	0.67
828	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Retail	RETRO	656	53%	349	0.036	0.037	15	$152.00	6%	63%	40%	48%	1.7	32.5	3.7	0.67
829	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Retail	RETRO	687	67%	460	0.048	0.048	15	$42.88	28%	7%	50%	67%	5.4	32.5	-32.4	0.67
830	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Retail	RETRO	1286	57%	733	0.076	0.077	15	$48.07	40%	14%	40%	69%	6.6	32.5	-18.2	0.67
831	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Retail	RETRO	5163	72%	3733	0.387	0.393	15	$187.94	52%	8%	50%	71%	7.5	32.5	-14.6	0.67
832	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Retail	RETRO	110	100%	110	0.011	0.012	11	$18.50	16%	63%	0%	62%	3.1	25.6	12.9	0.67
833	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Retail	RETRO	571	30%	171	0.018	0.018	15	$65.40	7%	90%	15%	50%	2.2	32.5	3.3	0.67
834	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Retail	RETRO	731	28%	205	0.021	0.022	15	$57.50	9%	90%	15%	55%	3.0	32.5	4.5	0.67
835	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Retail	RETRO	326	38%	124	0.013	0.013	15	$75.00	4%	90%	15%	41%	1.4	32.5	2.1	0.67
836	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Retail	RETRO	326	61%	199	0.021	0.021	15	$56.00	9%	90%	15%	55%	3.0	32.5	4.5	0.67
837	Lighting_Int	Networked Lighting Control	Biz - Custom	Retail	RETRO	3	35%	1	0.000	0.000	15	$0.55	4%	90%	15%	31%	1.4	32.5	2.2	0.67
838	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Retail	RETRO	66	71%	47	0.005	0.005	5	$32.50	4%	1%	85%	38%	0.5	13.0	0.7	0.65
839	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Retail	RETRO	385	61%	237	0.025	0.027	5	$233.00	50%	1%	31%	44%	0.4	0.7	1.0	0.35
840	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Custom	Retail	MO	0	0%	0	0.000	0.000	20	$1.73		31%	24%	54%	0.0	0.0	0.0	0.00
841	Misc	High Efficiency Hand Dryers	Biz - Custom	Retail	MO	1909	83%	1585	0.170	0.182	10	$483.00	50%	1%	50%	46%	2.1	4.1	3.5	0.59
842	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Retail	RETRO	3125	4%	114	0.012	0.013	15	$59.00	50%	1%	73%	41%	1.7	3.3	2.9	0.57
843	Misc	Miscellaneous Custom	Biz - Custom	Retail	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	67%	10%	44%	1.6	3.1	2.8	0.56
844	Motors	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Retail	MO	1675	28%	465	0.069	0.071	15	$198.32	50%	100%	25%	55%	2.3	4.5	3.4	0.66
845	Motors	Power Drive Systems	Biz - Custom	Retail	RETRO	4	23%	1	0.000	0.000	15	$0.13	50%	100%	25%	47%	7.4	14.8	10.1	0.73
846	Motors	Switch Reluctance Motors	Biz - Custom	Retail	MO	28430	31%	8700	1.300	1.335	15	$527.50	50%	100%	1%	48%	15.9	31.7	21.1	0.75
847	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Retail	MO	418	26%	110	0.012	0.013	6	$0.00		12%	95%	54%	#DIV/0!	0.0	0.0	0.00
848	Plug_Office	Advanced Power Strip – Teri 1 Commercial Use	Biz - Custom	Retail	RETRO	188	58%	109	0.012	0.012	7	$10.00	50%	21%	20%	52%	5.0	10.1	7.8	0.65
849	Plug_Office	Smart Socket	Biz - Custom	Retail	RETRO	80	61%	48	0.005	0.006	7	$9.00	50%	21%	20%	49%	2.5	5.0	4.1	0.61
850	Plug_Office	Energy Star Server	Biz - Custom	Retail	MO	2167	30%	650	0.070	0.075	9	$300.95	50%	24%	25%	42%	1.2	2.5	2.3	0.54
851	Plug_Office	Server Virtualization	Biz - Custom	Retail	RETRO	2167	14%	301	0.032	0.035	9	$26.97	50%	24%	25%	52%	6.4	12.8	9.8	0.65
852	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Retail	RETRO	86783	18%	15778	1.696	1.816	15	$480.00	50%	24%	25%	53%	28.2	56.3	41.6	0.68
853	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Retail	RETRO	764	47%	358	0.038	0.041	15	$82.00	50%	24%	25%	48%	3.7	7.5	6.0	0.63
854	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Retail	MO	8940	25%	2265	0.243	0.261	20	$750.00	50%	24%	25%	45%	3.2	6.3	5.1	0.62
855	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Retail	RETRO	13	8%	1	0.000	0.000	10	$0.23	50%	24%	25%	48%	2.8	5.5	4.5	0.61
856	Refrigeration	Strip Curtains	Biz - Prescriptive	Retail	RETRO	0	0%	0	0.000	0.000	4	$10.22		5%	26%	58%	0.0	0.0	0.0	0.00
857	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Retail	RETRO	1228	25%	307	0.043	0.034	15	$431.00	50%	3%	25%	27%	0.6	1.2	1.4	0.44
858	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Retail	RETRO	2884	55%	1586	0.224	0.173	15	$305.00	50%	3%	80%	53%	4.5	9.0	7.0	0.64
859	Refrigeration	Evaporator Fan Motor Controls	Biz - Prescriptive	Retail	RETRO	1298	23%	293	0.041	0.032	13	$161.75	50%	3%	25%	45%	1.4	2.8	2.5	0.56
860	Refrigeration	Variable Speed Condenser Fan	Biz - Prescriptive	Retail	RETRO	3158	48%	1500	0.212	0.164	15	$1,170.00	50%	4%	25%	42%	1.1	2.2	2.1	0.53
861	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Retail	RETRO	579	42%	240	0.034	0.026	10	$79.50	50%	19%	25%	50%	1.9	3.8	3.2	0.59
862	Refrigeration	Automated Door Closer for Refrigerator	Biz - Prescriptive	Retail	RETRO	1259893	0%	2399	0.338	0.262	8	$502.00	50%	14%	27%	53%	2.5	5.0	4.1	0.61
863	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Retail	RETRO	45880	10%	4588	0.647	0.501	10	$311.54	50%	14%	27%	42%	9.3	18.5	13.9	0.67
864	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Prescriptive	Retail	RETRO	1558	50%	779	0.110	0.085	15	$390.00	50%	5%	25%	46%	1.7	3.5	3.0	0.58
865	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Retail	RETRO	2884	55%	1586	0.224	0.173	15	$305.00	50%	3%	80%	53%	4.5	9.0	7.0	0.64

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
866	Refrigeration	Q-Sync Motor for Walk-In and Reach-in Evaporator Fan Motor	Biz - Custom	Retail	RETRO	2091	24%	505	0.071	0.055	10	$96.00	50%	3%	2%	40%	3.3	6.6	5.3	0.63
867	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Retail	RETRO	1511	9%	136	0.019	0.015	5	$42.00	50%	18%	55%	51%	1.1	2.2	2.1	0.53
868	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Retail	RETRO	2016	33%	655	0.092	0.072	10	$79.50	50%	6%	25%	55%	5.2	10.4	8.0	0.65
869	Refrigeration	Automated Door Closer for Freezer	Biz - Prescriptive	Retail	RETRO	1259893	1%	6949	0.980	0.759	8	$502.00	50%	6%	27%	56%	7.2	14.5	11.0	0.66
870	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Retail	RETRO	2349	9%	211	0.030	0.023	5	$42.00	50%	6%	55%	53%	1.7	3.5	3.0	0.58
871	Refrigeration	Refrigeration - Custom	Biz - Custom	Retail	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	90%	25%	36%	1.6	3.1	2.8	0.57
872	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - RCx	Retail	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	90%	25%	52%	1.6	3.1	2.8	0.57
873	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Retail	MO	1278	12%	153	0.022	0.017	14	$500.00	50%	3%	31%	18%	0.3	0.5	0.9	0.29
874	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Retail	RETRO	1663	23%	390	0.055	0.043	5	$245.00	50%	3%	31%	44%	0.6	1.1	1.3	0.43
875	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Retail	MO	5551	8%	440	0.062	0.048	9	$222.00	50%	2%	44%	46%	1.1	2.3	2.2	0.53
876	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Retail	MO	115	74%	84	0.012	0.009	9	$11.00	50%	11%	35%	55%	4.4	8.9	6.9	0.64
877	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Retail	RETRO	13400	59%	7905	1.235	1.072	15	$2,250.00	50%	15%	30%	58%	3.3	6.6	4.9	0.68
878	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Retail	RETRO	14670	3%	455	0.061	0.053	15	$381.00	50%	15%	10%	32%	1.1	2.1	2.0	0.54
879	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Retail	RETRO	13	8%	1	0.000	0.000	15	$0.40	50%	100%	20%	41%	2.2	4.4	3.6	0.61
880	WholeBldg_HVAC	GREM Controls	Biz - Custom	Retail	RETRO	0	0%	0	0.000	0.000	15	$0.00	0%	0%	20%	50%	#DIV/0!	0.0	0.0	0.00
881	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Retail	RETRO	1663	20%	333	0.051	0.036	10	$235.60	50%	100%	10%	35%	1.3	1.8	2.7	0.51
882	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Retail	RETRO	5	36%	2	0.000	0.000	15	$15.22	50%	100%	1%	12%	0.1	0.2	0.7	0.17
883	WholeBldg_HVAC	Advanced Rooftop Controls	Biz - Custom	Retail	RETRO	776	91%	705	0.108	0.077	10	$341.21	50%	33%	30%	40%	1.5	2.7	2.7	0.56
884	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - RCx	Retail	RETRO	13	8%	1	0.000	0.000	15	$0.12	50%	100%	0%	63%	7.4	14.8	10.9	0.68
885	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Retail	RETRO	222	2%	4	0.001	0.000	10	$8.00	50%	100%	25%	20%	0.4	0.7	1.0	0.36
886	WholeBldg	WholeBlg - Com RET	Biz - Custom	Retail	RETRO	7	15%	1	0.000	0.000	15	$0.40	50%	80%	0%	44%	2.2	4.4	3.6	0.61
887	WholeBldg	Strategic Energy Management	Biz - RCx	Retail	RETRO	0	0%	0	0.000	0.000	5	$0.27		100%	0%	73%	0.5	0.0	0.0	0.00
888	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Retail	RETRO	990	1%	6	0.001	0.001	30	$6.27	50%	100%	20%	31%	1.2	2.5	2.2	0.55
889	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Retail	NC	4	25%	1	0.000	0.000	15	$0.40	50%	100%	60%	44%	2.2	4.4	3.6	0.61
890	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Office	MO	19496	39%	7532	3.829	0.945	12	$2,270.00	50%	17%	53%	51%	3.3	6.5	4.0	0.82
891	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Office	MO	10864	19%	2064	1.049	0.259	12	$960.00	50%	17%	53%	47%	2.1	4.2	2.8	0.77
892	Cooking	Commercial Electric Griddle	Biz - Custom	Office	MO	17056	15%	2596	1.320	0.326	12	$0.00		14%	20%	44%	#DIV/0!	0.0	0.0	0.00
893	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Office	MO	16915	80%	13507	6.866	1.695	12	$2,757.00	50%	6%	45%	53%	4.8	9.7	5.6	0.86
894	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Office	MO	35655	44%	15766	8.014	1.978	16	$466.50	50%	26%	61%	57%	41.9	83.9	44.9	0.94
895	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Office	MO	38282	16%	6279	3.192	0.788	15	$1,550.00	50%	26%	61%	52%	4.8	9.6	5.6	0.86
896	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Office	MO	18955	17%	3274	1.664	0.411	12	$1,500.00	50%	27%	24%	47%	2.2	4.3	2.8	0.77
897	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Office	MO	1478	37%	545	0.277	0.068	12	$1,000.00	50%	3%	16%	32%	0.5	1.1	1.1	0.50
898	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Office	RETRO	6	17%	1	0.000	0.000	3	$0.08	50%	100%	39%	64%	2.7	5.5	4.4	0.62
899	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - RCx	Office	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	100%	20%	60%	1.6	3.2	2.8	0.58
900	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Office	MO	23742	21%	4935	0.723	0.572	13	$3,367.84	50%	100%	20%	48%	1.2	2.3	2.1	0.54
901	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Office	RETRO	476154	0%	1970	0.289	0.228	10	$244.00	50%	100%	5%	63%	5.2	10.4	7.8	0.66
902	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Office	MO	1130	50%	565	0.083	0.065	15	$57.00	50%	5%	20%	63%	8.7	17.4	12.9	0.68
903	Cooling	Air Conditioner - 17 IEER (5-20 Tons)	Biz - Prescriptive	Office	MO	1885	14%	266	0.151	0.001	15	$153.28	50%	28%	5%	51%	1.6	3.3	2.7	0.61
904	Cooling	Air Conditioner - 18 IEER (5-20 Tons)	Biz - Prescriptive	Office	MO	1885	19%	356	0.202	0.001	15	$214.59	50%	28%	5%	50%	1.6	3.1	2.6	0.61
905	Cooling	Air Conditioner - 21 IEER (5-20 Tons)	Biz - Prescriptive	Office	MO	1885	30%	575	0.326	0.002	15	$398.52	50%	28%	5%	47%	1.4	2.7	2.3	0.59
906	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Office	MO	2118	9%	193	0.109	0.001	15	$71.00	50%	28%	5%	56%	2.6	5.1	3.9	0.66
907	Cooling	Air Conditioner - 15 IEER (20+ Tons)	Biz - Prescriptive	Office	MO	2118	13%	282	0.160	0.001	15	$109.23	50%	28%	5%	56%	2.4	4.9	3.7	0.65
908	Cooling	Air Conditioner - 17 IEER (20+ Tons)	Biz - Prescriptive	Office	MO	2118	24%	498	0.283	0.002	15	$218.46	50%	28%	5%	54%	2.2	4.3	3.4	0.64
909	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Office	RETRO	2294	7%	161	0.091	0.001	3	$11.42	50%	57%	50%	48%	3.0	6.1	4.9	0.62
910	Cooling	Air Side Economizer	Biz - Custom	Office	RETRO	1885	20%	377	0.214	0.002	10	$126.67	50%	57%	25%	43%	2.0	4.0	3.2	0.62
911	Cooling	HVAC Occupancy Controls	Biz - Custom	Office	RETRO	1990	20%	398	0.226	0.002	15	$197.50	50%	57%	20%	40%	2.6	3.8	4.5	0.63
912	Cooling	Air Conditioner - 16 SEER (<5 Tons)	Biz - Prescriptive	Office	MO	1966	13%	246	0.140	0.001	15	$115.00	50%	5%	5%	54%	2.0	4.0	3.2	0.64
913	Cooling	Air Conditioner - 18 SEER(<5 Tons)	Biz - Prescriptive	Office	MO	1966	22%	437	0.248	0.002	15	$514.00	50%	5%	5%	35%	0.8	1.6	1.6	0.51
914	Cooling	Air Conditioner - 21 SEER (<5 Tons)	Biz - Prescriptive	Office	MO	1966	33%	655	0.372	0.003	15	$630.50	50%	5%	5%	39%	1.0	2.0	1.8	0.55
915	Cooling	Smart Thermostat	Biz - Prescriptive	Office	RETRO	11285	14%	1598	0.907	0.007	11	$175.00	50%	5%	20%	63%	9.0	13.3	14.4	0.70
916	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Custom	Office	MO	2537	15%	370	0.210	0.002	8	$84.00	50%	8%	20%	45%	2.4	4.8	3.8	0.63
917	Cooling	Air Cooled Chiller	Biz - Prescriptive	Office	MO	2009	9%	181	0.103	0.001	23	$126.00	50%	27%	5%	47%	1.9	3.8	2.9	0.65
918	Cooling	Water Cooled Chiller	Biz - Prescriptive	Office	MO	1009	23%	229	0.130	0.001	23	$61.00	50%	3%	5%	59%	5.0	10.0	6.8	0.73
919	Cooling	Window Film	Biz - Custom	Office	RETRO	6364	4%	280	0.159	0.001	10	$153.81	50%	100%	25%	39%	0.6	2.4	-0.2	0.56
920	Cooling	Triple Pane Windows	Biz - Custom	Office	MO	6364	6%	382	0.217	0.002	25	$700.00	50%	100%	2%	20%	0.8	1.5	1.5	0.52

C&I Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
921	Cooling	Energy Recovery Ventilator	Biz - Custom	Office	RETRO	2118	15%	327	0.186	0.001	15	$1,500.00	50%	100%	2%	12%	0.2	0.4	0.8	0.27
922	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Office	MO	4429	8%	353	0.067	0.080	15	$135.00	50%	4%	15%	56%	3.0	5.9	3.8	0.79
923	Heating	Heat Pump - 18 SEER(<5 Tons)	Biz - Prescriptive	Office	MO	4429	15%	665	0.126	0.150	15	$445.76	50%	4%	15%	48%	1.7	3.4	2.4	0.72
924	Heating	Heat Pump - 21 SEER(<5 Tons)	Biz - Prescriptive	Office	MO	4429	21%	951	0.180	0.215	15	$520.06	50%	4%	15%	51%	2.1	4.1	2.8	0.74
925	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Office	MO	4782	6%	301	0.057	0.068	15	$100.00	50%	18%	15%	57%	3.4	6.8	4.3	0.80
926	Heating	Heat Pump - 16.0 IEER COP 3.8 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Office	MO	4782	12%	555	0.105	0.125	15	$171.08	50%	18%	15%	58%	3.7	7.4	4.6	0.81
927	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Office	MO	4956	7%	336	0.064	0.076	15	$100.00	50%	18%	15%	58%	3.8	7.6	4.7	0.81
928	Heating	Heat Pump - 15.5 IEER COP 3.7 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Office	MO	4956	12%	606	0.115	0.137	15	$158.10	50%	18%	15%	59%	4.3	8.7	5.3	0.82
929	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Office	MO	5207	7%	353	0.067	0.080	15	$100.00	50%	18%	15%	58%	4.0	8.0	4.9	0.81
930	Heating	Heat Pump - 13 IEER 3.6 COP (>239,000 Btu/hr)	Biz - Prescriptive	Office	MO	5207	13%	665	0.126	0.150	15	$201.80	50%	18%	15%	58%	3.7	7.5	4.6	0.81
931	Heating	Geothermal HP - 17 EER < 135kbtu	Biz - Prescriptive	Office	MO	4959	39%	1956	0.370	0.442	25	$4,361.00	50%	2%	15%	23%	0.7	1.4	1.3	0.55
932	Heating	Geothermal HP - 19 EER < 135kbtu	Biz - Prescriptive	Office	MO	4959	43%	2133	0.404	0.482	25	$4,361.00	50%	2%	15%	24%	0.8	1.6	1.4	0.57
933	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Custom	Office	MO	9167	17%	1528	0.289	0.345	15	$84.00	50%	10%	15%	49%	20.6	41.2	23.2	0.89
934	Hot Water	Heat Pump Water Heater	Biz - Custom	Office	MO	15870	73%	11638	1.950	1.738	15	$1,797.00	50%	100%	13%	43%	6.3	12.6	8.6	0.73
935	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Office	RETRO	428	32%	139	0.023	0.021	10	$8.00	50%	20%	85%	45%	12.2	24.5	16.2	0.75
936	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Custom	Office	RETRO	18059	54%	9789	1.640	1.462	5	$54.00	50%	20%	85%	46%	70.6	141.1	91.2	0.77
937	Hot Water	Ozone Commercial Laundry	Biz - Custom	Office	MO	2984	25%	746	0.125	0.111	10	$20,309.70	50%	0%	20%	15%	1.1	0.1	2.9	0.05
938	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Office	RETRO	996	76%	755	0.000	0.088	10	$97.00	23%	13%	70%	64%	4.3	19.1	7.3	0.59
939	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Office	RETRO	1744	71%	1239	0.000	0.144	10	$123.81	29%	13%	70%	67%	5.5	19.1	9.4	0.59
940	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Office	RETRO	2490	67%	1659	0.000	0.193	10	$134.35	36%	13%	70%	68%	6.8	19.1	11.6	0.59
941	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Office	RETRO	3984	65%	2570	0.000	0.299	10	$196.16	38%	13%	70%	69%	7.3	19.1	12.3	0.59
942	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Office	RETRO	9467	70%	6666	0.000	0.775	10	$319.31	61%	13%	70%	71%	11.6	19.1	19.6	0.59
943	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Office	RETRO	489	76%	370	0.000	0.043	10	$97.00	11%	7%	70%	56%	2.1	19.1	3.6	0.59
944	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Office	RETRO	856	71%	608	0.000	0.071	10	$123.81	14%	7%	70%	60%	2.7	19.1	4.6	0.59
945	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Office	RETRO	1222	67%	814	0.000	0.095	10	$134.35	18%	7%	70%	62%	3.4	19.1	5.7	0.59
946	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Office	RETRO	1956	65%	1262	0.000	0.147	10	$196.16	19%	7%	70%	63%	3.6	19.1	6.0	0.59
947	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Office	RETRO	4647	70%	3272	0.000	0.380	10	$319.31	30%	7%	70%	67%	5.7	19.1	9.6	0.59
948	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Office	RETRO	126	74%	93	0.015	0.013	15	$59.00	6%	4%	60%	40%	1.4	26.3	2.2	0.74
949	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Office	RETRO	91	51%	47	0.008	0.007	10	$15.00	11%	55%	40%	53%	1.9	19.2	3.6	0.73
950	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Office	RETRO	94	34%	32	0.005	0.005	15	$22.00	5%	55%	40%	38%	1.3	26.3	2.0	0.74
951	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Office	RETRO	183	51%	94	0.016	0.014	15	$61.00	6%	55%	40%	40%	1.4	26.3	2.2	0.74
952	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Office	RETRO	272	54%	147	0.024	0.021	15	$76.00	7%	55%	40%	44%	1.7	26.3	2.9	0.74
953	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Office	RETRO	362	54%	197	0.033	0.028	15	$104.00	7%	55%	40%	44%	1.6	26.3	2.8	0.74
954	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Office	RETRO	183	50%	92	0.015	0.013	15	$46.67	7%	55%	40%	45%	1.7	26.3	3.0	0.74
955	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Office	RETRO	482	53%	256	0.043	0.037	15	$152.00	6%	55%	40%	42%	1.5	26.3	2.4	0.74
956	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Office	RETRO	505	67%	338	0.056	0.049	15	$42.88	29%	6%	50%	65%	5.2	26.3	94.9	0.74
957	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Office	RETRO	946	57%	539	0.090	0.078	15	$48.07	41%	19%	40%	68%	6.5	26.3	-46.1	0.74
958	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Office	RETRO	3795	72%	2744	0.457	0.396	15	$187.94	53%	11%	50%	70%	7.6	26.3	-25.4	0.74
959	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Office	RETRO	81	100%	81	0.013	0.012	11	$18.50	16%	55%	0%	59%	2.7	20.7	6.5	0.74
960	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Office	RETRO	419	30%	126	0.021	0.018	15	$65.40	7%	90%	15%	44%	1.8	26.3	2.5	0.74
961	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Office	RETRO	537	28%	150	0.025	0.022	15	$57.50	9%	90%	15%	50%	2.5	26.3	3.4	0.74
962	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Office	RETRO	240	38%	91	0.015	0.013	15	$75.00	4%	90%	15%	34%	1.2	26.3	1.6	0.74
963	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Office	RETRO	240	61%	146	0.024	0.021	15	$56.00	9%	90%	15%	50%	2.5	26.3	3.4	0.74
964	Lighting_Int	Networked Lighting Control	Biz - Custom	Office	RETRO	2	35%	1	0.000	0.000	15	$0.41	6%	90%	15%	31%	1.6	26.3	2.2	0.74
965	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Office	RETRO	67	71%	48	0.008	0.007	5	$32.50	5%	1%	85%	39%	0.5	10.6	0.8	0.71
966	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Office	RETRO	385	61%	237	0.035	0.027	5	$233.00	50%	0%	31%	44%	0.4	0.7	1.0	0.36
967	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Custom	Office	MO	0	0%	0	0.000	0.000	20	$1.73		0%	24%	54%	0.0	0.0	0.0	0.00
968	Misc	High Efficiency Hand Dryers	Biz - Custom	Office	MO	262	83%	217	0.032	0.025	10	$483.00	50%	1%	50%	19%	0.3	0.6	0.9	0.32
969	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Office	RETRO	3125	4%	114	0.017	0.013	15	$59.00	50%	4%	73%	41%	1.7	3.4	2.9	0.58
970	Misc	Miscellaneous Custom	Biz - Custom	Office	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	95%	10%	44%	1.6	3.2	2.8	0.58
971	Motors	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Office	MO	3090	28%	857	0.124	0.106	15	$198.32	50%	100%	25%	60%	3.9	7.7	5.9	0.65
972	Motors	Power Drive Systems	Biz - Custom	Office	RETRO	4	23%	1	0.000	0.000	15	$0.13	50%	100%	25%	47%	6.9	13.7	10.1	0.68
973	Motors	Switch Reluctance Motors	Biz - Custom	Office	MO	17620	31%	5392	0.783	0.667	15	$527.50	50%	100%	1%	48%	9.1	18.3	13.3	0.69

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
974	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Office	MO	418	26%	110	0.016	0.013	6	$0.00		9%	95%	54%	#DIV/0!	0.0	0.0	0.00
975	Plug_Office	Advanced Power Strip – Teri 1 Commercial Use	Biz - Custom	Office	RETRO	188	58%	109	0.016	0.013	7	$10.00	50%	23%	20%	52%	5.2	10.3	7.8	0.66
976	Plug_Office	Smart Socket	Biz - Custom	Office	RETRO	80	61%	48	0.007	0.006	7	$9.00	50%	23%	20%	49%	2.6	5.1	4.1	0.62
977	Plug_Office	Energy Star Server	Biz - Custom	Office	MO	2167	30%	650	0.095	0.075	9	$300.95	50%	27%	25%	42%	1.3	2.5	2.3	0.55
978	Plug_Office	Server Virtualization	Biz - Custom	Office	RETRO	2167	14%	301	0.044	0.035	9	$26.97	50%	27%	25%	52%	6.6	13.1	9.8	0.67
979	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Office	RETRO	86783	18%	15778	2.311	1.828	15	$480.00	50%	27%	25%	53%	28.9	57.9	41.6	0.70
980	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Office	RETRO	764	47%	358	0.052	0.041	15	$82.00	50%	27%	25%	48%	3.8	7.7	6.0	0.64
981	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Office	MO	8940	25%	2265	0.332	0.262	20	$750.00	50%	27%	25%	45%	3.3	6.5	5.1	0.63
982	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Office	RETRO	13	8%	1	0.000	0.000	10	$0.23	50%	27%	25%	48%	2.8	5.7	4.5	0.63
983	Refrigeration	Strip Curtains	Biz - Prescriptive	Office	RETRO	0	0%	0	0.000	0.000	4	$10.22		4%	26%	58%	0.0	0.0	0.0	0.00
984	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Office	RETRO	1228	25%	307	0.043	0.034	15	$431.00	50%	2%	25%	27%	0.6	1.2	1.4	0.44
985	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Office	RETRO	2884	55%	1586	0.224	0.173	15	$305.00	50%	3%	80%	53%	4.5	9.0	7.0	0.64
986	Refrigeration	Evaporator Fan Motor Controls	Biz - Prescriptive	Office	RETRO	1298	23%	293	0.041	0.032	13	$161.75	50%	2%	25%	45%	1.4	2.8	2.5	0.56
987	Refrigeration	Variable Speed Condenser Fan	Biz - Prescriptive	Office	RETRO	3158	48%	1500	0.212	0.164	15	$1,170.00	50%	3%	25%	42%	1.1	2.2	2.1	0.53
988	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Office	RETRO	579	42%	240	0.034	0.026	10	$79.50	50%	19%	25%	50%	1.9	3.8	3.2	0.59
989	Refrigeration	Automated Door Closer for Refrigerator	Biz - Prescriptive	Office	RETRO	1259893	0%	2399	0.338	0.262	8	$502.00	50%	14%	27%	53%	2.5	5.0	4.1	0.61
990	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Office	RETRO	45880	10%	4588	0.647	0.501	10	$311.54	50%	14%	27%	42%	9.3	18.5	13.9	0.67
991	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Prescriptive	Office	RETRO	1558	50%	779	0.110	0.085	15	$390.00	50%	5%	25%	46%	1.7	3.5	3.0	0.58
992	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Office	RETRO	2884	55%	1586	0.224	0.173	15	$305.00	50%	3%	80%	53%	4.5	9.0	7.0	0.64
993	Refrigeration	Q-Sync Motor for Walk-In and Reach-in Evaporator Fan Motor	Biz - Custom	Office	RETRO	2091	24%	505	0.071	0.055	10	$96.00	50%	3%	2%	40%	3.3	6.6	5.3	0.63
994	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Office	RETRO	1511	9%	136	0.019	0.015	5	$42.00	50%	18%	55%	51%	1.1	2.2	2.1	0.53
995	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Office	RETRO	2016	33%	655	0.092	0.072	10	$79.50	50%	6%	25%	55%	5.2	10.4	8.0	0.65
996	Refrigeration	Automated Door Closer for Freezer	Biz - Prescriptive	Office	RETRO	1259893	1%	6949	0.980	0.759	8	$502.00	50%	6%	27%	56%	7.2	14.5	11.0	0.66
997	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Office	RETRO	2349	9%	211	0.030	0.023	5	$42.00	50%	6%	55%	53%	1.7	3.5	3.0	0.58
998	Refrigeration	Refrigeration - Custom	Biz - Custom	Office	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	90%	25%	36%	1.6	3.1	2.8	0.57
999	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - RCx	Office	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	90%	25%	52%	1.6	3.1	2.8	0.57
1000	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Office	MO	1278	12%	153	0.022	0.017	14	$500.00	50%	6%	31%	18%	0.3	0.5	0.9	0.29
1001	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Office	RETRO	1663	23%	390	0.055	0.043	5	$245.00	50%	6%	31%	44%	0.6	1.1	1.3	0.43
1002	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Office	MO	5551	8%	440	0.062	0.048	9	$222.00	50%	6%	44%	46%	1.1	2.3	2.2	0.53
1003	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Office	MO	115	74%	84	0.012	0.009	9	$11.00	50%	11%	35%	55%	4.4	8.9	6.9	0.64
1004	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Office	RETRO	6786	59%	4003	0.802	0.591	15	$2,250.00	50%	32%	69%	51%	1.7	3.5	2.7	0.64
1005	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Office	RETRO	9092	3%	282	0.049	0.036	15	$381.00	50%	32%	10%	25%	0.7	1.4	1.4	0.48
1006	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Office	RETRO	13	8%	1	0.000	0.000	15	$0.40	50%	100%	20%	41%	2.4	4.7	3.6	0.65
1007	WholeBldg_HVAC	GREM Controls	Biz - Custom	Office	RETRO	0	0%	0	0.000	0.000	15	$0.00	0%	0%	20%	50%	#DIV/0!	0.0	0.0	0.00
1008	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Office	RETRO	1313	20%	263	0.053	0.034	10	$235.60	50%	100%	10%	31%	1.0	1.5	2.1	0.50
1009	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Office	RETRO	5	36%	2	0.000	0.000	15	$15.22	50%	100%	1%	12%	0.1	0.2	0.7	0.18
1010	WholeBldg_HVAC	Advanced Rooftop Controls	Biz - Custom	Office	RETRO	2169	50%	1076	0.216	0.139	10	$341.21	50%	55%	69%	43%	2.3	4.3	3.6	0.64
1011	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - RCx	Office	RETRO	13	8%	1	0.000	0.000	15	$0.12	50%	100%	0%	63%	7.8	15.7	10.9	0.72
1012	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Office	RETRO	222	2%	4	0.001	0.001	10	$8.00	50%	100%	25%	20%	0.4	0.8	1.0	0.38
1013	WholeBldg	WholeBlg - Com RET	Biz - Custom	Office	RETRO	7	15%	1	0.000	0.000	15	$0.40	50%	80%	0%	44%	2.4	4.7	3.6	0.65
1014	WholeBldg	Strategic Energy Management	Biz - RCx	Office	RETRO	33	3%	1	0.000	0.000	5	$0.27	50%	100%	0%	62%	1.4	2.8	2.4	0.59
1015	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Office	RETRO	990	1%	6	0.001	0.001	30	$6.27	50%	100%	20%	31%	1.3	2.6	2.2	0.59
1016	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Office	NC	4	25%	1	0.000	0.000	15	$0.40	50%	100%	60%	44%	2.4	4.7	3.6	0.65
1017	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Warehouse	MO	19496	39%	7532	1.841	0.802	12	$2,270.00	50%	17%	53%	51%	2.7	5.4	4.0	0.68
1018	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Warehouse	MO	10864	19%	2064	0.505	0.220	12	$960.00	50%	17%	53%	47%	1.7	3.5	2.8	0.63
1019	Cooking	Commercial Electric Griddle	Biz - Custom	Warehouse	MO	17056	15%	2596	0.634	0.277	12	$0.00		14%	20%	44%	#DIV/0!	0.0	0.0	0.00
1020	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Warehouse	MO	16915	80%	13507	3.301	1.439	12	$2,757.00	50%	6%	45%	53%	4.0	8.0	5.6	0.71
1021	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Warehouse	MO	35655	44%	15766	3.853	1.679	16	$466.50	50%	26%	61%	57%	34.3	68.7	44.9	0.77
1022	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Warehouse	MO	38282	16%	6279	1.535	0.669	15	$1,550.00	50%	26%	61%	52%	3.9	7.8	5.6	0.70
1023	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Warehouse	MO	18955	17%	3274	0.800	0.349	12	$1,500.00	50%	27%	24%	47%	1.8	3.5	2.8	0.64
1024	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Warehouse	MO	1478	37%	545	0.133	0.058	12	$1,000.00	50%	3%	16%	32%	0.4	0.9	1.1	0.41
1025	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Warehouse	RETRO	6	17%	1	0.000	0.000	3	$0.08	50%	100%	39%	64%	2.7	5.4	4.4	0.61
1026	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - RCx	Warehouse	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	100%	20%	60%	1.6	3.1	2.8	0.57
1027	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Warehouse	MO	23742	21%	4935	0.667	0.537	13	$3,367.84	50%	100%	20%	48%	1.1	2.3	2.1	0.53

C&I Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
1028	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Warehouse	RETRO	476154	0%	1970	0.266	0.214	10	$244.00	50%	100%	5%	63%	5.1	10.2	7.8	0.65
1029	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Warehouse	MO	1130	50%	565	0.076	0.061	15	$57.00	50%	5%	20%	63%	8.6	17.1	12.9	0.66
1030	Cooling	Air Conditioner - 17 IEER (5-20 Tons)	Biz - Prescriptive	Warehouse	MO	293	14%	41	0.027	0.000	15	$153.28	50%	29%	5%	18%	0.3	0.5	0.8	0.32
1031	Cooling	Air Conditioner - 18 IEER (5-20 Tons)	Biz - Prescriptive	Warehouse	MO	293	19%	55	0.036	0.000	15	$214.59	50%	29%	5%	17%	0.3	0.5	0.8	0.31
1032	Cooling	Air Conditioner - 21 IEER (5-20 Tons)	Biz - Prescriptive	Warehouse	MO	293	30%	89	0.058	0.000	15	$398.52	50%	29%	5%	16%	0.2	0.4	0.8	0.29
1033	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Warehouse	MO	329	9%	30	0.020	0.000	15	$71.00	50%	29%	5%	23%	0.4	0.8	1.0	0.41
1034	Cooling	Air Conditioner - 15 IEER (20+ Tons)	Biz - Prescriptive	Warehouse	MO	329	13%	44	0.029	0.000	15	$109.23	50%	29%	5%	22%	0.4	0.8	1.0	0.40
1035	Cooling	Air Conditioner - 17 IEER (20+ Tons)	Biz - Prescriptive	Warehouse	MO	329	24%	78	0.050	0.000	15	$218.46	50%	29%	5%	21%	0.4	0.7	0.9	0.38
1036	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Warehouse	RETRO	357	7%	25	0.016	0.000	3	$11.42	50%	57%	50%	40%	0.5	1.0	1.2	0.42
1037	Cooling	Air Side Economizer	Biz - Custom	Warehouse	RETRO	293	20%	59	0.038	0.000	10	$126.67	50%	57%	25%	18%	0.3	0.7	0.9	0.36
1038	Cooling	HVAC Occupancy Controls	Biz - Custom	Warehouse	RETRO	310	20%	62	0.040	0.000	15	$197.50	50%	57%	20%	15%	0.6	0.6	1.6	0.35
1039	Cooling	Air Conditioner - 16 SEER (<5 Tons)	Biz - Prescriptive	Warehouse	MO	306	13%	38	0.025	0.000	15	$115.00	50%	43%	5%	20%	0.3	0.7	0.9	0.36
1040	Cooling	Air Conditioner - 18 SEER(<5 Tons)	Biz - Prescriptive	Warehouse	MO	306	22%	68	0.044	0.000	15	$514.00	50%	43%	5%	16%	0.1	0.3	0.7	0.20
1041	Cooling	Air Conditioner - 21 SEER (<5 Tons)	Biz - Prescriptive	Warehouse	MO	306	33%	102	0.066	0.000	15	$630.50	50%	43%	5%	16%	0.2	0.3	0.7	0.23
1042	Cooling	Smart Thermostat	Biz - Prescriptive	Warehouse	RETRO	1756	14%	249	0.162	0.000	11	$175.00	50%	43%	20%	47%	2.3	2.2	4.4	0.58
1043	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Custom	Warehouse	MO	395	15%	58	0.037	0.000	8	$84.00	50%	0%	20%	24%	0.4	0.8	1.0	0.39
1044	Cooling	Air Cooled Chiller	Biz - Prescriptive	Warehouse	MO	313	9%	28	0.018	0.000	23	$126.00	50%	0%	5%	16%	0.3	0.6	0.9	0.36
1045	Cooling	Water Cooled Chiller	Biz - Prescriptive	Warehouse	MO	157	23%	36	0.023	0.000	23	$61.00	50%	0%	5%	29%	0.8	1.6	1.5	0.55
1046	Cooling	Window Film	Biz - Custom	Warehouse	RETRO	6364	4%	280	0.182	0.000	10	$153.81	50%	100%	25%	39%	0.7	2.6	-0.2	0.60
1047	Cooling	Triple Pane Windows	Biz - Custom	Warehouse	MO	6364	6%	382	0.249	0.000	25	$700.00	50%	100%	2%	20%	0.8	1.6	1.5	0.56
1048	Cooling	Energy Recovery Ventilator	Biz - Custom	Warehouse	RETRO	329	0%	0	0.000	0.000	15	$1,500.00		100%	2%	50%	0.0	0.0	0.0	0.00
1049	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Warehouse	MO	1535	6%	92	0.020	0.020	15	$135.00	50%	14%	15%	32%	0.8	1.6	1.3	0.58
1050	Heating	Heat Pump - 18 SEER(<5 Tons)	Biz - Prescriptive	Warehouse	MO	1535	12%	182	0.039	0.041	15	$445.76	50%	14%	15%	23%	0.5	0.9	1.0	0.46
1051	Heating	Heat Pump - 21 SEER(<5 Tons)	Biz - Prescriptive	Warehouse	MO	1535	16%	249	0.054	0.056	15	$520.06	50%	14%	15%	24%	0.5	1.1	1.1	0.50
1052	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Warehouse	MO	1706	6%	100	0.022	0.022	15	$100.00	50%	6%	15%	38%	1.1	2.3	1.8	0.65
1053	Heating	Heat Pump - 16.0 IEER COP 3.8 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Warehouse	MO	1706	11%	188	0.041	0.042	15	$171.08	50%	6%	15%	41%	1.3	2.5	1.9	0.67
1054	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Warehouse	MO	1762	6%	109	0.024	0.024	15	$100.00	50%	6%	15%	41%	1.2	2.5	1.9	0.67
1055	Heating	Heat Pump - 15.5 IEER COP 3.7 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Warehouse	MO	1762	11%	201	0.044	0.045	15	$158.10	50%	6%	15%	45%	1.5	2.9	2.1	0.70
1056	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Warehouse	MO	1830	6%	108	0.023	0.024	15	$100.00	50%	6%	15%	40%	1.2	2.5	1.8	0.67
1057	Heating	Heat Pump - 13 IEER 3.6 COP (>239,000 Btu/hr)	Biz - Prescriptive	Warehouse	MO	1830	12%	215	0.047	0.048	15	$201.80	50%	6%	15%	40%	1.2	2.4	1.8	0.67
1058	Heating	Geothermal HP - 17 EER < 135kbtu	Biz - Prescriptive	Warehouse	MO	1764	48%	842	0.183	0.188	25	$4,361.00	50%	0%	15%	16%	0.3	0.6	0.8	0.37
1059	Heating	Geothermal HP - 19 EER < 135kbtu	Biz - Prescriptive	Warehouse	MO	1764	51%	897	0.195	0.200	25	$4,361.00	50%	0%	15%	16%	0.3	0.7	0.9	0.38
1060	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Custom	Warehouse	MO	3805	17%	634	0.138	0.142	15	$84.00	50%	0%	15%	47%	8.6	17.3	9.9	0.87
1061	Hot Water	Heat Pump Water Heater	Biz - Custom	Warehouse	MO	10591	73%	7766	1.045	1.171	15	$1,797.00	50%	100%	0%	41%	4.1	8.2	5.9	0.70
1062	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Warehouse	RETRO	197	32%	64	0.009	0.010	10	$8.00	50%	20%	85%	43%	5.5	11.1	7.8	0.71
1063	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Custom	Warehouse	RETRO	18059	54%	9789	1.317	1.476	5	$54.00	50%	20%	85%	46%	69.4	138.9	91.2	0.76
1064	Hot Water	Ozone Commercial Laundry	Biz - Custom	Warehouse	MO	2984	25%	746	0.100	0.112	10	$20,309.70	50%	0%	20%	15%	1.1	0.1	2.9	0.05
1065	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Warehouse	RETRO	996	76%	755	0.000	0.089	10	$97.00	23%	13%	70%	64%	4.3	18.9	7.3	0.59
1066	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Warehouse	RETRO	1744	71%	1239	0.000	0.146	10	$123.81	29%	13%	70%	67%	5.6	18.9	9.4	0.59
1067	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Warehouse	RETRO	2490	67%	1659	0.000	0.196	10	$134.35	36%	13%	70%	68%	6.9	18.9	11.6	0.59
1068	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Warehouse	RETRO	3984	65%	2570	0.000	0.303	10	$196.16	39%	13%	70%	69%	7.3	18.9	12.3	0.59
1069	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Warehouse	RETRO	9467	70%	6666	0.000	0.786	10	$319.31	62%	13%	70%	71%	11.6	18.9	19.6	0.59
1070	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Warehouse	RETRO	489	76%	370	0.000	0.044	10	$97.00	11%	7%	70%	57%	2.1	18.9	3.6	0.59
1071	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Warehouse	RETRO	856	71%	608	0.000	0.072	10	$123.81	14%	7%	70%	60%	2.7	18.9	4.6	0.59
1072	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Warehouse	RETRO	1222	67%	814	0.000	0.096	10	$134.35	18%	7%	70%	62%	3.4	18.9	5.7	0.59
1073	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Warehouse	RETRO	1956	65%	1262	0.000	0.149	10	$196.16	19%	7%	70%	63%	3.6	18.9	6.0	0.59
1074	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Warehouse	RETRO	4647	70%	3272	0.000	0.386	10	$319.31	30%	7%	70%	67%	5.7	18.9	9.6	0.59
1075	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Warehouse	RETRO	122	74%	90	0.013	0.010	15	$59.00	4%	2%	60%	39%	1.2	31.9	2.2	0.68
1076	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Warehouse	RETRO	88	51%	45	0.006	0.005	10	$15.00	8%	37%	40%	52%	1.7	23.3	3.5	0.68
1077	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Warehouse	RETRO	91	34%	31	0.004	0.003	15	$22.00	4%	37%	40%	38%	1.1	31.9	2.0	0.68
1078	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Warehouse	RETRO	179	51%	92	0.013	0.010	15	$61.00	4%	37%	40%	39%	1.2	31.9	2.1	0.68
1079	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Warehouse	RETRO	265	54%	143	0.020	0.016	15	$76.00	5%	37%	40%	43%	1.5	31.9	2.8	0.68
1080	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Warehouse	RETRO	353	54%	191	0.027	0.021	15	$104.00	5%	37%	40%	43%	1.4	31.9	2.8	0.68
1081	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Warehouse	RETRO	178	50%	90	0.013	0.010	15	$46.67	5%	37%	40%	44%	1.5	31.9	2.9	0.68

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
1082	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Warehouse	RETRO	470	53%	250	0.036	0.027	15	$152.00	4%	37%	40%	41%	1.3	31.9	2.4	0.68
1083	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Warehouse	RETRO	492	67%	330	0.047	0.036	15	$42.88	21%	4%	50%	64%	4.5	31.9	1241.7	0.68
1084	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Warehouse	RETRO	921	57%	525	0.075	0.057	15	$48.07	30%	38%	40%	67%	5.6	31.9	-30.3	0.68
1085	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Warehouse	RETRO	3698	72%	2674	0.382	0.292	15	$187.94	39%	19%	50%	69%	6.5	31.9	-19.4	0.68
1086	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Warehouse	RETRO	79	100%	79	0.011	0.009	11	$18.50	12%	37%	0%	58%	2.4	25.1	6.6	0.68
1087	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Warehouse	RETRO	409	30%	123	0.017	0.013	15	$65.40	5%	90%	15%	43%	1.6	31.9	2.4	0.68
1088	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Warehouse	RETRO	523	28%	147	0.021	0.016	15	$57.50	7%	90%	15%	50%	2.2	31.9	3.3	0.68
1089	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Warehouse	RETRO	233	38%	89	0.013	0.010	15	$75.00	3%	90%	15%	33%	1.0	31.9	1.5	0.68
1090	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Warehouse	RETRO	233	61%	142	0.020	0.016	15	$56.00	7%	90%	15%	49%	2.2	31.9	3.2	0.68
1091	Lighting_Int	Networked Lighting Control	Biz - Custom	Warehouse	RETRO	2	35%	1	0.000	0.000	15	$0.39	5%	90%	15%	31%	1.5	31.9	2.2	0.68
1092	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Warehouse	RETRO	61	71%	44	0.006	0.005	5	$32.50	4%	1%	85%	36%	0.5	12.8	0.7	0.66
1093	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Warehouse	RETRO	385	61%	237	0.032	0.026	5	$233.00	50%	1%	31%	44%	0.4	0.7	1.0	0.35
1094	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Custom	Warehouse	MO	0	0%	0	0.000	0.000	20	$1.73		0%	24%	54%	0.0	0.0	0.0	0.00
1095	Misc	High Efficiency Hand Dryers	Biz - Custom	Warehouse	MO	262	83%	217	0.029	0.024	10	$483.00	50%	1%	50%	19%	0.3	0.6	0.9	0.31
1096	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Warehouse	RETRO	3125	4%	114	0.015	0.012	15	$59.00	50%	2%	73%	41%	1.7	3.4	2.9	0.57
1097	Misc	Miscellaneous Custom	Biz - Custom	Warehouse	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	97%	10%	44%	1.6	3.1	2.8	0.57
1098	Motors	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Warehouse	MO	538	28%	149	0.022	0.019	15	$198.32	50%	100%	25%	33%	0.7	1.4	1.4	0.48
1099	Motors	Power Drive Systems	Biz - Custom	Warehouse	RETRO	4	23%	1	0.000	0.000	15	$0.13	50%	100%	25%	47%	7.0	14.1	10.1	0.70
1100	Motors	Switch Reluctance Motors	Biz - Custom	Warehouse	MO	40630	31%	12433	1.820	1.609	15	$527.50	50%	100%	1%	49%	21.6	43.1	30.0	0.72
1101	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Warehouse	MO	418	26%	110	0.015	0.012	6	$0.00		8%	95%	54%	#DIV/0!	0.0	0.0	0.00
1102	Plug_Office	Advanced Power Strip – Teri 1 Commercial Use	Biz - Custom	Warehouse	RETRO	188	58%	109	0.015	0.012	7	$10.00	50%	24%	20%	52%	5.1	10.1	7.8	0.65
1103	Plug_Office	Smart Socket	Biz - Custom	Warehouse	RETRO	80	61%	48	0.007	0.005	7	$9.00	50%	24%	20%	49%	2.5	5.0	4.1	0.61
1104	Plug_Office	Energy Star Server	Biz - Custom	Warehouse	MO	2167	30%	650	0.088	0.071	9	$300.95	50%	28%	25%	42%	1.2	2.5	2.3	0.54
1105	Plug_Office	Server Virtualization	Biz - Custom	Warehouse	RETRO	2167	14%	301	0.041	0.033	9	$26.97	50%	28%	25%	52%	6.4	12.9	9.8	0.66
1106	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Warehouse	RETRO	86783	18%	15778	2.131	1.717	15	$480.00	50%	28%	25%	53%	28.4	56.8	41.6	0.68
1107	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Warehouse	RETRO	764	47%	358	0.048	0.039	15	$82.00	50%	28%	25%	48%	3.8	7.5	6.0	0.63
1108	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Warehouse	MO	8940	25%	2265	0.306	0.246	20	$750.00	50%	28%	25%	45%	3.2	6.4	5.1	0.62
1109	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Warehouse	RETRO	13	8%	1	0.000	0.000	10	$0.23	50%	28%	25%	48%	2.8	5.5	4.5	0.62
1110	Refrigeration	Strip Curtains	Biz - Prescriptive	Warehouse	RETRO	207	50%	103	0.015	0.011	4	$10.22	50%	8%	26%	56%	2.9	5.7	4.6	0.62
1111	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Warehouse	RETRO	1228	25%	307	0.043	0.034	15	$431.00	50%	5%	25%	27%	0.6	1.2	1.4	0.44
1112	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Warehouse	RETRO	2884	55%	1586	0.224	0.173	15	$305.00	50%	2%	80%	53%	4.5	9.0	7.0	0.64
1113	Refrigeration	Evaporator Fan Motor Controls	Biz - Prescriptive	Warehouse	RETRO	1298	23%	293	0.041	0.032	13	$161.75	50%	5%	25%	45%	1.4	2.8	2.5	0.56
1114	Refrigeration	Variable Speed Condenser Fan	Biz - Prescriptive	Warehouse	RETRO	3158	48%	1500	0.212	0.164	15	$1,170.00	50%	7%	25%	42%	1.1	2.2	2.1	0.53
1115	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Warehouse	RETRO	579	42%	240	0.034	0.026	10	$79.50	50%	13%	25%	50%	1.9	3.8	3.2	0.59
1116	Refrigeration	Automated Door Closer for Refrigerator	Biz - Prescriptive	Warehouse	RETRO	1259893	0%	2399	0.338	0.262	8	$502.00	50%	10%	27%	53%	2.5	5.0	4.1	0.61
1117	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Warehouse	RETRO	45880	10%	4588	0.647	0.501	10	$311.54	50%	10%	27%	42%	9.3	18.5	13.9	0.67
1118	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Prescriptive	Warehouse	RETRO	1558	50%	779	0.110	0.085	15	$390.00	50%	4%	25%	46%	1.7	3.5	3.0	0.58
1119	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Warehouse	RETRO	2884	55%	1586	0.224	0.173	15	$305.00	50%	2%	80%	53%	4.5	9.0	7.0	0.64
1120	Refrigeration	Q-Sync Motor for Walk-In and Reach-in Evaporator Fan Motor	Biz - Custom	Warehouse	RETRO	2091	24%	505	0.071	0.055	10	$96.00	50%	2%	2%	40%	3.3	6.6	5.3	0.63
1121	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Warehouse	RETRO	1511	9%	136	0.019	0.015	5	$42.00	50%	12%	55%	51%	1.1	2.2	2.1	0.53
1122	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Warehouse	RETRO	2016	33%	655	0.092	0.072	10	$79.50	50%	4%	25%	55%	5.2	10.4	8.0	0.65
1123	Refrigeration	Automated Door Closer for Freezer	Biz - Prescriptive	Warehouse	RETRO	1259893	1%	6949	0.980	0.759	8	$502.00	50%	4%	27%	56%	7.2	14.5	11.0	0.66
1124	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Warehouse	RETRO	2349	9%	211	0.030	0.023	5	$42.00	50%	4%	55%	53%	1.7	3.5	3.0	0.58
1125	Refrigeration	Refrigeration - Custom	Biz - Custom	Warehouse	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	90%	25%	36%	1.6	3.1	2.8	0.57
1126	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - RCx	Warehouse	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	90%	25%	52%	1.6	3.1	2.8	0.57
1127	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Warehouse	MO	1278	12%	153	0.022	0.017	14	$500.00	50%	16%	31%	18%	0.3	0.5	0.9	0.29
1128	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Warehouse	RETRO	1663	23%	390	0.055	0.043	5	$245.00	50%	16%	31%	44%	0.6	1.1	1.3	0.43
1129	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Warehouse	MO	5551	8%	440	0.062	0.048	9	$222.00	50%	0%	44%	46%	1.1	2.3	2.2	0.53
1130	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Warehouse	MO	115	74%	84	0.012	0.009	9	$11.00	50%	7%	35%	55%	4.4	8.9	6.9	0.64
1131	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Warehouse	RETRO	13008	59%	7674	0.998	1.275	15	$2,250.00	50%	40%	31%	58%	3.3	6.6	4.8	0.69
1132	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Warehouse	RETRO	20965	3%	650	0.073	0.093	15	$381.00	50%	40%	10%	38%	1.6	3.1	2.6	0.59
1133	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Warehouse	RETRO	13	8%	1	0.000	0.000	15	$0.40	50%	100%	20%	41%	2.2	4.3	3.6	0.60
1134	WholeBldg_HVAC	GREM Controls	Biz - Custom	Warehouse	RETRO	0	0%	0	0.000	0.000	15	$0.00	0%	0%	20%	50%	#DIV/0!	0.0	0.0	0.00
1135	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Warehouse	RETRO	0	0%	0	0.000	0.000	10	$235.60		100%	10%	50%	0.0	0.0	0.0	0.00

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
1136	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Warehouse	RETRO	5	36%	2	0.000	0.000	15	$15.22	50%	100%	1%	12%	0.1	0.2	0.7	0.16
1137	WholeBldg_HVAC	Advanced Rooftop Controls	Biz - Custom	Warehouse	RETRO	0	0%	0	0.000	0.000	10	$341.21		62%	31%	50%	0.0	0.0	0.0	0.00
1138	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - RCx	Warehouse	RETRO	13	8%	1	0.000	0.000	15	$0.12	50%	100%	0%	63%	7.2	14.4	10.9	0.66
1139	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Warehouse	RETRO	222	2%	4	0.001	0.001	10	$8.00	50%	100%	25%	20%	0.4	0.7	1.0	0.35
1140	WholeBldg	WholeBlg - Com RET	Biz - Custom	Warehouse	RETRO	7	15%	1	0.000	0.000	15	$0.40	50%	80%	0%	44%	2.2	4.3	3.6	0.60
1141	WholeBldg	Strategic Energy Management	Biz - RCx	Warehouse	RETRO	0	0%	0	0.000	0.000	5	$0.27		100%	0%	73%	0.5	0.0	0.0	0.00
1142	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Warehouse	RETRO	990	1%	6	0.001	0.001	30	$6.27	50%	100%	20%	31%	1.2	2.4	2.2	0.53
1143	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Warehouse	NC	4	25%	1	0.000	0.000	15	$0.40	50%	100%	60%	44%	2.2	4.3	3.6	0.60
1144	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Other	MO	19496	39%	7532	1.272	0.961	12	$2,270.00	50%	17%	53%	51%	2.6	5.2	4.0	0.65
1145	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Other	MO	10864	19%	2064	0.349	0.263	12	$960.00	50%	17%	53%	47%	1.7	3.4	2.8	0.61
1146	Cooking	Commercial Electric Griddle	Biz - Custom	Other	MO	17056	15%	2596	0.439	0.331	12	$0.00		14%	20%	44%	#DIV/0!	0.0	0.0	0.00
1147	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Other	MO	16915	80%	13507	2.282	1.722	12	$2,757.00	50%	6%	45%	53%	3.8	7.6	5.6	0.68
1148	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Other	MO	35655	44%	15766	2.663	2.010	16	$466.50	50%	26%	61%	57%	32.8	65.6	44.9	0.73
1149	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Other	MO	38282	16%	6279	1.061	0.801	15	$1,550.00	50%	26%	61%	52%	3.7	7.5	5.6	0.67
1150	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Other	MO	18955	17%	3274	0.553	0.418	12	$1,500.00	50%	27%	24%	47%	1.7	3.4	2.8	0.61
1151	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Other	MO	1478	37%	545	0.092	0.070	12	$1,000.00	50%	3%	16%	32%	0.4	0.9	1.1	0.40
1152	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Other	RETRO	6	17%	1	0.000	0.000	3	$0.08	50%	100%	39%	64%	2.7	5.4	4.4	0.62
1153	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - RCx	Other	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	100%	20%	60%	1.6	3.2	2.8	0.57
1154	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Other	MO	23742	21%	4935	0.595	0.585	13	$3,367.84	50%	100%	20%	48%	1.1	2.3	2.1	0.53
1155	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Other	RETRO	476154	0%	1970	0.237	0.233	10	$244.00	50%	100%	5%	63%	5.1	10.2	7.8	0.65
1156	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Other	MO	1130	50%	565	0.068	0.067	15	$57.00	50%	5%	20%	63%	8.6	17.2	12.9	0.67
1157	Cooling	Air Conditioner - 17 IEER (5-20 Tons)	Biz - Prescriptive	Other	MO	994	14%	140	0.065	0.002	15	$153.28	50%	31%	5%	37%	0.8	1.6	1.6	0.50
1158	Cooling	Air Conditioner - 18 IEER (5-20 Tons)	Biz - Prescriptive	Other	MO	994	19%	188	0.088	0.002	15	$214.59	50%	31%	5%	36%	0.8	1.6	1.6	0.49
1159	Cooling	Air Conditioner - 21 IEER (5-20 Tons)	Biz - Prescriptive	Other	MO	994	30%	303	0.141	0.003	15	$398.52	50%	31%	5%	34%	0.7	1.4	1.5	0.47
1160	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Other	MO	1116	9%	101	0.047	0.001	15	$71.00	50%	31%	5%	47%	1.3	2.6	2.3	0.56
1161	Cooling	Air Conditioner - 15 IEER (20+ Tons)	Biz - Prescriptive	Other	MO	1116	13%	149	0.069	0.002	15	$109.23	50%	31%	5%	46%	1.2	2.4	2.2	0.56
1162	Cooling	Air Conditioner - 17 IEER (20+ Tons)	Biz - Prescriptive	Other	MO	1116	24%	263	0.123	0.003	15	$218.46	50%	31%	5%	43%	1.1	2.2	2.0	0.54
1163	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Other	RETRO	1209	7%	85	0.040	0.001	3	$11.42	50%	61%	50%	47%	1.5	3.1	2.8	0.55
1164	Cooling	Air Side Economizer	Biz - Custom	Other	RETRO	994	20%	199	0.093	0.002	10	$126.67	50%	61%	25%	37%	1.0	2.0	1.9	0.52
1165	Cooling	HVAC Occupancy Controls	Biz - Custom	Other	RETRO	1049	20%	210	0.098	0.002	15	$197.50	50%	61%	20%	30%	1.4	1.9	2.7	0.52
1166	Cooling	Air Conditioner - 16 SEER (<5 Tons)	Biz - Prescriptive	Other	MO	1037	13%	130	0.060	0.001	15	$115.00	50%	0%	5%	41%	1.0	2.0	1.9	0.53
1167	Cooling	Air Conditioner - 18 SEER(<5 Tons)	Biz - Prescriptive	Other	MO	1037	22%	230	0.108	0.003	15	$514.00	50%	0%	5%	23%	0.4	0.8	1.1	0.38
1168	Cooling	Air Conditioner - 21 SEER (<5 Tons)	Biz - Prescriptive	Other	MO	1037	33%	346	0.161	0.004	15	$630.50	50%	0%	5%	27%	0.5	1.0	1.2	0.42
1169	Cooling	Smart Thermostat	Biz - Prescriptive	Other	RETRO	5950	14%	842	0.393	0.009	11	$175.00	50%	0%	20%	60%	4.8	6.7	8.4	0.64
1170	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Custom	Other	MO	1338	15%	195	0.091	0.002	8	$84.00	50%	0%	20%	41%	1.2	2.4	2.3	0.54
1171	Cooling	Air Cooled Chiller	Biz - Prescriptive	Other	MO	1059	9%	95	0.045	0.001	23	$126.00	50%	35%	5%	34%	0.9	1.9	1.8	0.53
1172	Cooling	Water Cooled Chiller	Biz - Prescriptive	Other	MO	532	23%	121	0.056	0.001	23	$61.00	50%	4%	5%	53%	2.5	5.0	3.8	0.65
1173	Cooling	Window Film	Biz - Custom	Other	RETRO	6364	4%	280	0.131	0.003	10	$153.81	50%	100%	25%	39%	0.6	2.3	-0.2	0.54
1174	Cooling	Triple Pane Windows	Biz - Custom	Other	MO	6364	6%	382	0.178	0.004	25	$700.00	50%	100%	2%	20%	0.7	1.4	1.5	0.49
1175	Cooling	Energy Recovery Ventilator	Biz - Custom	Other	RETRO	1116	0%	0	0.000	0.000	15	$1,500.00		100%	2%	50%	0.0	0.0	0.0	0.00
1176	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Other	MO	2607	8%	198	0.031	0.044	15	$135.00	50%	0%	15%	48%	1.6	3.2	2.3	0.70
1177	Heating	Heat Pump - 18 SEER(<5 Tons)	Biz - Prescriptive	Other	MO	2607	14%	376	0.059	0.083	15	$445.76	50%	0%	15%	35%	0.9	1.9	1.6	0.60
1178	Heating	Heat Pump - 21 SEER(<5 Tons)	Biz - Prescriptive	Other	MO	2607	20%	534	0.084	0.118	15	$520.06	50%	0%	15%	39%	1.1	2.3	1.8	0.64
1179	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Other	MO	2830	6%	176	0.028	0.039	15	$100.00	50%	17%	15%	51%	1.9	3.9	2.7	0.72
1180	Heating	Heat Pump - 16.0 IEER COP 3.8 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Other	MO	2830	11%	325	0.051	0.072	15	$171.08	50%	17%	15%	52%	2.1	4.2	2.9	0.73
1181	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Other	MO	2932	7%	195	0.031	0.043	15	$100.00	50%	17%	15%	52%	2.2	4.3	2.9	0.73
1182	Heating	Heat Pump - 15.5 IEER COP 3.7 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Other	MO	2932	12%	354	0.055	0.078	15	$158.10	50%	17%	15%	54%	2.5	5.0	3.3	0.75
1183	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Other	MO	3073	7%	203	0.032	0.045	15	$100.00	50%	17%	15%	53%	2.2	4.5	3.0	0.74
1184	Heating	Heat Pump - 13 IEER 3.6 COP (>239,000 Btu/hr)	Biz - Prescriptive	Other	MO	3073	13%	387	0.061	0.086	15	$201.80	50%	17%	15%	52%	2.1	4.2	2.9	0.73
1185	Heating	Geothermal HP - 17 EER < 135kbtu	Biz - Prescriptive	Other	MO	2934	41%	1204	0.189	0.267	25	$4,361.00	50%	0%	15%	18%	0.4	0.9	1.0	0.43
1186	Heating	Geothermal HP - 19 EER < 135kbtu	Biz - Prescriptive	Other	MO	2934	45%	1306	0.205	0.289	25	$4,361.00	50%	0%	15%	19%	0.5	0.9	1.0	0.45
1187	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Custom	Other	MO	5598	17%	933	0.146	0.207	15	$84.00	50%	0%	15%	48%	12.3	24.6	14.4	0.85
1188	Hot Water	Heat Pump Water Heater	Biz - Custom	Other	MO	17237	73%	12640	1.701	1.906	15	$1,797.00	50%	100%	0%	43%	6.7	13.4	9.3	0.72
1189	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Other	RETRO	395	32%	128	0.017	0.019	10	$8.00	50%	20%	85%	45%	11.1	22.2	15.0	0.74

C&I Measure Summary:

EKPC																				
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
1190	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Custom	Other	RETRO	18059	54%	9789	1.317	1.476	5	$54.00	50%	20%	85%	46%	69.4	138.9	91.2	0.76
1191	Hot Water	Ozone Commercial Laundry	Biz - Custom	Other	MO	2984	25%	746	0.100	0.112	10	$20,309.70	50%	0%	20%	15%	1.1	0.1	2.9	0.05
1192	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Other	RETRO	996	76%	755	0.000	0.087	10	$97.00	22%	13%	70%	64%	4.3	19.1	7.3	0.59
1193	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Other	RETRO	1744	71%	1239	0.000	0.143	10	$123.81	29%	13%	70%	67%	5.5	19.1	9.4	0.59
1194	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Other	RETRO	2490	67%	1659	0.000	0.192	10	$134.35	36%	13%	70%	68%	6.8	19.1	11.6	0.59
1195	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Other	RETRO	3984	65%	2570	0.000	0.297	10	$196.16	38%	13%	70%	69%	7.2	19.1	12.3	0.59
1196	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Other	RETRO	9467	70%	6666	0.000	0.771	10	$319.31	60%	13%	70%	71%	11.5	19.1	19.6	0.59
1197	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Other	RETRO	489	76%	370	0.000	0.043	10	$97.00	11%	7%	70%	56%	2.1	19.1	3.6	0.59
1198	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Other	RETRO	856	71%	608	0.000	0.070	10	$123.81	14%	7%	70%	60%	2.7	19.1	4.6	0.59
1199	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Other	RETRO	1222	67%	814	0.000	0.094	10	$134.35	18%	7%	70%	62%	3.4	19.1	5.7	0.59
1200	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Other	RETRO	1956	65%	1262	0.000	0.146	10	$196.16	19%	7%	70%	63%	3.6	19.1	6.0	0.59
1201	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Other	RETRO	4647	70%	3272	0.000	0.378	10	$319.31	30%	7%	70%	67%	5.7	19.1	9.6	0.59
1202	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Other	RETRO	140	74%	103	0.013	0.013	15	$59.00	6%	7%	60%	42%	1.4	28.3	2.5	0.70
1203	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Other	RETRO	101	51%	52	0.006	0.007	10	$15.00	11%	62%	40%	55%	2.0	20.7	4.1	0.69
1204	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Other	RETRO	104	34%	35	0.004	0.004	15	$22.00	5%	62%	40%	40%	1.3	28.3	2.3	0.70
1205	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Other	RETRO	204	51%	105	0.013	0.013	15	$61.00	5%	62%	40%	42%	1.4	28.3	2.5	0.70
1206	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Other	RETRO	302	54%	163	0.020	0.021	15	$76.00	7%	62%	40%	46%	1.7	28.3	3.3	0.70
1207	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Other	RETRO	403	54%	219	0.027	0.028	15	$104.00	7%	62%	40%	46%	1.7	28.3	3.2	0.70
1208	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Other	RETRO	203	50%	102	0.013	0.013	15	$46.67	7%	62%	40%	47%	1.7	28.3	3.4	0.70
1209	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Other	RETRO	536	53%	285	0.035	0.036	15	$152.00	6%	62%	40%	43%	1.5	28.3	2.8	0.70
1210	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Other	RETRO	561	67%	376	0.046	0.047	15	$42.88	28%	7%	50%	66%	5.2	28.3	-3066.8	0.70
1211	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Other	RETRO	1051	57%	600	0.074	0.076	15	$48.07	39%	5%	40%	69%	6.5	28.3	-34.0	0.70
1212	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Other	RETRO	4220	72%	3051	0.375	0.385	15	$187.94	51%	4%	50%	70%	7.6	28.3	-22.0	0.70
1213	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Other	RETRO	90	100%	90	0.011	0.011	11	$18.50	15%	62%	0%	60%	2.8	22.3	7.8	0.70
1214	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Other	RETRO	466	30%	140	0.017	0.018	15	$65.40	7%	90%	15%	46%	1.9	28.3	2.7	0.70
1215	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Other	RETRO	597	28%	167	0.021	0.021	15	$57.50	9%	90%	15%	52%	2.6	28.3	3.7	0.70
1216	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Other	RETRO	266	38%	101	0.012	0.013	15	$75.00	4%	90%	15%	37%	1.2	28.3	1.7	0.70
1217	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Other	RETRO	266	61%	163	0.020	0.021	15	$56.00	9%	90%	15%	52%	2.6	28.3	3.7	0.70
1218	Lighting_Int	Networked Lighting Control	Biz - Custom	Other	RETRO	2	35%	1	0.000	0.000	15	$0.45	5%	90%	15%	31%	1.5	28.3	2.2	0.70
1219	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Other	RETRO	65	71%	46	0.006	0.006	5	$32.50	5%	1%	85%	38%	0.5	11.4	0.7	0.68
1220	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Other	RETRO	385	61%	237	0.029	0.028	5	$233.00	50%	0%	31%	44%	0.4	0.7	1.0	0.35
1221	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Custom	Other	MO	0	0%	0	0.000	0.000	20	$1.73		0%	24%	54%	0.0	0.0	0.0	0.00
1222	Misc	High Efficiency Hand Dryers	Biz - Custom	Other	MO	262	83%	217	0.026	0.026	10	$483.00	50%	1%	50%	19%	0.3	0.6	0.9	0.31
1223	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Other	RETRO	3125	4%	114	0.014	0.014	15	$59.00	50%	1%	73%	41%	1.7	3.4	2.9	0.58
1224	Misc	Miscellaneous Custom	Biz - Custom	Other	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	99%	10%	44%	1.6	3.2	2.8	0.57
1225	Motors	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Other	MO	2088	28%	579	0.122	0.057	15	$198.32	50%	100%	25%	57%	2.6	5.2	4.2	0.63
1226	Motors	Power Drive Systems	Biz - Custom	Other	RETRO	4	23%	1	0.000	0.000	15	$0.13	50%	100%	25%	47%	6.9	13.8	10.1	0.68
1227	Motors	Switch Reluctance Motors	Biz - Custom	Other	MO	33406	31%	10222	2.148	1.008	15	$527.50	50%	100%	1%	49%	17.4	34.8	24.7	0.70
1228	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Other	MO	418	26%	110	0.013	0.013	6	$0.00		23%	95%	54%	#DIV/0!	0.0	0.0	0.00
1229	Plug_Office	Advanced Power Strip – Teri 1 Commercial Use	Biz - Custom	Other	RETRO	188	58%	109	0.013	0.013	7	$10.00	50%	13%	20%	52%	5.1	10.2	7.8	0.65
1230	Plug_Office	Smart Socket	Biz - Custom	Other	RETRO	80	61%	48	0.006	0.006	7	$9.00	50%	13%	20%	49%	2.5	5.1	4.1	0.61
1231	Plug_Office	Energy Star Server	Biz - Custom	Other	MO	2167	30%	650	0.078	0.077	9	$300.95	50%	15%	25%	42%	1.3	2.5	2.3	0.55
1232	Plug_Office	Server Virtualization	Biz - Custom	Other	RETRO	2167	14%	301	0.036	0.036	9	$26.97	50%	15%	25%	52%	6.5	13.0	9.8	0.66
1233	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Other	RETRO	86783	18%	15778	1.901	1.869	15	$480.00	50%	15%	25%	53%	28.6	57.2	41.6	0.69
1234	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Other	RETRO	764	47%	358	0.043	0.042	15	$82.00	50%	15%	25%	48%	3.8	7.6	6.0	0.64
1235	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Other	MO	8940	25%	2265	0.273	0.268	20	$750.00	50%	15%	25%	45%	3.2	6.4	5.1	0.63
1236	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Other	RETRO	13	8%	1	0.000	0.000	10	$0.23	50%	15%	25%	48%	2.8	5.6	4.5	0.62
1237	Refrigeration	Strip Curtains	Biz - Prescriptive	Other	RETRO	37	50%	18	0.003	0.002	4	$10.22	50%	4%	26%	45%	0.5	1.0	1.2	0.41
1238	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Other	RETRO	1228	25%	307	0.043	0.034	15	$431.00	50%	3%	25%	27%	0.6	1.2	1.4	0.44
1239	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Other	RETRO	2884	55%	1586	0.224	0.173	15	$305.00	50%	3%	80%	53%	4.5	9.0	7.0	0.64
1240	Refrigeration	Evaporator Fan Motor Controls	Biz - Prescriptive	Other	RETRO	1298	23%	293	0.041	0.032	13	$161.75	50%	2%	25%	45%	1.4	2.8	2.5	0.56
1241	Refrigeration	Variable Speed Condenser Fan	Biz - Prescriptive	Other	RETRO	3158	48%	1500	0.212	0.164	15	$1,170.00	50%	3%	25%	42%	1.1	2.2	2.1	0.53
1242	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Other	RETRO	579	42%	240	0.034	0.026	10	$79.50	50%	19%	25%	50%	1.9	3.8	3.2	0.59
1243	Refrigeration	Automated Door Closer for Refrigerator	Biz - Prescriptive	Other	RETRO	1259893	0%	2399	0.338	0.262	8	$502.00	50%	14%	27%	53%	2.5	5.0	4.1	0.61
1244	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Other	RETRO	45880	10%	4588	0.647	0.501	10	$311.54	50%	14%	27%	42%	9.3	18.5	13.9	0.67

C&I Measure Summary:

EKPC																			
Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type	Base Annual Electric	% Electric Savings	Per Unit KWh Savings	Per Unit Summer kW	Per Unit Winter kW	Useful Life	Measure $	RAP Incentive (%)	Base Saturation	EE Saturation	RAP Adoption Rate	TRC Test	Utility Cost Test	Participant Test	RIM Test
1245	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Prescriptive	Other	RETRO	1558	50%	779	0.110	0.085	15	$390.00	50%	5%	25%	46%	1.7	3.5	3.0	0.58
1246	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Other	RETRO	2884	55%	1586	0.224	0.173	15	$305.00	50%	3%	80%	53%	4.5	9.0	7.0	0.64
1247	Refrigeration	Q-Sync Motor for Walk-In and Reach-in Evaporator Fan Motor	Biz - Custom	Other	RETRO	2091	24%	505	0.071	0.055	10	$96.00	50%	3%	2%	40%	3.3	6.6	5.3	0.63
1248	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Other	RETRO	1511	9%	136	0.019	0.015	5	$42.00	50%	18%	55%	51%	1.1	2.2	2.1	0.53
1249	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Other	RETRO	2016	33%	655	0.092	0.072	10	$79.50	50%	6%	25%	55%	5.2	10.4	8.0	0.65
1250	Refrigeration	Automated Door Closer for Freezer	Biz - Prescriptive	Other	RETRO	1259893	1%	6949	0.980	0.759	8	$502.00	50%	6%	27%	56%	7.2	14.5	11.0	0.66
1251	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Other	RETRO	2349	9%	211	0.030	0.023	5	$42.00	50%	6%	55%	53%	1.7	3.5	3.0	0.58
1252	Refrigeration	Refrigeration - Custom	Biz - Custom	Other	RETRO	7	15%	1	0.000	0.000	10	$0.40	50%	90%	25%	36%	1.6	3.1	2.8	0.57
1253	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - RCx	Other	RETRO	5	21%	1	0.000	0.000	5	$0.22	50%	90%	25%	52%	1.6	3.1	2.8	0.57
1254	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Other	MO	1278	12%	153	0.022	0.017	14	$500.00	50%	5%	31%	18%	0.3	0.5	0.9	0.29
1255	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Other	RETRO	1663	23%	390	0.055	0.043	5	$245.00	50%	5%	31%	44%	0.6	1.1	1.3	0.43
1256	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Other	MO	5551	8%	440	0.062	0.048	9	$222.00	50%	5%	44%	46%	1.1	2.3	2.2	0.53

APPENDIX C: ANNUAL ACHIEVABLE POTENTIAL

Residential - Incremental Annual MAP Savings - by End-Use (MWh)

EKPC	Year														
End Use	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Appliances	702	1,244	1,646	2,041	2,502	3,215	4,033	4,927	5,865	6,731	7,476	8,082	8,596	8,900	9,800
Behavioral	2,905	7,318	12,287	17,674	23,672	31,305	40,548	51,390	63,573	76,561	89,892	102,545	114,138	124,327	132,956
HVAC Equipment	15,912	17,903	19,374	20,674	22,042	23,881	25,654	27,519	29,546	31,108	32,260	34,846	36,002	36,430	36,532
Lighting	573	901	1,057	1,190	1,370	1,731	2,123	2,519	2,907	3,186	4,094	4,433	4,516	4,456	4,385
Pool/Pump	34	86	143	203	270	353	454	571	704	842	979	1,110	1,229	1,330	1,413
New Construction	6,304	6,561	6,660	6,555	6,541	6,460	6,337	6,339	6,773	6,801	6,735	6,843	6,973	7,056	7,067
Plug Load	1,016	1,534	1,719	1,856	2,056	2,586	3,138	4,842	5,817	6,279	6,479	6,526	6,702	6,783	8,245
Shell	7,261	11,013	12,419	13,488	14,983	18,642	22,466	26,066	28,957	30,695	31,019	29,947	27,782	24,973	21,965
Water Heating	18,200	21,078	23,050	24,458	26,057	28,660	31,101	33,001	34,852	35,767	39,891	41,065	41,118	40,412	39,838
Total	**52,908**	**67,639**	**78,354**	**88,141**	**99,494**	**116,833**	**135,854**	**157,175**	**178,994**	**197,971**	**218,824**	**235,397**	**247,056**	**254,666**	**262,201**

Residential - Cumulative Annual MAP Savings - by End-Use (MWh)

EKPC	Year														
End Use	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Appliances	702	1,947	3,593	5,633	8,134	11,348	15,377	19,787	24,874	30,737	37,277	44,314	51,572	58,815	66,522
Behavioral	2,905	7,495	12,903	19,024	26,068	34,914	45,609	58,151	72,349	87,710	103,648	119,295	133,974	147,195	158,685
HVAC Equipment	15,912	33,803	53,148	73,775	95,538	118,993	144,129	171,037	199,860	230,072	261,272	293,697	326,574	359,623	392,637
Lighting	573	1,474	2,532	3,722	5,082	6,788	8,869	11,330	14,153	17,229	20,638	24,066	27,412	30,569	33,494
Pool/Pump	34	120	263	466	736	1,089	1,542	2,103	2,782	3,582	4,500	5,530	6,654	7,848	9,091
New Construction	6,304	12,865	19,525	26,080	32,621	39,081	45,418	51,757	58,530	65,331	72,066	78,908	85,881	92,937	100,004
Plug Load	1,016	2,550	4,269	6,125	8,181	10,757	13,880	17,699	21,979	26,536	31,141	35,585	39,684	43,316	46,710
Shell	7,261	18,212	30,463	43,654	58,189	76,187	97,749	122,573	149,859	178,405	206,770	233,510	257,608	278,488	296,017
Water Heating	18,200	39,127	61,508	84,898	109,201	134,902	161,665	189,068	216,772	243,997	270,867	296,444	320,536	343,098	364,233
Total	**52,908**	**117,592**	**188,203**	**263,377**	**343,750**	**434,058**	**534,239**	**643,504**	**761,157**	**883,598**	**1,008,178**	**1,131,348**	**1,249,894**	**1,361,890**	**1,467,394**

Residential - Incremental Annual RAP Savings - by End-Use (MWh)

EKPC	Year														
End Use	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Appliances	373	700	973	1,249	1,565	2,022	2,555	3,149	3,783	4,396	4,955	5,438	5,869	6,169	6,658
Behavioral	2,905	7,318	12,287	17,674	23,672	31,305	40,548	51,390	63,573	76,561	89,892	102,545	114,138	124,327	132,956
HVAC Equipment	12,200	13,635	14,803	15,864	16,962	18,327	19,655	21,091	22,713	24,053	25,160	26,909	27,931	28,539	28,906
Lighting	272	437	527	607	709	900	1,111	1,329	1,547	1,718	2,189	2,387	2,462	2,468	2,463
Pool/Pump	18	45	75	107	142	186	239	300	370	443	515	584	646	699	743
New Construction	4,093	4,260	4,324	4,256	4,247	4,195	4,114	4,116	4,398	4,416	4,373	4,443	4,527	4,581	4,588
Plug Load	415	629	706	764	847	1,070	1,300	2,014	2,419	2,616	2,710	2,739	2,819	2,857	3,501
Shell	6,213	9,462	10,720	11,698	13,052	16,290	19,703	22,953	25,617	27,296	27,746	26,967	25,205	22,846	20,282
Water Heating	9,142	10,576	11,606	12,347	13,233	14,525	15,854	16,932	18,052	18,697	20,674	21,349	21,540	21,303	21,172
Total	**35,631**	**47,063**	**56,021**	**64,567**	**74,430**	**88,820**	**105,078**	**123,275**	**142,472**	**160,195**	**178,213**	**193,362**	**205,137**	**213,789**	**221,269**

Residential - Cumulative Annual RAP Savings - by End-Use (MWh)

EKPC	Year														
End Use	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Appliances	373	1,073	2,045	3,294	4,859	6,880	9,433	12,347	15,777	19,778	24,307	29,265	34,507	39,882	45,503
Behavioral	2,905	7,495	12,903	19,024	26,068	34,914	45,609	58,151	72,349	87,710	103,648	119,295	133,974	147,195	158,685
HVAC Equipment	12,200	25,831	40,625	56,472	73,252	91,304	110,636	131,362	153,654	177,182	201,715	227,368	253,705	280,519	307,633
Lighting	272	709	1,235	1,842	2,543	3,424	4,502	5,784	7,266	8,899	10,729	12,598	14,451	16,235	17,922
Pool/Pump	18	63	138	245	386	572	811	1,102	1,451	1,859	2,323	2,839	3,397	3,983	4,584
New Construction	4,093	8,353	12,678	16,934	21,181	25,375	29,490	33,605	38,003	42,419	46,792	51,234	55,762	60,343	64,931
Plug Load	415	1,044	1,750	2,514	3,361	4,423	5,710	7,303	9,091	10,999	12,931	14,804	16,539	18,087	19,567
Shell	6,213	15,634	26,245	37,748	50,503	66,368	85,473	107,602	132,106	157,960	183,905	208,678	231,327	251,293	268,405
Water Heating	9,142	19,680	31,001	42,903	55,377	68,750	82,929	97,734	113,031	128,427	143,916	158,988	173,463	187,228	200,275
Total	**35,631**	**79,882**	**128,620**	**180,975**	**237,530**	**302,010**	**374,592**	**454,990**	**542,728**	**635,232**	**730,265**	**825,069**	**917,126**	**1,004,765**	**1,087,505**

C&I - Incremental Annual MAP Savings - by End-Use (MWh)

EKPC	Year														
End Use	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Compressed Air	740	952	1,063	1,741	1,979	2,271	3,157	3,594	4,004	4,927	5,422	5,803	6,611	6,863	6,981
Cooking	317	337	354	367	378	386	390	393	395	397	398	398	398	398	398
Hot Water	71	91	109	125	138	191	212	235	260	284	366	394	416	425	437
HVAC	2,622	2,799	2,868	3,258	3,374	3,820	4,635	5,298	5,977	6,887	7,646	8,390	9,083	9,405	9,621
Ind. Process	735	1,256	1,608	2,373	2,990	3,733	4,994	6,111	7,206	8,676	9,818	10,961	12,236	12,956	13,423
Lighting	36,270	32,438	28,102	23,681	18,907	15,283	12,094	8,973	4,314	3,621	3,152	2,581	1,985	1,236	814
Misc	844	1,275	1,436	1,556	1,733	2,174	2,641	3,086	3,447	3,668	4,245	4,677	4,636	4,371	4,092
Motors	1,025	1,787	2,351	3,578	4,564	5,695	7,643	9,386	11,124	13,483	15,369	17,007	19,005	20,246	21,096
Plug_Office	688	1,041	1,169	1,265	1,405	1,763	2,141	2,868	3,346	3,666	3,797	3,771	3,733	3,635	3,890
Refrigeration	3,656	3,605	3,419	2,983	3,239	3,469	3,354	3,236	3,532	3,398	4,302	4,071	4,357	4,357	4,131
WholeBldg	5,770	8,347	9,531	12,798	16,066	18,467	23,869	28,117	32,976	36,690	40,712	43,252	47,284	46,102	46,941
Total	**52,739**	**53,928**	**52,012**	**53,727**	**54,773**	**57,252**	**65,131**	**71,297**	**76,581**	**85,697**	**95,229**	**101,305**	**109,744**	**109,993**	**111,824**

C&I - Cumulative Annual MAP Savings - by End-Use (MWh)

EKPC	Year														
End Use	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Compressed Air	740	1,692	2,755	3,919	5,203	6,732	8,550	10,667	13,064	15,666	18,457	21,378	24,361	27,200	29,893
Cooking	317	654	1,008	1,376	1,754	2,140	2,530	2,924	3,319	3,716	4,114	4,512	4,722	4,916	5,096
Hot Water	71	162	272	397	535	687	857	1,047	1,262	1,504	1,769	2,061	2,376	2,705	3,054
HVAC	2,622	5,421	8,290	11,242	14,172	17,484	21,249	25,480	30,200	35,336	40,746	46,362	52,093	57,807	63,459
Ind. Process	735	1,991	3,599	5,547	7,889	10,892	14,662	19,245	24,623	30,732	37,454	44,607	52,003	59,430	66,772
Lighting	36,270	68,709	96,811	120,367	139,140	154,287	166,232	175,077	179,291	182,842	185,677	188,008	189,755	190,803	191,522
Misc	844	2,119	3,555	5,111	6,844	9,018	11,659	14,745	18,192	21,860	25,565	29,154	32,465	35,391	37,904
Motors	1,025	2,811	5,162	8,076	11,627	16,180	21,911	28,910	37,179	46,656	57,198	68,644	80,788	93,339	106,114
Plug_Office	688	1,729	2,898	4,163	5,569	7,331	9,473	11,975	14,772	17,745	20,746	23,630	26,275	28,609	30,602
Refrigeration	3,656	7,261	10,680	13,658	16,469	19,156	21,705	24,183	26,592	28,306	29,724	30,853	31,842	32,676	33,363
WholeBldg	5,770	14,117	23,648	34,006	46,370	60,556	77,296	96,557	118,989	140,984	163,009	184,480	205,121	221,463	236,239
Total	**52,739**	**106,667**	**158,679**	**207,862**	**255,572**	**304,463**	**356,124**	**410,810**	**467,482**	**525,347**	**584,460**	**643,689**	**701,800**	**754,337**	**804,018**

C&I - Incremental Annual RAP Savings - by End-Use (MWh)

EKPC	Year														
End Use	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Compressed Air	602	748	815	1,359	1,513	1,710	2,401	2,694	2,966	3,669	4,009	4,262	4,884	5,044	5,108
Cooking	276	293	307	318	327	333	337	339	341	342	343	343	343	343	343
Hot Water	64	79	92	102	110	153	166	179	192	206	274	291	304	305	310
HVAC	1,971	2,045	2,061	2,322	2,340	2,616	3,173	3,619	4,084	4,740	5,253	5,817	6,358	6,622	6,803
Ind. Process	529	902	1,153	1,715	2,163	2,697	3,617	4,428	5,221	6,299	7,134	7,957	8,895	9,426	9,772
Lighting	24,017	21,638	18,900	16,084	12,872	10,479	8,380	6,413	3,201	2,667	2,279	1,868	1,418	857	545
Misc	498	751	845	914	1,016	1,274	1,547	1,807	2,016	2,142	2,461	2,723	2,702	2,543	2,374
Motors	757	1,318	1,735	2,649	3,380	4,216	5,662	6,954	8,244	10,001	11,408	12,632	14,133	15,068	15,712
Plug_Office	412	622	697	754	837	1,049	1,274	1,715	2,002	2,194	2,270	2,253	2,232	2,175	2,337
Refrigeration	2,941	2,901	2,757	2,388	2,658	2,866	2,778	2,684	2,977	2,867	3,611	3,411	3,692	3,660	3,462
WholeBldg	4,226	6,217	7,182	10,155	12,993	14,770	19,403	23,007	27,316	30,779	34,383	36,969	41,237	40,669	41,962
Total	**36,292**	**37,514**	**36,544**	**38,760**	**40,210**	**42,165**	**48,739**	**53,838**	**58,559**	**65,906**	**73,425**	**78,526**	**86,197**	**86,710**	**88,727**

C&I - Cumulative Annual RAP Savings - by End-Use (MWh)

EKPC	Year														
End Use	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Compressed Air	602	1,349	2,164	3,038	3,987	5,102	6,414	7,931	9,638	11,472	13,430	15,469	17,539	19,500	21,348
Cooking	276	569	876	1,195	1,522	1,855	2,192	2,531	2,872	3,214	3,556	3,899	4,082	4,252	4,412
Hot Water	64	143	235	337	447	564	690	826	976	1,141	1,321	1,516	1,726	1,942	2,172
HVAC	1,971	4,016	6,077	8,168	10,172	12,404	14,918	17,729	20,861	24,276	27,890	31,666	35,553	39,456	43,351
Ind. Process	529	1,431	2,584	3,978	5,652	7,798	10,493	13,768	17,609	21,972	26,769	31,875	37,158	42,463	47,707
Lighting	24,017	45,655	64,554	80,539	93,300	103,660	111,917	118,222	121,333	123,936	125,972	127,652	128,906	129,635	130,122
Misc	498	1,249	2,094	3,009	4,025	5,299	6,847	8,653	10,669	12,811	14,969	17,056	18,975	20,662	22,101
Motors	757	2,076	3,811	5,961	8,583	11,943	16,173	21,338	27,441	34,439	42,225	50,683	59,661	68,944	78,397
Plug_Office	412	1,033	1,731	2,485	3,322	4,371	5,645	7,134	8,797	10,563	12,345	14,054	15,619	16,995	18,168
Refrigeration	2,941	5,842	8,599	10,983	13,242	15,409	17,471	19,482	21,442	22,782	23,906	24,787	25,555	26,199	26,727
WholeBldg	4,226	10,442	17,624	25,470	34,957	45,678	58,330	72,941	90,249	107,061	124,038	140,807	157,243	170,149	182,085
Total	**36,292**	**73,806**	**110,350**	**145,164**	**179,209**	**214,085**	**251,090**	**290,554**	**331,885**	**373,666**	**416,423**	**459,465**	**502,018**	**540,200**	**576,589**

Demand Response - Summer MAP Savings - by Program (MW)

Sector	Program	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Residential	DLC Central AC Switch	12	10	8	5	3	1	0	0	0	0	0	0	0	0	0
	DLC Thermostat	9	19	29	39	50	61	72	83	94	105	117	129	140	152	165
	DLC Water Heaters	3	3	2	1	1	0	0	0	0	0	0	0	0	0	0
	Critical Peak Pricing with Enabling Technology	0	73	149	196	210	212	211	209	206	204	201	199	196	194	191
	Critical Peak Pricing without Enabling Technology	0	31	48	50	50	50	50	50	50	51	51	51	51	52	52
	Generators	0	15	30	36	36	33	29	26	22	18	14	10	6	2	0
Non-Residential	DLC Thermostat	1	1	2	3	3	4	5	6	6	7	8	9	10	10	11
	DLC Water Heaters	0	0	1	1	1	1	1	2	2	2	2	3	3	3	3
	DLC Agricultural Irrigation	0	3	6	7	8	8	8	8	8	8	8	8	8	8	8
	Interruptible Rate	196	229	267	291	301	304	307	308	309	311	312	315	318	320	321
	CPP with Enabling Technology	0	22	45	58	63	64	65	65	65	65	66	66	66	66	66
	CPP without Enabling Technology	0	12	17	17	17	17	17	17	17	17	17	17	17	17	17
	Demand Buyback	0	1	1	2	2	2	2	2	2	2	2	2	2	2	2
	Golf Cart Charging Rate	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	Capacity Bidding	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	Generators	0	4	9	12	14	14	14	14	14	15	15	15	15	15	15
Total		221	424	615	723	760	773	783	791	799	808	816	826	836	844	855

Demand Response - Winter Annual MAP Savings - by Program (MW)

Sector	Program	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Residential	DLC Central AC Switch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DLC Thermostat	7	11	15	19	23	27	31	36	40	44	49	53	58	62	67
	DLC Water Heaters	5	4	3	2	1	0	0	0	0	0	0	0	0	0	0
	Critical Peak Pricing with Enabling Technology	0	76	156	205	220	222	221	218	216	214	211	208	206	203	200
	Critical Peak Pricing without Enabling Technology	0	44	69	72	71	71	71	72	72	72	73	73	73	74	74
	Generators	0	15	30	36	36	33	29	26	22	18	14	10	6	2	0
Non-Residential	DLC Thermostat	1	1	2	2	3	4	4	5	5	6	7	7	8	9	9
	DLC Water Heaters	0	1	1	2	2	2	3	3	4	4	5	5	6	6	7
	DLC Agricultural Irrigation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Interruptible Rate	247	294	347	381	394	399	402	405	406	408	411	414	419	421	423
	CPP with Enabling Technology	0	29	59	76	82	84	85	85	85	86	86	86	86	87	87
	CPP without Enabling Technology	0	15	22	23	22	22	22	22	22	22	22	23	23	23	23
	Demand Buyback	0	1	2	3	3	3	3	3	3	3	3	3	3	3	3
	Golf Cart Charging Rate	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	Capacity Bidding	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	Generators	0	4	9	12	14	14	14	14	14	15	15	15	15	15	15
Total		260	498	716	835	873	884	888	891	893	895	897	901	905	907	911

Demand Response - Summer Annual RAP Savings - by Program (MW)

Sector	Program	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Residential	DLC Central AC Switch	12	10	8	5	3	1	0	0	0	0	0	0	0	0	0
	DLC Thermostat	9	12	15	18	21	24	27	30	33	36	40	43	47	50	53
	DLC Water Heaters	3	3	2	1	1	0	0	0	0	0	0	0	0	0	0
	Critical Peak Pricing with Enabling Technology	0	18	37	50	54	55	56	56	56	56	56	56	56	57	57
	Critical Peak Pricing without Enabling Technology	0	8	15	20	21	21	22	22	22	22	22	22	22	22	22
	Generators	0	8	17	22	23	23	23	23	22	22	22	21	21	20	20
Non-Residential	DLC Thermostat	1	1	2	2	3	3	4	5	5	6	6	7	8	8	9
	DLC Water Heaters	0	0	0	1	1	1	1	1	1	2	2	2	2	2	2
	Interruptible Rate	196	213	231	244	248	250	251	252	253	253	254	255	257	258	259
	CPP with Enabling Technology	0	7	14	19	20	21	21	21	21	21	21	21	22	22	22
	CPP without Enabling Technology	0	4	7	10	11	11	11	11	11	11	11	11	11	11	11
	Generators	0	2	5	6	7	7	7	7	7	7	7	7	7	8	8
Total		221	284	353	396	412	417	422	427	432	437	442	447	453	458	463

Demand Response - Winter Annual RAP Savings - by Program (MW)

Sector	Program	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Residential	DLC Central AC Switch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DLC Thermostat	7	8	9	10	11	12	13	15	16	17	18	19	20	21	22
	DLC Water Heaters	5	4	3	2	1	0	0	0	0	0	0	0	0	0	0
	Critical Peak Pricing with Enabling Technology	0	19	39	52	57	58	58	58	59	59	59	59	59	59	59
	Critical Peak Pricing without Enabling Technology	0	11	22	28	30	31	31	31	31	31	32	32	32	32	32
	Generators	0	8	17	22	23	23	23	23	22	22	22	21	21	20	20
Non-Residential	DLC Thermostat	0	1	1	2	2	3	3	4	4	5	5	6	7	7	8
	DLC Water Heaters	0	1	1	1	1	2	2	2	3	3	3	4	4	5	5
	Interruptible Rate	247	270	297	314	321	323	325	326	327	328	329	331	333	334	335
	CPP with Enabling Technology	0	9	18	24	27	27	27	28	28	28	28	28	28	28	29
	CPP without Enabling Technology	0	5	10	13	14	14	14	14	14	15	15	15	15	15	15
	Generators	0	2	5	6	7	7	7	7	7	7	7	7	7	8	8
Total		260	338	421	474	494	501	505	508	511	514	517	521	526	529	532

APPENDIX D: PROGRAM SCENARIOS

Scenario 1

Incremental Annual Savings

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Energy Efficiency (MWh)	13,261	13,612	13,974	14,344	14,715	15,109	15,519	15,926	14,912	15,281	15,606	15,536	15,937	16,320	16,674
Demand Response - Summer (MW)	28.5	29.8	30.9	31.7	32.5	33.0	33.5	33.9	34.2	34.5	34.7	34.9	35.0	35.2	35.2
Demand Response - Winter (MW)	10.1	10.6	11.1	11.4	11.7	11.9	12.1	12.3	12.4	12.5	12.6	12.7	12.7	12.8	12.8

Annual Budget - by Program

Program	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Residential Weatherization	$1,522,950	$1,578,679	$1,636,708	$1,697,144	$1,760,099	$1,825,691	$1,894,043	$1,965,287	$2,039,559	$2,117,004	$2,197,772	$2,282,023	$2,369,926	$2,461,655	$2,557,398
CARES Efficiency Program	$444,000	$458,402	$473,314	$488,758	$504,754	$521,324	$538,492	$556,282	$574,720	$593,832	$613,645	$634,189	$655,494	$677,593	$700,518
Residential HVAC Equipment	$2,494,798	$2,597,822	$2,705,629	$2,818,464	$2,936,583	$3,060,257	$3,189,770	$3,325,423	$3,467,534	$3,616,436	$3,772,482	$3,936,043	$4,107,513	$4,287,303	$4,475,851
Residential Home New Construction	$716,300	$746,450	$778,023	$811,093	$845,736	$882,033	$920,071	$959,941	$1,001,737	$1,045,561	$1,091,519	$1,139,722	$1,190,289	$1,243,346	$1,299,022
Commercial & Industrial	$614,850	$632,681	$651,028	$669,908	$689,336	$709,326	$729,897	$751,064	$772,845	$795,257	$818,320	$842,051	$866,470	$891,598	$917,454
Residential Electric Vehicle Off-peak Charging Program	$22,115	$22,747	$23,398	$24,067	$24,756	$25,464	$26,192	$26,941	$27,711	$28,504	$29,319	$30,158	$31,020	$31,907	$32,820
Direct Load Control	$1,581,080	$1,597,699	$1,614,793	$1,632,376	$1,650,462	$1,669,065	$1,688,201	$1,707,883	$1,728,129	$1,748,953	$1,770,373	$1,792,406	$1,815,069	$1,838,380	$1,862,357
Residential DR Other	$12,500	$12,858	$13,225	$13,603	$13,993	$14,393	$14,804	$15,228	$15,663	$16,111	$16,572	$17,046	$17,533	$18,035	$18,551
Total	**$7,408,593**	**$7,647,337**	**$7,896,119**	**$8,155,413**	**$8,425,717**	**$8,707,552**	**$9,001,471**	**$9,308,050**	**$9,627,899**	**$9,961,658**	**$10,310,002**	**$10,673,638**	**$11,053,314**	**$11,449,817**	**$11,863,971**

Annual Budget - by Category

Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Incentives	$4,042,591	$4,159,838	$4,280,377	$4,404,120	$4,532,524	$4,662,733	$4,795,754	$4,933,803	$5,247,416	$5,400,266	$5,563,653	$5,780,080	$5,945,950	$6,120,111	$6,304,215
Admin	$1,594,142	$1,625,380	$1,658,361	$1,693,217	$1,729,823	$1,768,783	$1,810,062	$1,853,433	$1,870,621	$1,917,835	$1,966,693	$2,010,284	$2,066,055	$2,124,394	$2,185,227
Net Lost Revenues	$1,771,860	$1,862,120	$1,957,382	$2,058,076	$2,163,369	$2,276,037	$2,395,654	$2,520,813	$2,509,862	$2,643,555	$2,779,655	$2,883,274	$3,041,309	$3,205,313	$3,374,529
Total	**$7,408,593**	**$7,647,337**	**$7,896,120**	**$8,155,413**	**$8,425,716**	**$8,707,553**	**$9,001,470**	**$9,308,050**	**$9,627,899**	**$9,961,657**	**$10,310,002**	**$10,673,638**	**$11,053,314**	**$11,449,818**	**$11,863,971**

Scenario 2

Incremental Annual Savings

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Energy Efficiency (MWh)	9,668	9,925	10,188	10,459	10,729	11,016	11,315	11,612	10,884	11,154	11,391	11,344	11,637	11,917	12,176
Demand Response - Summer (MW)	8.0	8.4	8.7	8.9	9.1	9.3	9.4	9.6	9.6	9.7	9.8	9.8	9.9	9.9	9.9
Demand Response - Winter (MW)	3.0	3.0	3.1	3.2	3.3	3.4	3.4	3.5	3.5	3.5	3.5	3.6	3.6	3.6	3.6

Annual Budget - by Program

Program	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Residential Weatherization	$1,115,429	$1,156,245	$1,198,746	$1,243,010	$1,289,119	$1,337,160	$1,387,222	$1,439,402	$1,493,800	$1,550,521	$1,609,677	$1,671,384	$1,735,765	$1,802,948	$1,873,072
CARES Efficiency Program	$325,191	$335,739	$346,662	$357,973	$369,688	$381,825	$394,399	$407,429	$420,932	$434,930	$449,442	$464,488	$480,093	$496,278	$513,069
Residential HVAC Equipment	$1,827,223	$1,902,678	$1,981,638	$2,064,280	$2,150,792	$2,241,372	$2,336,229	$2,435,584	$2,539,667	$2,648,725	$2,763,015	$2,882,810	$3,008,396	$3,140,077	$3,278,172
Residential Home New Construction	$524,627	$546,710	$569,834	$594,055	$619,428	$646,013	$673,872	$703,073	$733,686	$765,783	$799,442	$834,747	$871,783	$910,643	$951,421
Commercial & Industrial	$450,324	$463,383	$476,822	$490,649	$504,878	$519,520	$534,586	$550,089	$566,041	$582,456	$599,348	$616,729	$634,614	$653,018	$671,955
Residential Electric Vehicle Off-peak Charging Program	$16,197	$16,661	$17,137	$17,627	$18,131	$18,650	$19,183	$19,732	$20,296	$20,877	$21,474	$22,088	$22,720	$23,369	$24,038
Direct Load Control	$1,163,680	$1,168,313	$1,173,137	$1,178,089	$1,183,182	$1,188,421	$1,193,810	$1,199,353	$1,205,054	$1,210,919	$1,216,951	$1,223,156	$1,229,538	$1,236,103	$1,242,856
Residential DR Other	$3,500	$3,600	$3,703	$3,809	$3,918	$4,030	$4,145	$4,264	$4,386	$4,511	$4,640	$4,773	$4,909	$5,050	$5,194
Total	**$5,426,171**	**$5,593,330**	**$5,767,680**	**$5,949,492**	**$6,139,137**	**$6,336,990**	**$6,543,447**	**$6,758,925**	**$6,983,863**	**$7,218,722**	**$7,463,989**	**$7,720,175**	**$7,987,818**	**$8,267,486**	**$8,559,775**

Annual Budget - by Category

Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Incentives	$2,691,855	$2,769,968	$2,850,330	$2,932,805	$3,018,448	$3,105,192	$3,193,761	$3,285,744	$3,504,105	$3,606,323	$3,715,910	$3,863,507	$3,974,407	$4,091,035	$4,214,579
Admin	$1,440,970	$1,464,021	$1,488,353	$1,514,063	$1,541,061	$1,569,787	$1,600,214	$1,632,182	$1,645,302	$1,680,110	$1,716,139	$1,748,409	$1,789,503	$1,832,491	$1,877,323
Net Lost Revenues	$1,293,347	$1,359,342	$1,428,996	$1,502,625	$1,579,628	$1,662,011	$1,749,472	$1,840,999	$1,834,455	$1,932,289	$2,031,940	$2,108,259	$2,223,909	$2,343,960	$2,467,874
Total	**$5,426,172**	**$5,593,331**	**$5,767,679**	**$5,949,493**	**$6,139,137**	**$6,336,990**	**$6,543,447**	**$6,758,924**	**$6,983,863**	**$7,218,722**	**$7,463,988**	**$7,720,175**	**$7,987,818**	**$8,267,486**	**$8,559,775**

Scenario 3

Incremental Annual Savings

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Energy Efficiency (MWh)	20,446	20,987	21,544	22,116	22,688	23,295	23,927	24,555	22,969	23,537	24,037	23,921	24,538	25,127	25,670
Demand Response - Summer (MW)	68.7	74.1	79.1	82.8	85.2	86.8	88.0	89.1	89.9	90.6	91.2	91.7	92.1	92.5	92.8
Demand Response - Winter (MW)	23.9	27.4	30.8	33.3	34.6	35.3	35.9	36.4	36.7	37.1	37.3	37.5	37.8	37.9	38.1

Annual Budget - by Program

Program	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Residential Weatherization	$2,337,993	$2,423,547	$2,512,631	$2,605,411	$2,702,058	$2,802,753	$2,907,686	$3,017,058	$3,131,078	$3,249,969	$3,373,962	$3,503,302	$3,638,248	$3,779,069	$3,926,050
CARES Efficiency Program	$681,617	$703,726	$726,620	$750,328	$774,885	$800,323	$826,679	$853,990	$882,295	$911,635	$942,052	$973,590	$1,006,298	$1,040,223	$1,075,417
Residential HVAC Equipment	$3,829,949	$3,988,108	$4,153,611	$4,326,832	$4,508,165	$4,698,026	$4,896,851	$5,105,103	$5,323,267	$5,551,858	$5,791,416	$6,042,511	$6,305,746	$6,581,755	$6,871,209
Residential Home New Construction	$1,099,645	$1,145,931	$1,194,401	$1,245,168	$1,298,351	$1,354,074	$1,412,470	$1,473,676	$1,537,841	$1,605,118	$1,675,671	$1,749,671	$1,827,301	$1,908,752	$1,994,225
Commercial & Industrial	$943,902	$971,275	$999,442	$1,028,426	$1,058,250	$1,088,940	$1,120,519	$1,153,014	$1,186,451	$1,220,858	$1,256,263	$1,292,695	$1,330,183	$1,368,758	$1,408,452
Residential Electric Vehicle Off-peak Charging Program	$33,950	$34,921	$35,920	$36,947	$38,004	$39,091	$40,209	$41,359	$42,542	$43,759	$45,010	$46,297	$47,621	$48,983	$50,384
Direct Load Control	$2,415,990	$2,447,941	$2,490,894	$2,535,382	$2,581,423	$2,629,065	$2,678,314	$2,729,254	$2,781,851	$2,836,195	$2,892,333	$2,950,262	$3,010,086	$3,071,859	$3,135,583
Residential DR Other	$30,500	$31,372	$32,270	$33,192	$34,142	$35,118	$36,123	$37,156	$38,218	$39,311	$40,436	$41,592	$42,782	$44,005	$45,264
Total	**$11,373,546**	**$11,746,821**	**$12,145,789**	**$12,561,688**	**$12,995,278**	**$13,447,390**	**$13,918,851**	**$14,410,609**	**$14,923,544**	**$15,458,702**	**$16,017,142**	**$16,599,922**	**$17,208,264**	**$17,843,404**	**$18,506,584**

Annual Budget - by Category

Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Incentives	$6,744,172	$6,931,047	$7,133,258	$7,341,182	$7,557,080	$7,776,526	$8,001,075	$8,234,232	$8,741,611	$8,999,327	$9,274,256	$9,632,584	$9,912,993	$10,207,185	$10,517,709
Admin	$1,900,487	$1,948,099	$1,998,380	$2,051,525	$2,107,346	$2,166,776	$2,229,758	$2,295,936	$2,321,257	$2,393,287	$2,467,802	$2,534,033	$2,619,160	$2,708,200	$2,801,035
Net Lost Revenues	$2,728,887	$2,867,675	$3,014,152	$3,168,980	$3,330,853	$3,504,087	$3,688,018	$3,880,442	$3,860,676	$4,066,089	$4,275,084	$4,433,305	$4,676,111	$4,928,019	$5,187,840
Total	**$11,373,546**	**$11,746,821**	**$12,145,790**	**$12,561,687**	**$12,995,278**	**$13,447,390**	**$13,918,851**	**$14,410,609**	**$14,923,544**	**$15,458,702**	**$16,017,143**	**$16,599,922**	**$17,208,264**	**$17,843,405**	**$18,506,584**

GDS Associates, Inc.
ENGINEERS & CONSULTANTS

EAST KENTUCKY
POWER COOPERATIVE
A Touchstone Energy® Cooperative

2024 POTENTIAL STUDY

September
2024

FINAL REPORT

prepared by
GDS ASSOCIATES INC

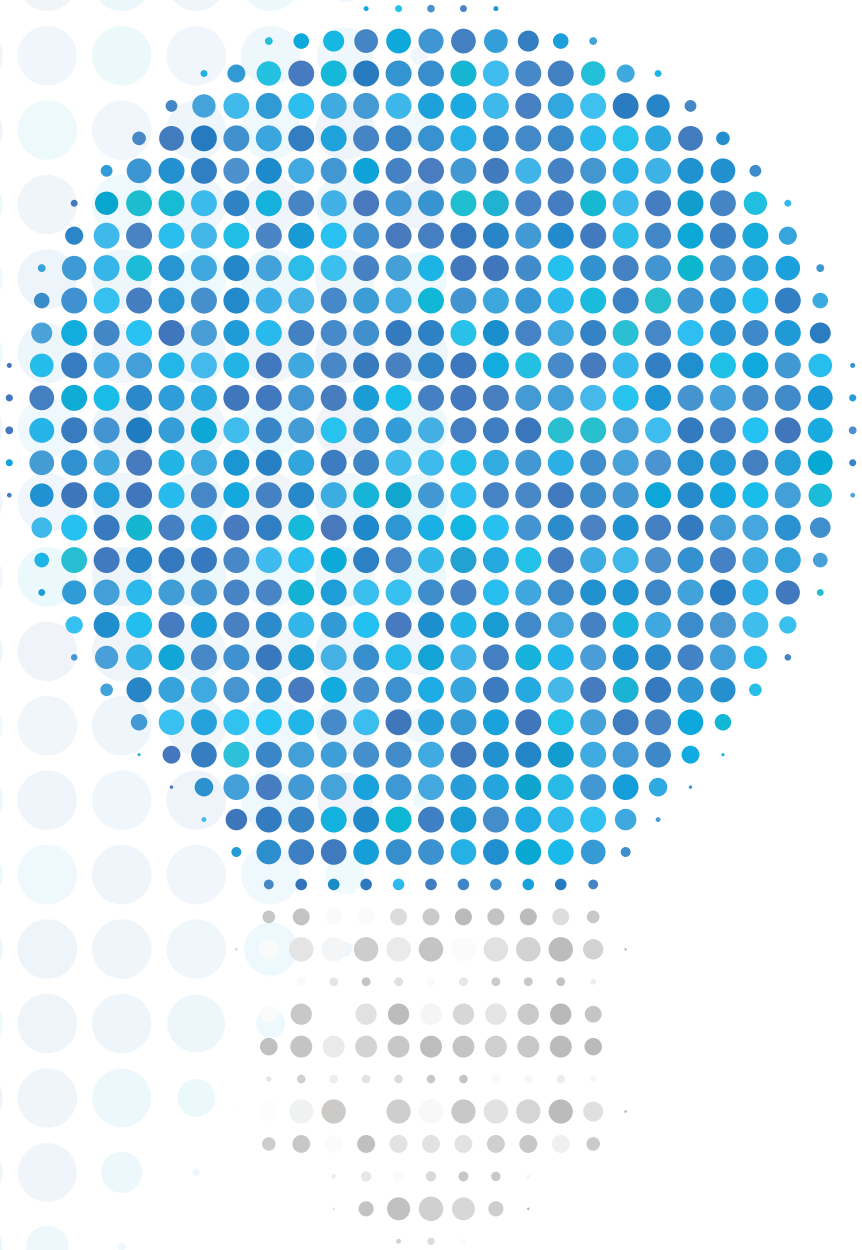
Exhibit DSM-2

Annual Reports for DSM

DSM

Demand Side Management

2021 Annual Report



EAST KENTUCKY POWER COOPERATIVE

A Touchstone Energy® Cooperative

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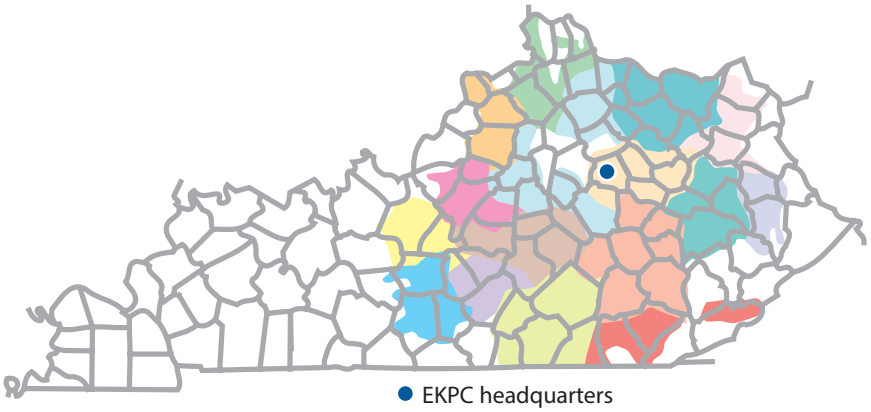
Who We Are

Located in the heart of the Bluegrass state, East Kentucky Power Cooperative is a not-for-profit generation and transmission (G&T) electric utility with headquarters in Winchester, Ky. Our cooperative has a vital mission: to safely generate and deliver affordable, reliable, sustainable electric power to 16 owner-member cooperatives serving more than one million Kentuckians.

Together, with our 16 owner-members, we're known as Kentucky's Touchstone Energy Cooperatives. The member co-ops distribute energy to over 554,000 Kentucky homes, farms, businesses and industries across 87 counties. We're leaders in energy efficiency and environmental stewardship. And we're committed to providing power to improve the lives of people in Kentucky.



EKPC headquarters

Sixteen distribution cooperatives, which are called the member systems, own EKPC. The 16 co-ops include:

- Big Sandy RECC
- Blue Grass Energy Cooperative
- Clark Energy Cooperative
- Cumberland Valley Electric
- Farmers RECC
- Fleming-Mason Energy Cooperative
- Grayson RECC
- Inter-County Energy
- Jackson Energy Cooperative
- Licking Valley RECC
- Nolin RECC
- Owen Electric Cooperative
- Salt River Electric Cooperative
- Shelby Energy Cooperative
- South Kentucky RECC
- Taylor County RECC

East Kentucky Power Generation

Coal	Generation
Spurlock	1,346 net MW
Cooper	341 net MW
Total	**1,687 net MW**

Hydro	Generation
Southeastern Power Adm. (SEPA)	170 MW

Natural Gas	Generation
Smith Combustion Turbine Units	Summer 753 net MW Winter 989 net MW
Bluegrass Combustion Turbine Units	Summer 501 net MW Winter 567 net MW
Total Natural Gas Summer	**1,254 net MW**
Total Natural Gas Winter	**1,556 net MW**

Landfill	Generation
Bavarian	4.6 net MW
Laurel Ridge	3.0 net MW
Green Valley	2.3 net MW
Hardin	2.3 net MW
Pendleton	3.0 net MW
Glasgow*	0.9 net MW
Total Landfill	**16.1 net MW**

SolarGeneration	
Cooperative Solar	8.5 net MW

* Under an existing agreement, a third party receives the output of Glasgow in a 10-year power purchase agreement.

Button-Up Weatherization:

Since the early 1990s, EKPC and its owner-member cooperatives have offered this program to improve a home's energy efficiency, comfort, and reduce energy use. This program offers incentives to members who air seal the shell of their home with the end goal of reducing heat loss in the home. Any member who resides in a site-built or manufactured home that is at least two years old and uses electricity as their primary source of heat is eligible.

Button-Up Weatherization with Air Sealing:
The Button-Up encourages members to air seal the envelope of their home. Air sealing is one of the most cost effective ways to improve the efficiency of a home. A blower door test is required before and after air sealing is completed to demonstrate the impact in kW demand reduction, and an incentive is paid based on that reduction. An additional incentive is paid for increased ceiling insulation.

In 2021, 29 Button-Up rebates were provided to members, resulting in a lifetime savings of 1,225 MWh and 2,449,873 pounds of carbon dioxide emissions.

ENERGY STAR™ Manufactured Home:

The ENERGY STAR™ Manufactured Home Program began in 2014. End use members who purchase and install an ENERGY STAR™ Manufactured Home are eligible for a rebate. ENERGY STAR™ Manufactured Homes are certified by a third-party administrator, Systems Building Research Alliance (SBRA) in order to ensure quality control.

An ENERGY STAR™ certified manufactured home is a home that has been designed, produced and installed by the home manufacturer to meet ENERGY STAR™ requirements for energy efficiency. These manufactured homes feature efficient heating and cooling equipment, water heaters, properly installed insulation, high-performance windows, tight construction and sealed ducts.

This program is available to all end-use members who qualify.

In 2021, 6 rebates were provided to members, resulting in a lifetime savings of 365 MWh and 730,800 pounds of carbon dioxide emissions.

Touchstone Energy Home:

Since 2003, EKPC and its owner-member cooperatives have offered this program to increase energy efficiency in new-home construction. This program is designed to encourage new homes to be built to higher standards for thermal integrity and equipment efficiency, as well as to choose a geothermal or an air-source heat pump, rather than less efficient forms of heating and cooling. Homes built to Touchstone Energy Home standards typically use 30 percent less energy than the same home built to typical construction standards. Plans are submitted before the home is built, a pre-drywall inspection is made, and a blower door test is administered after the home is built to verify that the home meets the standard.

This program is targeted towards the residential new construction market and members who are constructing new site-built homes.

In 2021, 304 Touchstone Energy Home rebates were provided to members, resulting in a lifetime savings of 19,286 MWh and 38,571,520 pounds of carbon dioxide emissions.

EKPC's owner-members have also used this program to partner with Kentucky's affordable housing builders. Relationships with these organizations have led to improved efficiency in affordable housing and lower monthly energy costs for recipients of these homes.

Heat Pump Retrofit:

For decades, EKPC and its owner-member cooperatives have offered this program to lower the cost of heating homes and increase comfort. This program provides incentives for members to replace their existing resistance heat source with a high-efficiency heat pump through two levels of rebates.

Level 1 offers a rebate for a 14 SEER/8.2 HSPF heat pump. Level 2 offers a rebate for a 15 SEER/8.5 HSPF heat pump or higher heat pump. Popularity of mini-split ductless heat pumps has risen in recent years. The retrofit program also offers a special incentive for mini-split systems. The existing heating system must be two years or older to qualify for incentives unless the heat pump is being installed in a new manufactured home. New manufactured homeowners who install a heat pump qualify based on the levels above.

The program is targeted to members who currently use a resistance heat source. Incentives are offered when the homeowner's primary source of heat is an electric resistance furnace, ceiling cable heat, or baseboard heat in both site-built and manufactured homes.

In 2021, 288 Heat Pump Retrofit rebates were provided to members, resulting in a lifetime savings of 42,236 MWh and 87,471,360 pounds of carbon dioxide emissions.

Direct Load Control:

Since 2008, EKPC and its owner-member cooperatives have offered this program to manage peak usage. This program offers incentives to members who enroll central air-conditioners. Switches are installed and, during periods of high demand, the utility briefly cycles the appliance off in order to reduce system peaks and save on costs for peak power. Although EKPC's system typically peaks in winter, member's heating appliances are not interrupted to lower peak. Member comfort and safety are top priority.

This program is targeted to any member with central air-conditioning or heat pump. Beginning in 2019, EKPC also began offering a thermostat program that includes a qualifying Wi-Fi enabled thermostat so that end use members could enroll their smart thermostats in direct load control events. Enrollees in this program help lower energy demand during EKPC's system peaks.

Residential Lighting:

Since 2003, EKPC and its owner-member cooperatives have provided more than one million compact fluorescent lights (CFL) and light-emitting diodes (LED) bulbs to members.

In 2021, cooperatives provided 86,012 LEDs to its members. Each member who participated in a free, online energy audit called Virtual Energy Assessment received an LED, along with Annual Meeting attendees. These LEDs are expected to result in a lifetime savings of 16,514 MWh and 33,028,608 pounds of carbon dioxide emissions.

CARES:

The Community Assistance Resources for Energy Savings (CARES) program began in early 2015, and provides an incentive to enhance the weatherization and energy efficiency services provided to the end-use members by the Kentucky Community Action Agencies (CAA) network. EKPC and its owner-members provide an incentive to the CAA implementing the project on behalf of the end-use member.

This program is available to end-use members who qualify for weatherization and energy-efficiency services through their local CAA in all service territories of participating cooperatives. The maximum incentive possible per household is $2,000.

In 2021, 61 CARES incentives were provided, resulting in a lifetime savings of 4,329 MWh and 8,657,730 pounds of carbon dioxide emissions.

Impact Measures:

System summary of 2021 DSM program savings

DSM program totals (totals for installed energy-efficiency measures and total DLC participation for 2021)

All programs	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Lifetime energy savings (MWh)	Cost of demand saved ($/kW)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
All DSM Programs	118,198	5,511	26.159	7.694	3,712,282	81,969	$59	0.027	163,938,215

Button-Up Weatherization

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
Button-Up	29	82	0.019	0.063	$23,560	15	1,225	$0.02	2,449,873

CARES

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
CARES	61	289	0.044	0.088	$154,915	15	4,329	$0.04	8,657,730

* Includes $835,972 program administration and promotional expenses.

Energy Audits

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
Online	34	16	0.000	0.000	$133,000	5	78	$1.70	156,900

ENERGY STAR® Manufactured Home

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
ES Manufactured Home	6	24	0.003	0.006	$12,840	15	365	$0.04	730,800

Heat Pump Retrofit

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
Heat Pump	288	2,112	0.099	0.000	$493,017	20	42,236	$0.01	84,471,360

Residential Lighting

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
LEDs	86,012	1,806	0.206	0.344	$77,659	8	14,450	$0.01	28,900,032

Touchstone Energy Home

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
TSE Home Prescriptive	39	124	0.028	0.102	$56,550	20	2,474	$0.02	4,948,320
TSE Home Performance	265	841	0.188	0.692	$384,250	20	16,812	$0.02	33,623,200

Direct Load Control Cumulative

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Cost of Demand saved ($/KW)
DLC Air Conditioner	16,054	80	16.054	0.000	$681,671.00	$42.46
DLC Water Heater	12,307	123	4.554	6.400	$499,734.00	$109.75
Thermostats	3,103	16	4.965	0.000	$338,228.00	$68.13
Totals	31,464	218.855	25.572	6.400	$1,519,633.00	$59.42

2021 Basic Program Assumptions [1]

Measure: Button-Up Weatherization with Air Sealing

Annual kWh Saved:	2,205
Winter Demand Savings:	1.71
Summer Demand Savings:	0.52
Lifetime of Savings:	15 years
Installation Rate:	100%
TRC: [2]	1.45

Measure: Heat Pump SEER 14

From Electric Furnace to ENERGY STAR SEER 14, HSPF 8.2

Annual kWh Saved:	7,533
Winter Demand Savings:	0
Summer Demand Savings:	0 .32
Lifetime of Savings:	20 years
Installation Rate:	100%
TRC: [2]	1.55

Measure: Heat Pump SEER 15

From Electric Furnace to ENERGY STAR SEER 15, HSPF 8.5

Annual kWh Saved:	7,978
Winter Demand Savings:	0
Summer Demand Savings:	0.45
Lifetime of Savings:	20 years
Installation Rate:	100%
TRC: [2]	1.55

Measure: Touchstone Energy Home

Prescriptive and Performance – Encourages new homes to be built to a standard of at least SEER 15, HSPF 8.5; HERS Rating of 75 and below

Annual kWh Saved:	3,172
Winter Demand Savings:	2.61
Summer Demand Savings:	0.71
Lifetime of Savings:	20 years
Installation Rate:	100%
TRC:	1.60

Measure: LEDs

Annual kWh Saved:	24
Winter Demand Savings:	0.0040
Summer Demand Savings:	0.0024
Lifetime of Savings:	8 years
Installation Rate:	80%
TRC:	2.78

Measure: Wi-fi Enabled Thermostat

Annual kWh Saved:	36
Winter Demand Savings:	0.00
Summer Demand Savings:	1.20
Lifetime of Savings:	15 years
Installation Rate:	100%
TRC:	3.96

Measure: CARES

Annual kWh Saved:	4,731
Winter Demand Savings:	1.44
Summer Demand Savings:	0.72
Lifetime of Savings:	15 years
Installation Rate:	100%
TRC:	0.96

Measure: ENERGY STAR® Manufactured Home

Annual kWh Saved:	4,060
Winter Demand Savings:	0.93
Summer Demand Savings:	0.47
Lifetime of Savings:	15 years
Installation Rate:	100%
TRC:	1.71

1 Savings numbers are "ex ante" or as planned gross savings except where noted.
2 Total Resource Cost (TRC) is an overall program benefits/costs analysts ratio.

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2022 Annual Report

EAST KENTUCKY
POWER COOPERATIVE

A Touchstone Energy® Cooperative

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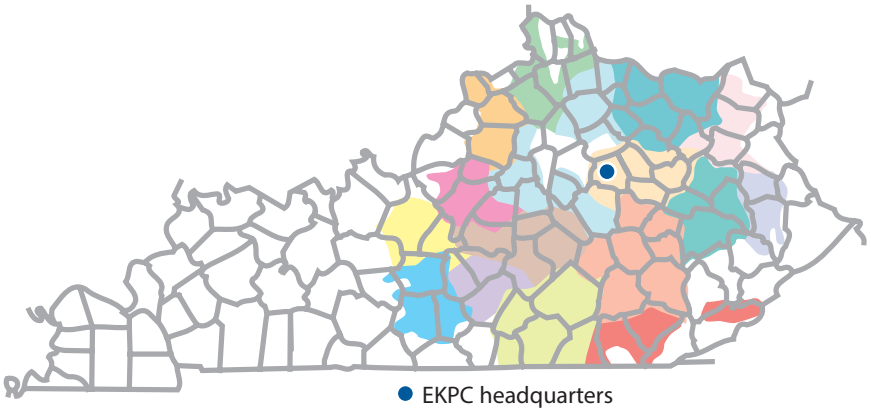
Who We Are

Located in the heart of the Bluegrass state, East Kentucky Power Cooperative is a not-for-profit generation and transmission (G&T) electric utility with headquarters in Winchester, Ky. Our cooperative has a vital mission: to safely generate and deliver affordable, reliable, sustainable electric power to 16 owner-member cooperatives serving more than one million Kentuckians.

Together, with our 16 owner-members, we're known as Kentucky's Touchstone Energy Cooperatives. The member co-ops distribute energy to over 554,000 Kentucky homes, farms, businesses and industries across 87 counties. We're leaders in energy efficiency and environmental stewardship. And we're committed to providing power to improve the lives of people in Kentucky.



EKPC headquarters

Sixteen distribution cooperatives, which are called the member systems, own EKPC. The 16 co-ops include:

- Big Sandy RECC
- Blue Grass Energy Cooperative
- Clark Energy Cooperative
- Cumberland Valley Electric
- Farmers RECC
- Fleming-Mason Energy Cooperative
- Grayson RECC
- Inter-County Energy
- Jackson Energy Cooperative
- Licking Valley RECC
- Nolin RECC
- Owen Electric Cooperative
- Salt River Electric Cooperative
- Shelby Energy Cooperative
- South Kentucky RECC
- Taylor County RECC

East Kentucky Power Generation

Coal	Generation
Spurlock	1,346 net MW
Cooper	341 net MW
Total	**1,687 net MW**

Hydro	Generation
Southeastern Power Adm. (SEPA)	170 MW

Natural Gas	Generation
Smith Combustion Turbine Units	Summer 753 net MW Winter 989 net MW
Bluegrass Combustion Turbine Units	Summer 501 net MW Winter 567 net MW
Total Natural Gas Summer	**1,254 net MW**
Total Natural Gas Winter	**1,556 net MW**

Landfill	Generation
Bavarian	4.6 net MW
Laurel Ridge	3.0 net MW
Green Valley	2.3 net MW
Hardin	2.3 net MW
Pendleton	3.0 net MW
Glasgow*	0.9 net MW
Total Landfill	**16.1 net MW**

SolarGeneration	
Cooperative Solar	8.5 net MW

* Under an existing agreement, a third party receives the output of Glasgow in a 10-year power purchase agreement.

Button-Up Weatherization:

Since the early 1990s, EKPC and its owner-member cooperatives have offered this program to improve a home's energy efficiency, comfort, and reduce energy use. This program offers incentives to members who air seal the shell of their home with the end goal of reducing heat loss in the home. Any member who resides in a site-built or manufactured home that is at least two years old and uses electricity as their primary source of heat is eligible.

Button-Up Weatherization with Air Sealing:
The Button-Up encourages members to air seal the envelope of their home. Air sealing is one of the most cost effective ways to improve the efficiency of a home. A blower door test is required before and after air sealing is completed to demonstrate the impact in kW demand reduction, and an incentive is paid based on that reduction. Additional incentives are paid for increasing ceiling insulation and/or sealing ductwork.

In 2022, 39 Button-Up rebates were provided to members, resulting in a lifetime savings of 2,157 MWh and 4,314,185 pounds of carbon dioxide emissions.

ENERGY STAR® Manufactured Home:

The ENERGY STAR® Manufactured Home Program began in 2014. End use members who purchase and install an ENERGY STAR® Manufactured Home are eligible for a rebate. ENERGY STAR® Manufactured Homes are certified by a third-party administrator, Systems Building Research Alliance (SBRA) in order to ensure quality control.

An ENERGY STAR® certified manufactured home is a home that has been designed, produced and installed by the home manufacturer to meet ENERGY STAR® requirements for energy efficiency. These manufactured homes feature efficient heating and cooling equipment, water heaters, properly installed insulation, high-performance windows, tight construction and sealed ducts.

This program is available to all end-use members who qualify.

In 2022, 2 rebates were provided to members, resulting in a lifetime savings of 122 MWh and 243,600 pounds of carbon dioxide emissions.

Touchstone Energy Home:

Since 2003, EKPC and its owner-member cooperatives have offered this program to increase energy efficiency in new-home construction. This program is designed to encourage new homes to be built to higher standards for thermal integrity and equipment efficiency, as well as to choose a geothermal or an air-source heat pump, rather than less efficient forms of heating and cooling. Homes built to Touchstone Energy Home standards typically use 30 percent less energy than the same home built to typical construction standards. Plans are submitted before the home is built, a pre-drywall inspection is made, and a blower door test is administered after the home is built to verify that the home meets the standard.

This program is targeted towards the residential new construction market and members who are constructing new site-built homes.

In 2022, 438 Touchstone Energy Home rebates were provided to members, resulting in a lifetime savings of 27,787 MWh and 55,573,440 pounds of carbon dioxide emissions.

EKPC's owner-members have also used this program to partner with Kentucky's affordable housing builders. Relationships with these organizations have led to improved efficiency in affordable housing and lower monthly energy costs for recipients of these homes.

Heat Pump Retrofit:

For decades, EKPC and its owner-member cooperatives have offered this program to lower the cost of heating homes and increase comfort. This program provides incentives for members to replace their existing resistance heat source with a high-efficiency heat pump through two levels of rebates.

Level 1 offers a rebate for a 14 SEER/8.2 HSPF heat pump. Level 2 offers a rebate for a 15 SEER/8.5 HSPF heat pump or higher heat pump. Popularity of mini-split ductless heat pumps has risen in recent years. The retrofit program also offers a special incentive for mini-split systems. The existing heating system must be two years or older to qualify for incentives unless the heat pump is being installed in a new manufactured home. New manufactured homeowners who install a heat pump qualify based on the levels above.

The program is targeted to members who currently use a resistance heat source. Incentives are offered when the homeowner's primary source of heat is an electric resistance furnace, ceiling cable heat, or baseboard heat in both site-built and manufactured homes.

In 2022, 325 Heat Pump Retrofit rebates were provided to members, resulting in a lifetime savings of 48,399 MWh and 96,797,560 pounds of carbon dioxide emissions.

Direct Load Control:

Since 2008, EKPC and its owner-member cooperatives have offered this program to manage peak usage. This program offers incentives to members who enroll central air-conditioners. Switches are installed and, during periods of high demand, the utility briefly cycles the appliance off in order to reduce system peaks and save on costs for peak power. Although EKPC's system typically peaks in winter, member's heating appliances are not interrupted to lower peak. Member comfort and safety are top priority.

This program is targeted to any member with central air-conditioning or heat pump. Beginning in 2019, EKPC also began offering a thermostat program that includes a qualifying Wi-Fi enabled thermostat so that end use members could enroll their smart thermostats in direct load control events. Enrollees in this program help lower energy demand during EKPC's system peaks.

Residential Lighting:

Since 2003, EKPC and its owner-member cooperatives have provided more than one million compact fluorescent lights (CFL) and light-emitting diodes (LED) bulbs to members.

In 2022, cooperatives provided 63,701 LEDs to its members. Each member who participated in a free, online energy audit called Virtual Energy Assessment received an LED, along with Annual Meeting attendees. These LEDs are expected to result in a lifetime savings of 10,702 MWh and 21,403,536 pounds of carbon dioxide emissions.

CARES:

The Community Assistance Resources for Energy Savings (CARES) program began in early 2015, and provides an incentive to enhance the weatherization and energy efficiency services provided to the end-use members by the Kentucky Community Action Agencies (CAA) network and Kentucky's Affordable Housing Organizations (AHO). EKPC and its owner-members provide an incentive to the CAA implementing the project on behalf of the end-use member.

This program is available to end-use members who qualify for weatherization and energy-efficiency services through their local CAA in all service territories of participating cooperatives. The maximum incentive possible per household is $2,000.

In 2022, 55 CARES incentives were provided, resulting in a lifetime savings of 3,903 MWh and 7,806,150 pounds of carbon dioxide emissions.

Impact Measures:

System summary of 2022 DSM program savings

DSM program totals (totals for installed energy-efficiency measures and total DLC participation for 2021)

All programs	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2022 program costs	Lifetime energy savings (MWh)	Cost of demand saved ($/kW)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
All DSM Programs	95,496	5,773	26.278	7.795	3,947,026	93,069	$64	0.025	186,138,471

Button-Up Weatherization

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
Button-Up	39	144	0.034	0.111	$38,230	15	2,157	$0.02	4,314,185

CARES

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
CARES	55	260	0.040	0.079	$140,617	15	3,903	$0.04	7,806,150

* Includes $835,972 program administration and promotional expenses.

ENERGY STAR® Manufactured Home

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
ES Manufactured Home	2	8	0.001	0.002	$4,280	15	122	$0.04	243,600

Heat Pump Retrofit

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
Heat Pump	325	2,420	0.111	0.000	$561,032	20	48,399	$0.01	96,797,560

Residential Lighting

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
LEDs	63,701	1,338	0.153	0.255	$48,635	-	10,702	$0.005	21,403,536

Touchstone Energy Home

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2021 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
TSE Home Prescriptive	25	79	0.018	0.065	$36,250	20	1,586	$0.02	3,172,000
TSE Home Performance	413	1,310	0.293	1.078	$598,850	20	26,201	$0.02	52,401,440

Direct Load Control Cumulative

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2022 program costs	Cost of Demand saved ($/KW)
DLC Air Conditioner	15,319	77	15.319	0.000	$681,671.00	$44.50
DLC Water Heater	11,933	119	4.415	6.205	$499,734.00	$113.18
Thermostats	3,684	18	5.894	0.000	$457,862.00	$77.68
Totals	30,936	214.345	25.629	6.2.5	$1,639,267.00	$63.96

2022 Basic Program Assumptions [1]

Measure: Button-Up Weatherization with Air Sealing

Annual kWh Saved:	2,253
Winter Demand Savings:	1.74
Summer Demand Savings:	0.53
Lifetime of Savings:	20 years
Installation Rate:	100%
TRC: [2]	1.68

Measure: Heat Pump SEER 14

From Electric Furnace to ENERGY STAR SEER 14, HSPF 8.2

Annual kWh Saved:	7,533
Winter Demand Savings:	0
Summer Demand Savings:	0 .32
Lifetime of Savings:	20 years
Installation Rate:	100%
TRC: [2]	1.60

Measure: Heat Pump SEER 15

From Electric Furnace to ENERGY STAR SEER 15, HSPF 8.5

Annual kWh Saved:	7,978
Winter Demand Savings:	0
Summer Demand Savings:	0.45
Lifetime of Savings:	20 years
Installation Rate:	100%
TRC: [2]	1.60

Measure: Touchstone Energy Home

Prescriptive or Performance

Annual kWh Saved:	3,172
Winter Demand Savings:	2.94
Summer Demand Savings:	0.70
Lifetime of Savings:	20 years
Installation Rate:	100%
TRC:	2.10

Measure: LEDs

Annual kWh Saved:	24
Winter Demand Savings:	0.0040
Summer Demand Savings:	0.0024
Lifetime of Savings:	8 years
Installation Rate:	80%
TRC:	2.78

Measure: Wi-fi Enabled Thermostat

Annual kWh Saved:	36
Winter Demand Savings:	0.00
Summer Demand Savings:	1.20
Lifetime of Savings:	15 years
Installation Rate:	100%
TRC:	2.17

Measure: CARES

Annual kWh Saved:	4,495
Winter Demand Savings:	1.34
Summer Demand Savings:	0.66
Lifetime of Savings:	15 years
Installation Rate:	100%
TRC:	1.15

Measure: ENERGY STAR® Manufactured Home

Annual kWh Saved:	4,060
Winter Demand Savings:	0.93
Summer Demand Savings:	0.47
Lifetime of Savings:	15 years
Installation Rate:	100%
TRC:	1.62

1 Savings numbers are "ex ante" or as planned gross savings except where noted.
2 Total Resource Cost (TRC) is an overall program benefits/costs analysts ratio.

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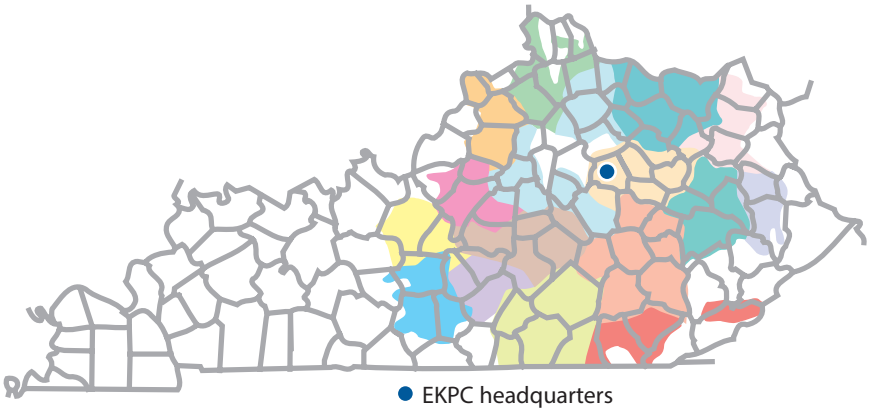

EKPC headquarters

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- Inter-County Energy
- Jackson Energy Cooperative
- Licking Valley RECC
- Nolin RECC
- Owen Electric Cooperative
- Salt River Electric Cooperative
- Shelby Energy Cooperative
- South Kentucky RECC
- Taylor County RECC

East Kentucky Power Generation

Coal	Generation
Spurlock	1,346 net MW
Cooper	341 net MW
Total	**1,687 net MW**

Hydro	Generation
Southeastern Power Adm. (SEPA)	170 MW

Natural Gas	Generation
Smith Combustion Turbine Units	Summer 753 net MW Winter 989 net MW
Bluegrass Combustion Turbine Units	Summer 501 net MW Winter 567 net MW
Total Natural Gas Summer	**1,254 net MW**
Total Natural Gas Winter	**1,556 net MW**

Landfill	Generation
Bavarian	4.6 net MW
Green Valley	2.3 net MW
Hardin	2.3 net MW
Pendleton	3.0 net MW
Glasgow*	0.9 net MW
Total Landfill	**13.1 net MW**

SolarGeneration	
Cooperative Solar	8.5 net MW

* Under an existing agreement, a third party receives the output of Glasgow in a 10-year power purchase agreement.

Button-Up Weatherization:

Since the early 1990s, EKPC and its owner-member cooperatives have offered this program to improve a home's energy efficiency, comfort, and reduce energy use. This program offers incentives to members who air seal the shell of their home with the end goal of reducing heat loss in the home. Any member who resides in a site-built or manufactured home that is at least two years old and uses electricity as their primary source of heat is eligible.

Button-Up Weatherization with Air Sealing:
The Button-Up encourages members to air seal the envelope of their home. Air sealing is one of the most cost effective ways to improve the efficiency of a home. A blower door test is required before and after air sealing is completed to demonstrate the impact in kW demand reduction, and an incentive is paid based on that reduction. Additional incentives are paid for increasing ceiling insulation and/or sealing ductwork.

In 2023, 28 Button-Up rebates were provided to members, resulting in a lifetime savings of 1,016 MWh and 2,032,831 pounds of carbon dioxide emissions.

ENERGY STAR® Manufactured Home:

The ENERGY STAR® Manufactured Home Program began in 2014. End-use members who purchase and install an ENERGY STAR® Manufactured Home are eligible for a rebate. ENERGY STAR® Manufactured Homes are certified by a third-party administrator, Systems Building Research Alliance (SBRA) in order to ensure quality control.

An ENERGY STAR® certified manufactured home is a home that has been designed, produced and installed by the home manufacturer to meet ENERGY STAR® requirements for energy efficiency. These manufactured homes feature efficient heating and cooling equipment, water heaters, properly installed insulation, high-performance windows, tight construction and sealed ducts.

This program is available to all end-use members who qualify.

In 2023, 23 rebates were provided to members, resulting in a lifetime savings of 1,401 MWh and 2,801,400 pounds of carbon dioxide emissions.

Touchstone Energy Home:

Since 2003, EKPC and its owner-member cooperatives have offered this program to increase energy efficiency in new-home construction. This program is designed to encourage new homes to be built to higher standards for thermal integrity and equipment efficiency, as well as to choose a geothermal or an air-source heat pump, rather than less efficient forms of heating and cooling. Homes built to Touchstone Energy Home standards typically use 30 percent less energy than the same home built to typical construction standards. Plans are submitted before the home is built, a pre-drywall inspection is made, and a blower door test is administered after the home is built to verify that the home meets the standard.

This program is targeted towards the residential new construction market and members who are constructing new site-built homes.

In 2023, 494 Touchstone Energy Home rebates were provided to members, resulting in a lifetime savings of 31,340 MWh and 62,678,720 pounds of carbon dioxide emissions.

EKPC's owner-members have also used this program to partner with Kentucky's affordable housing builders. Relationships with these organizations have led to improved efficiency in affordable housing and lower monthly energy costs for recipients of these homes.

Heat Pump Retrofit:

For decades, EKPC and its owner-member cooperatives have offered this program to lower the cost of heating homes and increase comfort. This program provides incentives for members to replace their existing resistance heat source with a high-efficiency heat pump through two levels of rebates.

Level 1 offers a rebate for a federal minimum standard heat pump. Level 2 offers a rebate for a ENERGY STAR© level heat pump or higher heat pump. Popularity of mini-split ductless heat pumps has risen in recent years. The retrofit program also offers a special incentive for mini-split systems. The existing heating system must be two years or older to qualify for incentives unless the heat pump is being installed in a new manufactured home. New manufactured homeowners who install a heat pump qualify based on the levels above.

The program is targeted to members who currently use a resistance heat source. Incentives are offered when the homeowner's primary source of heat is an electric resistance furnace, ceiling cable heat, or baseboard heat in both site-built and manufactured homes.

In 2023, 361 Heat Pump Retrofit rebates were provided to members, resulting in a lifetime savings of 53,247 MWh and 106,494,560 pounds of carbon dioxide emissions.

Direct Load Control:

Since 2008, EKPC and its owner-member cooperatives have offered this program to manage peak usage. This program offers incentives to members who enroll central air-conditioners. Switches are installed and, during periods of high demand, the utility briefly cycles the appliance off in order to reduce system peaks and save on costs for peak power. Although EKPC's system typically peaks in winter, member's heating appliances are not interrupted to lower peak. Member comfort and safety are top priority.

This program is targeted to any member with central air-conditioning or heat pump. Beginning in 2019, EKPC also began offering a thermostat program that includes a qualifying Wi-Fi enabled thermostat so that end use members could enroll their smart thermostats in direct load control events. Enrollees in this program help lower energy demand during EKPC's system peaks.

CARES:

The Community Assistance Resources for Energy Savings (CARES) program began in early 2015, and provides an incentive to enhance the weatherization and energy efficiency services provided to the end-use members by the Kentucky Community Action Agencies (CAA) network and Kentucky's Affordable Housing Organizations (AHO). EKPC and its owner-members provide an incentive to the CAA implementing the project on behalf of the end-use member.

This program is available to end-use members who qualify for weatherization and energy-efficiency services through their local CAA in all service territories of participating cooperatives. The maximum incentive possible per household is $2,000.

In 2023, 120 CARES incentives were provided, resulting in a lifetime savings of 8,374 MWh and 16,747,740 pounds of carbon dioxide emissions.

Impact Measures:

System summary of 2023 DSM program savings

DSM program totals (totals for installed energy-efficiency measures and total DLC participation for 2023)

All programs	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2023 program costs*	Lifetime energy savings (MWh)	Cost of demand saved ($/kW)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
All DSM Programs	32,140	5,162	27.019	7.559	$4,396,489	95,378	$68	0.027	190,755,251

Button-Up Weatherization

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2023 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
Button-Up	28	68	0.016	0.052	$29,044	15	1,016	$0.03	2,032,831

CARES

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2023 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
CARES	120	558	0.085	0.170	$293,840	15	8,374	$0.04	16,747,740

* Includes $903,561 program administration and promotional expenses.

ENERGY STAR® Manufactured Home

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2023 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
ES Manufactured Home	23	93	0.011	0.021	$49,220	15	1,401	$0.04	2,801,400

Heat Pump Retrofit

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2023 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
Heat Pump	361	2,662	0.122	0.000	$616,645	20	53,247	$0.01	106,494,560

Touchstone Energy Home

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2023 program costs	Measure life (years)	Lifetime energy savings (MWh)	Cost of energy saved ($/kWh)	Lifetime CO2 savings (lbs)
TSE Home Prescriptive	24	76	0.017	0.063	$34,800	20	1,523	$0.02	3,045,120
TSE Home Performance	470	1,491	0.334	1.227	$681,500	20	29,817	$0.02	59,633,600

Direct Load Control Cumulative

Residential program	Participation	Annual Energy Savings (MWh)	Summer Demand Savings (MW)	Winter Demand Savings (MW)	2023 program costs	Cost of Demand saved ($/KW)
DLC Air Conditioner	15,157	76	15.157	0.000	$708,185.37	$46.72
DLC Water Heater	11,588	116	4.288	6.026	$509,550.28	$118.84
Thermostats	4,369	22	6.990	0.000	$570,143.32	$81.56
Totals	31,114	213.51	26.435	6.026	$1,787,878.97	$69.63

2023 Basic Program Assumptions [1]

Measure: Button-Up Weatherization with Air Sealing

Annual kWh Saved:	2,253
Winter Demand Savings:	1.74
Summer Demand Savings:	0.53
Lifetime of Savings:	20 years
Installation Rate:	100%
TRC: [2]	1.68

Measure: Heat Pump Federal Standard

From Electric Furnace & CAC to
Heat Pump Federal Standard

Annual kWh Saved:	7,533
Winter Demand Savings:	0
Summer Demand Savings:	0 .32
Lifetime of Savings:	20 years
Installation Rate:	100%
TRC: [2]	1.60

Measure: Heat Pump ENERGY STAR®

From Electric Furnace & CAC to
ENERGY STAR Heat Pump

Annual kWh Saved:	7,978
Winter Demand Savings:	0
Summer Demand Savings:	0.45
Lifetime of Savings:	20 years
Installation Rate:	100%
TRC: [2]	1.60

Measure: Touchstone Energy Home

Prescriptive or Performance

Annual kWh Saved:	3,172
Winter Demand Savings:	2.94
Summer Demand Savings:	0.70
Lifetime of Savings:	20 years
Installation Rate:	100%
TRC:	2.10

Measure: Wi-fi Enabled Thermostat

Annual kWh Saved:	36
Winter Demand Savings:	0.00
Summer Demand Savings:	1.20
Lifetime of Savings:	15 years
Installation Rate:	100%
TRC:	2.17

Measure: CARES

Annual kWh Saved:	4,495
Winter Demand Savings:	1.34
Summer Demand Savings:	0.66
Lifetime of Savings:	15 years
Installation Rate:	100%
TRC:	1.15

Measure: ENERGY STAR® Manufactured Home

Annual kWh Saved:	4,060
Winter Demand Savings:	0.93
Summer Demand Savings:	0.47
Lifetime of Savings:	15 years
Installation Rate:	100%
TRC:	1.62

1 Savings numbers are "ex ante" or as planned gross savings except where noted.
2 Total Resource Cost (TRC) is an overall program benefits/costs analysts ratio.

Kentucky's Touchstone Energy® Cooperatives

Big Sandy RECC Blue Grass Energy Clark Energy Cumberland Valley Electric Farmers RECC
Fleming-Mason Energy Grayson RECC Inter-County Energy Jackson Energy Licking Valley RECC Nolin RECC
Owen Electric Salt River Electric Shelby Energy South Kentucky RECC Taylor County RECC

EAST KENTUCKY POWER COOPERATIVE

A Touchstone Energy® Cooperative

4775 Lexington Road, 40391
P.O. Box 707,
Winchester, KY 40392-0707
Telephone: 859-744-4812
Fax: 859-744-6008
www.ekpc.coop

Exhibit DSM-3

Program
Assumption Sheets

2025 IRP

System year 1 is 2025

Touchstone Energy Home

This program is designed to improve new residential home energy performance. This program provides guidance during the building process to guarantee a home that is 25%-30% more efficient than the Kentucky standard built home. The program encourages new homes to be built to higher standards for thermal integrity and equipment efficiency, as well as to choose a geothermal or air source heat pump rather than less efficient forms of heating and cooling.

Assumption	***Source***
Load Impacts Before Participant *10,500 kWh, 8.12 kW (coinc. with winter system peak), 2.47 kW (summer)*	Mix of Furnace/Central AC and air source heat pump weighted according to saturation in existing single family homes. 70% heat pump, 30% furnace/CAC.
Savings: ***3,263*** *kWh* ***2.49*** *kW (winter),* ***0.95*** *kW (summer)* After Participant *7,237 kWh, 5.63 kW (coinc. with winter system peak), 1.52 kW (summer)*	GDS kWh savings 15% savings from weatherization, plus more efficient heat pump (16.2 SEER2) . kW impacts based on planning load profile Before participant net of savings
Lifetime of savings	**20** Years
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Participant Costs $ 2,263.. 2% esc.	GDS costs for measure bundle
Tax credit (benefit): $0	Tax credit for new construction is given to the builder for Energy Star qualified homes
Administrative Cost EK **$5,756** (2025 value) fixed annual (2025-2039). 2% esc	Program admin - 2022 value of $5,300 adjusted to 2025..
Co-op **$400** per new participant	Based on new program design
Rate Schedule - Retail	
Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale	
East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation - 2025: 494. 2026-2039: 494 per year. 5% Free Riders	2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget. Free riders based on Frontier Assoc study for LG&E/KU
Rebates	
Co-op to Participant **$ 750**, 2% esc	**Based on tariff**
EK to Co-op **$1,450**, 2% esc	**Based on tariff**

2025 IRP

System year 1 is 2025

Case: Mini-split, 3 heads

Heat Pump Retrofit - Mini-split (3 heads)

This program encourages Residential end-use members to convert their primary heat source from electric resistance heat to an efficient air source heat pump. This program has five heat pump cases: Federal Standard, ENERGY STAR®, and Mini-splits (1,2, 3 heads).

Assumption	***Source***
Load Impacts Before Participant *14,843 kWh, 8.12 kW (coinc. with winter system peak), 2.25 kW (summer)*	Electric Furnace and Central AC
Savings: ***7,119*** *kWh* ***1.28*** *kW (winter),* ***0.22*** *kW (summer)* After Participant *7,724 kWh, 6.84 kW (coinc. with winter system peak), 2.03 kW (summer)*	GDS kWh savings Ductless HP 9.4 HSPF2, Elec resistance Baseline. kW impacts based on planning load profile. Before participant net of savings
Lifetime of savings	**16** Years
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Participant Costs $ 672.. 2% esc.	GDS costs for measure
Tax credit (benefit): $1,552	30% of heat pump cost, less utility subsidy, subject to $2,000 cap
Administrative Cost EK **$6,175** (2025 value) fixed annual (2025-2039),	Fixed admin - 2021 value of $5300 escalated to 2025
Co-op **$180** per new participant	based on proposed tariff
Rate Schedule - Retail	
Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale	
East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation - 2025: 30. 2026-2039: 43 per year. **0%** Free Riders	2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget
Rebates Co-op to Participant **$ 1,500**, 2% esc	**Proposed for new program design.**
EK to Co-op **$ 2,895,** 2% esc	**Based on proposed tariff. Reimburse for rebate, 50% of admin costs, plus compensation for lost margins.**

2025 IRP

System year 1 is 2025

Case:Mini-split, 2 heads

Heat Pump Retrofit - Mini-split (2 heads)

This program encourages Residential end-use members to convert their primary heat source from electric resistance heat to an efficient air source heat pump. This program has five heat pump cases: Federal Standard, ENERGY STAR®, and Mini-splits (1,2, 3 heads).

Assumption	***Source***
Load Impacts Before Participant *14,843 kWh, 8.12 kW (coinc. with winter system peak), 2.25 kW (summer)*	Electric Furnace and Central AC
Savings: ***4,746*** *kWh* ***.0.85*** *kW (winter),* ***0.14*** *kW (summer)* After Participant *10,097 kWh, 7,27 kW (coinc. with winter system peak), 2.08 kW (summer)*	GDS kWh Ductless HP 9.4 HSPF2, Elec resistance Baseline, adjusted for **2** heads instead of 3 heads. kW impacts based on planning load profile Before participant net of savings
Lifetime of savings	**16** Years
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Participant Costs $ 448.. 2% esc.	GDS costs for measure, adjusted for **2** heads instead of 3 heads
Tax credit (benefit): $1,334	30% of heat pump cost (**2 head**), less utility subsidy, subject to $2,000 cap
Administrative Cost EK **$6,175** (2025 value) fixed annual (2025-2039),	Fixed admin - 2021 value of $5300 escalated to 2025
Co-op **$180** per new participant	based on proposed tariff
Rate Schedule - Retail	
Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale	
East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation - 2025: 31. 2026-2039: 44 per year. **0%** Free Riders	2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget
Rebates Co-op to Participant **$ 1,000**, 2% esc	**Proposed for new program design.**
EK to Co-op **$ 1,960,** 2% esc	**Based on proposed tariff. Reimburse for rebate, 50% of admin costs, plus compensation for lost margins.**

2025 IRP filing

System year 1 is 2025

Case: Mini-split, 1 head

Heat Pump Retrofit - Mini-split (1 head)

This program encourages Residential end-use members to convert their primary heat source from electric resistance heat to an efficient air source heat pump. This program has five heat pump cases: Federal Standard, ENERGY STAR®, and Mini-splits (1,2, 3 heads).

Assumption	***Source***
Load Impacts Before Participant *14,843 kWh, 8.12 kW (coinc. with winter system peak), 2.25 kW (summer)*	Electric Furnace and Central AC
Savings: ***2,373*** *kWh,* ***0.43*** *kW (winter),* ***0.09*** *kW (summer)* After Participant *12,470 kWh, 7,69 kW (coinc. with winter system peak), 2.16 kW (summer)*	GDS kWh savings Ductless HP 9.4 HSPF2, Elec resistance Baseline, adjusted for **1** head instead of 3 heads. kW savings based on planning load profile. Before participant net of savings
Lifetime of savings	**16** Years
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Participant Costs $ 224.. 2% esc.	GDS costs for measure, adjusted for **1** head instead of 3 heads
Tax credit (benefit): $667	30% of heat pump cost (**1** head), less utility subsidy, subject to $2,000 cap
Administrative Cost EK **$6,175** (2025 value) fixed annual (2025-2039),	Fixed admin - 2021 value of $5300 escalated to 2025
Co-op **$180** per new participant	based on proposed tariff
Rate Schedule - Retail	
Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale	
East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation - 2025: 31. 2026-2039: 44 per year. **0%** Free Riders	2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget
Rebates Co-op to Participant **$ 500**, 2% esc	**Proposed for new program design.**
EK to Co-op **$ 1,025,** 2% esc	**Based on proposed tariff. Reimburse for rebate, 50% of admin costs, plus compensation for lost margins.**

2025 IRP filing

System year 1 is 2025

Case: Federal Standard

Heat Pump Retrofit - Federal Standard

This program encourages Residential end-use members to convert their primary heat source from electric resistance heat to an efficient air source heat pump. This program has five heat pump cases: Federal Standard, ENERGY STAR®, and Mini-splits (1,2, 3 heads).

Assumption	***Source***
Load Impacts Before Participant *14,843 kWh, 8.12 kW (coinc. with winter system peak), 2.25 kW (summer)*	Electric Furnace and Central AC
Savings: ***6,341*** *kWh* ***1.139*** *kW (winter),* ***0.081*** *kW (summer)*	GDS kWh savings ASHP 15.2 SEER2, Elec Furnace Baseline (GDS did not include a Federal Minimum measure). kW impacts based on plannng load profile.
After Participant *8,502 kWh, 6.98 kW (coinc. with winter system peak), 2.17 kW (summer)*	Before participant net of savings
Lifetime of savings	**16** Years
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - **$174.60** per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Participant Costs $ 636.. 2% esc.	GDS costs for measure
Tax credit (benefit): $0	No tax credit in this case
Administrative Cost EK **$6,175** (2025 value) fixed annual (2025-2039),	Fixed admin - 2021 value of $5300 escalated to 2025
Co-op **$180** per new participant	based on proposed tariff
Rate Schedule - Retail Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation - **2025: 177. 2026-2039: 252 per year.** **0%** Free Riders	2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget
Rebates Co-op to Participant **$ 750**, 2% esc	**Proposed for new program design.**
EK to Co-op **$ 1,945**, 2% esc	**Based on proposed tariff. Reimburse for rebate, 50% of admin costs, plus compensation for lost margins.**

205 IRP filing

System year 1 is 2025

Case: ENERGY STAR®

Heat Pump Retrofit - ENERGY STAR®

This program encourages Residential end-use members to convert their primary heat source from electric resistance heat to an efficient air source heat pump. This program has five heat pump cases: Federal Standard, ENERGY STAR®, and Mini-splits (1,2, 3 heads).

Assumption	***Source***
Load Impacts Before Participant *14,843 kWh, 8.12 kW (coinc. with winter system peak), 2.25 kW (summer)*	Electric Furnace and Central AC
Savings: ***6,724*** *kWh* ***1.208*** *kW (winter),* ***0.203*** *kW (summer)* After Participant *8,119 kWh, 6.91 kW (coinc. with winter system peak), 2.05 kW (summer)*	GDS kWh savings ASHP 16.2 SEER2, Elec Furnace Baseline. kW impacts based on planning load profile. Before participant net of savings
Lifetime of savings	**16** Years
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Participant Costs $ 1,273.. 2% esc.	GDS costs for measure
Tax credit (benefit): $1,882	30% of heat pump cost, less utility subsidy, subject to $2,000 cap
Administrative Cost EK **$6,175** (2025 value) fixed annual (2025-2039),	Fixed admin - 2021 value of $5300 escalated to 2025
Co-op **$180** per new participant	based on proposed tariff
Rate Schedule - Retail	
Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale	
East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation - 2025: 92. 2026-2039: 131 per year. **0%** Free Riders	2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget
Rebates Co-op to Participant **$ 1,000**, 2% esc	**Proposed for new program design.**
EK to Co-op **$ 2,241,** 2% esc	**Based on proposed tariff. Reimburse for rebate, 50% of admin costs, plus compensation for lost margins.**

2025 IRP

System year 1 is 2025

Case:Heat Pump Water Heater

High Efficiency Heat Pump Program: Heat Pump Water Heater

The High Efficiency Heat Pump Program offers an incentive to Residential end-use members for purchasing an energy efficient heat pump rather than a standard efficiency heat pump. This program has two Tiers for Air Source Heat Pumps: ENERGY STAR® and cold-climate heat pump/geothermal, There is a separate incentive for purchasing a Heat Pump Water Heater rather than a standard electric water heater.

Assumption	***Source***
Load Impacts Before Participant *3,600 kWh, 0.84 kW (coincident with winter peak), 0.32 kW (summer)*	Typical efficiency (EF=0.90) new electric hot water heater, 50 or more gallons
Savings: ***2,129*** *kWh* ***0.74*** *kW (winter),* ***0.136*** *kW (summer)* After Participant	GDS kWh, Heat Pump Water Heater (UEF 2.6) heat pump heat. kW impacts based on planning load profile.
1,471 kWh, 0.10 kW (coinc. with winter system peak), 0.18 kW (summer)	Before participant net of savings
Lifetime of savings	**15** Years
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - **$174.60** per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Participant Costs $ 1,199.. 2% esc. **Tax credit (benefit): $561**	GDS costs for measure 30% of HPWH cost less utility subsidy , subject to a limit of $2,000 per year
Administrative Cost EK **$8,600** (2025 value) fixed annual (2025-2039). 2% esc	Program admin - 2018 value of $6,885 adjusted to 2025..
Co-op **$180** per new participant	Based on proposed tariff
Rate Schedule - Retail Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation - **2025: 0. 2026-2039: 245 per year. 10%** Free Riders	2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget
Rebates Co-op to Participant **$ 250**, 2% esc	**Proposed for new program design.**
EK to Co-op **$553**, 2% esc	**Based on proposed tariff. Reimburse for rebate, 50% of admin costs, plus compensation for lost margins.**

2025 IRP

System year 1 is 2025

High Efficiency Heat Pump Program: ENERGY STAR®

The High Efficiency Heat Pump Program offers an incentive to Residential end-use members for purchasing an energy efficient heat pump rather than a standard efficiency heat pump. This program has two Tiers for Air Source Heat Pumps: ENERGY STAR® and cold-climate heat pump/geothermal, There is a separate incentive for purchasing a Heat Pump Water Heater rather than a standard electric water heater.

Case: ENERGY STAR®

Assumption	***Source***
Load Impacts Before Participant *6,865 kWh, 8.12 kW (coinc. with winter system peak), 1.84 kW (summer)*	Federal Standard efficiency new heat pump: SEER 15, HSPF 8.8 (equivalent to 14.3 SEER2, 7.5 HSPF2)
*Savings: **890** kWh **0.16** kW (winter), **0.203** kW (summer)* After Participant *5,975 kWh, 7.96 kW (coinc. with winter system peak), 1.64 kW (summer)*	GDS kWh savings Energy Star ASHP 16.2 SEER2, HP baseline. kW impacts based on planning load profile Before participant net of savings
Lifetime of savings	**16** Years
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - **$174.60** per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Participant Costs $ 1,232.. 2% esc. **Tax credit (benefit): $2,000**	GDS costs for measure bundle 30% of heat pump cost less utility subsidy , subject to a limit of $2,000 per year
Administrative Cost EK **$8,600** (2025 value) fixed annual (2025-2039). 2% esc	Program admin - 2018 value of $6,885 adjusted to 2025..
Co-op **$180** per new participant	Based on proposed tariff
Rate Schedule - Retail	
Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale	
East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation - **2025: 0. 2026-2039: 1,249 per year. 10%** Free Riders	2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget
Rebates Co-op to Participant **$ 500**, 2% esc	**Proposed for new program design.**
EK to Co-op **$641**, 2% esc	**Based on proposed tariff. Reimburse for rebate, 50% of admin costs, plus compensation for lost margins.**

2025 IRP

System year 1 is 2025

Case:Cold Climate Heat Pump/Geothermal

High Efficiency Heat Pump Program: Cold Climate Heat Pump/Geothermal

The High Efficiency Heat Pump Program offers an incentive to Residential end-use members for purchasing an energy efficient heat pump rather than a standard efficiency heat pump. This program has two Tiers for Air Source Heat Pumps: ENERGY STAR® and cold-climate heat pump/geothermal, There is a separate incentive for purchasing a Heat Pump Water Heater rather than a standard electric water heater.

Assumption	***Source***
Load Impacts	
Before Participant *6,865 kWh, 8.12 kW (coinc. with winter system peak), 1.84 kW (summer)*	Federal Standard efficiency new heat pump: SEER 15, HSPF 8.8 (equivalent to 14.3 SEER2, 7.5 HSPF2)
Savings: ***1,583*** *kWh* ***2.381*** *kW (winter),* ***0.442*** *kW (summer)*	GDS kWh savings Cold Climate ASHP 18,1 SEER2, HP baseline. kW impacts based on planning load profile
After Participant *5,282 kWh, 5.74 kW (coinc. with winter system peak), 1.40 kW (summer)*	Before participant net of savings
Lifetime of savings	**16** Years
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - **$174.60** per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Participant Costs $ 2,546.. 2% esc. **Tax credit (benefit): $2,000**	GDS costs for measure bundle 30% of heat pump cost less utility subsidy , subject to a limit of $2,000 per year
Administrative Cost	
EK **$8,600** (2025 value) fixed annual (2025-2039). 2% esc	Program admin - 2018 value of $6,885 adjusted to 2025..
Co-op **$180** per new participant	Based on proposed tariff
Rate Schedule - Retail	
Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale	
East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation - **2025: 0. 2026-2039: 416 per year.** **0%** Free Riders	2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget
Rebates	
Co-op to Participant **$ 1,000**, 2% esc	**Proposed for new program design.**
EK to Co-op **$1,248,** 2% esc	**Based on proposed tariff. Reimburse for rebate, 50% of admin costs, plus compensation for lost margins.**

2025 IRP

System year 1 is 2025

Electric Vehicle Off-Peak charging

Electric Vehicle ("EV") Off-Peak Charging Program is available to Residential end-use members in the service territories of EKPC owner-members and includes energy reporting from electric vehicles or compatible electric vehicle supply equipment. The program is designed to reduce growth in peak demand resulting from the adoption of EVs. EKPC provides a monthly incentive for registered EVs' charging energy (kWh) that occurs during the off-peak hours.

Assumption	***Source***
Load Impacts	
Before Participant ***7,500*** *kWh,* ***1.83 kW*** *(diversified, coincident with summer peak),* ***0.32 kW*** *(winter).*	Typical electric vehicle charging profile, diversified. Level 2 charging, 7,500 kWh per year. Peaks are diversified, coincident with system peak.. PJM summer, EKPC (hour **18** summer, hour **8** winter). Based on Duke Energy metered profile.
	Savings: **1.65 kW** coincident Summer peak; **0.29 kW** coincident Winter peak
After Participant ***7,500*** *kWh,* ***0.18 kW*** *(diversified, coincident with summer peak),* ***0.03 kW*** *(winter).* ***4,336 kWh*** *shifted*	Same vehicle with **90%** demand response. 90% of baseline on-peak EV kWh shifted to off-peak hours of **10 PM - 6 AM.**
Lifetime of savings 10 Years.	Assumes that the vehicle participates for the program for 10 years
Discount rate for TRC and RIM	**5** percent per EKPC financial data ; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.53 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 44.34 per kW-year in 2025	Point-to-point rate, 2023-24. OATT. 2.8 % escalation rate based on 10 yr PPI.. Applied to summer coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to summer coincident peak.
Participant Costs $ 0.. 2% esc.	EKPC pays all costs for this program
Tax credit (benefit): $0	none for this program
Administrative Cost	
EK **$ $108** per participant per year, 2% esc	Cost for API only. Based on 2022 quote
Co-op **$0**	EKPC pays all administrative costs for this program
Rate Schedule - Retail	
Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale	
East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation -2025: 0 2026-2039: 500 per year.. 40% Free Riders	Based on 2024 budget projections. Free riders to account for the share of participants who would be charging off -peak anyway.
Rebates	
Co-op to Participant **$ $140 per year, for all cumulative participants**, 0% esc	**2 cents per kWh (all off-peak charging - assumed to be 7,000 kWh).**
EK to Co-op **$70 per year, all cumulative participants,** 0% esc	**EKPC pays 50% of the rebate to the end-use member.**

2025 IRP

System year 1 is 2025

Direct Load Control of Water Heaters using Switch technology

Reduce peak demand and energy usage through the installation of load control devices on electric water heaters .

Assumption	***Source***
Load Impacts Before Participant Water Heater control savings ***18.5*** *kWh,* ***0.45 kW*** ***(*** *coincident with winter system peak),* ***0.30*** *kW (summer)*	Based on M&V data for the program.
Lifetime of savings 1 year.	Life of program. Program models all devices in the field. The participation represents the load that is available to the program each year,. Switch counts decline in some years.
Discount rate for TRC and RIM	**5** percent per EKPC financial data ; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.53 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Participant Costs $ 0	all program costs are borne by EKPC
Tax credit (benefit): $0	none for this program
Administrative Cost EK **$440,000** (2025 value) fixed annual (**2025-2044**). 2% esc. .	Fix admin cost is AC switch share of UPA costs
Co-op **$0** per new participant	No administrative costs incurred by member cooperatives
Rate Schedule - Retail	
Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale	
East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation -2025-2033: 10,042 active devices). 2034-2039: 5,641 active switches.. 0% Free Riders	Based on access by communicating technology
Rebates Co-op to Participant **$ 10 per year for each active switch;** 2% esc	**Based on tariff.**
EK to Co-op **All rebate payments,** 2% esc	**Based on tariff.**

2025 IRP **System year 1 is 2025** **Case: Bring Your Own Thermostat ("BYOT")**	Direct Load Control of Residential Air Conditioners and Heat Pumps: Bring Your Own Thermostat Reduce peak demand and energy usage through smart thermostat control of residential air conditioners
Assumption	***Source***
Load Impacts Before Participant Air Conditioner savings ***6.5*** *kWh,* ***0.00 kW*** *(coincident with winter system peak),* ***1.05*** *kW (summer)*	Based on average of M&V reports for Hoosier Energy (2021) and CenterPoint (2023); kWh savings based on 15 4-hour events
Lifetime of savings 20 years.	Life of program. Program models all devices in the field. The participation represents the load that is avaiable to the program each year,.
Discount rate for TRC and RIM	**5** percent per EKPC financial data ; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.53 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 44.34 per kW-year in 2025	Point-to-point rate, 2023-24. OATT. 2.8 % escalation rate based on 10 yr PPI.. Applied to summer coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to summer coincident peak.
Participant Costs $ 110 per new participant ($110,000 in 2025).. 2% esc. **Tax credit (benefit): $0**	cost to install new smart thermostat. One time cost for new participants none for this program
Administrative Cost EK **$25,000** (2025 value) fixed annual (**2025-2044**). 2% esc. . Per device fee of **$24** annually 2% esc	Fix admin cost for EK staff program admin (estimate)
Co-op **$0** per new participant	No administrative costs incurred by member cooperatives
Rate Schedule - Retail Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation -2025: 8,000 (existing plus new). 2026-2039: 1,000 new per year.. 0% Free Riders	Budget estimate plus 2024 actual
Rebates Co-op to Participant **$ 110 one-time for new participants,; $20 per year for all participants**, 2% esc	**Based on tariff. One time rebate is for installing the thermostat ($100) and enrolling in the DR program ($10). Annual credit is $20 per year..**
EK to Co-op **All rebate payments,** 2% esc	**Based on tariff.**

2025 IRP

System year 1 is 2025

Direct Load Control of Air Condiitioners using Switch technology

Reduce peak demand and energy usage through the installation of load control devices on air conditioners and heat pumps .

Assumption	***Source***
Load Impacts Before Participant Air Conditioner savings ***6*** *kWh,* ***0.00 kW*** *(coincident with winter system peak),* ***0.95*** *kW (summer)*	Based on M&V data for the program.Temperature of 98 degrees.
Lifetime of savings 1 year.	Life of program. Program models all devices in the field. The participation represents the load that is available to the program each year,. Switch counts decline in some years.
Discount rate for TRC and RIM	**5** percent per EKPC financial data ; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.53 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 44.34 per kW-year in 2025	Point-to-point rate, 2023-24. OATT. 2.8 % escalation rate based on 10 yr PPI.. Applied to summer coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to summer coincident peak.
Participant Costs $ 0	all program costs are borne by EKPC
Tax credit (benefit): $0	none for this program
Administrative Cost EK **$560,000** (2025 value) fixed annual (**2025-2044**). 2% esc. .	Fix admin cost is AC switch share of UPA costs
Co-op **$0** per new participant	No administrative costs incurred by member cooperatives
Rate Schedule - Retail Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation -2025-2033: 12,777 active devices). 2034-2039: 7,957 active switches.. 0% Free Riders	Based on access by communicating technology
Rebates Co-op to Participant **$ 20 per year for each active switch;** 2% esc	**Based on tariff.**
EK to Co-op **All rebate payments,** 2% esc	**Based on tariff.**

2025 IRP

System year 1 is 2025

For analysis purposes, the unit of participation is 1 kW connected load savings. Rebates are per kW .

Commercial Advanced Lighting program

This program promotes energy efficiency by offering incentives to non-residential end-use members to install high-efficiency LED lighting in their facilities.

Assumption	***Source***
Load Impacts	
Before Participant *48,000 kWh, 5.1 kW (coincident with winter system peak), 9.6 kW (summer)*	Lighting load for typical 8,000 square foot commercial building. EUI of 6 kWh per square foot (sources: EPRI Market Profiles, Duke Power end use metering study).
*Savings: **4,250** kWh **0.45** kW (winter), **0.64** kW (summer)*	Savings in connected load of 1 kW : coincidence/diversity factor of 0.85 in Summer,. kWh savings based on DSManager factor for kWh savings per kW. kW impacts based on planning load profile
After Participant *43,750 kWh, 4.65 kW (coinc. with winter system peak), 8.96 kW (summer)*	Before participant net of savings
Lifetime of savings	**15** Years, based on GDS measures in 2024 potential study
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - **$174.60** per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 44.34 per kW-year in 2025	Point-to-point rate (12 CP), 2023-24. OATT. 2.8 % escalation rate based on 10 yr PPI.. Applied to summer coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Based on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to summer coincident peak.
Participant Costs $ 2,210 per unit.. 2% esc.	Based on median measure cost per kWh in GDS 2024 potential study (office lighting)
Tax credit (benefit): $0	No tax credit available for this program
Administrative Cost	
EK **$0 (**2025**) ,$20,000** (2026), **$10,400** fixed annual (2027-2039). 2% esc	Note: no program in Year 1. Year 2 only: program setup, marketing, verification, , rebate processing, general admin, Years 3 forward: marketing, verification, rebate processing, general admin,
Co-op **$32** per new unit (1 kW), 2 % esc.	Site visit. Assumes typical savings per facility is 4 kW. Labor costs are $128. (2 hours). .
Rate Schedule - Retail South Kentucky **B** rate Cust chrg **$40.00**, Energy Rate **$.08742**	Current rates in effect as of January 2024..**plus Environmental Surcharge and FAC**
Rate Schedule - Wholesale East Kentucky E-2 rate.	Current rates in effect as of January 2024. **plus Environmental Surcharge and FAC**
Participation - **2025: 0. 2026-2039: 1,000 units per year. 10%** Free Riders	Per program design. Participation unit is 1 kW connected load reduction. Program starts 2026.
Rebates	
Co-op to Participant **$ 250 per unit**, 2%	**Per program design**
EK to Co-op **$ 610 per unit,** 2% esc	**Per program design**

2025 IRP filing

System year 1 is 2025

Community Assistance Resources for Energy Savings (CARES)

The CARES program provides an incentive to enhance the weatherization and energy efficiency services provided to qualifying Residential end-use members by the Kentucky Comminity Action Agencies (""CAA") network and Affordable Housing Orpganizations ("AHOs"). EKPC and its owner members provide an incentive to the agency impementing the project, The incentive assists the CAA in weatherizing more homes and provide additional energy efficiency improvements in each home.

Assumption	***Source***
Load Impacts	
Before Participant	
10,500 kWh, 8.12 kW (coinc. with winter system peak), 2.47 kW (summer). 750 therms	Mix of Furnace/Central AC and air source heat pump weighted according to saturation in existing single family homes. 70% heat pump, 30% furnace/CAC.
Savings: ***5,735*** *kWh* ***4.21*** *kW (winter),* ***1.81*** *kW (summer)* ***59*** *therms*	GDS kWh savings for building shell,duct sealing, heat pump retrofit (eligible homes), and water heater wrap, weighted by heating type. kW impacts based on planning load profile
After Participant	
4,765 kWh, 3.91 kW (coincident with winter system peak), 0.66 kW (summer), 691 therms	Before participant net of savings
Lifetime of savings	**17** Years
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Avoided Gas Commodity Costs - **$3.94** per Mcf in 2025	DSMore scenario **1, 1.34 esc in 2025.** Based on Aces Henry Hub 1/11/2024 forecast .
Participant Costs $ 3,803	GDS costs for measure bundles
Tax credit (benefit): $0	Not applicable
Administrative Cost	
EK **$5,756** (2025 value) fixed annual (2025-2039). 2% esc	Program admin - 2022 value of $5,300 adjusted to 2025..
Co-op **$200** per new participant	Based on new program design
Rate Schedule - Retail	
Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale	
East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Natural gas delivery rate is **$ 5.2528** per Mcf in 2018 (**$0.52528** per ccf for DSMore units)	Current rates as of November 2023. From Columbia Gas of KY GSR rate. Sum of base rate charge and gas cost demand. DSMore adds in the commodity portion using the market forecast.
Participation - 2025: 120. 2026-2039: 120 per year. 0% Free Riders	2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget
Rebates	
Co-op to Participant **$ 2,236**, 2% esc	**Based on proposed tariff. Weighted by heating type**
EK to Co-op **$2,710,** 2% esc	**Based on proposed tariff. Weighted by heating type**

2025 IRP

System year 1 is 2025

C&I Thermostat program

The Commercial & Industrial (C&I) Thermostat Program is an energy efficiency initiative designed to encourage non-residential end-use members to reduce energy usage by upgrading to self-learning thermostats. The C&I Thermostat Program offers an incentive for purchasing and installing a smart thermostat that controls the setback temperature settings for cooling.

Assumption	***Source***
Load Impacts Before Participant *5,950 kWh, 0.065 kW (coinc. with winter system peak), 2.777 kW (summer)*	GDS Baseline - Cooling for "Other" building type
Savings: ***842*** *kWh* ***0.000*** *kW (winter),* ***0.322*** *kW (summer)* After Participant *5,108 kWh, 0.065 kW (coinc. with winter system peak), 2.455 kW (summer)*	GDS kWh savings for smart thermostat , "Other" building type. kW impacts based on planning load profile Before participant net of savings
Lifetime of savings	**11** Years
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 44.34 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to summer coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to summer coincident peak.
Participant Costs $ 175.. 2% esc. **Tax credit (benefit): $0**	GDS costs for measure bundle no tax credit for this program
Administrative Cost	
EK $ **0** (2025). **$ 900** fixed annual (2026-2039). 2% esc	Fixed admin - 2018 budget prorated, $688 times 1.20 ECI increase 2018 to 2023. escalated 2% a year to 2026 value
Co-op **$20** per new participant, 2% esc	**Variable admin - rebate processing .**
Rate Schedule - Retail	
Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale	
East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation - 2025: 0. 2026-2039: 25 per year. 0% Free Riders	2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget
Rebates	
Co-op to Participant **$ 100**, 2% esc	**Based on tariff**
EK to Co-op **$194,** 2% esc	**Based on tariff**

2025 IRP

System year 1 is 2025

Case: Weatherization

Button-Up Weatherization

The Button-Up Weatherization Program offers Residential end-use members an incentive for reducing the heat loss of a home **using a variety of building shell measures, including insulation, air sealing, and ENERGY STAR windows.** Duct sealing is a separate case.

Assumption	***Source***
Load Impacts Before Participant *10,500 kWh, 8.12 kW (coinc. with winter system peak), 2.47 kW (summer)*	Mix of Furnace/Central AC and air source heat pump weighted according to saturation in existing single family homes. 70% heat pump, 30% furnace/CAC.
Savings: ***3,000*** *kWh* ***2.20*** *kW (winter),* ***0.95*** *kW (summer)*	GDS kWh savings for a package of measures, weighted by electric heat technology. kW impacts based on planning load profile.
After Participant *7,500 kWh, 5.92 kW (coinc. with winter system peak), 1.52 kW (summer)*	Before participant net of savings
Lifetime of savings	**20** Years
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Participant Costs $ 3,125.. 2% esc.	GDS costs for measure bundle
Tax credit (benefit): $400	30% of measure cost less labor costs and utility subsidy , subject to a limit of $1,200 per year
Administrative Cost EK **$5,756** (2025 value) fixed annual (2025-2039). 2% esc	Program admin - 2022 value of $5,300 adjusted to 2025..
Co-op **$360** per new participant	Based on new program design. Average of air sealing and non-air sealing cost
Rate Schedule - Retail Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation - 2025: 28. 2026-2039: 560 per year. **10%** Free Riders	2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget
Rebates Co-op to Participant **$ 1,000**, 2% esc	**Based on new program design** **Reimburse for rebate, 50% of admin costs, plus compensation for a share of net lost revenues.**
EK to Co-op **$1,480,** 2% esc	

2025 IRP filing

System year 1 is 2025

Case: Duct Sealing

Button-Up Duct sealing

Sealing ductwork. Duct Sealing Program ("Duct Seal") is designed to incentivize Residential end-use members to seal up the ducts that deliver heat or cooling from the heating or cooling equipment to individual rooms in the home. Reductions in duct losses are measured using a blower test.

Assumption	***Source***
Load Impacts Before Participant *10,500 kWh, 8.12 kW (coinc. with winter system peak), 2.47 kW (summer)*	Mix of Furnace/Central AC and air source heat pump weighted according to saturation in existing single family homes. 70% heat pump, 30% furnace/CAC.
Savings: ***880*** *kWh* ***0.78*** *kW (winter),* ***0.30*** *kW (summer)* After Participant *9,620 kWh, 7.34 kW (coinc. with winter system peak), 2.23 kW (summer)*	GDS kWh savings for duct sealing, weighted by electric heat technology. kW impacts based on planning load profile. Before participant net of savings
Lifetime of savings	**20** Years (Illinois 2023 TRM)
Discount rate for TRC and RIM	**5** percent per EKPC financial data; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.587 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Participant Costs $ 738.. 2% esc.	GDS costs for measure
Tax credit (benefit): $0	No tax credit available
Administrative Cost EK **$6,600** (2025 value) fixed annual (2025-2039). 2% esc	Program admin - 2022 value of $6,000 escalated to 2025.
Co-op **$200** per new participant	Based on new program design
Rate Schedule - Retail Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation - 2025: 0. 2026-2039: 37 per year. 10% Free Riders	2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget
Rebates Co-op to Participant **$ 500**, 2% esc	**Based on proposed tariff**
EK to Co-op **$750,** 2% esc	**Based on proposed tariff**

2025 IRP

System year 1 is 2025

Backup Generator Control Program

The Backup Generator Control Program is designed to incentivize the use of end-use member-owned backup generators to support EKPC's demand response initiatives. The program helps EKPC optimize its system performance, particularly during high peak hours.

Assumption	***Source***
Load Impacts Generator annual load relief ***416*** *kWh,* ***10 kW*** *(coincident with winter system peak),* ***6 kW*** *(summer)*	Based on GDS Tec Pot. Comports with typical diversified peak demands for residential.. kWh are calculated based on # of interruption hours in winter (32) and summer(16)
Lifetime of savings 10 Years.	Estimate . This means that a participant would remain in the program for 10 years.
Discount rate for TRC and RIM	**5** percent per EKPC financial data ; 3.5 % societal test from Mercatus Center report
Generation Capacity Cost - $174.60 per kW-year (no escalation). 73% winter 27% summer.	**Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024.**
Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, **$45.96 /MWh** in 2025	based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. **$45.96 /MWh** in 2025. DSMore **Scenario 9, 0.53 esc in 2025**
Transmission Capacity Cost - OATT tariff $ 35.76 per kW-year in 2025	Network rate, 2023-24. OATT. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak.
Distribution Capacity Cost - $ 4.93 per kW-year in 2025	Basd on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak.
Participant Costs $ 104 per year.. 2% esc.	participant has existing generator. Fuel costs.
Tax credit (benefit): $0	none for this program
Administrative Cost EK **$ 5,000** fixed first year , 2026 only; **$2,000** (2026 value) fixed annual (2026-2038). 2% esc. Per device fee is **$24** annual (2026-2039) 2% esc	Fixed first year : set up, data protocol for communicating with generators Fixed annual is ongoing program mgt; Per device annual fee for 3rd party event data mgt
Co-op **$ 150** per participant per year, 2% esc.	retail member servicr, testing, verification
Rate Schedule - Retail Median Residential Rate for Co-ops Cust chrg **$16.09**, Energy Rate **$.088229**	Current rates in effect as of January 2024.. **includes Environmental Surcharge and FAC**
Rate Schedule - Wholesale East Kentucky E-2 rate.	Current rates in effect as of January 2024. **includes Environmental Surcharge and FAC**
Participation - 2026-2039: 50 per year.. **0%** Free Riders	Budget estimate
Rebates Co-op to Participant **$ 450 per year,**, 2% esc	**proposed tariff**
EK to Co-op **$600 per year,** 2% esc	**proposed tariff**

Exhibit DSM-4

Summary Sheets for DSM Programs

Backup Generators, 2025 IRP

Distribution System Benefits		Distribution System Costs	
Power Bill Declines	$ 1,326,522	Revenue Declines	($141,939)
Transfer Payments from EKPC	$2,186,111	Administrative Costs	($546,528)
		Rebates Paid To Participants	($1,639,584)
Total Benefits	$3,512,633	Total Costs	($2,328,050)
	Benefit / Cost Ratio: 1.51		

Participant Benefits		Participant Costs	
Electric Bill Declines	$76,485	Participant Costs	($202,506)
Rebates From Distribution System	$ 876,228		
Reductions in O&M costs	$0		
Tax Credits	$0		
Total Benefits	$952,714	Total Costs	($202,506)
	Benefit / Cost Ratio: 4.70		

Total Resource Benefits		Total Resource Costs	
Avoided Energy Costs	$140,258	Participant Costs	($378,926)
Avoided Gen Capacity Costs	$5,048,291	Distribution System Admin. Costs	($546,528)
Avoided T&D Costs	$1,011,843	EK Administrative Costs	($114,889)
Reduced Participant O&M costs	$0		
Tax Credits	$0		
Total Benefits	$6,200,391	Total Costs	($1,040,343)
	Benefit / Cost Ratio: 5.96		

EK Benefits		EK Costs	
Avoided Energy Costs	$140,258	Decrease In Revenue	($1,326,522)
Avoided Gen Capacity Costs	$5,048,291	Transfer Payments to Member Coops	($2,186,111)
Avoided T&D Costs	$1,011,843	Administrative Costs	($114,889)
Total Benefits	$6,200,391	Total Costs	($3,627,523)
	Benefit / Cost Ratio: 1.71		

Utility Test Benefits		Utility Test Costs	
Avoided Energy Costs	$140,258	Rebates Paid to Participants	($1,639,584)
Avoided Gen Capacity Costs	$5,048,291	Utility Admin Costs	($661,417)
Avoided T&D Costs	$1,011,843		
Total Benefits	$6,200,391	Total Costs	($2,301,001)
	Benefit / Cost Ratio: 2.69		

Combined RIM:

Total Benefits	$6,200,391	Total Costs	($2,442,940)
	Benefit / Cost Ratio: 2.54		

Button-Up, Combined Cases, 2025 IRP

Distribution System Benefits		Distribution System Costs	
Power Bill Declines	$ 22,650,241	Revenue Declines	($24,428,029)
Transfer Payments from EKPC	$9,756,003	Administrative Costs	($2,380,454)
		Rebates Paid To Participants	($6,589,058)
Total Benefits	$32,406,243	Total Costs	($33,397,541)
	Benefit / Cost Ratio: 0.97		

Participant Benefits		Participant Costs	
Electric Bill Declines	$10,126,531	Participant Costs	($12,639,047)
Rebates From Distribution System	$ 4,113,436		
Reductions in O&M costs	$0		
Tax Credits	$1,593,115		
Total Benefits	$15,833,082	Total Costs	($12,639,047)
	Benefit / Cost Ratio: 1.25		

Total Resource Benefits		Total Resource Costs	
Avoided Energy Costs	$14,791,322	Participant Costs	($18,220,336)
Avoided Gen Capacity Costs	$23,138,231	Distribution System Admin. Costs	($2,380,454)
Avoided T&D Costs	$9,674,593	EK Administrative Costs	($145,892)
Reduced Participant O&M costs	$0		
Tax Credits	$2,296,527		
Total Benefits	$49,900,671	Total Costs	($20,746,681)
	Benefit / Cost Ratio: 2.41		

EK Benefits		EK Costs	
Avoided Energy Costs	$14,791,322	Decrease In Revenue	($22,650,241)
Avoided Gen Capacity Costs	$23,138,231	Transfer Payments to Member Coop	($9,756,003)
Avoided T&D Costs	$9,674,593	Administrative Costs	($145,892)
Total Benefits	$47,604,145	Total Costs	($32,552,135)
	Benefit / Cost Ratio: 1.46		

Utility Test Benefits		Utility Test Costs	
Avoided Energy Costs	$14,791,322	Rebates Paid to Participants	($6,589,058)
Avoided Gen Capacity Costs	$23,138,231	Utility Admin Costs	($2,526,345)
Avoided T&D Costs	$9,674,593		
Total Benefits	$47,604,145	Total Costs	($9,115,404)
	Benefit / Cost Ratio: 5.22		

Combined RIM:

Total Benefits	$47,604,145	Total Costs	($33,543,433)
	Benefit / Cost Ratio: 1.42		

C&I Thermostat program, 2025 IRP filing

Distribution System Benefits			Distribution System Costs	
Power Bill Declines	$	155,919	Revenue Declines	($212,535)
Transfer Payments from EKPC		$55,006	Administrative Costs	($5,671)
			Rebates Paid To Participants	($28,354)
Total Benefits		$210,925	Total Costs	($246,560)
		Benefit / Cost Ratio: 0.86		

Participant Benefits			Participant Costs	
Electric Bill Declines		$97,657	Participant Costs	($30,897)
Rebates From Distribution System	$	17,655		
Reductions in O&M costs		$0		
Tax Credits		$0		
Total Benefits		$115,312	Total Costs	($30,897)
		Benefit / Cost Ratio: 3.73		

Total Resource Benefits		Total Resource Costs	
Avoided Energy Costs	$68,138	Participant Costs	($49,619)
Avoided Gen Capacity Costs	$34,654	Distribution System Admin. Costs	($5,671)
Avoided T&D Costs	$18,613	EK Administrative Costs	($10,007)
Reduced Participant O&M costs	$0		
Tax Credits	$0		
Total Benefits	$121,405	Total Costs	($65,297)
	Benefit / Cost Ratio: 1.86		

EK Benefits		EK Costs	
Avoided Energy Costs	$68,138	Decrease In Revenue	($155,919)
Avoided Gen Capacity Costs	$34,654	Transfer Payments to Member Coops	($55,006)
Avoided T&D Costs	$18,613	Administrative Costs	($10,007)
Total Benefits	$121,405	Total Costs	($220,932)
	Benefit / Cost Ratio: 0.55		

Utility Test Benefits		Utility Test Costs	
Avoided Energy Costs	$68,138	Rebates Paid to Participants	($28,354)
Avoided Gen Capacity Costs	$34,654	Utility Admin Costs	($15,678)
Avoided T&D Costs	$18,613		
Total Benefits	$121,405	Total Costs	($44,032)
	Benefit / Cost Ratio: 2.76		

Combined RIM:

Total Benefits	$121,405	Total Costs	($256,567)
	Benefit / Cost Ratio: 0.47		

CARES 2025 IRP filing. NOTE: Participant Test is not accurate. Participant investment included for TRC only

Distribution System Benefits		Distribution System Costs	
Power Bill Declines	$ 9,826,725	Revenue Declines	($10,606,510)
Transfer Payments From EKPC	$4,013,456	Administrative Costs	($296,196)
		Rebates Paid To Participants	($3,311,472)
Total Benefits	$13,840,181	Total Costs	($14,214,178)
	Benefit / Cost Ratio: 0.97		

Participant Benefits		N/A	Participant Costs	
Electric Bill Declines	$4,418,160		Participant Costs	($3,679,229)
Rebates From Distribution System	$ 2,163,228			
Reductions in O&M costs	$0			
Tax Credits	$0			
Reductions in Gas bill	$449,333			
Total Benefits	$7,030,721		Total Costs	($3,679,229)
DO NOT USE	Benefit / Cost Ratio: 1.91			DO NOT USE

Total Resource Benefits		Total Resource Costs	
Avoided Energy Costs	$6,388,093	Participant Costs	($5,632,167)
Avoided Gen Capacity Costs	$10,212,614	Distribution System Admin. Costs	($296,196)
Avoided T&D Costs	$4,076,382	EK Administrative Costs	($71,038)
Reduced Participant O&M costs	$0		
Tax Credits	$0		
Reduced Nat Gas Costs	$91,184		
Total Benefits	$20,768,273	Total Costs	($5,999,401)
	Benefit / Cost Ratio: 3.46		

EK Benefits		EK Costs	
Avoided Energy Costs	$6,388,093	Decrease In Revenue	($9,826,725)
Avoided Gen Capacity Costs	$10,212,614	Transfer Payments to Member Coop	($4,013,456)
Avoided T&D Costs	$4,076,382	Administrative Costs	($71,038)
Total Benefits	$20,677,089	Total Costs	($13,911,219)
	Benefit / Cost Ratio: 1.49		

Utility Test Benefits		Utility Test Costs	
Avoided Energy Costs	$6,388,093	Rebates Paid to Participants	($3,311,472)
Avoided Gen Capacity Costs	$10,212,614	Utility Admin Costs	($367,234)
Avoided T&D Costs	$4,076,382		
Total Benefits	$20,677,089	Total Costs	($3,678,705)
	Benefit / Cost Ratio: 5.62		

Combined RIM:

Total Benefits	$20,677,089	Total Costs	($14,285,215)
	Benefit / Cost Ratio: 1.45		

Commercial Advanced Lighting, 2025 IRP filing

Distribution System Benefits		Distribution System Costs	
Power Bill Declines	$ 35,146,486	Revenue Declines	($48,458,650)
Transfer Payments frim EKPC	$6,918,316	Administrative Costs	($362,928)
		Rebates Paid To Participants	($2,835,375)
Total Benefits	$42,064,802	Total Costs	($51,656,953)
	Benefit / Cost Ratio: 0.81		

Participant Benefits		Participant Costs	
Electric Bill Declines	$22,349,029	Participant Costs	($15,607,284)
Rebates From Distribution System	$ 1,765,530		
Reductions in O&M costs	$0		
Tax Credits	$0		
Total Benefits	$24,114,559	Total Costs	($15,607,284)
	Benefit / Cost Ratio: 1.55		

Total Resource Benefits		Total Resource Costs	
Avoided Energy Costs	$16,026,306	Participant Costs	($22,558,246)
Avoided Gen Capacity Costs	$9,006,210	Distribution System Admin. Costs	($362,928)
Avoided T&D Costs	$3,796,849	EK Administrative Costs	($122,748)
Reduced Participant O&M costs	$0		
Tax Credits	$0		
Total Benefits	$28,829,365	Total Costs	($23,043,922)
	Benefit / Cost Ratio: 1.25		

EK Benefits		EK Costs	
Avoided Energy Costs	$16,026,306	Decrease In Revenue	($35,146,486)
Avoided Gen Capacity Costs	$9,006,210	Transfer Payments to Member Coops	($6,918,316)
Avoided T&D Costs	$3,796,849	Administrative Costs	($122,748)
Total Benefits	$28,829,365	Total Costs	($42,187,550)
	Benefit / Cost Ratio: 0.68		

Utility Test Benefits		Utility Test Costs	
Avoided Energy Costs	$16,026,306	Rebates Paid to Participants	($2,835,375)
Avoided Gen Capacity Costs	$9,006,210	Utility Admin Costs	($485,676)
Avoided T&D Costs	$3,796,849		
Total Benefits	$28,829,365	Total Costs	($3,321,052)
	Benefit / Cost Ratio: 8.68		

Combined RIM:

Total Benefits	$28,829,365	Total Costs	($51,779,701)
	Benefit / Cost Ratio: 0.56		

DLC, Combined Cases, 2025 IRP

Distribution System Benefits		Distribution System Costs	
Power Bill Declines	$ 18,286,906	Revenue Declines	($449,690)
Transfer Payments from EKPC	$11,407,497	Administrative Costs	($21)
		Rebates Paid To Participants	($11,407,497)
Total Benefits	$29,694,403	Total Costs	($11,857,208)
	Benefit / Cost Ratio: 2.50		

Participant Benefits		Participant Costs	
Electric Bill Declines	$272,259	Participant Costs	($806,212)
Rebates From Distribution System	$ 6,222,340		
Reductions in O&M costs	$0		
Tax Credits	$0		
Total Benefits	$6,494,599	Total Costs	($806,212)
	Benefit / Cost Ratio: 8.06		

Total Resource Benefits		Total Resource Costs	
Avoided Energy Costs	$647,094	Participant Costs	($1,234,150)
Avoided Gen Capacity Costs	$25,224,324	Distribution System Admin. Costs	($21)
Avoided T&D Costs	$9,798,177	EK Administrative Costs	($19,323,131)
Reduced Participant O&M costs	$0		
Tax Credits	$0		
Total Benefits	$35,669,595	Total Costs	($20,557,302)
	Benefit / Cost Ratio: 1.74		

EK Benefits		EK Costs	
Avoided Energy Costs	$647,094	Decrease In Revenue	($18,286,906)
Avoided Gen Capacity Costs	$25,224,324	Transfer Payments to Member Coop	($11,407,497)
Avoided T&D Costs	$9,798,177	Administrative Costs	($19,323,131)
Total Benefits	$35,669,595	Total Costs	($49,017,534)
	Benefit / Cost Ratio: 0.73		

Utility Test Benefits		Utility Test Costs	
Avoided Energy Costs	$647,094	Rebates Paid to Participants	($11,407,497)
Avoided Gen Capacity Costs	$25,224,324	Utility Admin Costs	($19,323,155)
Avoided T&D Costs	$9,798,177		
Total Benefits	$35,669,595	Total Costs	($30,730,652)
	Benefit / Cost Ratio: 1.16		

Combined RIM:

Total Benefits	$35,669,595	Total Costs	($31,180,339)
	Benefit / Cost Ratio: 1.14		

High Efficiency Heat Pump, Combined Cases, 2025 IRP

Distribution System Benefits		Distribution System Costs	
Power Bill Declines	$ 24,684,360	Revenue Declines	($28,412,562)
Transfer Payments from EKPC	$16,504,856	Administrative Costs	($3,899,208)
		Rebates Paid To Participants	($12,495,499)
Total Benefits	$41,189,215	Total Costs	($44,807,269)
	Benefit / Cost Ratio: 0.92		

Participant Benefits		Participant Costs	
Electric Bill Declines	$12,465,120	Participant Costs	($20,421,242)
Rebates From Distribution System	$ 7,780,690		
Reductions in O&M costs	$0		
Tax Credits	$24,487,511		
Total Benefits	$44,733,322	Total Costs	($20,421,242)
	Benefit / Cost Ratio: 2.19		

Total Resource Benefits		Total Resource Costs	
Avoided Energy Costs	$16,585,156	Participant Costs	($30,717,398)
Avoided Gen Capacity Costs	$22,578,601	Distribution System Admin. Costs	($3,899,208)
Avoided T&D Costs	$9,383,077	EK Administrative Costs	($292,611)
Reduced Participant O&M costs	$0		
Tax Credits	$36,337,041		
Total Benefits	$84,883,874	Total Costs	($34,909,216)
	Benefit / Cost Ratio: 2.43		

EK Benefits		EK Costs	
Avoided Energy Costs	$16,585,156	Decrease In Revenue	($24,684,360)
Avoided Gen Capacity Costs	$22,578,601	Transfer Payments to Member Coop	($16,504,856)
Avoided T&D Costs	$9,383,077	Administrative Costs	($292,611)
Total Benefits	$48,546,833	Total Costs	($41,481,826)
	Benefit / Cost Ratio: 1.17		

Utility Test Benefits		Utility Test Costs	
Avoided Energy Costs	$16,585,156	Rebates Paid to Participants	($12,495,499)
Avoided Gen Capacity Costs	$22,578,601	Utility Admin Costs	($4,191,819)
Avoided T&D Costs	$9,383,077		
Total Benefits	$48,546,833	Total Costs	($16,687,318)
	Benefit / Cost Ratio: 2.91		

Combined RIM:

Total Benefits	$48,546,833	Total Costs	($45,099,879)
	Benefit / Cost Ratio: 1.08		

Heat Pump Retrofit, Combined Cases, 2025 IRP

Distribution System Benefits		Distribution System Costs	
Power Bill Declines	$ 31,230,517	Revenue Declines	($44,533,267)
Transfer Payments from EKPC	$12,519,721	Administrative Costs	($1,114,296)
		Rebates Paid To Participants	($5,425,596)
Total Benefits	$43,750,238	Total Costs	($51,073,159)
	Benefit / Cost Ratio: 0.86		

Participant Benefits		Participant Costs	
Electric Bill Declines	$18,718,354	Participant Costs	($2,993,120)
Rebates From Distribution System	$ 3,497,735		
Reductions in O&M costs	$0		
Tax Credits	$3,115,919		
Total Benefits	$25,332,008	Total Costs	($2,993,120)
	Benefit / Cost Ratio: 8.46		

Total Resource Benefits		Total Resource Costs	
Avoided Energy Costs	$19,784,008	Participant Costs	($4,642,817)
Avoided Gen Capacity Costs	$9,474,115	Distribution System Admin. Costs	($1,114,296)
Avoided T&D Costs	$4,173,285	EK Administrative Costs	($381,044)
Reduced Participant O&M costs	$0		
Tax Credits	$4,833,329		
Total Benefits	$38,264,737	Total Costs	($6,138,157)
	Benefit / Cost Ratio: 6.23		

EK Benefits		EK Costs	
Avoided Energy Costs	$19,784,008	Decrease In Revenue	($31,230,517)
Avoided Gen Capacity Costs	$9,474,115	Transfer Payments to Member Coop	($12,519,721)
Avoided T&D Costs	$4,173,285	Administrative Costs	($381,044)
Total Benefits	$33,431,408	Total Costs	($44,131,282)
	Benefit / Cost Ratio: 0.76		

Utility Test Benefits		Utility Test Costs	
Avoided Energy Costs	$19,784,008	Rebates Paid to Participants	($5,425,596)
Avoided Gen Capacity Costs	$9,474,115	Utility Admin Costs	($1,495,340)
Avoided T&D Costs	$4,173,285		
Total Benefits	$33,431,408	Total Costs	($6,920,936)
	Benefit / Cost Ratio: 4.83		

Combined RIM:

Total Benefits	$33,431,408	Total Costs	($51,454,203)
	Benefit / Cost Ratio: 0.65		

Electric Vehicle Off-Peak Charging, 2025 IRP

Distribution System Benefits		Distribution System Costs	
Power Bill Declines	$ 3,459,960	Revenue Declines	$5,785
TransferPayments from EKPC	$2,808,975	Administrative Costs	$0
		Rebates Paid To Participants	($5,617,949)
Total Benefits	$6,268,935	Total Costs	($5,612,164)

Benefit / Cost Ratio: 1.12

Participant Benefits		Participant Costs	
Electric Bill Declines	($4,554)	Participant Costs	$0
Rebates From Distribution System	$ 2,705,128		
Reductions in O&M costs	$0		
Tax Credits	$0		
Total Benefits	$2,700,574	Total Costs	$0

Benefit / Cost Ratio: #DIV/0!

Total Resource Benefits		Total Resource Costs	
Avoided Energy Costs	$3,970,455	Participant Costs	$0
Avoided Gen Capacity Costs	$2,924,983	Distribution System Admin. Costs	$0
Avoided T&D Costs	$1,465,734	EK Administrative Costs	($5,394,081)
Reduced Participant O&M costs	$0		
Tax Credits	$0		
Total Benefits	$8,361,172	Total Costs	($5,394,081)

Benefit / Cost Ratio: 1.55

EK Benefits		EK Costs	
Avoided Energy Costs	$3,970,455	Decrease In Revenue	($3,459,960)
Avoided Gen Capacity Costs	$2,924,983	Transfer Payments to Member Coops	($2,808,975)
Avoided T&D Costs	$1,465,734	Administrative Costs	($5,394,081)
Total Benefits	$8,361,172	Total Costs	($11,663,016)

Benefit / Cost Ratio: 0.72

Utility Test Benefits		Utility Test Costs	
Avoided Energy Costs	$3,970,455	Rebates Paid to Participants	($5,617,949)
Avoided Gen Capacity Costs	$2,924,983	Utility Admin Costs	($5,394,081)
Avoided T&D Costs	$1,465,734		
Total Benefits	$8,361,172	Total Costs	($11,012,030)

Benefit / Cost Ratio: 0.76

Combined RIM:

Total Benefits	$8,361,172	Total Costs	($11,006,245)

Benefit / Cost Ratio: 0.76

Touchstone Energy Home, 2025 IRP

Distribution System Benefits		Distribution System Costs	
Power Bill Declines	$ 24,466,054	Revenue Declines	($26,420,875)
Transfer Payments from EKPC	$8,840,217	Administrative Costs	($2,438,681)
		Rebates Paid To Participants	($4,572,526)
Total Benefits	$33,306,272	Total Costs	($33,432,082)
	Benefit / Cost Ratio: 1.00		

Participant Benefits		Participant Costs	
Electric Bill Declines	$10,873,499	Participant Costs	($9,012,821)
Rebates From Distribution System	$ 2,987,015		
Reductions in O&M costs	$0		
Tax Credits	$0		
Total Benefits	$13,860,514	Total Costs	($9,012,821)
	Benefit / Cost Ratio: 1.54		

Total Resource Benefits		Total Resource Costs	
Avoided Energy Costs	$15,967,780	Participant Costs	($13,106,994)
Avoided Gen Capacity Costs	$25,693,730	Distribution System Admin. Costs	($2,438,681)
Avoided T&D Costs	$10,752,588	EK Administrative Costs	($71,038)
Reduced Participant O&M costs	$0		
Tax Credits	$0		
Total Benefits	$52,414,097	Total Costs	($15,616,712)
	Benefit / Cost Ratio: 3.36		

EK Benefits		EK Costs	
Avoided Energy Costs	$15,967,780	Decrease In Revenue	($24,466,054)
Avoided Gen Capacity Costs	$25,693,730	Transfer Payments to Member Coops	($8,840,217)
Avoided T&D Costs	$10,752,588	Administrative Costs	($71,038)
Total Benefits	$52,414,097	Total Costs	($33,377,309)
	Benefit / Cost Ratio: 1.57		

Utility Test Benefits		Utility Test Costs	
Avoided Energy Costs	$15,967,780	Rebates Paid to Participants	($4,572,526)
Avoided Gen Capacity Costs	$25,693,730	Utility Admin Costs	($2,509,718)
Avoided T&D Costs	$10,752,588		
Total Benefits	$52,414,097	Total Costs	($7,082,244)
	Benefit / Cost Ratio: 7.40		

Combined RIM:

Total Benefits	$52,414,097	Total Costs	($33,503,119)
	Benefit / Cost Ratio: 1.56		

Exhibit DSM-5

Program Descriptions for DSM Programs

EXHIBIT DSM-5

Program Descriptions

Button-Up Weatherization Program

Program Description

The Button-up Weatherization (Button-up) Program is designed to incentivize end-use members with poor energy-performing homes to improve the energy efficiency of the home's shell and ductwork. The Button-up program is an important program to assist end-use members with high bills caused by excessive heat losses.

The Button-Up Program offers an incentive for reducing the heat loss of a home. The incentive is paid based on heat loss reduction measured in British thermal units per hour (Btuh). Heat loss calculations in Btuh are based on the winter design temperature. Heat loss calculation of Btuh reduced will be made by using either the Manual J 8th Edition or through other methods approved by EKPC. The Button-Up program encourages homeowners to improve the thermal envelope of their home through improved insulation, upgraded windows/doors, and air-sealing. The program offers a separate incentive for duct sealing. Eligibility requirements are detailed below and are available at each participating owner-member's office and on the owner-member's website.

The following is a list of proposed eligible Button-Up Program improvements.:

- Insulating basement walls
- Insulating floor over unconditioned space
- Encapsulating a crawlspace
- Insulating rim or band board
- Insulating or adding an air barrier to attic knee walls
- Retrofitting uninsulated exterior walls with insulation
- Insulating ceiling
- Converting to a conditioned attic
- Insulating attic accesses
- Upgrading windows and doors
- Air-sealing the home envelope
- Air-sealing ductwork

Air-sealing actions reduce air infiltration by sealing air leaks in the shell walls, floors or ceiling. Electrical and plumbing protrusions as well as window and door seals are typical places where air leaks cause the home to lose heat in the winter. Typical air sealing measures include caulking, improved weather stripping, and sealing attic accesses. To receive this incentive either an EKPC approved contractor or an owner-member representative must perform a "pre" and "post" blower door test to measure actual Btuh reduced.

The HVAC duct sealing portion of the Button-Up is a standalone measure that can be utilized to air-seal HVAC duct systems located in unheated spaces. Air-sealing ducts with traditional mastic sealers is an effective way to lower energy costs.

- Limited to homes that have accessible centrally ducted heating systems in unconditioned areas.
- Initial duct leakage must be greater than 10cfm per $100ft^2$
- Contractor or owner-member representatives are required to conduct a "pre" and "post" blower door test to verify reductions. Contractors must be trained or pre-approved by EKPC or the owner-member.
- Duct leakage per system must be reduced to less than 8cfm per $100ft^2$ served. (Ex: Duct system serves $1200ft^2$. $1200ft^2/100ft^2$ x8cfm= 12 x 8cfm= Duct Seal Target of 96cfm)
- All joints in the duct system must be properly sealed with duct mastic. Foil tape does not qualify as properly sealing the duct system.

For homes having two or more separately-heated systems, each system will qualify independently for the incentive.

Target Markets

This program is targeted at existing single-family, multi-family or manufactured dwellings. Eligibility requirements are:

- Home must be 2 years old or older to qualify for the incentive.
- Primary source of heat must be electricity.

Program Changes

Several additional home energy efficiency measures are now cost-effective per the Technical Potential Study conducted by GDS Associates. Therefore, new incentives for new measures are proposed. Additionally, the incentive amount ($/kBtuh) is proposed to increase from $40 to $100 due to participants costs have risen significantly. An increased incentive for sealing home HVAC system ducts is also being proposed.

CARES Low-Income Weatherization Program

Program Description

EKPC's Community Assistance Resources for Energy Savings (CARES) Low Income Program provides an incentive to enhance the weatherization and energy efficiency services provided to its end-use members by the Kentucky Community Action Agency's (CAA) network of not-for-profit community action agencies or by Kentucky's non-profit affordable housing organizations (AHO).

EKPC and its owner-members provide an incentive to the CAA or AHO implementing the project on behalf of the end-use member.

EKPC's program has two primary objectives. First, EKPC's incentive will enable the CAA or AHO to install more measures in each home. Second, the additional incentive from EKPC will assist CAA or AHO in weatherizing more homes.

Two types of homes are eligible for incentives:

Heat Pump Eligible Homes are single family or multi-family residential dwellings that use electricity for their primary source of heat. The EKPC incentive can be used to upgrade the home to an air source heat pump as well as to install weatherization improvements including insulation, air sealing, duct sealing, and a water heater blanket.

Heat Pump Ineligible Homes are single family or multi-family residential dwellings that do not use electricity for their primary source of heat, but do cool their home with central or window unit air conditioners. The EKPC incentive can be used to install weatherization improvements.

The maximum incentive per household is $3,000.

Target Market

The homeowner must be an end-use member of one of EKPC's 16 owner-member cooperatives.

The household must qualify for weatherization and energy efficiency services according to the guidelines of the Weatherization Assistance Program as administered by the local CAA or the AHO. Household income cannot exceed the designated poverty guidelines established by the CAA or AHO.

Program Changes

Due to recent increased costs to weatherize homes and to install energy-efficient HVAC equipment, the only change being proposed is to increase the incentive from $2,000 per qualifying participant to $3,000.

Heat Pump Retrofit Program

Program Description

The Heat Pump Retrofit Program provides incentives for end-use members to replace their existing resistance heat source (electric furnace, ceiling cable heat, baseboard heat, or electric thermal storage) with a more efficient heat pump.

Most high bill complaints are from end-use members with homes that are heated with electric resistive heat instead of a heat pump. Installing an electric heat pump lowers electric bills significantly for those end-use members.

The program provides incentives for both ducted systems and mini-split systems.

At this time, the program provides incentives for two efficiency levels of ducted heat pump systems: DOE minimum standard heat pumps and ENERGY STAR® standard heat pumps.

In recent years, EKPC and the owner-members have seen a sizable increase in mini-split heat pump systems. This heat pump technology is highly efficient. This program provides incentives to install mini-split heat pump systems that replace resistance heat units. These installations must be ENERGY STAR® rated. The incentive will be paid per indoor head unit up to a maximum of three incentives.

Homeowners replacing their existing resistance heat source with a heat pump will qualify for the following incentive based on the equipment type:

Equipment Type	**Incentive**
Ducted Systems:	
Current Energy Conservation Standard established by the Federal Department of Energy "DOE"	$750
Current ENERGY STAR® level equipment or greater	$1000
Mini Split Systems:	
Ducted or Ductless Mini-Splits ENERGY STAR® level equipment or greater (per indoor head unit – max 3)	$500

When Federal efficiency standards increase the required Seasonal Energy Efficiency Ratio ($SEER^2$) and Heating Season Performance Factor ($HSPF^2$) for heat pumps, these targets will be adjusted upward accordingly.

Target Markets

This program is targeted to end-use members who currently heat their home with a resistance heat source. This program is available to site-built homes, manufactured homes, and multi-family dwellings.

Eligibility requirements are:

- Incentive only applies when homeowner's primary source of heat is an electric resistance heat furnace, ceiling cable heat, baseboard heat, or electric thermal storage.
- Existing heat source must be at least 2 years old.
- New manufactured homes are eligible for the incentive.
- Two (2) maximum incentive payments per location, per lifetime for centrally ducted systems.
- Ducted and Ductless mini-splits are eligible to receive incentives up to a maximum of three head units per location, per lifetime.

Program Changes

Due to recent increased costs to install energy-efficient HVAC equipment, the only change being proposed is to increase the incentive for each level of equipment efficiency.

Touchstone Energy® Home

Program Description

In an effort to improve new residential home energy performance, EKPC has designed the Touchstone Energy® Home Program. The program is designed to encourage new homes to be built to higher standards for thermal integrity and equipment efficiency, as well as to choose a geothermal or an air source heat pump rather than less efficient forms of heating and cooling.

This program provides guidance during the building process to guarantee a home that is ≥25-30% more efficient than the Kentucky standard built home.

The typical home built in rural Kentucky scores a 105 on the Home Energy Rating System (HERS) Index. The HERS testing and rating system is the industry-accepted standard for evaluating the energy efficiency of a new home. Therefore, EKPC and the owner-members will provide the incentive for a home that either scores a HERS of 75 or better for the Performance Path or completes a Prescriptive Path check list of energy saving measures that assure the home performs equivalently to a 75 HERS tested home.

Plans are submitted to the owner-member staff before the home is built, a pre-drywall inspection is made, and a blower door test is administered after the home is built to verify that the home meets the standard.

To qualify as a Touchstone Energy® Home under EKPC's program, the participating home must be located in the service territory of a participating owner-member and must meet the program guidelines following one of the two available paths of approval.

All homes must receive a pre-drywall inspection and pass EKPC's pre-drywall checklist. Homes must also receive a final inspection and pass a whole house air leakage and duct leakage test.

All homes must be heated with an Air Source or Geothermal Heat Pump. In order to meet the prescriptive path requirements, the heat pump must meet or exceed current ENERGY STAR® requirements.

Water heaters must be an electric storage tank water heater that meets or exceeds current Energy and Water Conservation standards established by the Federal Department of Energy (DOE).

In addition:

Prescriptive Path:

- Home must meet each prescriptive value on EKPC's Touchstone Energy® Home Specifications.

Performance Path:

- Home must receive a HERS Index score of ≤75
- Home must pass 2009 International Energy Conservation Code performance path.

Target Markets

This program is designed to serve the residential new construction market. The incentives are available to any end-use member of participating EKPC owner-members. The primary market consists of end-use members who are constructing new stick-built homes. Multi-family dwellings pre-approved by EKPC may also be eligible.

Program Changes

No changes are being proposed.

Direct Load Control Program: Residential Air Conditioners, Water Heaters Switches and Bring Your Own Thermostats

Program Description

The Direct Load Control Program is designed to reduce peak demands to provide load relief to the grid.

The objective of the program is to reduce peak demand and energy usage through the installation of thermostats or load control switches controlling air conditioners or heat pumps and load control devices managing water heaters.

EKPC controls central air conditioners and heat pumps during extreme peak hours during the summer.

Water heater control provides load relief in the winter months as well as in the summer months.

EKPC may participate in PJM markets with these devices.

EKPC will not install new switches. All new enrollments will be Wi-Fi enabled thermostats provided by the end-use member under the "Bring Your Own Thermostat" (BYOT) option. Existing switches on air conditioners, heat pumps, and water heaters will continue to be controlled and incentives for those units will continue to be paid for the life of the technology.

Peak demand reduction is accomplished by cycling equipment on and off according to a predetermined control strategy. Central air conditioning and heat pump units are cycled on and off, while water heater loads are curtailed. For BYOT units, the cycling is accomplished by raising the thermostat setting for the duration of the control event. The typical control duration is four hours for switches and three hours for BYOT units. Participating customers receive an annual incentive.

EKPC plans to continue to rely on a third-party administrator to provide enrollment, installation, service calls, and measurement & verification services.

EKPC offers an incentive of $10 per year for each water heater under control, and $20 per year for each air conditioner or heat pump being controlled by a load control switch or a thermostat.

Target Markets

The program targets homes with central air conditioning (including heat pumps). The incentives are available to any end-use member of a participating EKPC owner-member who has a qualifying central air conditioner or heat pump.

Program Changes

No changes are being proposed.

Residential Electric Vehicle Off-Peak Charging Program

Program Description

The Residential Electric Vehicle ("EV") Off-Peak Charging Program is designed to reduce the growth in peak demand resulting from the adoption of electric vehicles, thereby allowing EKPC to utilize its system more efficiently. EKPC provides a monthly incentive for all registered electric vehicle charging energy (kWh) that occurs during the off-peak hours.

The program includes energy reporting from electric vehicles or compatible electric vehicle supply equipment ("EVSE").

Prior to joining the program, the owner-members may inspect the end-use member's electrical equipment to ensure compatibility with the energy software program, but the owner-members shall not be responsible for the installation, repair, or maintenance of the electrical equipment or the electric vehicle.

End-use members may join the program at any time during the year.

Target Markets

This program is available to residential end-use members in the service territories of EKPC member-owners. To qualify for this program, the end-use member's residence must be located in the service territory of a participating owner-member. The end-use member must utilize a level 2 EVSE. Eligibility may be denied when the EV or the EVSE is not compatible with, or does not function properly with, the energy software platform utilized for this program.

The end-use member may either own or rent the residence where the qualifying EVSE or EV will be charging. The end-use member is responsible for obtaining the permission of the owner of the rented residence to participate in the program.

Program and Tariff Changes

No changes are being proposed.

High Efficiency Heat Pump Program

Program Description

New technology within the field of heat pumps provides increased performance characteristics and increased efficiency levels. These improvements are making heat pumps among the most safe and affordable types of HVAC and water heating available on the market. The High Efficiency Heat Pump (HEHP) Program offers two incentive levels to end-use members for choosing to install either an air source heat pump (ASHP) that meets or exceeds the current ENERGY STAR® Program requirements product specification for heat pump equipment established by the Environmental Protection Agency (EPA), or by installing a heat pump that has received the EPA cold climate air source heat pump (ccASHP) designation.

Heat pump technology has also become available in the area of domestic hot water. The HEHP Program also provides an incentive for end-use members to choose a HEHP water heater over the standard conventional tank or instantaneous water heater.

Target Markets

This program is targeted to end-use members who are installing a new heat pump or new water heater. The end-use member can qualify for this incentive by purchasing a heat pump that meets the efficiency guidelines below by equipment type.

The program is targeted to new single or multi-family homes, existing single or multi-family homes or manufactured homes. Eligibility requirements and incentive levels are detailed below.

ENERGY STAR® ASHP Level

- Must be ducted and the primary source of heat for the home.
- Must meet the $SEER^2$ and $HSPF^2$ specifications of the current EPA ENERGY STAR® Standard.
- End-use members may apply for up to two HEHP incentives per calendar year per premise/location. A maximum of six incentives lifetime within this appliance category will be allowed per premise/location.

ENERGY STAR® certified ccASHP or Geothermal Heat Pump Level

- Must be ducted and the primary source of heat for the home.
- CcASHP must meet current EPA standard for ccASHP and be listed as ccASHP certified on EPA's ENERGY STAR® product finder website.
- Geothermal heat pumps must meet the EER and COP specifications of the current EPA ENERGY STAR® standard.
- End-use members may apply for up to two HEHP incentives per calendar year per premise/location. A maximum of six (6) incentives lifetime within this appliance category will be allowed per premise/location.

ENERGY STAR® Heat Pump Water Heaters

- End-use members may apply for two ENERGY STAR® certified heat pump water heater incentives per calendar year per premise/location. A maximum of four incentives within this appliance category (Heat Pump Water Heaters) will be allowed per premise/location.
- Heat pump water heaters in new manufactured housing are not eligible for the incentive.

Equipment	**Incentive to End-Use Member**	**EKPC Admin Payment To Owner-Member**	**EKPC Lost Margin Payment to Owner-Member**
ENERGY STAR® HP	$500	$90	$51
ccASHP or Geothermal	$1,000	$90	$158
Heat Pump Water Heater	$250	$90	$213

When Federal efficiency standards increase the required Seasonal Energy Efficiency Ratio (SEER[2]) and Heating Season Performance Factor (HSPF[2]) for heat pumps, these targets will be adjusted upward accordingly.

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Backup Generator Control Program

Program Description

The Backup Generator Control Program incentivizes residential end-use members who own backup generators to participate in EKPC's demand response initiatives. Generators must meet certain eligibility criteria, including a minimum capacity of 14 kW, the ability to operate for at least 30 continuous hours, carry the entire load of the residence at any time of the year, and the capability for remote control by EKPC. In return, participants will receive an annual availability incentive of $350 and a performance incentive of $100 if the generator is dispatched by EKPC for 25 or more hours.

Generators may be dispatched during peak demand periods and in emergency scenarios to alleviate strain on the grid. Participants will receive advance notice when possible, and dispatch events will be limited to 50 hours per year to ensure the long-term reliability of the generators. The program is voluntary, with members allowed to withdraw with a 30-day notice, though they must wait six months before reapplying. Participation requires adherence to terms regarding generator control, testing, and maintenance, and the end-use member assumes responsibility for any risks or damages associated with generator operation.

Target Markets

The target market for the Backup Generator Control Program is residential end-use members who own or are willing to install backup generators and who live within the service areas of EKPC's participating owner-member cooperatives. Participating end-use members will need to have the capacity to meet the program's operational criteria, including a generator that can be remotely controlled and used during peak demand or emergency grid situations.

Commercial Advanced Lighting

Program Description

The Commercial Advanced Lighting Program promotes energy efficiency by incentivizing non-residential end-use members to install high-efficiency LED lighting. This program is available to businesses within EKPC's service territory whose facilities did not exceed 3,000,000 kWh of energy usage in the previous calendar year. This program employs a prescriptive approach, ensuring participants have a clear understanding of the specific incentives available for each type of lighting upgrade.

Participants can take advantage of four prescriptive measures to receive incentives for upgrading non-LED lighting fixtures to energy-efficient LEDs:

- **Measure 1:** Indoor ceilings over 15 feet using multi-lamp or metal halide fixtures converted to LED ($35 incentive per fixture).
- **Measure 2:** Indoor ceilings 15 feet or lower converting multi-lamp non-LED fixtures to LED ($18 incentive per fixture).
- **Measure 3:** Outdoor lighting, such as high-pressure sodium or metal halide fixtures, converted to LED ($37 incentive per fixture).
- **Measure 4:** Replacement of non-LED screw-in bulbs or single-light fixtures with LED equivalents ($10 incentive per fixture).

In total, end-use members are eligible for up to $5,000 in incentives annually per facility. The program is ongoing, and EKPC or owner-member cooperative personnel will verify non-LED fixture replacements and review purchase receipts to ensure compliance with the program requirements.

Target Market

The target market for the Commercial Advanced Lighting Program includes non-residential businesses such as small commercial as well as larger businesses with moderate energy demands, such as high schools, large retail centers, or grocery stores. The program limits participation to those with an annual energy consumption not exceeding 3,000,000 kWh, ensuring that large-industrial loads cannot participate as potential free-riders.

Commercial & Industrial Thermostat Program

Program Description

The Commercial & Industrial Thermostat Program is designed to promote energy efficiency by encouraging commercial and industrial end-use members to upgrade to self-learning thermostats. These thermostats are capable of automatically adjusting temperature settings to optimize energy use, leading to significant reductions in heating and cooling costs. The program is available to non-residential end-use members within the service areas of participating EKPC owner-member cooperatives. To qualify, businesses must have a ducted air-source air conditioner or heat pump with a capacity of at least 2 tons, controlled by a single non-self-learning thermostat. Zoned systems are not eligible for the incentive.

Participants are eligible for an incentive of $100 for each self-learning thermostat. To ensure compliance, EKPC or owner-member cooperative staff will verify the presence of non-self-learning thermostats before installation and confirm the retrofit after completion. The program is ongoing and continues to offer incentives to businesses looking to enhance energy efficiency through advanced thermostat technology.

Target Market

The target market for the Commercial & Industrial Thermostat Program includes commercial businesses and industrial facilities that utilize residential-type HVAC systems with ducted air-source air conditioners or heat pumps. These systems are commonly found in settings like small office buildings, retail spaces, and light industrial facilities, where energy savings from self-learning thermostats can

Exhibit DSM-6

Cost-effectiveness Process

Exhibit DSM-6

Cost-effectiveness process

EKPC calculates the cost-effectiveness of DSM programs by applying the standard California tests:

a. The Total Resource Cost (TRC) Test – The TRC measures the net costs of a DSM/EE program as a resource option based on the total costs and benefits of the program, including both the participants' and the utility's costs. This test provides a cost-effective perspective for both program participants and non-participants.

b. The Participant Cost Test (PCT) – The PCT measures the quantifiable benefits and costs to an end-use member when participating in a program. It does not quantify such benefits as improved comfort, etc.

c. The Ratepayer Impact Measurement (RIM) Test – The RIM measures the impact on rates for non-participants resulting from changes in utility revenues, utility avoided costs, and program operating costs. A RIM greater than 1.0 indicates that rates for non-participants will decrease, while a RIM less than 1.0 indicates that rates for non-participants will increase. The RIM result does not provide the magnitude of the change in rates; just the direction of that change.

d. The Utility Cost Test (UTC) – The UTC measures the net costs of each DSM-EE program as a resource based on costs and benefits to the utility. It excludes any costs incurred by the end-use participant.

For this IRP, EKPC is once again using the *DSMore* software package to conduct the more detailed quantitative evaluation. *DSMore* was developed in 2003 by Integral Analytics. *DSMore*

is a financial analysis tool designed to evaluate the costs, benefits, and risk profile of demand side management programs and measures. This tool combines Microsoft Excel spreadsheets with a separate component that performs detailed calculations. The user interfaces only with the Excel spreadsheet, which accepts inputs and returns outputs.

All of the standard DSM cost-effectiveness tests can be calculated using this tool: the Total Resource Cost test (TRC,) the Utility Cost test (UC), the Participant Cost (PC) test, and the Ratepayer Impact (RIM) test. *DSMore* provides the results of those tests for both energy efficiency and demand response programs. This tool is one of the few packages viewed as "best practice" in the industry. *DSMore* has been used by more than 20 utilities, including other utilities in Kentucky.

DSMore calculates the impact of DSM programs on EKPC, the owner-members, and their end-use members. The software tracks both the physical changes, such as the level of power demand, and the dollar flows. *DSMore* produces a quantitative estimate of the costs and benefits for each of the parties using models of the electric system and its end-users.

The results of each perspective can be expressed in a variety of ways, but in all cases, it is necessary to calculate the net present value of program impacts over the life cycle of those impacts. *DSMore* uses this information to calculate the benefit/cost (b/c) ratio for each of these four tests.

These tests are not intended to be used individually or in isolation. The first critical test that a DSM program must pass is the PC test, because without participants, no savings occur. The results of tests that measure resource efficiency, such as the TRC and the UC, must be compared with one another, as well as to tests that measure equity, such as the RIM.

The use of multiple tests helps ensure that the resulting portfolio of DSM programs attracts participants, results in the wise use of resources, and limits cross-subsidization.

EKPC is a full requirements Generation and Transmission provider for its 16 owner-members. Each owner-member is an independent non-profit corporation and operates distinct from EKPC. As a result, it is necessary to examine the impacts of DSM programs separately for EKPC and for the typical owner-member. EKPC uses a customized version of *DSMore* to separately report the RIM test for EKPC and for the owner-member.

Each of the programs was modeled in detail with *DSMore*. For certain programs, several measures were modeled individually and then aggregated at the program level.

Each DSM program model includes:

- Typical participant electricity savings (kWh and kW)
- Lifetime of the measure savings
- Incremental measure costs (participant costs)
- EKPC and distribution cooperative administrative costs
- Rebates to customers, and from EKPC to the cooperative
- Detailed retail and wholesale rate schedules
- Customer participation levels including free rider estimates.

In addition to the detailed modeling of the DSM programs, *DSMore* also includes a detailed model of the supply side costs.

Major categories of supply side costs that are accounted for by the model include:

- Marginal energy costs (by hour of the year, correlated with weather and load)
- Marginal generation capacity costs (by year, including seasonal allocation)
- Marginal transmission & distribution capacity costs (by year, incl. seasonal allocation)
- Fossil fuel (natural gas & propane) costs (by year)
- Environmental externality costs (costs not internalized in energy or capacity costs; chiefly carbon related)

Exhibit DSM-7

Activities of DSM Collaborative

Exhibit DSM-7

EKPC Collaborative Activities

The EKPC Collaborative met once in 2022, once in 2023, and three (3) times in 2024, and once in 2025.

The April 27, 2022 meeting at EKPC was focused on general information and education of the Collaborative members.

The August 3, 2023 meeting focused on new funding opportunities from new federal laws passed including IIJA, IRA, New ERA, PACE and REAP.

The March 30, 2024 meeting focused on reviewing the DSM/EE Potential Study results that was prepared by GDS Associates. See Exhibit DSM-01.

The April 11, 2024 meeting was a follow-up discussion of the DSM/EE Potential Study results that allowed for the Collaborative members to provide input to EKPC on DSM/EE program recommendations.

The October 18, 2024 meeting focused on the DSM/EE programs that EKPC plans to submit to the Commission for approval.

The February 25, 2025 meeting focused on EKPC's draft Community Benefits Plan that could be required to fulfill New ERA funding requirements.

See below the meeting agendas and meeting notes.

EKPC | SUSTAINABILITY COLLABORATIVE

AGENDA

April 27, 2022

West Veech Meeting Room, EKPC

9:30-9:35	Safety Moment
9:35-9:50	Introductions
9:50-10:20	FAC & ESC (Chris Adams)
10:20-10:45	PJM 101 (Greg Williams)
10:45-11:00	Break
11:00-11:45	IRP (Julie Tucker)
11:45-12:15	Renewable Energy Program (Scott Drake)
12:15	Lunch – East Veech Meeting Room
1PM	Tours (MOC, ECC, Solar Farm)

EKPC Sustainability Collaborative

April 27, 2022

West Veech Meeting Room, EKPC

Collaborative Members

Approximately 25 people attended, including representatives from EKPC, its 16 Owner-Member Cooperatives, Mountain Association, Bluegrass Greensource, Frontier Housing and Nucor Corp.

Chris Adams, EKPC's Director of Regulatory and Compliance, discussed the Fuel Adjustment Clause (FAC), which appears on monthly bills of electric cooperative members. In recent months, this charge has been much higher than previous, mainly due to higher natural gas and market power prices. The FAC reflects a portion of EKPC's costs for power plant fuel and for purchased market power; the remaining portion of these costs is included in base rates, and the basing point is reviewed and adjusted by the Kentucky PSC every two years. In the past years, natural gas and market power prices have been much higher because gas production has not kept pace as the world economy roared back to life when the COVID pandemic wound down. The Kentucky PSC reviews the costs included in the FAC every six months to ensure they are accounted properly. Neither EKPC nor its Owner-Member Co-ops mark up costs in the FAC.

Adams also discussed the Environmental Surcharge, which recovers costs associated with environmental compliance projects. Like the FAC, costs included in the Environmental Surcharge are reviewed regularly by the Kentucky PSC.

Greg Williams, EKPC's Markets & Operations Supervisor, discussed EKPC's membership in PJM Interconnection, and how it provides value to EKPC and cooperative members. PJM membership allows EKPC to monetize the value of occasional excess power plant capacity, maintain lower reserve margins and optimize the cost of either generating power or buying it from the market to keep costs as affordable as possible for cooperative members.

Julie Tucker, EKPC's Director of Power Supply, discussed the Integrated Resource Plan, which EKPC recently submitted to the Kentucky PSC for review. The plan, which EKPC is required to submit every three years, includes a snapshot of historical and projected demand, resources and

financial data, along with performance and system information. Already, Tucker said, some of the plan's assumptions likely are out of step due to the rapid rise in natural gas prices in recent months. The IRP indicates EKPC could add approximately 1,000 megawatts of renewable energy resources over the next 10 years.

Scott Drake, EKPC's Director of Business and Technical Services, reviewed renewable energy options available to cooperative members. This includes the Cooperative Solar and Envirowatts programs, which have been available for a number of years and are geared toward residential members. Recent tariff changes enable the co-ops to offer renewable options designed for commercial/industrial members, including power purchase agreements (PPAs) or renewable energy credits (RECs). These options are offered at the co-ops' costs, including administrative costs, without cross-subsidization to or from non-participants. These options provide valuable tools for helping cooperative members achieve their sustainability goals.

Regarding topics for the next meeting, Collaborative members suggested:

- Reviewing government programs offered in other states that consider impacts such as health and housing, as well as funding.
- Gathering information about access to federal infrastructure funding. EKPC and its Owner-Member cooperatives have hired a consultant to provide guidance on available funding sources and the rules associated with accessing those funds, Drake said.
- Providing informational resources to cooperative members so they can assess information from rooftop solar installers.

Meeting was adjourned.

EKPC | SUSTAINABILITY COLLABORATIVE

AGENDA

August 3, 2023

West Veech Meeting Room, EKPC

9:30-9:35	Welcome & Safety Moment (EKPC)
9:35-9:45	Introductions & Ice Breaker (Carrie Ray)
9:45-10:00	Collaborative Charter Refresh (Scott Drake)
10:00-10:30	Federal Funding Opportunities (Scott Drake)
	IIJA, IRA, New ERA, PACE, REAP
10:30-10:45	Break
10:45-12:30	Coop Participation in Opportunities To-Date
	Discussion/Suggestions for Coop Participation
	(Scott Drake & Lisa Abbott)
12:30	Adjourn

EKPC | SUSTAINABILITY COLLABORATIVE

AGENDA

March 20, 2024

Embassy Suites, Lexington

9:00-9:15	Welcome, Introductions, Safety Moment (EKPC)
9:15-9:30	Ice Breaker (Carrie Ray)
9:30-10:00	IIJA, IRA, New ERA, LOI (Joe Settles)
10:00-10:15	EV Pilot Update (Josh Littrell)
10:15-10:30	Break
10:30-12:00	DSM EE & DR Benefit/Cost Review (Scott Drake)
12:00	Adjourn

Collaborative

3/20/24

NOTES

Carrie Ray, Mountain Association

Chris Woolery, Mountain Association

Josh Bills, Mountain Association

Hope Broecker, Mountain Association

Kenya Stump, Kentucky Office of Energy Policy

Shiela Medina, UK Center for Applied Energy Research

Scott Drake, EKPC

Joe Settles, EKPC

Josh Littrell, EKPC

David Crews, EKPC

Julie Tucker, EKPC

Tom Castle, EKPC

Chris Adams, EKPC

Nick Comer, EKPC

Denise Cronin, EKPC

Jake Campbell, Blue Grass Energy

Rich Prewitt, CVRECC

Christina Perkins, Owen Electric

Caralyne Pennington, Farmers RECC

Tim Sharp, Salt River Electric

Dan Hitchcock, Inter-County

Charlie Pasley, Clark Energy

John May, LVRECC

Jason Mattingly, Nolin RECC

Tim Pease, Fleming-Mason Energy

Alan Coffey, SKRECC

Federal IIJA/IRA, Joe Settles

Infrastructure Investment and Jobs Act (2021)

- Consortium of co-ops applied for funding through Grid Resilience and Innovations Partnership (GRIP).
- EKPC sought funding for SCADA for four cooperatives.
- Consortium was not funded but EKPC is developing a proposal for funding for a microgrid and a transmission project.
- Stump commented that KEEC is administering 40101D funding; SCADA projects should be eligible and co-ops have already compiled info for federal application.

Inflation Reduction Act (2022)

- Investment tax credits
    - Direct pay to co-ops makes this value available to co-ops for the first time.
- New Empowering Rural America (ERA)
    - Co-ops have been engaged since Congress approved funding in late 2022.
    - Notice of funding opportunity released in May; EKPC submitted a letter of interest (LOI) in September; expected response by October, but co-ops are awaiting word on invitation to submit formal application.
    - LOI and application are confidential. Don't want to get ahead of CPCN/IRP processes.
    - Proposals scored on greenhouse gas reductions.
    - LOI and application are competitive processes; much more money requested than is available.
    - Projects must be in operation by 2031.
- Stump noted that state is seeing delays of up to 2 years in awards.

Electric Vehicle pilot, Josh Littrell

- Approved by Kentucky PSC in July 2023.
- Three-year pilot; up to 500 participants; currently ~50 signed up.
- Provides $0.02/kWh bill credit for charging EVs during off-peak hours (10 p.m. to 6 a.m.)
- Charging data is collected directly from EVs by third-party vendor.
- No conflict with net metering.
- In addition to peak reduction, this is first step in building trust with EV owners for possible related programs in the future.

EE/DSM cost-effectiveness scoring

- EKPC preparing DSM portion of the next IRP.
- Total resource cost (TRC) test results per measure were shared with group; test gives indication of cost-effectiveness of potential energy efficiency (EE)/demand side management (DSM) measures.
- Test looks at costs and benefits of potential programs from a high level.
- TRC score of 1.0 or greater indicates potential program might be cost-effective.
- Among changes in scoring, many tax credits were included this time; in past, some tax credits were only available for just a few years, then renewed on an annual basis and could not be counted upon to be available over long run. Latest tax credits approved for 10 years or more.
- Programs are aimed at incentivizing energy/capacity reductions that would not happen otherwise; must minimize “free riders,” or participants taking advantage of incentives for actions they would have taken without an incentive.
- Ray asked about opportunities to target rebates to nonprofits, especially churches; governments and schools. Drake said EKPC would consider by is cautious do to burden on co-ops staffing to verify/administer tightly targeted types of programs. Stump commented that DOE’s Industrial Assessment Centers have received expanded funding; $2.1 million available for local governments, with floor of $0.5 million.
- Plan to get back together in a few weeks after participants have had a chance to review the TRC scoring data.

Collaborative DSM follow-up

Teams meeting

4/11/2024

NOTES – second discussion of TRC results from initial run of the Technical Potential Study

26 participants

High level numbers from Total Resource Cost evaluation.

Will take feedback into account as EKPC develops the next Integrated Resource Plan, which will be submitted in spring 2025.

First step of the IRP process

Chris Woolery

Reviewed Carrie's notes

C&I

- LED lighting scored high and should talk about free riders
- Occupancy and light sensors score well
- Why wasn't heating evaluated on thermostats?
- PHP was high
- Cooling rooftop
- PTHC and PTAC difference?
    - PTAC is wall unit
    - Package terminal heat pump

Drake – On C&I lighting

Trying to thread needle; narrow down to specific cross-section that will benefit, without free riders

EKPC hears your suggestions on lighting; understand small commercials would benefit

Trying to minimize administrative time/cost; each co-ops has different resources and rates; makes qualification challenging

Bills

KU-LGE is looks at using NAICS codes to qualify businesses; includes nonprofits

Woolery

Sorted data high to low TRC

- Air rater
- Heat pump
- LEDs
- Heat pump water heaters
- Smart thermostat

Incent and aggregate smart thermostats and Water heaters for controllable DSM

People are not using thermostats right; having direct contact provides opportunity for education

Drake

EKPC is seeing the same themes and looking at adjusting program in those areas

Bills

Small business direct install; might not have capacity to do right away

What about DSM providers that work across utilities?

KU-LGE now has small business direct install, about $700 package

Includes energy audits and thermostat

Could at least have conversation with KU-LGE's contractor, Resource Innovations

Drake

Did that with appliance recyclers; worked well, economies of scale; not opposed to that

Heat pumps; very interested; a lot out there that could be replaced

Heat pump water heaters are of interest

Woolery

Heat pump retrofit, upgrade incentive?

Resistance heat upgrades: larger incentives for low income?

Drake

Will consider, will look at the RIM results

Looking at size of rebates for several programs

Size of rebate usually has to do with amount that effects purchasing decision

Right-size based on decision to go from one resource to another; generally needs to be 30-50% of cost to decision-maker

TRC does not take into account amount of rebate

Rebate from heat pump to heat pump is new to us; don't know what will happen as we continue evaluations

Corey Dutton

SKRECC member

Looked at ductless heat pump, but just costs too much

Drake

We assume that heat pump is broken and person is going to replace it; not really incentivizing replacing an operating heat pump with a new more efficient one

Woolery

Resistance heat is a big problem; feel like I should have asked for RIM numbers two weeks ago then cross them

Numbers aren't as important as need

Incent resistance heat upgrade however we can

Drake

When it gets really cold, heat pumps use resistance heat

Can we install cold-climate heat pumps and get some benefit by eliminating some heat strips?

What's the HVAC code?

Contractors don't want callback complaints

Woolery

Smart appliances and VPPs

Duct sealing; could we pay for some contractors?

Drake

Duct sealing will be incentivized

DEMAND RESPONSE

Lane Boldman

EV Residential vs. C&I charging rate? How does that work?

Drake

Can use TOU for residential and some smaller commercials – they don't have the demand component

Battery

Was a rebate to purchase; we're going to look at "bring your own" to see if TRC is better

Big three are:

Heating/cooling; have programs and will evaluate new

Water heater; looking at programs

EVs; doing charging pilot

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AGENDA

October 18, 2024

Embassy Suites, Lexington

9:00-9:15	Welcome, Introductions, Safety Moment (EKPC)
9:15-9:30	Ice Breaker (Carrie Ray)
9:30-10:15	IIJA, IRA, New ERA Update (Joe Settles)
10:15-10:30	Break
10:30-12:00	DSM Program Update (Scott Drake)
12:00	Adjourn

East Kentucky Power Cooperative (EKPC) – Collaborative meeting notes
Oct. 18, 2024
Embassy Suites, 1801 Newtown Pike, Lexington, KY

Attendees: Carrie Ray, Josh Bills, Cameron Mott, Chris Woolery, Lane Boldman, Corey Dutton, Hope Broecker, Kenya Stump, Sheila Medina, Joe Settles, Scott Drake, Julie Tucker, Nick Comer; Alan Coffey, Jason Mattingly, John May, Rich Prewitt, Tom Salyers

Agenda items:
- Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA) activities
- Energy efficiency, demand side management program considerations

IIJA/IRA activities
- EKPC is working with the state on their programs being administered through the IIJA
- EKPC applied for funding and has been identified as a potential recipient of funds through the New Empowering Rural America (New ERA) program being administered by the Rural Utilities Service
  - Until EKPC is obligated funds, there will be no announcement of projects
  - Community benefit plan will be a required component of New ERA funding

Community Benefits Plan (CBP)
- EKPC will initiate the plan once New ERA funds are officially awarded, TBD
- Benefits must go toward projects that fit into one of these categories
  - Investing in workforce
  - Integrating agriculture and farm benefits
  - Consumer based energy efficiency programs (need to determine if need to be new programs or if ok to expand existing program)
  - Supporting disadvantaged communities
- EKPC members will be paying for these initiatives and EKPC will be cognizant of this fact, committed to being good stewards of the funding and apply it ways that will be most impactful, effective
- CBP is a natural extension of EKPC
  - Commitment to community is a cooperative value
  - Not-for-profit
  - We are local
  - We are regulated and incorporate public comments
- Development of renewable energy generation is consistent with EKPC's integrated resource plan and sustainability plan

Q & A
- Q.) Regarding disadvantaged communities – do you know where/what communities you'll focus on? Do you need to identify places that need help? How will you identify these places?

- 70 percent of EKPC's territory covers areas considered "disadvantaged", benefits will be spread across the system

- Q.) Are Fayette and Marion projects eligible to receive New ERA funding?
- Until funds are obligated, EKPC will not announce projects associated with funding

- Q.) Do CBP projects have to be new projects and is there a time frame for CBP projects to be implemented?
- There are time requirements for projects within the New ERA program

- Q.) Can the collaborative group know about open house and public engagement efforts further in advance so they can give their stakeholders adequate notice and be available for support?
- EKPC will consider proving an email notification to the Collaborative regarding public meetings

Energy efficiency and demand side management programs

- Scott Drake and Tom Castle reviewed data from the Technical Potential Study of possible DSM measures that was shared with the Collaborative in March of 2024.
- For the CPCN and the IRP (April 2025), EKPC is recommending more DSM
- Plan based on input from owner-member staff
- Changing 3 existing programs – adding measures and increasing incentive amounts
- Adding 4 new DSM programs
- Anticipate spending an additional $4M annually

- DSM program changes
- Button-Up Weatherization
- CARES Low-Income – increase incentive from $2k to $3k
- Heat Pump Retrofit

- New DSM programs
- High efficiency heat pump
- Commercial advanced lighting incentives
- Commercial thermostat incentive
- Residential backup generator demand resp

EKPC Collaborative Meeting Agenda
February 25, 2024
Marriott Griffin Gate, Lexington

- Safety Moment and Introductions
- Overview of New Empowering Rural America (ERA) Program
- EKPC's New ERA Project Portfolio
- New ERA Timeline and Approach
- Administration's Latest Guidance
- Community Benefit Plan (CBP) Requirement
- New ERA CBP Engagement Process
- System-wide Benefits: DSM/EE Program Expansion
- Projects Included in CBP and Specific Benefits
- Next Steps

Meeting Notes
2-25-25

New ERA Website

Consider linking New ERA website to co-op member websites for better accessibility to CBP and project information

One attendee called out that information packet on the webpage for Marion Co Industrial Tap referenced a different project – action to CBP Team to review and adjust

Public Input and Meetings

Concern around number of numerous state energy projects and policies – consider minimizing confusion from multiple meetings and communications to specific communities and provide explicit context ahead of schedule

Consider timing of meeting invitations (avoid last minute communications), audience members for public meetings, and multiple mechanisms for outreach and awareness

Preference would be to communicate meeting logistics well in advance as opposed to “last minute”

General

One particular comment asked if one of the objectives of the Madison Co New 69kV Switching Station and Tap was to support integration of private solar projects

Exhibit DSM-8

Demand Response Peak Savings offered into PJM

EKPC Demand Response Bids in PJM

Each year EKPC bids Demand Response (DR) capacity into the appropriate PJM Market. The following table shows 3 years of EKPC's demand response bid into the markets:

2023-2024	202.5 MW
2024-2025	203.9 MW
2025-2026	160.0 MW

EKPC stays abreast of market changes to ensure EKPC is best leveraging resources, including DSM savings, in PJM. EKPC operates as multiple entities in PJM acting as the only Electric Distribution Company ("EDC"), Load Serving Entity ("LSE"), and Curtailment Service Provider ("CSP") in the EKPC zone. Offering energy efficiency into the Base Residual Auction ("BRA") could result in EKPC obtaining payment from PJM for the load reduction. However, being an EDC, PJM would increase the reliability requirement (also known as "load obligation") EKPC has to purchase from the market therefore, EE programs having direct participation in PJM programs produces virtually no net positive financial position for EKPC. Yet, reduced demand from EE program participation during summer peak hours lowers EKPC's load obligation payments to PJM annually. EKPC direct load control program manages water heater switches, air conditioner switches, and thermostats to reduce peak demand. EKPC is currently utilizing the PJM Peak Shaving Adjustment ("PSA") program to monetize the direct load control resources and thermostats in a PJM program receiving a direct reduction of EKPC's load obligation.