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ENGINEERS & CONSULTANTS

MARKET POTENTIAL STUDY

CENTERPOINT ENERGY

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TABLE OF CONTENTS

01 Introduction 1

1.1 Background and Study Scope 1

1.2 Types of Potential Estimated 1

1.3 Approach Summary 2

1.4 Study Limitations 2

1.5 Potential Savings Overview 2

1.5.1 Residential Energy Efficiency Potential 2

1.5.2 Commercial and Industrial Energy Efficiency Potential 4

1.5.3 Demand Response Potential 5

02 Baseline Forecast 7

2.1 CenterPoint Load Forecasting System 7

2.2 Adjustments to the CenterPoint Load Forecast 7

2.2.1 Reclassification of Load 7

2.2.2 Adjustments for Large C&I Opt Out Customers 8

2.3 Load Forecast Disaggregation 8

2.3.1 Residential Sector 8

2.3.2 C&I Sector 9

03 Energy Efficieny Potential Analysis 13

3.1 Overview Of Approach 13

3.2 Market Characterization 13

3.2.1 Forecast Disaggregation 13

3.2.2 Eligible Opt-Out Customers 14

3.2.3 Building Stock/Equipment Saturation 15

3.2.4 Remaining Factor 15

3.3 Measure Characterization 16

3.3.1 Measure Lists 16

3.3.2 Emerging Technologies 16

3.3.3 Assumptions & Sources 17

3.3.4 Treatment of Codes & Standards 18

3.3.5 Net to Gross (NTG) 18

3.4 Energy Efficiency Potential 18

3.4.1 Types of Potential 18

TABLE OF CONTENTS

3.4.2 Technical Potential 18
3.4.3 Economic Potential 20
3.4.4 Achievable Potential 21
3.5 Residential Energy Efficiency Potential 23
3.5.1 Scope of Measures & End Uses Analyzed 23
3.5.2 Summary of Residential Electric Potential 23
3.5.3 Residential Technical, Economic and Achievable Potential Summary and Detail by End-Use 25
3.5.4 Residential Achievable Potential Benefits & Costs 30
3.6 Commercial and Industrial Energy Efficiency Potential 31
3.6.1 Scope of Measures & End Uses Analyzed 31
3.6.2 Summary of Commercial and Industrial Electric Potential 31
3.6.3 Commercial and Industrial Technical, Economic and Achievable Potential 33
3.6.4 Commercial and Industrial Achievable Potential Benefits & Costs 38
04 Demand Response Potential 40
4.1 Demand Response Program Options 40
4.1.1 Demand Response Potential Assessment Approach Overview 41
4.1.2 Avoided Costs 42
4.1.3 Demand Response Program Assumptions 42
4.2 Total Demand Response Potential 44
4.3 Benefits & Costs 47
05 Action Plan Summary 49
5.1 Development of DSM Action Plan 49
5.2 DSM Action Plan – Guiding Principles and Framework 49
5.3 DSM Action Plan – Portfolio Summary 50
5.4 Portfolio Targets by Year 52
06 Action Plan Program Detail 59
6.1 Residential Prescriptive Program 59
6.2 Home Energy Assessment Program 64
6.3 Residential Midstream Program 68
6.4 In Store Discount Program 73
6.5 Multi-Family Energy Solutions Program 76
6.6 Community Connections Program 80
6.7 Income Qualified Weatherization Program 82

TABLE OF CONTENTS

6.8 Residential New Construction Program 88
6.9 Residential Marketplace Program 92
6.10 Residential Behavioral Savings Program 96
6.11 Smart Cycle Program 97
6.12 Bring Your Own Thermostat Program – Residential 98
6.13 Commercial Prescriptive Program 99
6.14 Commercial Custom Program 101
6.15 Small Business Energy Solutions Program 102
6.16 Bring Your Own Thermostat Program – C&I 104
6.17 Cost-Effectiveness 105

APPENDIX A. C&I Opt-Out Scenario ..... A
APPENDIX B. Residential Measure Detail ..... B
APPENDIX C. C&I Measure Detail C
APPENDIX D. Demand Response Detail ..... D

01 INTRODUCTION

1.1 BACKGROUND AND STUDY SCOPE

This Market Potential Study was conducted by GDS to support the Integrated Resource Plan ("IRP") and DSM planning for CenterPoint Energy in Indiana ("CenterPoint"). The study included a comprehensive review of current programs, historical savings, and projected energy savings opportunities to develop estimates of technical, economic, and achievable potential. Separate estimates of electric energy efficiency ("EE") and demand response potential were developed. The GDS Team worked collaboratively alongside CenterPoint and the CenterPoint Oversight Board to produce estimates of future saving potential, using the best available information and best practices for developing market potential saving estimates.

In addition to providing an estimate of achievable potential which informed the IRP, GDS developed a DSM Action Plan for the years 2028-2033. This Action Plan was developed to help CenterPoint utilize the results of the potential study in creating its own future DSM Operating Plans. The Action Plan is described in Chapters 5 and 6 of this document.

1.2 TYPES OF POTENTIAL ESTIMATED

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. This study uses the Utility Cost Test ("UCT") to assess cost-effectiveness.
- **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 Evaluation, Measurement & Verification ("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 three achievable potential scenarios:
  - **Maximum Achievable Potential ("MAP")** estimates achievable potential on paying incentives equal to 100% of measure incremental costs and aggressive adoption rates.
  - **Realistic Achievable Potential ("RAP")** estimates achievable potential with CenterPoint paying incentive levels (as a percent of incremental measure costs) closely calibrated to historical levels but is not constrained by any previously determined spending levels.
  - **Enhanced RAP** estimates achievable potential achievable potential by adjusting incentive levels in the RAP scenario to increase participation beyond the RAP scenario while also considering implications related to cost-effectiveness. For this scenario, a maximum incentive was calculated to either cover a sector-specific lifetime cost per MWh or 100% of the measure cost, whichever was less. There was also an incentive floor of 10% of measure cost. Effectively, it is a scenario that has savings and costs greater than the RAP scenario, but less than the MAP scenario.

1.3 APPROACH SUMMARY

The purpose of this market potential study is to provide a foundation for the continuation of utility-administered energy efficiency and demand response programs in the CenterPoint Energy service area, to determine the remaining opportunities for cost-effective energy and demand savings. This study has examined a full array of technologies, programs, and energy efficient building practices that are technically achievable.

The GDS Team used a bottom-up approach to estimate energy efficiency potential in the residential sector. Bottom-up approaches begin with characterizing the eligible equipment stock, estimating savings and screening for cost-effectiveness first at the measure level, then summing savings at the end-use and service area levels. In the commercial and industrial sectors, the GDS team utilized a top-down 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 electric energy load.

1.4 STUDY LIMITATIONS

As with any assessment of energy efficiency potential, this study necessarily builds on various assumptions and data sources, including the following:

- Energy efficiency and demand response measure lives, savings, and costs
- Projected penetration rates for energy efficiency measures
- Projections of electric avoided costs
- Future known changes to codes and standards
- CenterPoint load forecasts and assumptions on their disaggregation by sector, segment, and end use
- End-use saturations and fuel shares

While the GDS team has sought to use the best and most current available data, there are often reasonable alternative assumptions which would yield slightly different results.

1.5 POTENTIAL SAVINGS OVERVIEW

The following three sub-sections provide a high-level summary of the results of the residential and C&I energy efficiency potential as well as summary demand response potential. Chapters 3 and 4 of this report provide additional summary data and methodological considerations and descriptions.

1.5.1 Residential Energy Efficiency Potential

Figure 1-1 provides the technical, economic, MAP, RAP and Enhanced RAP results for the 3-year, 6-year, and 18-year timeframes. The cumulative annual 3-year technical and economic potential is 10% of forecasted sales. The cumulative annual 3-year MAP is 4.0%, the RAP is 2.8%, and the Enhanced RAP is 3.2% of forecasted sales. Over the duration of the study timeframe the technical and economic potential rise to 32% and 30% of forecasted sales, respectively. The MAP, RAP and Enhanced RAP increased to 21.1%, 15.0% and 17.5% of forecasted sales respectively, 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. The Enhanced RAP is greater than RAP as a result of higher incentive levels.

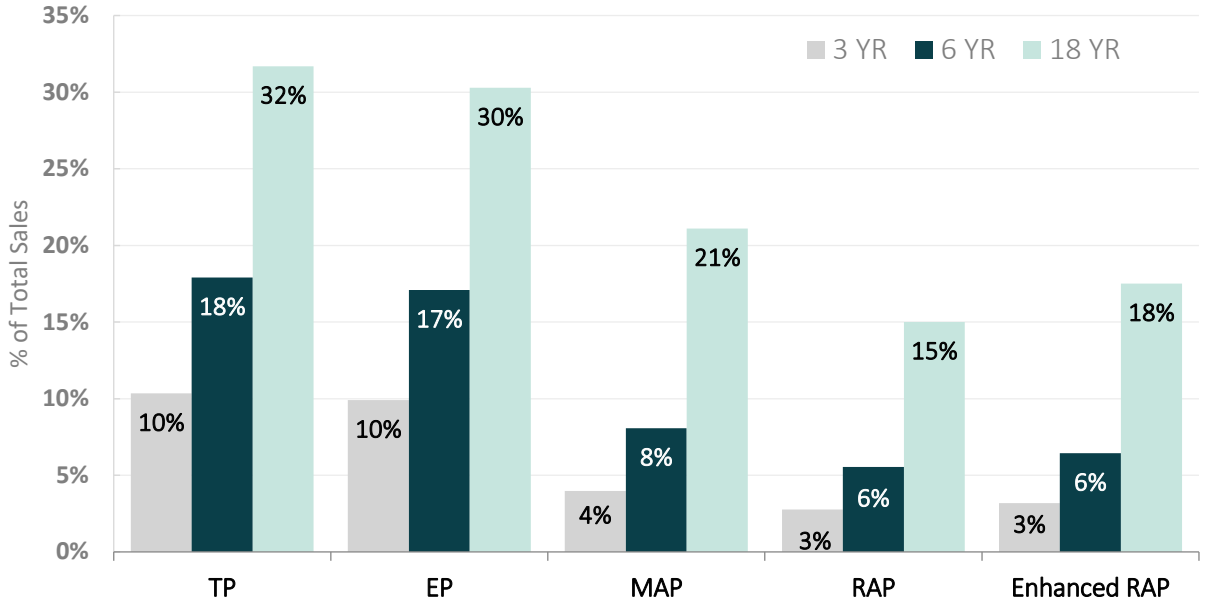


FIGURE 1-1: RESIDENTIAL ELECTRIC ENERGY CUMULATIVE ANNUAL POTENTIAL (AS A % OF RESIDENTIAL SALES)

Table 1-1 provides the incremental annual technical, economic, MAP, RAP and Enhanced RAP energy savings, in total MWh and as a percentage of the sector-level sales forecast. The incremental RAP ranges from 1.1% to 1.5% per year over the next six years, while the Enhanced RAP ranges from 1.2% to 1.7%.

TABLE 1-1: RESIDENTIAL INCREMENTAL ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

	2028	2029	2030	2031	2032	2033
Energy (MWh)						
Technical	59,102	59,548	59,106	58,577	58,062	57,519
Economic	56,894	57,386	56,987	56,499	56,023	55,519
MAP	20,652	23,274	25,503	27,311	28,764	30,098
RAP	15,299	17,166	18,908	20,394	21,568	22,549
Enhanced RAP	16,984	19,210	21,180	22,811	24,157	25,381
Technical	4.1%	4.1%	4.1%	4.0%	3.9%	3.9%
Economic	4.0%	4.0%	3.9%	3.9%	3.8%	3.7%
MAP	1.4%	1.6%	1.8%	1.9%	1.9%	2.0%
RAP	1.1%	1.2%	1.3%	1.4%	1.5%	1.5%
Enhanced RAP	1.2%	1.3%	1.5%	1.6%	1.6%	1.7%
Demand (MW)						
Technical	13.9	13.9	13.8	13.7	13.6	13.5
Economic	13.6	13.6	13.5	13.4	13.3	13.2
MAP	4.5	5.1	5.6	6.1	6.3	6.5
RAP	2.8	3.2	3.5	3.7	3.9	4.0
Enhanced RAP	3.2	3.6	4.0	4.3	4.5	4.6

1.5.2 Commercial and Industrial Energy Efficiency Potential

Figure 1-2 provides the technical, economic, MAP, RAP and Enhanced RAP results for the 3-year, 6-year, and 18-year timeframes. The cumulative annual 3-year technical and economic potential is 6% of forecasted sales. The cumulative annual 3-year MAP is 4.8%, the RAP is 4.0%, and the Enhanced RAP is 4.2% of forecasted sales. Over the duration of the study timeframe the technical and economic potential rise to 27% of forecasted sales, respectively. The MAP, RAP and Enhanced RAP increased to 17.9%, 15.9% and 16.5% of forecasted sales respectively, 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. The Enhanced RAP is greater than RAP as a result of higher incentive levels.

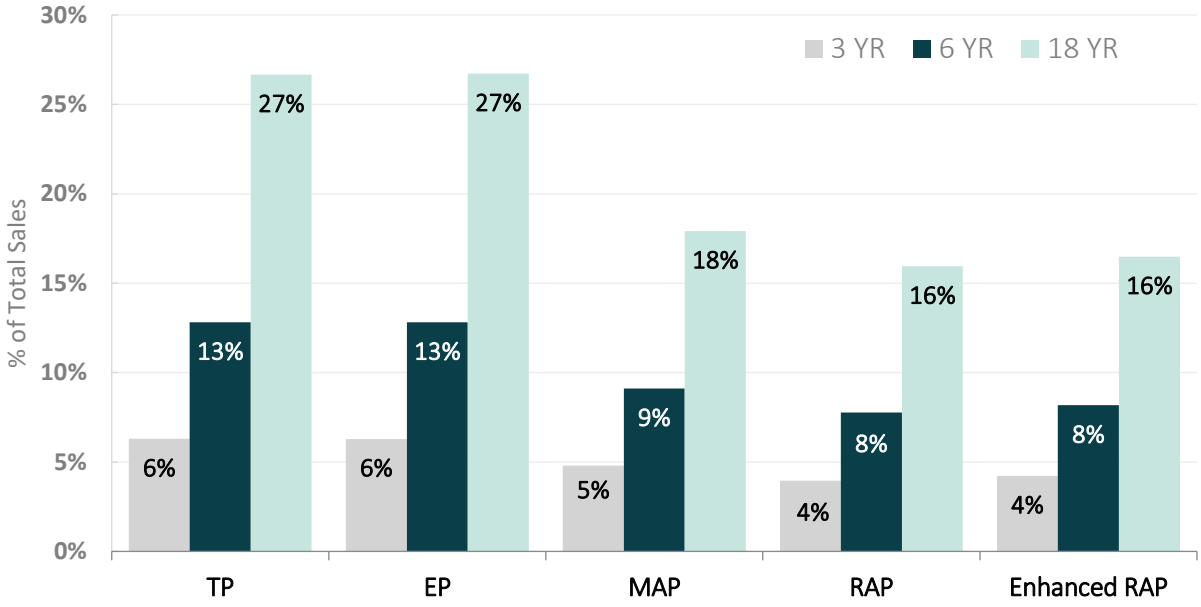


FIGURE 1-2: C&I ELECTRIC ENERGY CUMULATIVE ANNUAL POTENTIAL (AS A % OF COMMERICAL AND INDUSTRIAL SALES)

Table 1-2 provides the incremental annual technical, economic, MAP, RAP and Enhanced RAP energy savings, in total MWh and as a percentage of the sector-level sales forecast. The incremental RAP ranges from 1.3% to 1.4% per year over the next six years, while the Enhanced RAP ranges from 1.4% to 1.5%.

TABLE 1-2: C&I INCREMENTAL ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

	2028	2029	2030	2031	2032	2033
Energy (MWh)						
Technical	35,864	37,997	39,463	41,560	41,543	41,379
Economic	35,858	37,992	39,459	41,556	41,538	41,370
MAP	28,697	28,985	28,679	29,120	27,899	25,750
RAP	22,911	23,939	24,329	25,387	24,726	23,714
Enhanced RAP	24,899	25,553	25,627	26,380	25,517	24,052
Energy Savings (as% of Sector Sales Forecast)						
Technical	2.0%	2.1%	2.2%	2.3%	2.3%	2.3%
Economic	2.0%	2.1%	2.2%	2.3%	2.3%	2.3%

	2028	2029	2030	2031	2032	2033
MAP	1.6%	1.6%	1.6%	1.6%	1.5%	1.4%
RAP	1.3%	1.3%	1.4%	1.4%	1.4%	1.3%
Enhanced RAP	1.4%	1.4%	1.4%	1.5%	1.4%	1.3%
Demand (MW)						
Technical	5.2	5.5	5.6	5.9	5.8	5.8
Economic	5.2	5.5	5.6	5.9	5.8	5.8
MAP	4.4	4.4	4.2	4.2	4.0	3.6
RAP	3.3	3.4	3.4	3.5	3.4	3.3
Enhanced RAP	3.7	3.7	3.6	3.8	3.6	3.3

1.5.3 Demand Response Potential

Figure 1-3 shows the cumulative annual RAP (MW) by program in the residential sector. The two DLC Thermostat options provide the greatest amount of potential, with the Time of Use + Critical Peak Pricing and DLC Grid-Enabled Water Heater program options growing over time as well. Overall, the residential RAP grows from 26.9 MW in 2028 to 39 MW in 2045.

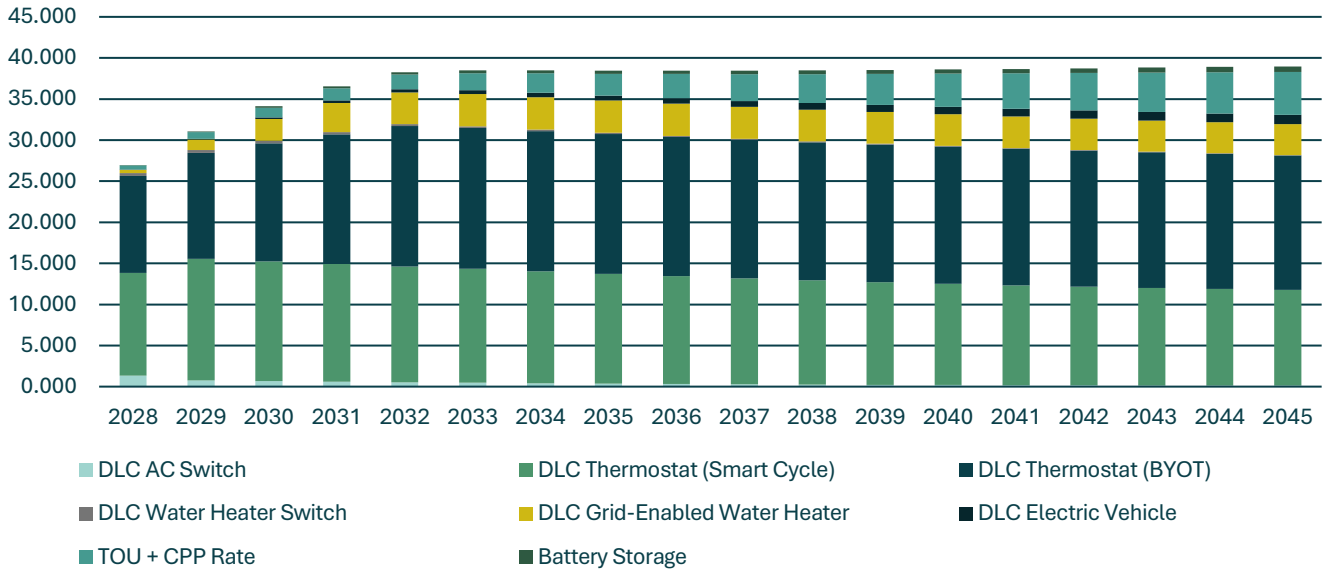


FIGURE 1-3 RESIDENTIAL SECTOR DEMAND RESPONSE RAP – BY PROGRAM

Figure 1-4 shows the cumulative annual RAP (MW) by program in the commercial sector. The DLC Thermostat option provides the greatest amount of potential, with the DLC Grid-Enabled Water Heater and Time of Use + Critical Peak Pricing options growing significantly over time as well. Overall, the commercial RAP grows from 1 MW in 2028 to 8 MW in 2045.

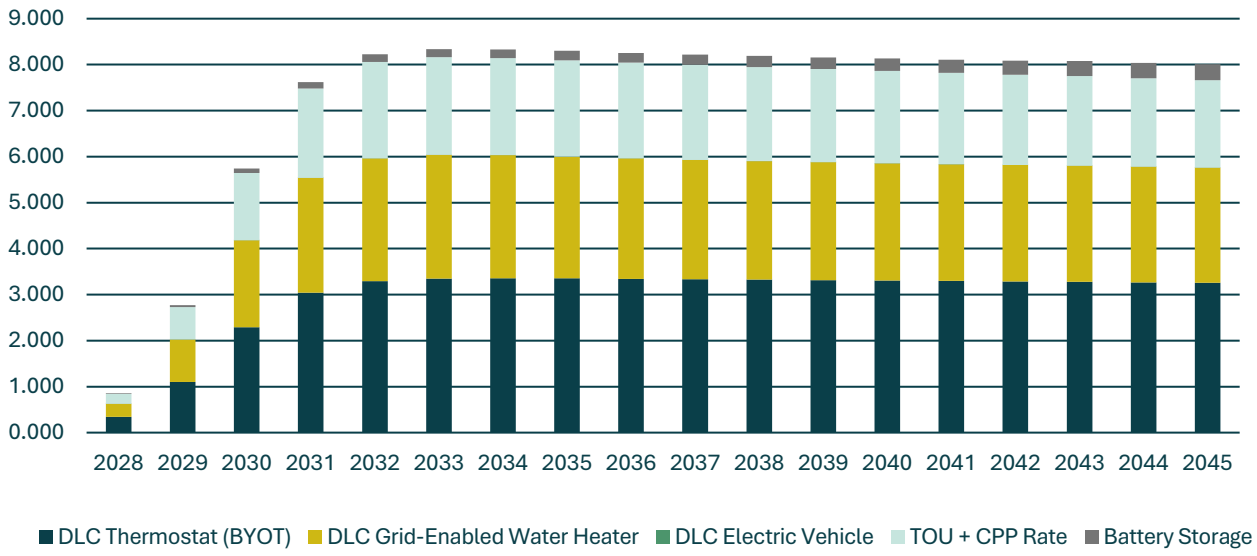


FIGURE 1-4 COMMERCIAL SECTOR DEMAND RESPONSE RAP – BY PROGRAM

02 BASELINE FORECAST

The load forecast is a critical input into CenterPoint's 2025 DSM Market Potential Study, having various uses in estimation of residential and business sector potential. Therefore, the GDS Team took considerable time and effort to review CenterPoint's most recently completed load forecast models and documentation to produce the various forecast components necessary as inputs into this analysis. The chapter describes the various ways in which the forecast is used for this study, presents the baseline and disaggregated forecasts, and describes the methodology and data sources used by GDS for the purposes of generating the load forecasts that were used in the potential analysis.

2.1 CENTERPOINT LOAD FORECASTING SYSTEM

CenterPoint employs a sophisticated load forecasting system that uses econometric and Statistically Adjusted End-Use ("SAE") models to project number of consumers, average consumption per consumer, and total energy sales by class. Residential, Commercial, and Industrial consumers are projected using traditional econometric techniques. Residential average usage and commercial energy sales are projected using SAE model specifications. Industrial energy sales are projected using econometric techniques.

A residential SAE model specification takes end-use data drawn from utility, regional, and even national sources and develops monthly end-use indices designed to predict average household consumption. The end-use data includes market shares of key electric consuming appliances, average device efficiency trends, average building shell efficiency trends, price elasticity of demand, income elasticity of demand, and elasticity associated with the average number of people per household. A cooling index is developed to represent space cooling load and is further modified by Cooling Degree Days to incorporate summer weather into the model. Likewise, a heating index representing space heating is modified by Heating Degree Days. Finally, a base index is developed to represent consumption of all other end-uses in the home.

A commercial SAE model specification is very similar to a residential specification, except end-use energy intensity indices are developed for each commercial building type based on area employment in various industry codes. National and regional commercial data is used to estimate end-use consumption for various industries (for example, restaurants will have higher cooking usage shares than offices).

CenterPoint also projects the impacts of DSM programs it has run in the past. The DSM impacts included in the load forecast based on the evaluated results of CenterPoint DSM programs.

2.2 ADJUSTMENTS TO THE CENTERPOINT LOAD FORECAST

Before assessing the future potential for energy efficiency and demand response in the CenterPoint service area, a few modifications to CenterPoint's forecast were necessary to create an adjusted baseline forecast. These modifications are addressed in more detail below.

2.2.1 Reclassification of Load

The CenterPoint C&I sector customer database designated commercial and industrial ("C&I") rate code based on current tariff definition. When only using the account type/tariff definition to classify customers as either commercial or industrial, there were several manufacturing type premises classified as commercial, as well as several customers that GDS typically classifies as commercial classified as industrial, (i.e., a retail service building coded as an industrial account).

Additionally, the dataset also identified each business by North American Industry Classification System ("NAICS") code. To reclassify CenterPoint C&I sector data, GDS mapped industry codes to a specified building type and classified the building type as either commercial or industrial. Customers with a building type classified as "Industrial Manufacturing" were coded as Industrial customers, while all other building types were coded as Commercial. While the goal for this

analysis is to determine the actual amount of energy sales attributable to the commercial and industrial customer classes as a whole, it is only achievable by analyzing individual customer data. The result of this reclassification was a shift of approximately 12% of industrial sector sales, or roughly 280,000 MWh, to the commercial sector. This 12% shift was then applied to the CenterPoint case forecasted sales for the commercial and industrial classes. It is important to have accurate energy sales by customer class so that specific DSM/EE programs have the correct amount of energy sales eligible for savings.

2.2.2 Adjustments for Large C&I Opt Out Customers

The CenterPoint business sector customer database containing usage and demographic data for all C&I customers, with indication for large customer opt-out of DSM/EE programs status was utilized to determine how to adjust for opt-out customers. The number of customers and total energy use was calculated both including and excluding opt-out customers. The load forecast for the C&I sector was adjusted down by the percentage of load attributed to opt-out customers from the customer database, in effect excluding from the potential analysis any load of opt-out customers. The opt-out adjustment was held constant for all years of the load forecast. In total, GDS removed approximately 15% of commercial energy sales and 71% of industrial energy sales due to large customer opt-out.

2.3 LOAD FORECAST DISAGGREGATION

The baseline forecasts represent projected total energy sales by class. For the potential studies, it is useful to have the class forecasts disaggregated in several different ways. This section presents the forecast disaggregation scenarios used by GDS to determine intensity by end-use.

2.3.1 Residential Sector

The residential electric calibration effort led to an end-use breakdown of consumption by home type (single-family vs multifamily) as shown below in Figure 2-1. Overall, we estimated per home consumption to be 10,680 kWh per year for 2028. Among home types, both SF and MF homes use Heating for 17% of their total electricity consumption. Appliances (12% and 11% for SF and MF, respectively) and Other[1] (10% for both SF and MF) had similar end-use consumption profiles across housing types. SF homes use relatively more for Cooling than MF homes (17% vs 12%) and less for Water Heating (13% for SF vs 28% for MF).

[1] The “Other” end use consists of common loads such as Lighting, Cooking, Electronics, and Pools. The “Miscellaneous” end use consists of other less common plug loads such as EVs.

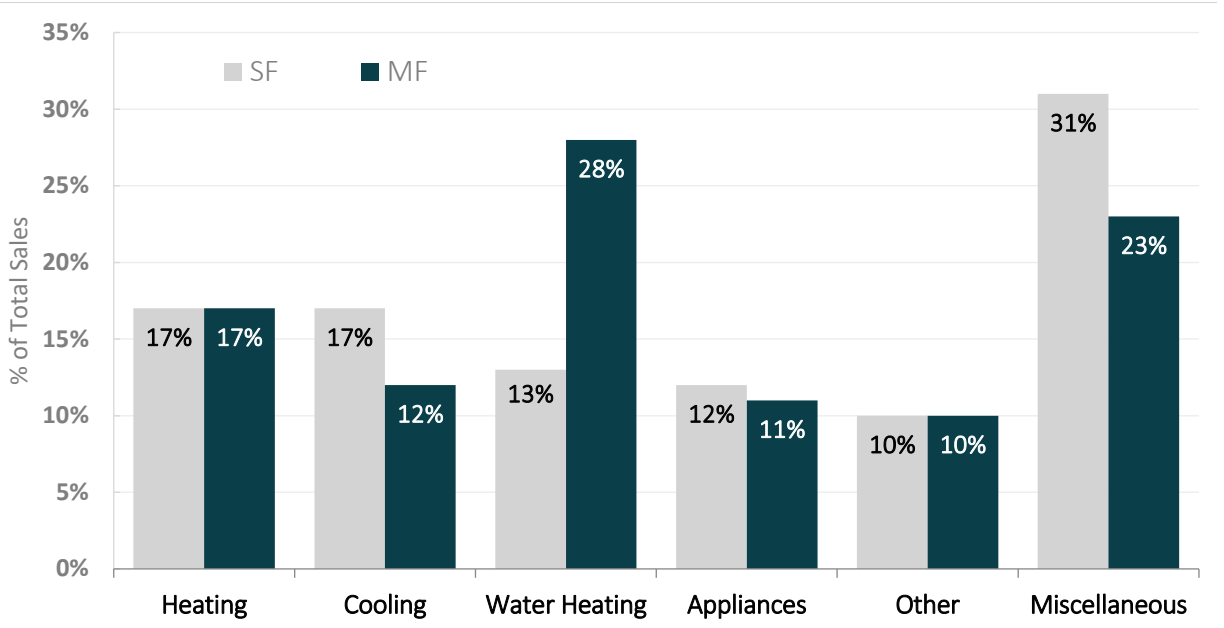


FIGURE 2-1. RESIDENTIAL ELECTRIC END-USE BREAKDOWN BY HOME TYPE

2.3.2 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 CenterPoint for the residential, commercial, and industrial sectors. As noted above, the C&I forecast was adjusted from the base case by using NAICS information from CenterPoint to reclassify usage as commercial or industrial. NAICS information from CenterPoint, along with Commercial Buildings Energy Consumption Survey ("CBECS") building type consumption tables, was then used to segment the forecast into building types. The forecast was further segmented into end-uses by building type using regional specifical projections of end-use consumption contained within Energy Information Administration's ("EIA") Annual Energy Outlook supporting workpapers. Figure 2-2 provides a breakdown of commercial electric sales, excluding opt-outs, by building type.[2]

2 "Other" commercial building types include buildings that engage in several different activities, a majority of which are commercial (e.g., retail space), though the single largest activity may be industrial or agricultural; "other" also includes miscellaneous buildings that do not fit into any other category.

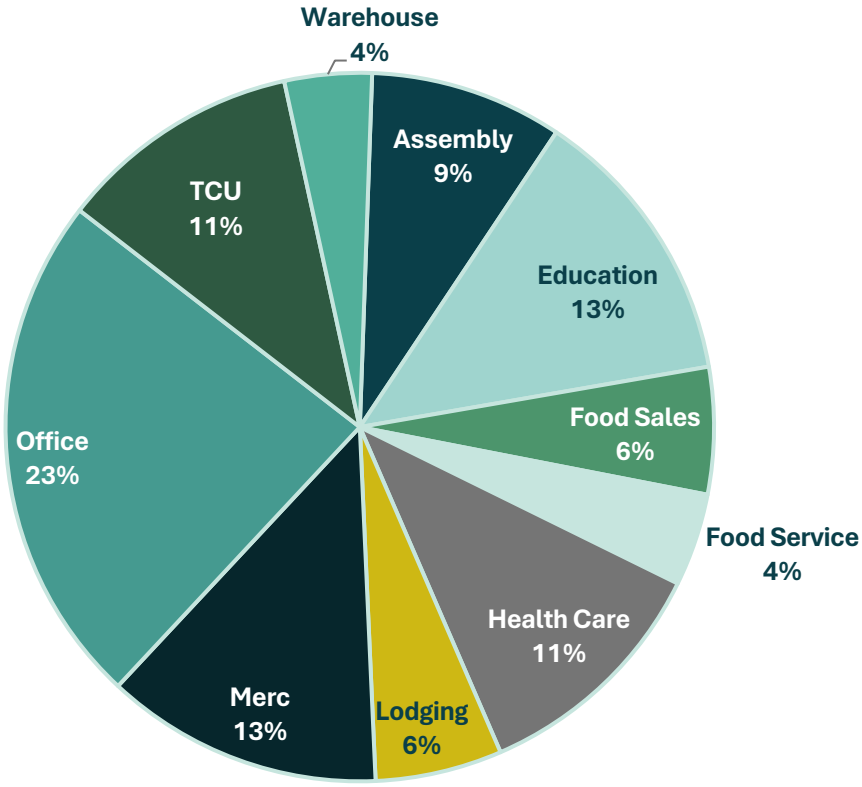


FIGURE 2-2. COMMERCIAL ELECTRIC SALES BREAKDOWN BY BUILDING TYPE

Figure 2-4 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. Miscellaneous plug load is also a significant share of load in some building types, indicating that various small electric devices are becoming more common in commercial buildings.

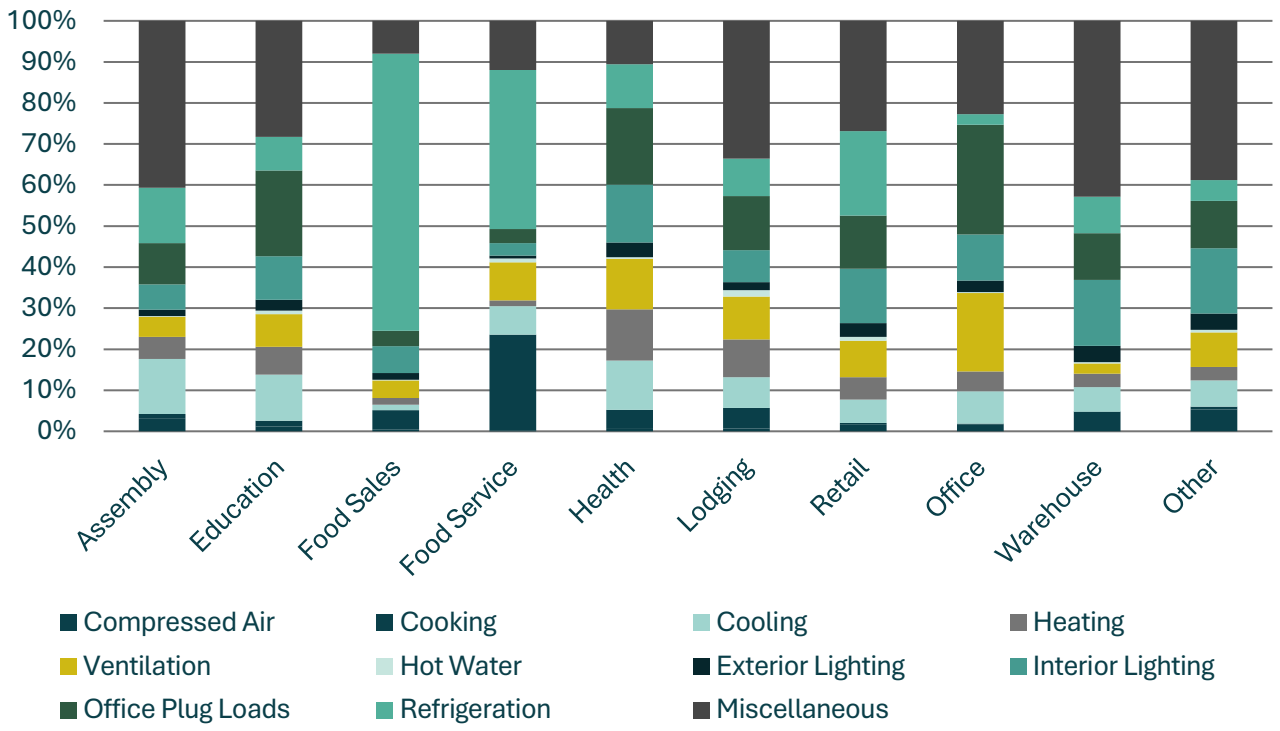


FIGURE 2-3. COMMERCIAL ELECTRIC END-USE BREAKDOWN BY BUILDING TYPE

Industrial sales were also segmented by end-use based on the overall distribution of sales by industry type and EIA Manufacturing Energy Consumption Survey ("MECS") data on end-use consumption by industrial segment. Figure 2-4 provides a breakdown of the sales by end-use. Overall, the weighted average industrial sales by end-use in the CenterPoint service area was roughly 42% Machine Drive, 12% Process Heat, 10% HVAC, 8% Process Other, 8% Compressed Air, and 7% for both Process Refrigeration and Lighting. The remaining 6% was split between water-wastewater and other process loads.

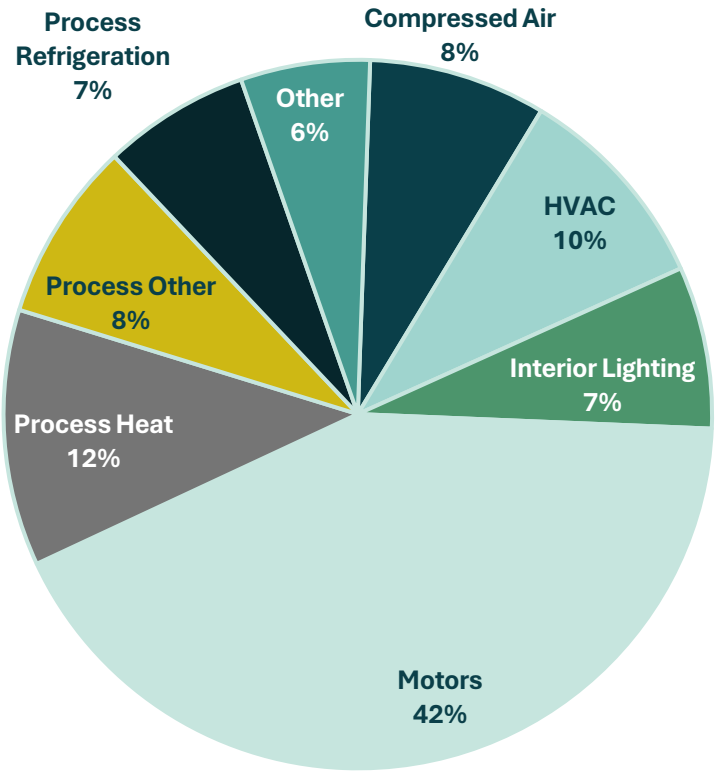


FIGURE 2-4. COMMERCIAL ELECTRIC SALES BY END-USE

03 ENERGY EFFICIENY POTENTIAL ANALYSIS

This chapter describes the overall methodology utilized to assess the electric energy efficiency potential in the CenterPoint service area. The main objectives of this demand-side management ("DSM") market potential study ("MPS", or "study") were to estimate the technical, economic, maximum, and realistic potential savings from energy efficiency ("EE") in the CenterPoint service territory; and to quantify these estimates of potential in terms of MWh and MW savings, for each level of energy efficiency and demand response ("DR") potential (see Chapter 4 for details on the DR analysis).

Energy efficiency potential studies involve several analytical steps to produce estimates of each type of energy efficiency potential. 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 built-in to Excel-based models that integrate technology-specific impacts and costs, customer characteristics, and utility avoided cost forecasts. The modeling platform provides transparency to the estimation process. 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 utilized a bottom-up approach to the modeling of energy efficiency potential, 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, taking into consideration incentives and estimates of annual adoption rates. For the C&I sector, GDS employed a bottom-up modeling approach to first estimate measure-level savings, costs, and cost-effectiveness, and then applied measure savings to all applicable shares of energy load.

3.2 MARKET CHARACTERIZATION

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

3.2.1 Forecast Disaggregation

Through the development of the baseline forecasts, the GDS Team produced disaggregated forecasts by sector and end-use. The resulting aggregate baseline forecasts were disaggregated by sector and then further segmented as follows:

- **Residential.** The residential forecast was broken out by housing type as well as existing vs. new construction.
- **Commercial.** Typically based on major EIA CBECS business types: 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 MECS data.

The segmentation analysis was performed by applying CenterPoint-specific segment and end-use consumption shares, derived from CenterPoint's customer database and NAICS code analysis (building segmentation), and by EIA CBECS and MECS data (end-use segmentation) to forecast year sales. 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	Lighting
Cooling	Exterior Lighting	HVAC
Water Heating	Refrigeration	Machine Drive
Cooking	Space Cooling	Process Heat
Refrigerator	Space Heating	Process Cool / Refrigeration
Freezer	Ventilation	Other Process
Dishwasher	Water Heating	Process – Machine Drive
Clothes Washer	Plug Loads / Office Equipment	Other Facility
Dryer	Cooking	Compressed Air
TV	Other	
Light	Whole Building / Behavioral	
Miscellaneous		

3.2.2 Eligible Opt-Out Customers

In Indiana, individual commercial, or industrial customer sites with a peak load greater than 1MW are eligible to opt out of utility-funded electric energy efficiency programs. In the CenterPoint service area, approximately 15% of total reclassified retail commercial sales have opted out of utility-funded electric energy efficiency programs, while roughly 71% of total reclassified retail industrial sales have opted out.

Figure 3-1 shows the total sales for the C&I sectors, as well as the sales, by sector, which have currently opted out of paying the rate of utility-administered energy efficiency programs. The portion of sales that have not opted out include both ineligible load (i.e., does not meet the 1 MW peak demand requirement) as well as eligible load that has not yet opted out.

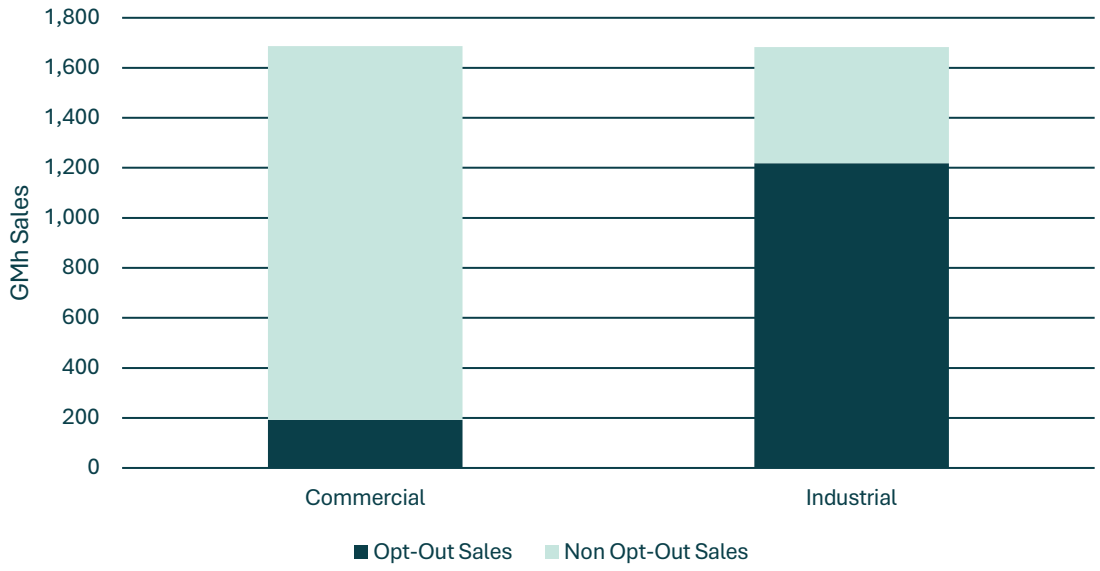


FIGURE 3-1 OPT-OUT SALES BY C&I SECTOR

GDS removed the sales from opt-out GDS also examined the full potential in the C&I sector if these customers were no longer able to opt-out of utility-funded electric energy efficiency programs. These results are included in the appendices of this report.

3.2.3 Building Stock/Equipment Saturation

To assess the potential electric energy efficiency savings available, estimates of the current saturation of baseline equipment and energy efficiency measures are necessary.

3.2.3.1 Residential Sector

For the residential sector, GDS relied on a 2025 Residential Energy Efficiency Baseline Survey conducted by CenterPoint and other historical research efforts. Other data sources included ENERGY STAR unit shipment data, CenterPoint evaluation reports, and EIA Residential Energy Consumption Survey data. The ENERGY STAR unit shipment data filled data gaps related to the increased saturation of energy efficient equipment across the U.S. in the last decade.

3.2.3.2 C&I Sector

For the commercial sector, building stock and equipment saturation data was informed from a combination of the CenterPoint customer database as well as other available regional or national data. The customer database helped inform sales by building type while the regional data helped inform the disaggregation of the end-use sales forecast further into measure groups consistent with the measures included in the potential analysis as well as saturation of energy efficient equipment.

For the industrial sector, the analysis employed a top-down analysis at the end-use level. Accordingly, it was not critical to disaggregate the industrial sales at a measure-level. Instead, measures were developed to estimate savings at a total end-use level.

3.2.4 Remaining Factor

The remaining factor is the proportion of a given market segment that is not yet efficient and can still be converted to an efficient alternative. It is the inverse of the saturation of an energy efficient measure, prior to any adjustments. In this study, two key adjustments were made in order to recognize that the energy efficient saturation does not necessarily always fully represent the state of market transformation.

First, while a percentage of installed measures may already be efficient, some customers may backslide (i.e., revert to standard technologies, or otherwise less efficient alternatives in the future, based on considerations like measure cost and availability and customer preferences). For example, customers who purchased efficient HVAC equipment in the past may not want to pay the full cost for an efficient piece of equipment again due to price increases in recent years.

For most measures categorized as market opportunity (i.e., replace-on-burnout/time of sale), the study assumes that 40% of the instances in which an efficient measure is already installed, the burnout or failure of those measures would be eligible for inclusion in the estimate of future savings potential. This adjustment assumes that 60% of the market is transformed, and no future savings potential exists, whereas the remaining 40% of the market is not transformed and could backslide without the intervention of a CenterPoint program and an incentive. Similarly, for retrofit measures and a few select market opportunities measures, the study assumes that only 15% of the already efficient measures would be eligible for inclusion in the estimate of future savings potential. This recognizes the more proactive nature of retrofit measures, as the implementation of these measures are more likely to be elective in nature, compared to market opportunity measures, which are more likely to be needs-based. The uncertainty in these assumptions is appropriate, as they factor in a key component of natural customer decision making.

Second, for measures that are installed in the early years of the analysis, but reach the end of their useful life, the study assumed that a portion of those measures would also be transformed and not occur again as incremental annual savings. The percentage of measures that would not be included again for incremental annual savings was typically small (15%) and was informed by historical net to gross (NTG) ratios3. However, for select measures such as commercial LED lighting fixtures, second life re-upping for purposes of calculating incremental annual savings (and costs) was restricted so that 85% of the measures would not be included for re-upping to reflect the expectation that significant market transformation is occurring as well as the limitations in technological improvements that could produce additional future savings at the existing levels.

3.3 MEASURE CHARACTERIZATION

Measure characterization involves defining a set of measures for the study, and developing a set of cost, savings, and useful life assumptions to help determine measure-level cost-effectiveness. This section provides an overview of that process.

3.3.1 Measure Lists

The study's sector-level energy efficiency measure lists were informed by a range of sources including the Illinois Technical Reference Manual ("TRM"), current CenterPoint program offerings, measures included in other recent Indiana utility market potential studies, and commercially viable emerging technologies, among others. Measure list development was a collaborative effort in which GDS developed draft lists that were shared with CenterPoint and stakeholders. The final measure lists ultimately included in the study reflected the informed comments and considerations from the parties that participated in the measure list review process.

In total, GDS analyzed 322 measure types for this study. Several measures were included with multiple permutations to account for different specific market segments, such as different building types, efficiency levels, and replacement options. In total, GDS developed 2,030 measure permutations for this study. Each permutation was screened for cost-effectiveness under the UCT cost test. The parameters for cost-effectiveness under the UCT are discussed in detail later in Section 3.4.3.

TABLE 3-2: NUMBER OF MEASURES EVALUATED

	# of Measures	Total # of Measure Permutations
Residential	154	677
Commercial	164	1,353
Total	***318***	***2,030***

3.3.2 Emerging Technologies

GDS considered several specific emerging technologies as part of analyzing future potential. In the residential sector, these technologies include several smart/connected technologies, energy recovery ventilators, nanoinsulation, ultrasonic and heat pump dryers and smart vents/sensors. In the non-residential sector, specific emerging technologies that were considered as part of the analysis include several commercial behavioral options, triple pane windows, energy recovery ventilators, data center hot/cold aisle configuration, advanced lighting controls, and server virtualization. While this is likely not an exhaustive list of possible emerging technologies over the next twenty years it does consider many of the known technologies that are available today but may not yet have widespread market acceptance and/or product availability.

[3] The study's estimates of cumulative annual savings were not impacted by this second lifetime adjustment to incremental annual savings.

In addition to these specific technologies, GDS acknowledges that there could be future opportunities for new technologies as equipment standards improve and market trends occur. While this analysis does not make any explicit assumption about unknown future technologies, the methodology assumes that subsequent equipment replacement that occurs over the course of the study timeframe, and at the end of the initial equipment's useful life, will continue to achieve similar levels of energy savings, relative to improved baselines, at similar incremental costs.

3.3.3 Assumptions & Sources

A significant amount of data is needed to estimate the electric savings potential for individual energy efficiency measures or programs across the residential and nonresidential customer sectors. GDS utilized data specific to CenterPoint when it was available and current. GDS used the most recent CenterPoint evaluation report findings (as well as CenterPoint program planning documents), the Illinois TRM, and the Michigan Energy Measures Database ("MEMD"), and EIA data for a large amount of the data requirements. Additional source documents included American Council for an Energy-Efficient Economy ("ACEEE") research reports covering topics like emerging technologies.

Measure Savings: GDS relied on existing CenterPoint evaluation report findings and the Illinois TRM to inform calculations supporting estimates of annual measure savings as a percentage of base equipment usage. For custom measures and measures not included in the Illinois TRM, GDS estimated savings from a variety of sources, including:

- MEMD, IN TRM, and other regional/state TRMs
- Secondary sources such as the ACEEE, Department of Energy ("DOE"), 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 primarily from CenterPoint evaluation report findings and the Illinois TRM. GDS also used the following supplementary data sources:

- MEMD, IN, and other regional/state TRMs
- Secondary sources such as the ACEEE, ENERGY STAR, and NREL

Costs and savings for new construction and replace on burnout measures were calculated as the incremental difference between the code minimum equipment and the energy efficiency measure. This approach was utilized because the consumer must select an efficiency level that is at least the code minimum equipment when purchasing new equipment. The incremental cost is calculated as the difference between the cost of high efficiency and standard efficiency (code compliant) equipment. However, for retrofit or direct install measures, the measure cost was the "full" cost of the measure, as the baseline scenario assumes the consumer would not make energy efficiency improvements in the absence of a program. 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).

Measure Life: Measure life represents the number of years that energy using equipment is expected to operate. GDS obtained measure life estimates from the CenterPoint evaluation report findings and the Illinois TRM:

- MEMD, IN TRM, and other regional/state TRMs
- Manufacturer data
- Savings calculators and life-cycle cost analyses

All measure savings, costs, and useful life assumption sources are documented in the Appendices volume of this report.

3.3.4 Treatment of Codes & Standards

Although this analysis does not attempt to predict how energy codes and standards will change over time, the analysis does attempt to reflect the latest legislated improvements to federal codes and standards. Where possible, improvements to baseline equipment standards can typically be met with incremental improvements to efficient equipment standards. However, in select cases, such as screw-in lighting improvements to the baseline standard effectively were expected to eliminate the efficient technology from future consideration.

3.3.5 Net to Gross (NTG)

All estimates of technical, economic, and achievable potential, as well as measure level cost-effectiveness screening were conducted in terms of gross savings to reflect the absence of program design considerations in these phases of the analysis. The impacts of free-riders (participants who would have installed the high efficiency option in the absence of the program) and spillover customers (participants who install efficiency measures due to program activities but never receive a program incentive) were considered in the development of DSM Inputs into CenterPoint's IRP.

3.4 ENERGY EFFICIENCY POTENTIAL

This section provides a definition of the types of potential, followed by an overview and additional information regarding each type of 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 may realistically be achieved through market interventions, when it can be captured, and how much it would cost to do so. Figure 3-2 illustrates the types of energy efficiency potential considered in this analysis.

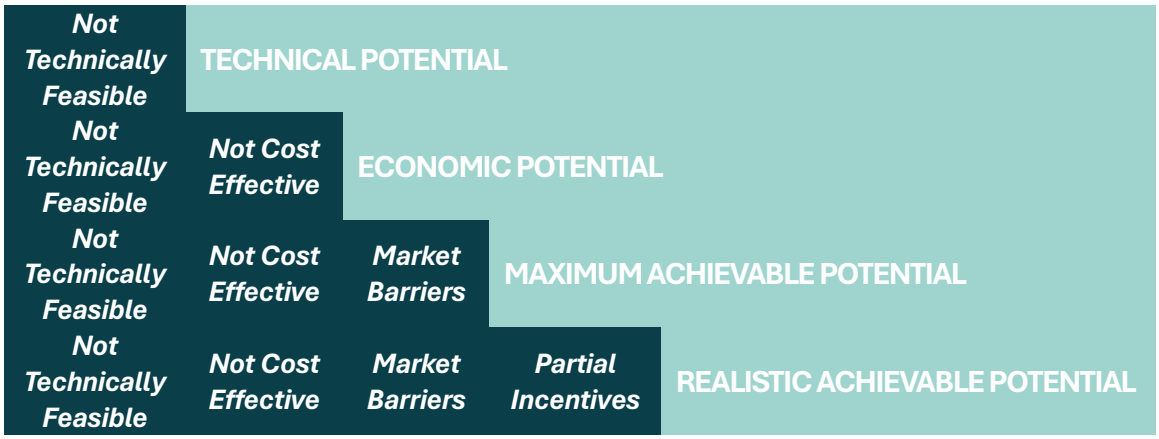


FIGURE 3-2 TYPES OF ENERGY EFFICIENCY POTENTIAL

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 15 years.

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

FIGURE 3-3 CORE EQUATION FOR RESIDENTIAL ENERGY EFFICIENCY TECHNICAL POTENTIAL

- **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 a given 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.
- **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.

3.4.2.1 Measure Competition and Interactive Effects

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 and a smart thermostat for the same zone. 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 building shell upgrades are adjusted down to reflect the efficiency gains of installing an efficient HVAC equipment.

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 UCT) as compared to conventional supply-side energy resources.

3.4.3.1 Utility Cost Test & Incentive Levels

The economic potential assessment included a screen for cost-effectiveness using the UCT at the measure level. In the CenterPoint territory, the UCT considers electric energy, capacity, and transmission & distribution ("T&D") savings as benefits, and utility incentives and direct install equipment expenses as the cost. Consistent with application of economic potential according to the National Action Plan for Energy Efficiency ("NAPEE"), the measure level economic screening does not consider non-incentive/measure delivery costs (e.g., admin, marketing, evaluation etc.) in determining cost-effectiveness.[4]

Apart from the low-income segment of the residential sector, all measures were required to have a UCT benefit-cost ratio greater than 1.0 to be included in economic potential and all subsequent estimates of energy efficiency potential. Low-income measures were not required to be cost-effective.

For both the calculation of the measure-level UCT, as well as the determination of RAP, historical incentive levels (as a % of incremental measure cost) were calculated for current measure offerings. GDS relied on the prior CenterPoint DSM plan estimates and historical CenterPoint evaluation reports files, and current rebate applications to map current measure offerings to their historical incentive levels.

- In the residential sector, incentives by program ranged from 40% to 100% and averaged 72%.
- In the non-residential sector, prescriptive incentives averaged approximately 45% of the measure cost for in the RAP scenarios.
- Custom measures received incentives equal to $0.14 per first-year kWh saved.
- In the MAP scenario, incentives were increased up to 100% of the incremental measure cost.[5]

3.4.3.2 Avoided Costs

Avoided energy supply costs are used to assess the value of energy savings. Avoided cost values for electric energy, electric capacity, and avoided T&D were provided by CenterPoint as part of an initial data request. Electric energy is based on an annual system marginal cost. For years outside of the avoided cost forecast timeframe, future year avoided costs are escalated by the rate of inflation.

CenterPoint provided the GDS team with annual on and off-peak avoided energy costs. GDS used this data to create 8,760 avoided cost values for each forecast year. GDS then applied these avoided costs to the 8,760 savings from each measure based on assigned end-use load shapes[6] to determine the value of measures that save more energy during peak periods than those that might saving during off-peak periods. In addition, the avoided capacity and T&D avoided costs were applied to the estimated coincident peak demand savings for each measure.

[4] National Action Plan for Energy Efficiency: Understanding Cost-Effectiveness of Energy Efficiency Programs. Note: Non-incentive delivery costs are included in the assessment of achievable potential.
[5] The GDS team lowered MAP incentives to less than 100% of measure incremental cost in some cases if 100% incentives would preclude the measure from being cost-effective. MAP incentives were lowered to either 75% or 50% of the incremental measure cost if either of those incentive levels would allow for a measure to remain cost-effective.
[6] End-use load shapes were derived from building energy simulation models created by housing type and building type, specific to the CenterPoint service area.

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 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 100% of measure incremental costs and aggressive adoption rates.
- **RAP** estimates achievable potential with CenterPoint paying incentive levels (as a percent of incremental measure costs) closely calibrated to historical levels but is not constrained by any previously determined spending levels.
- **Enhanced RAP** estimates achievable potential achievable potential by adjusting incentive levels in the RAP scenario to increase participation beyond the RAP scenario while also considering implications related to cost-effectiveness. For this scenario, a maximum incentive was calculated to either cover a sector-specific lifetime cost per MWh or 100% of the measure cost, whichever was less. There was also an incentive floor of 10% of measure cost. Effectively, it is a scenario that has savings and costs greater than the RAP scenario, but less than the MAP scenario.

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 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 a combination of CenterPoint-specific WTP research (conducted for the prior CenterPoint MPS) and more recent WTP surveys conducted in neighboring Indiana utility service areas.

The CenterPoint-specific 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. There are other factors (both as barriers and motivations) that may influence a customer's willingness to purchase an energy efficiency measure. For example, increased marketing and education programs can have a critical impact on the success of energy efficiency programs. The secondary WTP research conducted in neighboring jurisdictions included additional questions related to these barriers and motivations factors, and the general impact of these additional elements were layered onto the initial CenterPoint-specific research to be able to update and refine the original long-term adoption rates. The WTP approach and results were provided to the CenterPoint Oversight Board during a discussion of draft methodology and results.

GDS utilized likelihood and WTP 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 primary market research. Behavior was set to 100% to reflect that the program design is typically opt-out and participation levels are dictated by the utility.

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

End Use/Housing Type/Income	0% Incentive	25% Incentive	50% Incentive	75% Incentive	100% Incentive
Water Heating	20%	37%	49%	65%	93%
HVAC Equipment	22%	36%	43%	60%	89%
Appliances	21%	37%	53%	68%	95%
Building Shell	20%	35%	48%	64%	91%
Behavior	100%	100%	100%	100%	100%

Table 3-4 presents the long-term market adoption rates used in the nonresidential sector. The C&I adoption rates were consistent with the prior CenterPoint MPS and informed by a combination of CenterPoint-specific WTP research and more recent WTP surveys conducted in neighboring Indiana utility service areas. GDS also included a custom project opportunity adjustment of 75% to reflect the difficulty in raising awareness levels for all potential custom project opportunities compared to the discrete energy efficient opportunities included in the WTP survey research. This adjustment was applied to all measures mapped to the Custom Program.

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

End-Use	20 Year Payback Period	10 Year Payback Period	5 Year Payback Period	3 Year Payback Period	1 Year Payback Period	0 Year Payback Period
EE Lighting	19%	28%	47%	71%	88%	95%
EE Prescriptive (Non-Lighting	24%	36%	59%	77%	84%	88%
Custom EE	18%	27%	44%	58%	63%	66%

GDS then estimated initial year adoption rates by reviewing the current saturation levels of efficient technologies and (if necessary) calibrating the estimates of 2028 annual potential to recent historical levels achieved by CenterPoint's current DSM portfolio. Although this calibration ensured that near-term savings indicated in the MPS demonstrated achievable incremental increases relative to recent historical levels, the near-term adjustment had little impact on the long-term potential. 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 (NAPEE) guidelines[7], utility non-incentive costs were included in the overall assessment of cost-effectiveness at the RAP scenario. Program non-incentive costs were calibrated to recent projected levels (using the 2026 Operating Plan) and set at:

- $0.078 per Behavioral program participant
- $0.183 per first year kWh saved for the Residential Prescriptive program.
- $0.117 per first year kWh saved for the Home Energy Assessment program measures.
- $1.265 per first year kWh saved for the Income-Qualified program measures.
- $0.274 per first year kWh saved for the Residential Midstream program measures.

[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.

- $0.135 per first year kWh saved for the In Store Discount program measures.
- $0.113 per first year kWh saved for the Multi-Family Energy Solutions program measures.
- $0.408 per first year kWh saved for the Community Connections program measures.
- $0.661 per first year kWh saved for the Residential New Construction program measures.
- $0.136 per first year kWh saved for the Residential Marketplace program measures.
- $0.084 per first year kWh saved for prescriptive C&I measures.
- $0.105 per first year kWh saved for C&I customs measures and small business direct install measures.

In addition, an indirect/cross-cutting cost of $0.045 per first year kWh saved was added to address those costs are not directly attributed at the program level. Non-incentive costs were then escalated annually to account for inflationary factors.[8]

3.5 RESIDENTIAL ENERGY EFFICIENCY POTENTIAL

This section provides the potential results for technical, economic, MAP and RAP for the residential sector. The cost-effectiveness results and budgets for the RAP scenario are also provided.

3.5.1 Scope of Measures & End Uses Analyzed

There were 157 total unique residential electric measures included in the analysis. Table 3-5 provides the number of unique measures by end-use. The measure list was developed based on a review of current CenterPoint programs, the Indiana TRM, other regional TRMs, and industry documents related to emerging technologies. Data collection activities to characterize measures formed the basis of the assessment of incremental costs, electric energy and demand savings, and measure life.

TABLE 3-5: RESIDENTIAL ENERGY EFFICIENCY MEASURES – BY END USE

End-Use	Number of Unique Measures
Appliances	22
Behavior	2
HVAC	48
Lighting	9
New Construction	5
Pool/Pump	3
Plug Loads	5
Shell	48
Water Heating	12
Total	**154**

3.5.2 Summary of Residential Electric Potential

Figure 3-11 provides the technical, economic, MAP, RAP and Enhanced RAP results for the 3-year, 6-year, and 18-year timeframes. The cumulative annual 3-year technical and economic potential is 10% of forecasted sales. The cumulative annual 3-year MAP is 4.0%, the RAP is 2.8%, and the Enhanced RAP is 3.2% of forecasted sales. Over the duration of the study timeframe the technical and economic potential rise to 32% and 30% of forecasted sales, respectively. The MAP, RAP and Enhanced RAP increased to 21.1%, 15.0% and 17.5% of forecasted sales respectively, over the study timeframe. The gap between economic potential and MAP/RAP represents market barriers to prospective program

[8] Measure costs and utility incentives were not escalated over analysis timeframe to keep those costs constant in nominal dollars.

participants, both financial and non-financial, to achieving the full amount of economic potential. The Enhanced RAP is greater than RAP as a result of higher incentive levels.

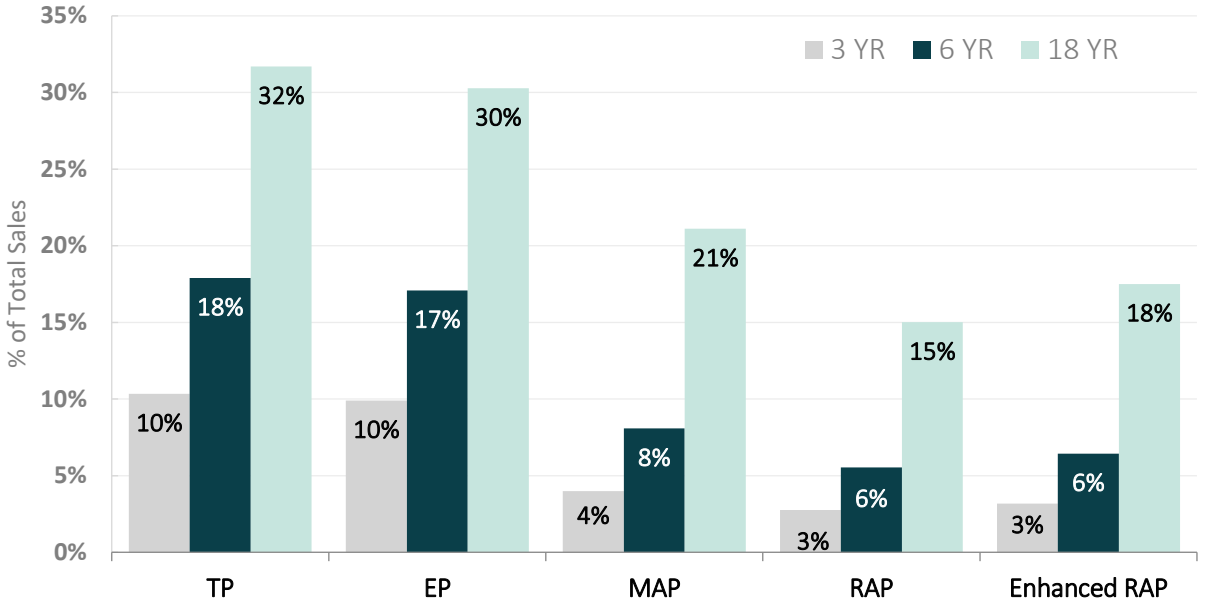


FIGURE 3-4: RESIDENTIAL ELECTRIC ENERGY CUMULATIVE ANNUAL POTENTIAL (AS A % OF COMMERICAL AND INDUSTRIAL SALES)

Table 3-11 provides additional detail regarding the cumulative annual technical, economic, MAP, RAP and Enhanced RAP energy savings, in total MWh and as a percentage of the sector-level sales forecast over 3-yr, 6-yr and 18-yr timeframes. The associated MW of demand savings are also provided.

TABLE 3-6: RESIDENTIAL CUMULATIVE ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

	3 YR	6 YR	18 YR
Energy (MWh)			
Technical	150,598	265,102	519,114
Economic	144,247	253,086	496,038
MAP	58,059	119,610	345,708
RAP	40,296	82,079	245,817
Enhanced RAP	46,245	95,411	286,802
Technical	10.3%	17.9%	31.7%
Economic	9.9%	17.1%	30.3%
MAP	4.0%	8.1%	21.1%
RAP	2.8%	5.5%	15.0%
Enhanced RAP	3.2%	6.4%	17.5%
Demand (MW)			
Technical	38	65	113
Economic	37	63	109
MAP	14	29	78

	3 YR	6 YR	18 YR
RAP	8	17	45
Enhanced RAP	10	20	52

Table 3-12 provides the incremental annual technical, economic, MAP, RAP and Enhanced RAP energy savings, in total MWh and as a percentage of the sector-level sales forecast. The incremental RAP ranges from 1.1% to 1.5% per year over the next six years, while the Enhanced RAP ranges from 1.2% to 1.7%.

TABLE 3-7: RESIDENTIAL INCREMENTAL ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

	2028	2029	2030	2031	2032	2033
Energy (MWh)						
Technical	59,102	59,548	59,106	58,577	58,062	57,519
Economic	56,894	57,386	56,987	56,499	56,023	55,519
MAP	20,652	23,274	25,503	27,311	28,764	30,098
RAP	15,299	17,166	18,908	20,394	21,568	22,549
Enhanced RAP	16,984	19,210	21,180	22,811	24,157	25,381
Technical	4.1%	4.1%	4.1%	4.0%	3.9%	3.9%
Economic	4.0%	4.0%	3.9%	3.9%	3.8%	3.7%
MAP	1.4%	1.6%	1.8%	1.9%	1.9%	2.0%
RAP	1.1%	1.2%	1.3%	1.4%	1.5%	1.5%
Enhanced RAP	1.2%	1.3%	1.5%	1.6%	1.6%	1.7%
Demand (MW)						
Technical	13.9	13.9	13.8	13.7	13.6	13.5
Economic	13.6	13.6	13.5	13.4	13.3	13.2
MAP	4.5	5.1	5.6	6.1	6.3	6.5
RAP	2.8	3.2	3.5	3.7	3.9	4.0
Enhanced RAP	3.2	3.6	4.0	4.3	4.5	4.6

3.5.3 Residential Technical, Economic and Achievable Potential Summary and Detail by End-Use

Figure 3-12 provides additional annual savings data for the technical and economic potential. The incremental annual technical and economic potential starts off at approximately 59,000 MWh and 57,000 MWh in 2028, respectively, and slowly decline and flatten out by 2045. The cumulative annual technical and economic potential rise to 32% and 30% of forecasted sector sales, respectively, by 2045.

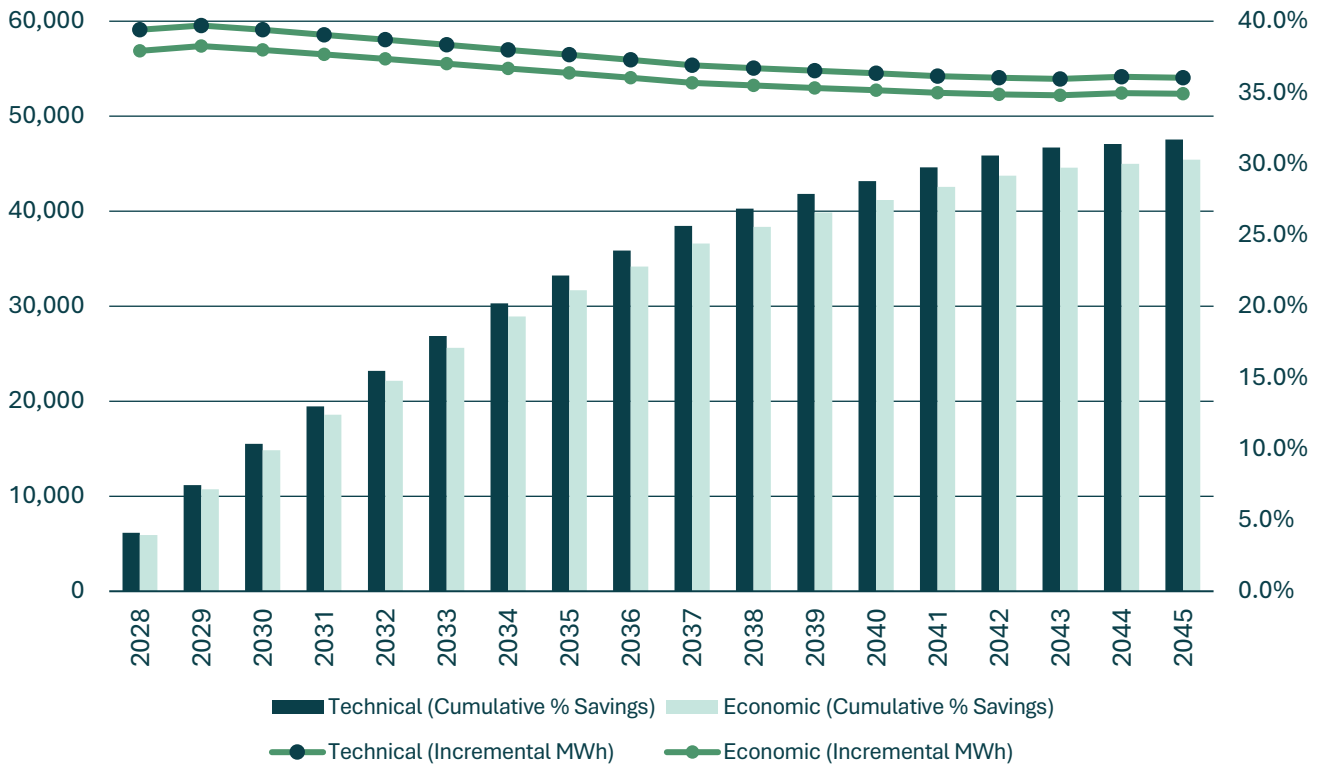


FIGURE 3-5: RESIDENTIAL ELECTRIC ENERGY CUMULATIVE ANNUAL POTENTIAL (AS A % OF COMMERICAL AND INDUSTRIAL SALES)

Figure 3-13 provides the MAP, RAP and Enhanced RAP across the 18-yr timeframe of the study. The lines provide the respective incremental annual MAP, RAP and Enhanced RAP in MWh per year energy savings. The corresponding bars provide the cumulative annual MAP, RAP and Enhanced RAP as a percentage of forecasted annual sector sales. The incremental RAP ranges from approximately 15,000 to 23,000 MWh. The incremental Enhanced RAP ranges from approximately 17,000 to 25,000 MWh, with a corresponding 15.0% and 17.5% in cumulative annual savings for RAP and Enhanced RAP, respectively.

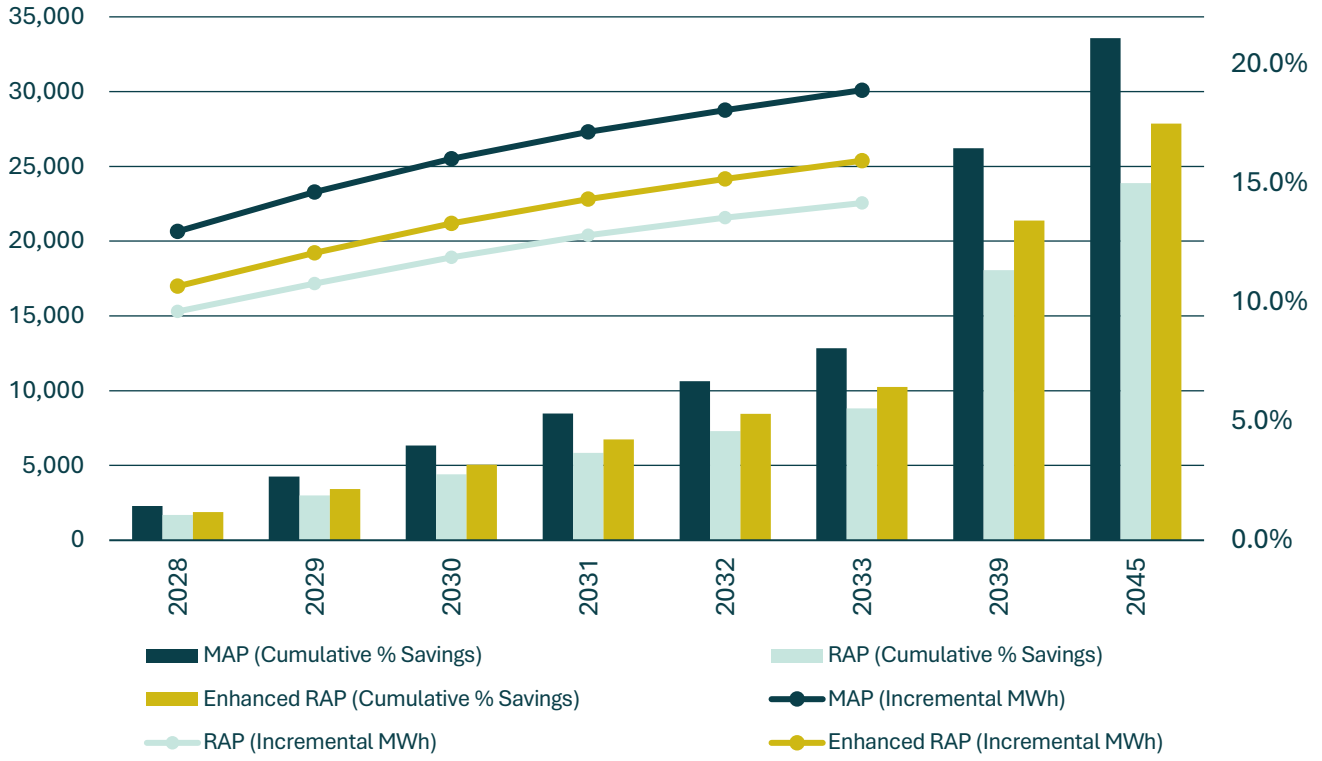


FIGURE 3-6: RESIDENTIAL ANNUAL ACHIEVABLE POTENTIAL

Figure 3-7 provides a breakdown of the residential achievable potential by end use. HVAC (37%), Shell (23%), and Water Heating (21%), combine to account for more than 80% of the residential achievable potential.

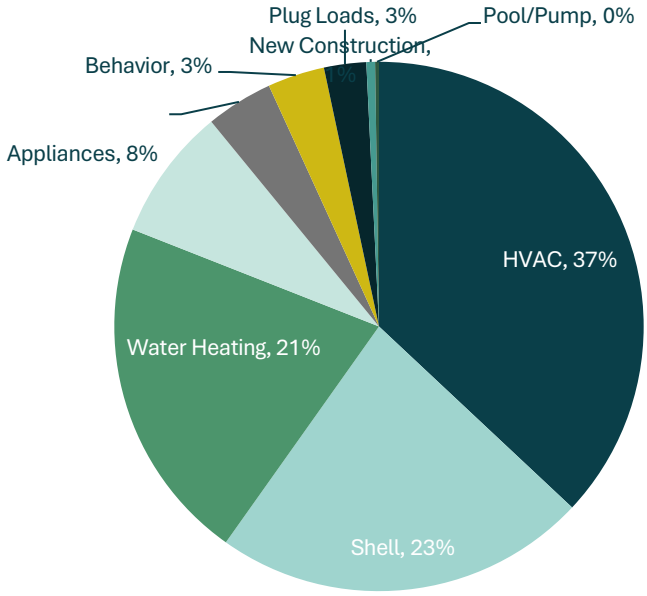


FIGURE 3-7: RESIDENTIAL POTENTIAL BY END-USE (SHARES OF ACHIEVABLE POTENTIAL)

Table 3-9 below provides additional annual detail by end use in the MAP, RAP and Enhanced RAP scenarios over the first six years of the study (2028-2033).

TABLE 3-8: RESIDENTIAL CUMULATIVE ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

	2028	2029	2030	2031	2032	2033
MAP						
Lighting	769	1,052	1,234	1,405	1,602	1,911
Whole Building	4,999	5,684	6,307	6,847	7,297	7,663
Refrigeration	5,524	6,523	7,351	8,145	8,548	8,800
HVAC	565	840	945	1,026	1,142	1,422
Plug Loads	36	47	63	73	83	92
Miscellaneous	6	15	24	35	46	61
Motors	616	773	937	1,093	1,219	1,297
Process	3,209	3,211	3,207	3,200	3,190	3,178
Compressed Air	4,927	5,128	5,435	5,488	5,636	5,674
Total	**20,652**	**23,274**	**25,503**	**27,311**	**28,764**	**30,098**
RAP						
Lighting	492	638	747	852	968	1,127
Whole Building	4,999	5,684	6,306	6,845	7,296	7,660
Refrigeration	4,328	5,075	5,716	6,334	6,644	6,828
HVAC	170	250	285	315	356	440
Plug Loads	36	47	63	73	83	92
Miscellaneous	2	5	8	12	16	21
Motors	272	341	413	483	541	578
Process	2,267	2,282	2,294	2,303	2,310	2,316
Compressed Air	2,733	2,844	3,075	3,177	3,355	3,487
Total	**15,299**	**17,166**	**18,908**	**20,394**	**21,568**	**22,549**
Enhanced RAP						
Lighting	659	882	1,026	1,159	1,311	1,549
Whole Building	4,999	5,684	6,306	6,845	7,296	7,660
Refrigeration	4,460	5,250	5,912	6,543	6,865	7,068
HVAC	398	590	664	722	804	1,001
Plug Loads	36	47	63	73	83	92
Miscellaneous	2	5	9	12	16	21
Motors	498	625	757	883	986	1,050
Process	2,278	2,292	2,304	2,313	2,320	2,325
Compressed Air	3,654	3,833	4,139	4,261	4,476	4,613
Total	**16,984**	**19,210**	**21,180**	**22,811**	**24,157**	**25,381**

Figure 3-8 provides the top 20 measures in the residential sector. Together, these 20 measures account for more than 80% of the residential achievable potential over the next 18 years. Heat pump water heaters, ductless and air source heat pumps, smart thermostats and nanoinsulation account for more than 50% of the achievable potential.

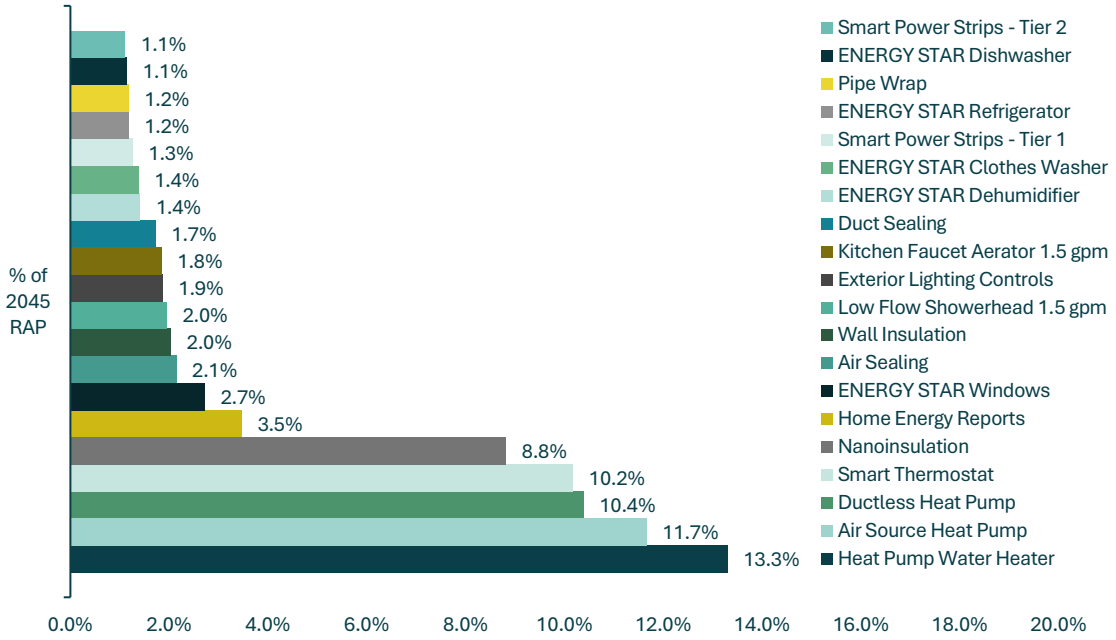


FIGURE 3-8: RESIDENTIAL TOP 20 MEASURES

Figure 3-9 provides the share of potential in the residential sector by housing and income type. Single-family non-IQ homes account for nearly 75% of the potential over the next 18 years.

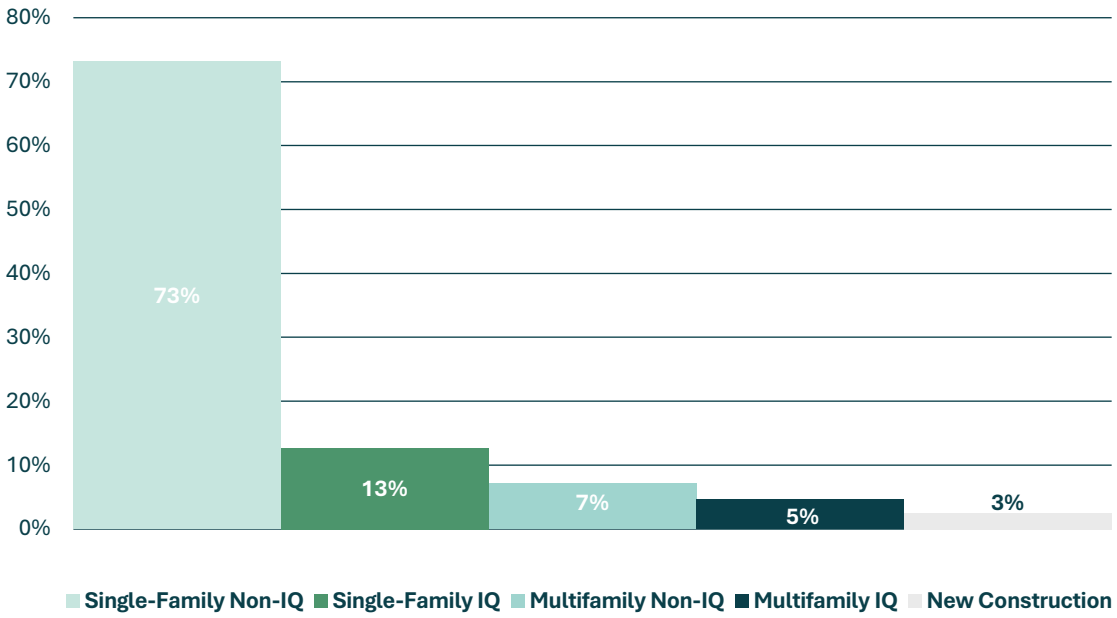


FIGURE 3-9: RESIDENTIAL ACHIEVABLE POTENTIAL BY BUILDING TYPE

3.5.4 Residential Achievable Potential Benefits & Costs

Table 3-14 shows the annual budgets associated with the MAP, RAP and Enhanced RAP scenarios in the residential sector. The figure also shows a breakdown of the RAP budgets by incentives and admin costs each year. The MAP budgets range from about $12 million to $35 million over the timeframe of the study. The RAP budgets range from $7 million to $22 million. The Enhanced RAP budgets range from $8 million to $26 million, with about 37% of spending on incentives and the remaining 63% on non-incentive costs at the outset of the study timeframe.

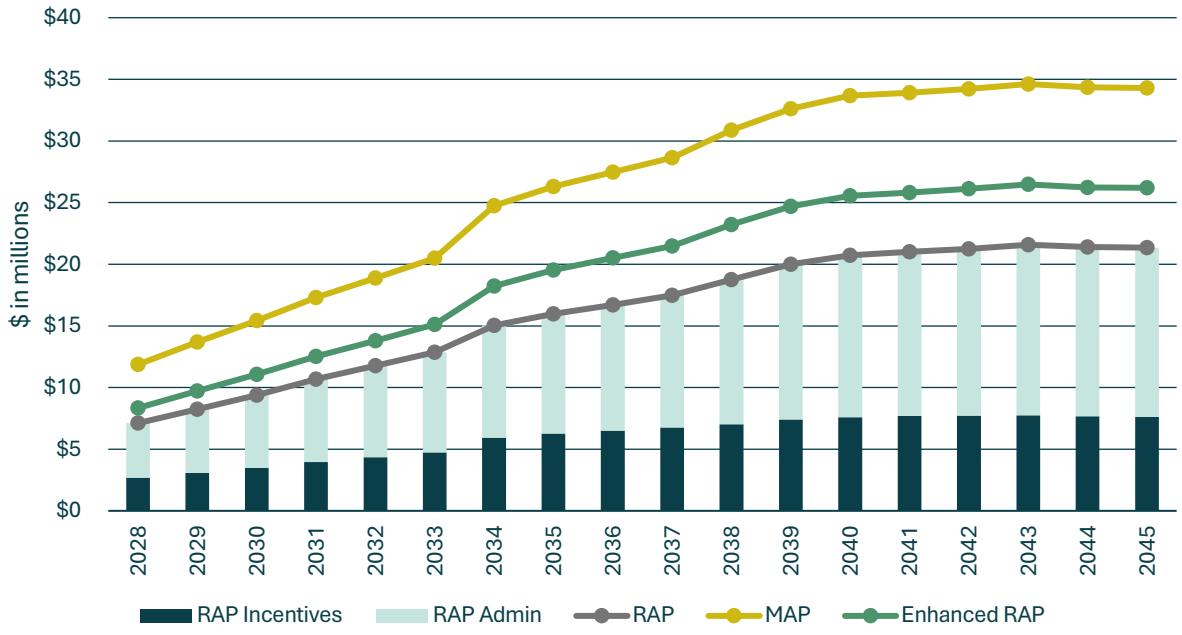


FIGURE 3-10: RESIDENTIAL ANNUAL BUDGETS – ACHIEVABLE POTENTIAL SCENARIOS

Table 3-14 provides the net present value (NPV) benefits and cost, as calculated using the UCT, across the 2028-2045 timeframe for the MAP, RAP and Enhanced RAP scenarios. The overall UCT ratio in the RAP scenario is 0.89. The overall UCT ratio in the MAP scenario is 0.87, and the Enhanced RAP UCT ratio is 0.80. The UCT ratios in the residential sector fall below 1.0 due to the inclusion of income-qualified measures, which do not have to pass a cost-effectiveness screening criterion. Non-IQ measures must pass the cost-effectiveness test at a 1.0 UCT ratio to be included in the achievable potential.

TABLE 3-9: RESIDENTIAL CUMULATIVE ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

End Use	NPV Benefits	NPV Costs	Net Benefits	UCT Ratio
MAP	$258,179,577	$298,345,225	-$40,165,648	0.87
RAP	$163,777,465	$183,316,995	-$19,539,531	0.89
Enhanced RAP	$177,856,921	$222,400,924	-$44,544,003	0.80

3.6 COMMERCIAL AND INDUSTRIAL ENERGY EFFICIENCY POTENTIAL

This section provides the potential results for technical, economic, MAP and RAP for the residential sector. The cost-effectiveness results and budgets for the RAP scenario are also provided.

3.6.1 Scope of Measures & End Uses Analyzed

There were 164 total unique commercial and industrial (C&I) electric measures included in the analysis. Table 3-10 provides the number of unique measures by end-use. The measure list was developed based on a review of current CenterPoint programs, the Indiana TRM, other regional TRMs, and industry documents related to emerging technologies. Data collection activities to characterize measures formed the basis of the assessment of incremental costs, electric energy and demand savings, and measure life.

TABLE 3-10: COMMERCIAL AND INDUSTRIAL ENERGY EFFICIENCY MEASURES – BY END USE

End-Use	Number of Unique Measures
Lighting	34
Whole Building	20
Refrigeration	28
HVAC	31
Plug Loads	10
Miscellaneous	6
Motors	6
Process	9
Compressed Air	8
Cooking	9
Hot Water	3
Total	**164**

3.6.2 Summary of Commercial and Industrial Electric Potential

Figure 3-11 provides the technical, economic, MAP, RAP and Enhanced RAP results for the 3-year, 6-year, and 18-year timeframes. The cumulative annual 3-year technical and economic potential is 6% of forecasted sales. The cumulative annual 3-year MAP is 4.8%, the RAP is 4.0%, and the Enhanced RAP is 4.2% of forecasted sales. Over the duration of the study timeframe the technical and economic potential rise to 27% of forecasted sales, respectively. The MAP, RAP and Enhanced RAP increased to 17.9%, 15.9% and 16.5% of forecasted sales respectively, 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. The Enhanced RAP is greater than RAP as a result of higher incentive levels.

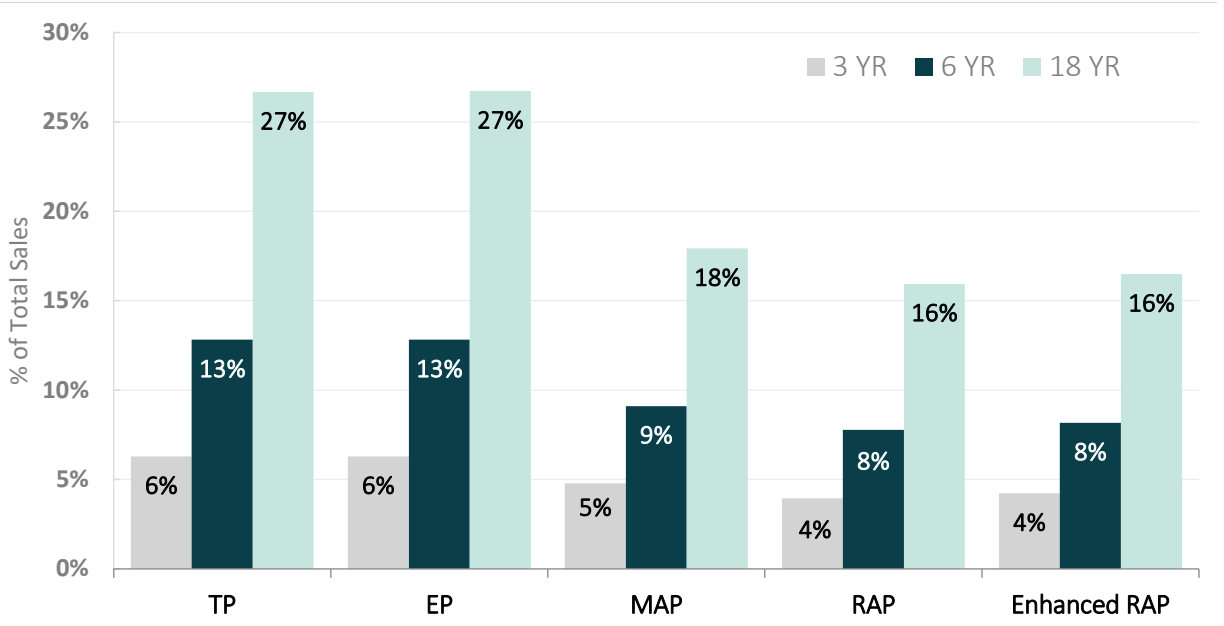


FIGURE 3-11: C&I ELECTRIC ENERGY CUMULATIVE ANNUAL POTENTIAL (AS A % OF COMMERICAL AND INDUSTRIAL SALES)

Table 3-11 provides additional detail regarding the cumulative annual technical, economic, MAP, RAP and Enhanced RAP energy savings, in total MWh and as a percentage of the sector-level sales forecast over 3-yr, 6-yr and 18-yr timeframes. The associated MW of demand savings are also provided.

TABLE 3-11: C&I CUMULATIVE ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

	3 YR	6 YR	18 YR
Energy (MWh)			
Technical	113,298	230,494	487,239
Economic	113,282	230,467	488,252
MAP	86,350	163,815	327,474
RAP	71,168	139,749	291,351
Enhanced RAP	76,066	146,951	301,277
Energy Savings (as% of Sector Sales Forecast)			
Technical	6.3%	12.8%	26.7%
Economic	6.3%	12.8%	26.7%
MAP	4.8%	9.1%	17.9%
RAP	4.0%	7.8%	15.9%
Enhanced RAP	4.2%	8.2%	16.5%
Demand (MW)			
Technical	16	56	81
Economic	16	56	81
MAP	13	39	56
RAP	10	33	48

	3 YR	6 YR	18 YR
Enhanced RAP	22	65	86

Table 3-12 provides the incremental annual technical, economic, MAP, RAP and Enhanced RAP energy savings, in total MWh and as a percentage of the sector-level sales forecast. The incremental RAP ranges from 1.3% to 1.4% per year over the next six years, while the Enhanced RAP ranges from 1.4% to 1.5%.

TABLE 3-12: C&I INCREMENTAL ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

	2028	2029	2030	2031	2032	2033
Energy (MWh)						
Technical	35,864	37,997	39,463	41,560	41,543	41,379
Economic	35,858	37,992	39,459	41,556	41,538	41,370
MAP	28,697	28,985	28,679	29,120	27,899	25,750
RAP	22,911	23,939	24,329	25,387	24,726	23,714
Enhanced RAP	24,899	25,553	25,627	26,380	25,517	24,052
Energy Savings (as% of Sector Sales Forecast)						
Technical	2.0%	2.1%	2.2%	2.3%	2.3%	2.3%
Economic	2.0%	2.1%	2.2%	2.3%	2.3%	2.3%
MAP	1.6%	1.6%	1.6%	1.6%	1.5%	1.4%
RAP	1.3%	1.3%	1.4%	1.4%	1.4%	1.3%
Enhanced RAP	1.4%	1.4%	1.4%	1.5%	1.4%	1.3%
Demand (MW)						
Technical	12.2	12.4	12.5	12.6	12.3	11.9
Economic	12.2	12.4	12.5	12.6	12.3	11.9
MAP	8.0	8.1	8.0	8.0	7.8	7.2
RAP	6.6	6.8	6.9	7.1	6.9	6.7
Enhanced RAP	7.1	7.2	7.2	7.3	7.1	6.7

3.6.3 Commercial and Industrial Technical, Economic and Achievable Potential

Figure 3-12 provides additional annual savings data for the technical and economic potential. The incremental annual technical and economic potential starts off at nearly 36,000 MWh in 2028 and rises to more than 50,000 MWh by 2045. The cumulative annual economic potential rises to nearly 27% of forecasted sector sales by 2045.

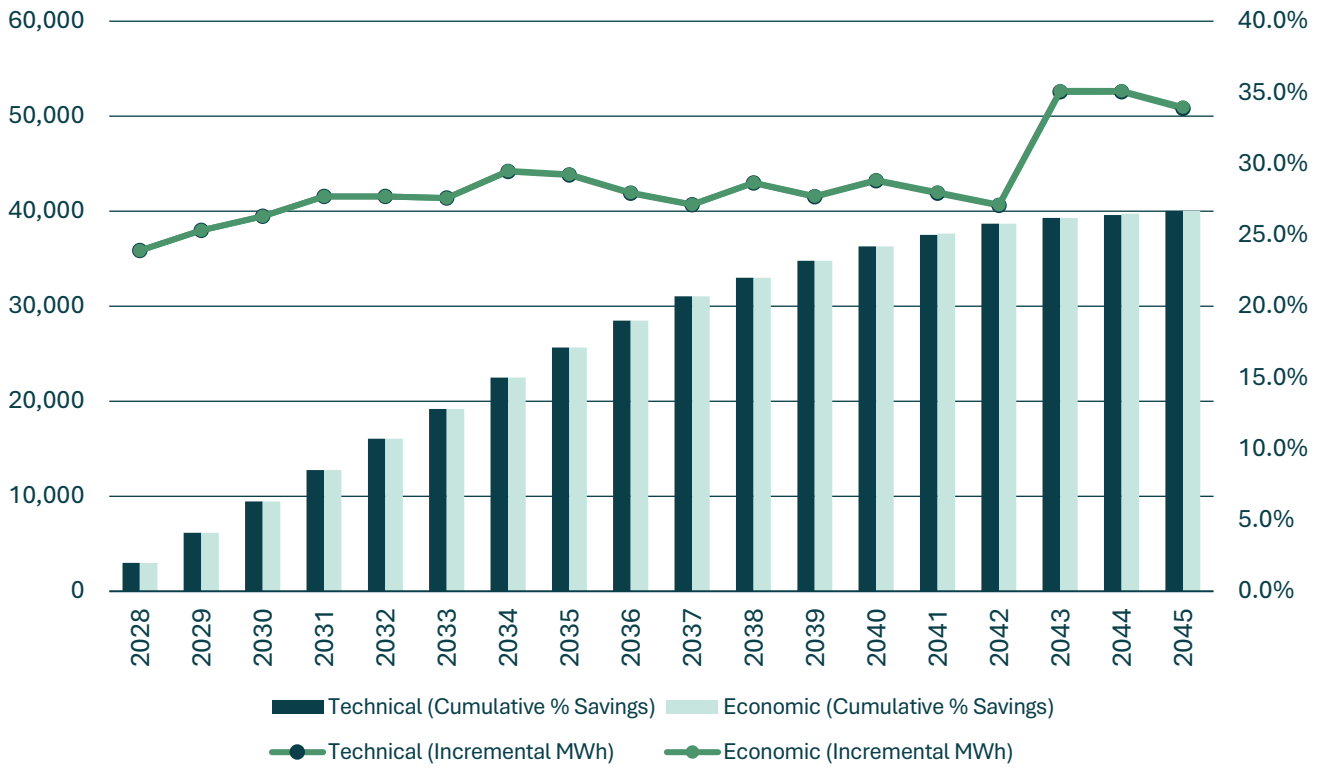


FIGURE 3-12: C&I ELECTRIC ENERGY CUMULATIVE ANNUAL POTENTIAL (AS A % OF COMMERICAL AND INDUSTRIAL SALES)

Figure 3-13 provides the MAP, RAP and Enhanced RAP across the 18-yr timeframe of the study. The lines provide the respective incremental annual MAP, RAP and Enhanced RAP in MWh per year energy savings. The corresponding bars provide the cumulative annual MAP, RAP and Enhanced RAP as a percentage of forecasted annual sector sales. The incremental RAP ranges from approximately 23,000 to 25,000 MWh. The incremental Enhanced RAP ranges from approximately 25,000 to 26,000 MWh, with a corresponding 15.9% and 16.5% in cumulative annual savings for RAP and Enhanced RAP, respectively.

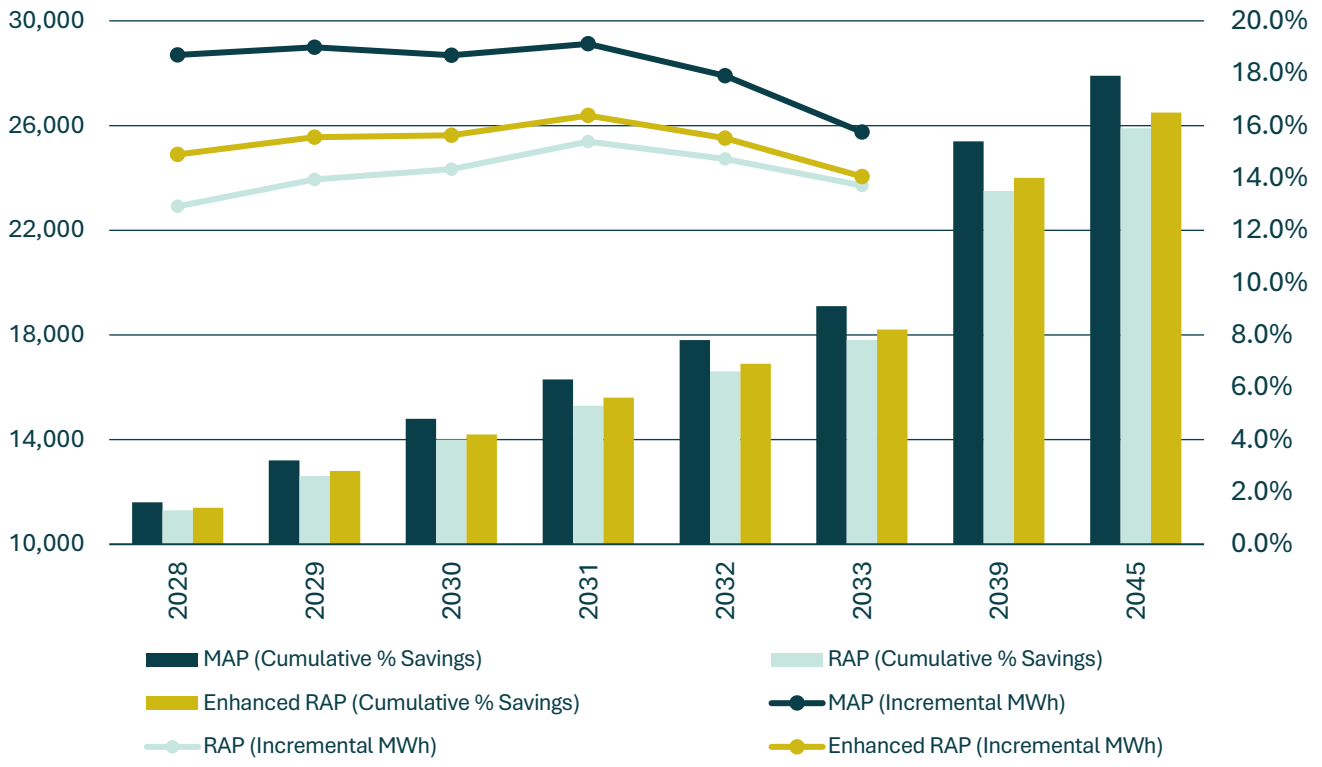


FIGURE 3-13: C&I ANNUAL ACHIEVABLE POTENTIAL

Figure 3-7 provides a breakdown of the C&I achievable potential by end use. Lighting (25%), Whole Building (21%), Refrigeration (13%), and HVAC (10%) combine to account for nearly three-quarters of the C&I achievable potential.

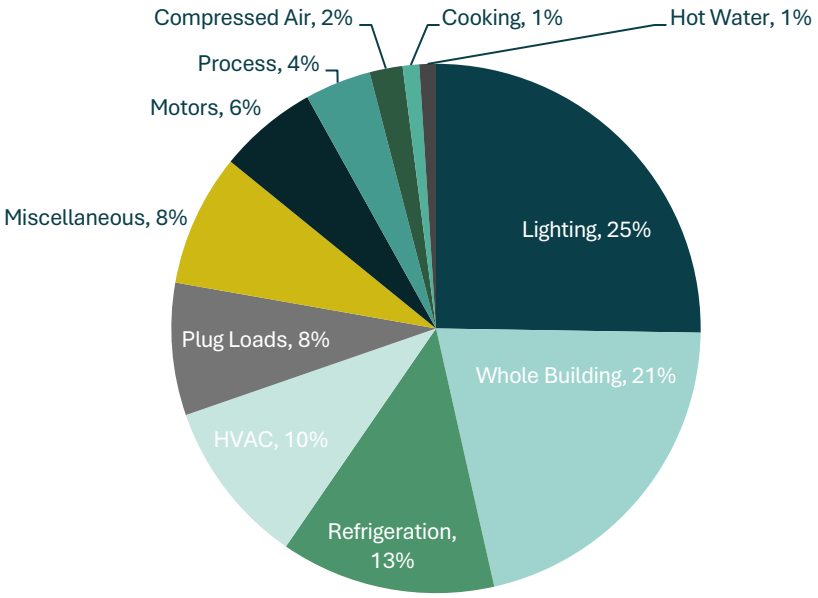


FIGURE 3-14: C&I POTENTIAL BY END-USE (SHARES OF ACHIEVABLE POTENTIAL)

Table 3-9 below provides additional annual detail by end use in the MAP, RAP and Enhanced RAP scenarios over the first six years of the study (2028-2033).

TABLE 3-13: C&I CUMULATIVE ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

	2028	2029	2030	2031	2032	2033
MAP						
Lighting	13,678	12,249	10,788	9,440	8,158	5,875
Whole Building	2,660	3,143	3,390	4,161	4,167	4,143
Refrigeration	4,225	4,416	4,442	4,335	4,137	4,030
HVAC	2,497	2,747	2,964	3,303	3,338	3,627
Plug Loads	1,908	2,133	2,302	2,392	2,392	2,298
Miscellaneous	1,688	2,019	2,326	2,569	2,705	2,714
Motors	847	957	1,046	1,354	1,402	1,410
Process	462	521	569	709	734	738
Compressed Air	515	559	583	855	846	916
Cooking	117	142	168	195	222	248
Hot Water	99	100	104	106	119	170
Total	**28,697**	**28,985**	**28,681**	**29,418**	**28,219**	**26,170**
RAP						
Lighting	9,572	8,963	8,229	7,493	6,707	5,499
Whole Building	2,222	2,703	2,979	3,804	3,853	3,861
Refrigeration	3,679	3,885	3,944	3,883	3,737	3,677
HVAC	2,193	2,417	2,603	2,893	2,927	3,213
Plug Loads	1,831	2,046	2,208	2,293	2,291	2,198
Miscellaneous	1,477	1,766	2,035	2,248	2,368	2,377
Motors	841	950	1,037	1,345	1,391	1,399
Process	427	481	525	662	683	686
Compressed Air	472	508	525	791	777	837
Cooking	102	124	147	171	196	219
Hot Water	96	96	100	101	114	164
Total	**22,911**	**23,939**	**24,331**	**25,683**	**25,044**	**24,131**
Enhanced RAP						
Lighting	11,198	10,187	9,121	8,122	7,140	5,490
Whole Building	2,234	2,723	2,997	3,791	3,841	3,859
Refrigeration	3,814	4,013	4,061	3,985	3,821	3,745
HVAC	2,346	2,580	2,776	3,070	3,101	3,367
Plug Loads	1,804	2,016	2,175	2,259	2,258	2,169
Miscellaneous	1,573	1,880	2,165	2,391	2,518	2,528
Motors	811	917	1,002	1,297	1,344	1,352
Process	440	496	542	676	699	703
Compressed Air	475	514	534	790	780	844
Cooking	109	133	157	182	208	233
Hot Water	96	96	100	101	114	164

	2028	2029	2030	2031	2032	2033
Total	**24,899**	**25,553**	**25,629**	**26,665**	**25,824**	**24,454**

Figure 3-8 provides the top 20 measures in the C&I sector. Together, these 20 measures account for 51% of the C&I achievable potential. Custom measures, whole building retrofits, and luminaire-level lighting controls account for close to 20% of the achievable potential.

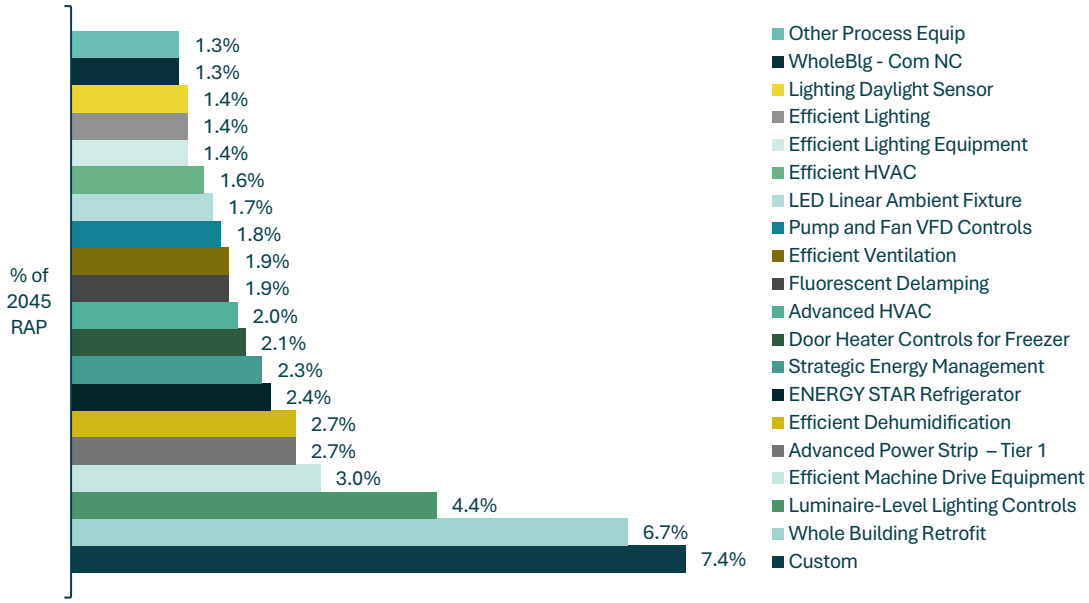


FIGURE 3-15: C&I TOP 20 MEASURES

Figure 3-9 provides the share of potential in the C&I sector by building type. Office buildings (16%) and Industrial buildings (14%) have the most potential among all building types.

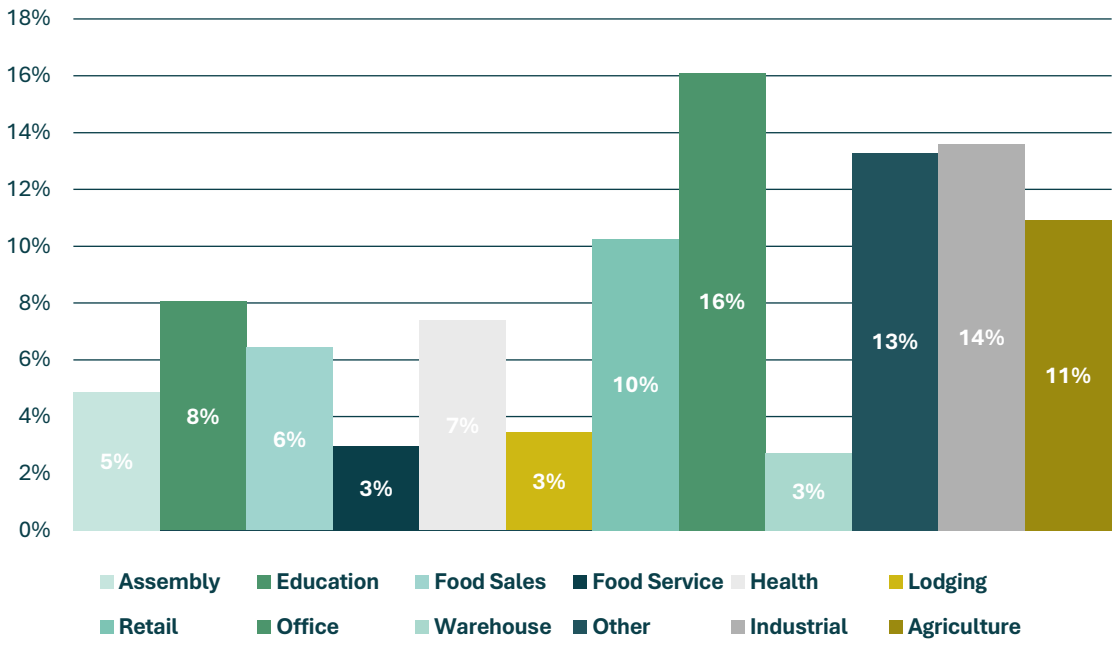


FIGURE 3-16: C&I ACHIEVABLE POTENTIAL BY BUILDING TYPE

3.6.4 Commercial and Industrial Achievable Potential Benefits & Costs

Table 3-14 shows the annual budgets associated with the MAP, RAP and Enhanced RAP scenarios in the C&I sector. The figure also shows a breakdown of the RAP budgets by incentives and admin costs each year. The MAP budgets range from about $9 million to $12 million over the timeframe of the study. The RAP budgets range from $5.7 million to $7.3 million. The Enhanced RAP budgets range from $7.6 million to $8.4 million, with about 50% of spending on incentives and the remaining 50% on non-incentive costs at the outset of the study timeframe.

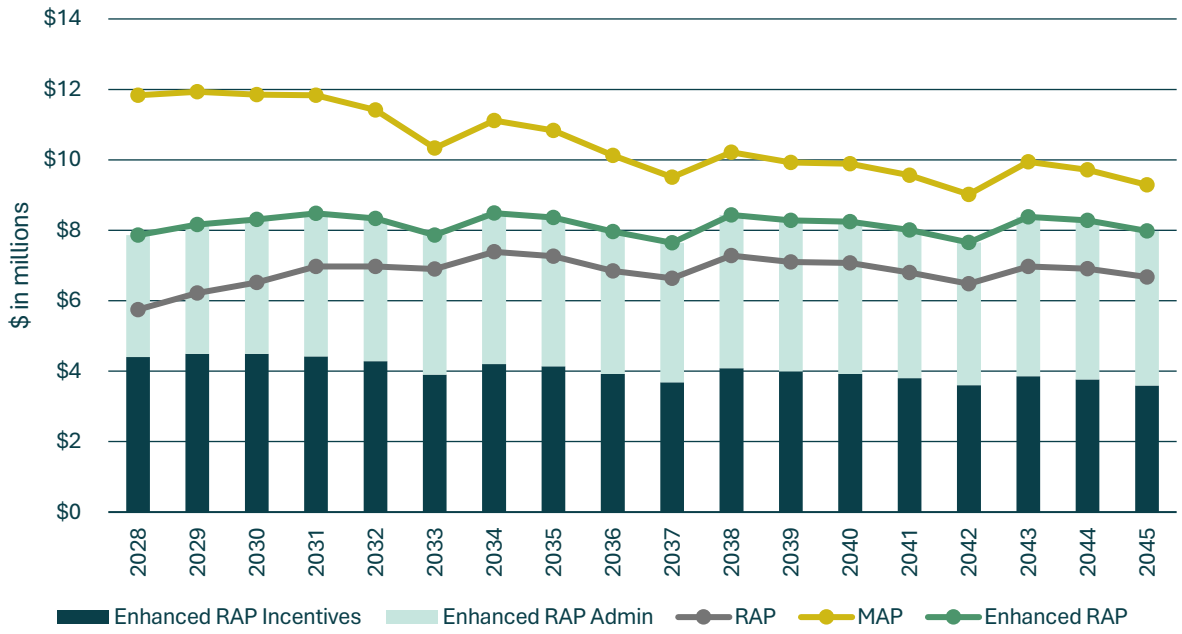


FIGURE 3-17: C&I ELECTRIC ANNUAL BUDGETS – ACHIEVABLE POTENTIAL SCENARIOS

Table 3-14 provides the net present value (NPV) benefits and cost, as calculated using the UCT, across the 2028-2045 timeframe for the MAP, RAP and Enhanced RAP scenarios. The overall UCT ratio in the RAP scenario is 2.93. The overall UCT ratio in the MAP scenario is 2.16 due to higher assumed incentive costs. Similarly, the savings and costs in the Enhanced RAP are higher due to the increased incentives compared to the RAP scenario, and the Enhanced RAP UCT ratio is 2.55.

TABLE 3-14: C&I CUMULATIVE ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

End Use	NPV Benefits	NPV Costs	Net Benefits	UCT Ratio
MAP	$265,546,074	$122,869,296	$142,676,778	2.16
RAP	$227,024,997	$77,530,833	$149,494,164	2.93
Enhanced RAP	$238,734,940	$93,460,665	$145,274,275	2.55

04 DEMAND RESPONSE POTENTIAL

This chapter provides the results of the MAP and RAP potential for the demand response analysis. Results are broken down by sector and program. The cost-effectiveness results and budgets for the MAP and RAP scenarios are also provided. Section 4.1 provides a description of the demand response methodology.

4.1 DEMAND RESPONSE PROGRAM OPTIONS

Table 4-1 provides a brief description of the demand response program options considered and identifies the eligible customer segment for each demand response program that was considered in this study. This includes direct load control (DLC) and rate design options.

TABLE 4-1 DEMAND RESPONSE PROGRAM OPTIONS AND ELIGIBLE MARKETS

Demand Response 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 C&I Customers
DLC Thermostat (BYOT & Smart Cycle)	The system operator can remotely change the HVAC's thermostat set point during peak load conditions, lowering HVAC load. GDS looked at the two options CenterPoint currently has: the BYOT option, where the customer brings an existing thermostat and is only given an annual incentive and the Smart Cycle option where AC switch participants are being transitioned to thermostats.	Residential and C&I 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 Heater Switch	The water heater is remotely shut off by the system operator for periods normally ranging from 2 to 8 hours.	Residential and C&I Customers
DLC Grid-Enabled Water Heaters	The grid-enabled water heater is equipped with a smart controller that allows the utility to remotely shut off the water heater for periods normally ranging from 2 to 4 hours.	Residential and C&I Customers
DLC Electric Vehicle	DLC of electric vehicles relies on communication (i.e., "dispatch") signals originating from a utility or aggregator and sent to a vehicle or charger to control charging in a predetermined manner. Can be events-based to control load during a limited number of events in a given time period (season or annually) or use continuous management to control load when the vehicle is connected to the charger.	Residential and C&I Customers

Demand Response Program Option	Program Description	Eligible Markets
Time of Use + Critical Peak Pricing Rate	A retail rate with different prices for usage during different blocks of time. Daily pricing blocks could include on-peak, mid-peak, and off-peak periods. An extra-high price for electricity is provided during critical periods of the year.	Residential and C&I Customers
Battery Storage	Uses the battery to reduce a home or facility's demand during peak or DR event hours, without requiring the customer to curtail their power. Instead of turning off equipment, the battery discharges power to offset load—or shifts charging to off-peak periods—so the utility sees a drop in grid demand.	Residential and C&I Customers

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 direct load control (DLC) program of air conditioning and a rate program both assume load reduction of the customers' air conditioners. For this reason, it is typically assumed that customers cannot participate in programs that affect the same end uses. 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 4-2 shows the hierarchy for each sector, with 1 being the top priority. Note that only cost-effective programs are included in the hierarchy.

TABLE 4-2 DR HIERARCHY FOR EACH SECTOR

Order	Residential Hierarchy	C&I Hierarchy
1	Direct Load Control	Direct Load Control
2	Time of Use + Critical Peak Pricing Rate	Time of Use + Critical Peak Pricing Rate

4.1.1 Demand Response Potential Assessment Approach Overview

The analysis of demand response, where possible, closely followed 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 (NAPA) on Demand Response*.[9] Additionally, GDS reviewed the May 2017 National Standard Practice Manual published by the National Efficiency Screening Project.[10] GDS utilized this guide to define avoided ancillary services and energy and/or capacity price suppression benefits.

Direct load control and rate programs demand response analysis was conducted using the GDS Demand Response Model. GDS determined the estimated savings for each demand response program by performing a review of all benefits and cost associated with each program. A modeling approach that considers numerous required inputs for each program was used, including expected life, coincident peak (CP) kW load reductions, proposed incentive levels, program related expenses such as vendor service fees, marketing and evaluation cost and on-going O&M expenses.

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

The UCT was used to determine the cost-effectiveness of each demand response program. Benefits are based on avoided demand, energy (including load shifting), wholesale cost reductions, and T&D 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, and achievable potential. Achievable potential is broken into maximum achievable potential (MAP) and realistic achievable potential (RAP) in this study:

MAP represents an estimate of the maximum cost-effective demand response potential that can be achieved over the 18-year study period. For this study, this is 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 18-year study period. For this study, this is 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.

4.1.2 Avoided Costs

Demand response avoided costs were consistent with those utilized in the energy efficiency potential analysis and were provided by CenterPoint. 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. 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. For this study, GDS assumed that the energy is shifted with no loss of energy. 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. 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.

4.1.3 Demand Response Program Assumptions

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

4.1.3.1 Direct Load Control Program Assumptions

Load Reduction: Demand reductions were based on load reductions found in CenterPoint's existing demand response programs, and various secondary data sources including other industry reports and evaluations or demand response potential studies that conducted primary research. DLC and thermostat-based demand response options were typically calculated based on a per-unit kW demand reduction.

Useful Life: The useful life of a smart thermostat is assumed to be 11 years. Load control switches have a useful life of 10 years. This life was used for all direct load control measures in this study.

Program Costs: One-time program development costs included in the first year of the analysis for new programs. No program development costs are assumed for programs that already exist. Each new program includes an evaluation cost,

with evaluation cost for existing programs already being included in the administration costs. It was assumed that there would be a cost of $50 per new participant for marketing for the DLC programs for RAP. Marketing costs are assumed to be 20% higher for MAP. All program costs were escalated each year by the general rate of inflation assumed for this study.

Saturation: For direct load control programs that control a specific end use, a saturation was applied to determine the number of eligible customers. For example, only customers with electric water heaters can participate in the water heating control program. Saturations from CenterPoint's 2025 market research were used.

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 reviewed industry data and program adoption levels from several utility demand response programs. As noted earlier in this section, for direct load control programs, MAP participation rates rely on industry best adoption rates and RAP participation rates are based on industry average adoption levels.

For the existing residential DLC AC switch and DLC water heater switch programs that are planned to be phased out over time, it was assumed that 80% of the current switches would be phased out or transitioned to other technologies, and the remaining 20% of switches would continue in the program until the switch or equipment fails.

Customer participation in new demand response programs is assumed to reach the steady state take 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 (see Figure 4-1). Existing programs have already gone through this ramp-up period, so they were escalated linearly to the final participation rate.

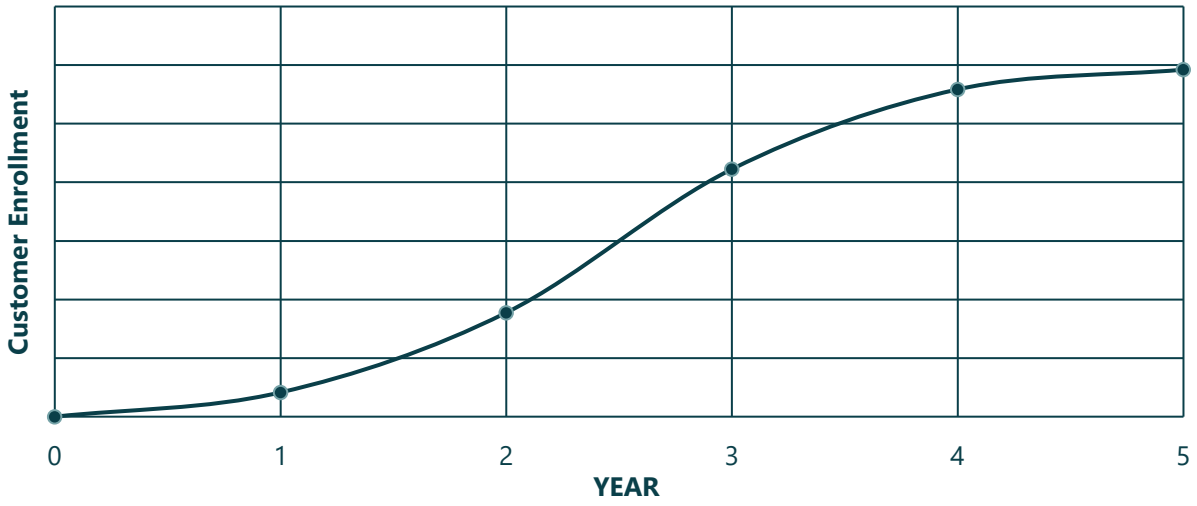


FIGURE 4-1: ILLUSTRATION OF S-SHAPED MARKET ADOPTION CURVE

4.1.3.2 Rate Program Assumptions

Load Reduction: Demand reductions were based on various secondary data sources including other industry reports and evaluations or demand response potential studies that conducted primary research. Rate-based demand response options were typically assumed to reduce a percentage of the total facility coincident peak load.

Useful Life: The only equipment needed for rate programs is a smart meter. The life of a smart meter was assumed to be 20 years.

Program Costs: One-time program development costs included in the first year of the analysis for new programs. No program development costs are assumed for programs that already exist. Each new program includes an evaluation cost, with evaluation cost for existing programs already being included in the administration costs. It was assumed that there would be a cost of $50 per new participant for marketing for the DLC programs. Marketing costs are assumed to be 20% higher for MAP. All program costs were escalated each year by the general rate of inflation assumed for this study.

4.2 TOTAL DEMAND RESPONSE POTENTIAL

Figure 4-2 provides the technical and economic demand response potential across the 3-year, 6-year, and 18-year timeframes. The technical potential ranges from 366 MW to 373 MW, whereas the economic potential ranges from 302 MW to 310 MW, which indicates that most technical potential is cost-effective.

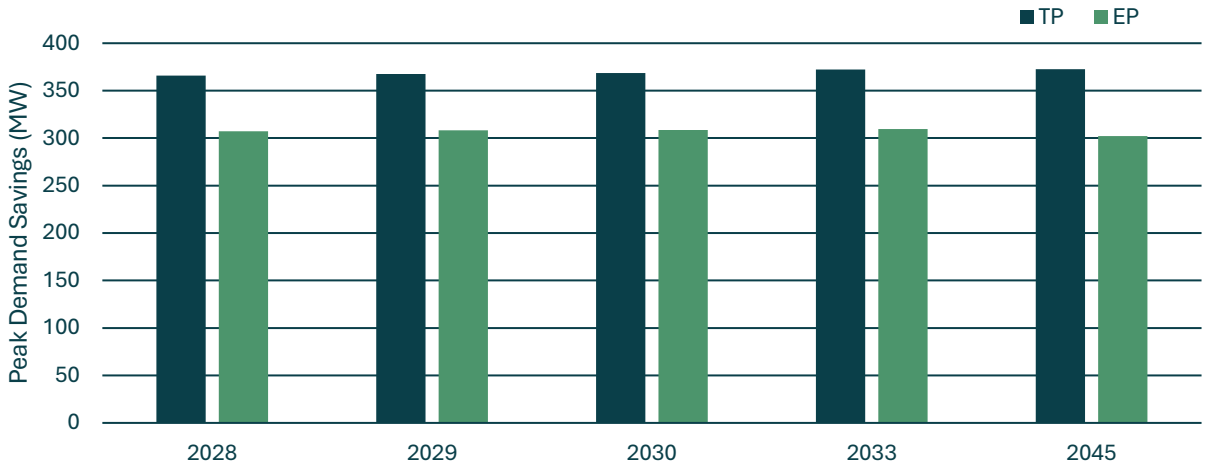


FIGURE 4-2: RESIDENTIAL ELECTRIC ENERGY CUMULATIVE ANNUAL POTENTIAL (AS A % OF SECTOR SALES)

Table 4-3 and Table 4-4 show the cumulative annual MAP and RAP savings for across the first six years of the study timeframe (2028-2033). These values are at the customer meter. The MAP assumes the maximum participation that would happen in the real-world, while the RAP considers additional barriers to program implementation that could limit the amount of savings achieved. The DLC Thermostat program options provide the most potential in both the residential and commercial sectors. Overall, the MAP ranges from 29.8 MW to 63.3 MW over the next six years, and the RAP ranges from 27.8 MW to 46.8 MW over the next six years.

TABLE 4-3: MAP SAVINGS BY PROGRAM AND SECTOR

Sector	Program	2028	2029	2030	2031	2032	2033
Residential	DLC AC Switch	1.3	0.8	0.7	0.6	0.5	0.5
	DLC Thermostat (Smart Cycle)	12.5	14.6	14.3	14.0	13.7	13.4
	DLC Thermostat (BYOT)	12.5	14.4	16.5	18.5	20.3	22.1
	DLC Water Heater Switch	0.4	0.3	0.3	0.3	0.2	0.2
	DLC Grid-Enabled Water Heater	0.8	2.5	5.3	7.0	7.5	7.6
	DLC Electric Vehicle	0.0	0.1	0.3	0.4	0.5	0.6

Sector	Program	2028	2029	2030	2031	2032	2033
	TOU + CPP Rate	0.7	1.1	1.6	2.1	2.5	3.0
	Battery Storage	0.0	0.1	0.2	0.3	0.4	0.4
	Residential Total	**28.2**	**34.0**	**39.1**	**43.1**	**45.7**	**47.8**
Commercial	DLC Thermostat (BYOT)	0.7	2.3	4.7	6.3	6.8	6.9
	DLC Grid-Enabled Water Heater	0.6	1.8	3.8	4.9	5.3	5.3
	DLC Electric Vehicle	0.0	0.0	0.0	0.0	0.0	0.0
	TOU + CPP Rate	0.3	1.1	2.2	2.9	3.1	3.2
	Battery Storage	0.0	0.1	0.1	0.2	0.2	0.2
	Commercial Total	**1.6**	**5.2**	**10.8**	**14.3**	**15.4**	**15.5**
All Sectors Combined		**29.8**	**39.2**	**49.9**	**57.4**	**61.1**	**63.3**

TABLE 4-4 RAP SAVINGS BY PROGRAM AND SECTOR

Sector	Program	2028	2029	2030	2031	2032	2033
Residential	DLC AC Switch	1.3	0.8	0.7	0.6	0.5	0.5
	DLC Thermostat (Smart Cycle)	12.5	14.8	14.6	14.3	14.1	13.9
	DLC Thermostat (BYOT)	11.8	12.9	14.4	15.8	17.1	17.1
	DLC Water Heater Switch	0.4	0.3	0.3	0.3	0.2	0.2
	DLC Grid-Enabled Water Heater	0.4	1.3	2.7	3.6	3.8	3.9
	DLC Electric Vehicle	0.0	0.1	0.2	0.3	0.4	0.5
	TOU + CPP Rate	0.5	0.8	1.2	1.5	1.8	2.1
	Battery Storage	0.0	0.1	0.2	0.3	0.3	0.3
	Residential Total	**26.9**	**31.1**	**34.1**	**36.6**	**38.3**	**38.5**
Commercial	DLC Thermostat (BYOT)	0.3	1.1	2.3	3.0	3.3	3.4
	DLC Grid-Enabled Water Heater	0.3	0.9	1.9	2.5	2.7	2.7
	DLC Electric Vehicle	0.0	0.0	0.0	0.0	0.0	0.0
	TOU + CPP Rate	0.2	0.7	1.5	1.9	2.1	2.1
	Battery Storage	0.0	0.0	0.1	0.1	0.2	0.2
	Commercial Total	**0.9**	**2.8**	**5.7**	**7.6**	**8.2**	**8.3**
All Sectors Combined		**27.8**	**33.8**	**39.9**	**44.2**	**46.5**	**46.8**

Figure 4-3 shows the cumulative annual RAP (MW) by program in the residential sector. The two DLC Thermostat options provide the greatest amount of potential, with the Time of Use + Critical Peak Pricing and DLC Grid-Enabled Water Heater program options growing over time as well. Overall, the residential RAP grows from 26.9 MW in 2028 to 39 MW in 2045.

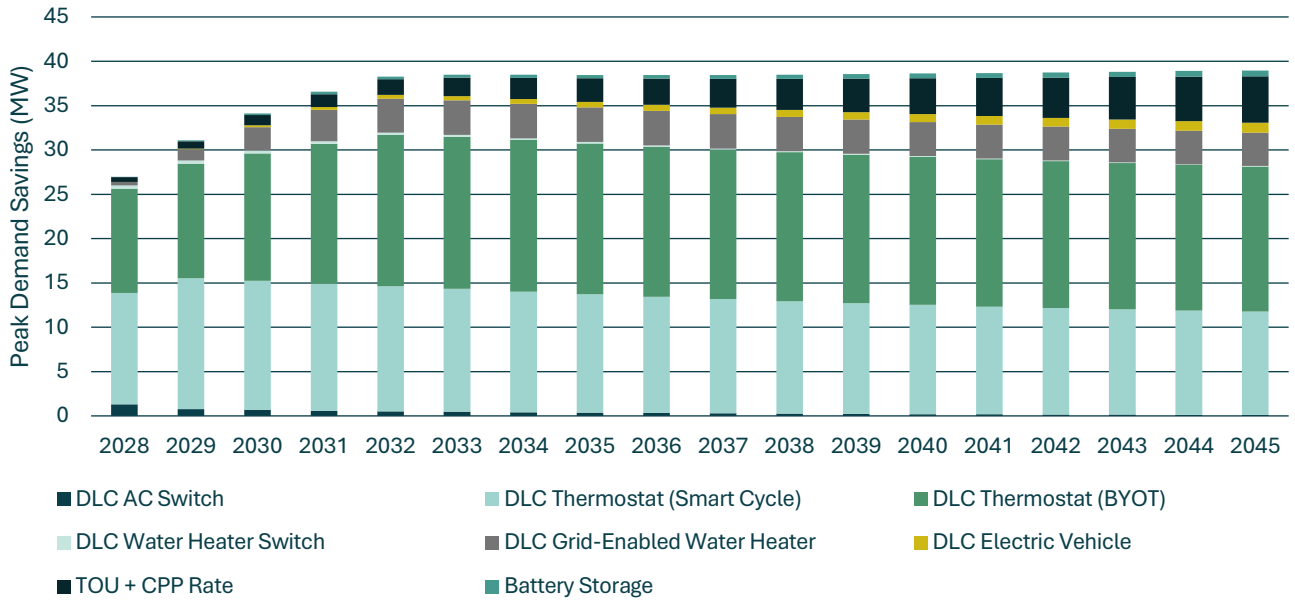


FIGURE 4-3 RESIDENTIAL SECTOR DEMAND RESPONSE RAP – BY PROGRAM

Figure 4-4 shows the cumulative annual RAP (MW) by program in the commercial sector. The DLC Thermostat option provides the greatest amount of potential, with the DLC Grid-Enabled Water Heater and Time of Use + Critical Peak Pricing program options growing significantly over time as well. Overall, the commercial RAP grows from 1 MW in 2028 to 8 MW in 2045.

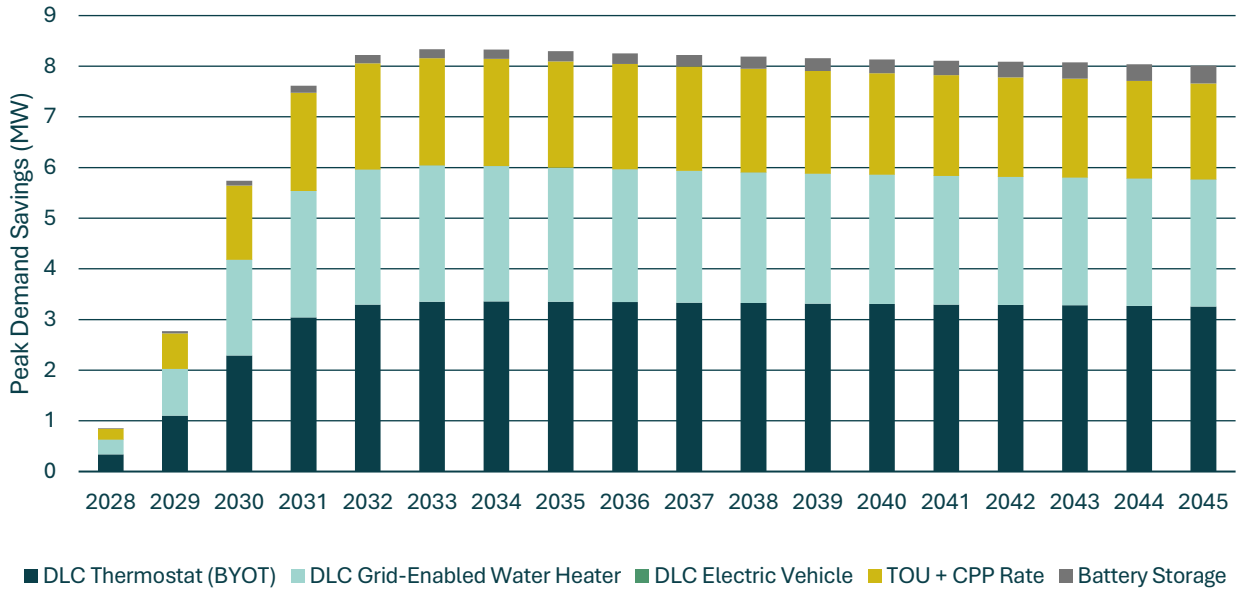


FIGURE 4-4 COMMERCIAL SECTOR DEMAND RESPONSE RAP – BY PROGRAM

4.3 BENEFITS & COSTS

Figure 4-5 provides the budget for the MAP and RAP scenarios, with a breakout shown for the residential and commercial sectors. For the MAP scenario, the budget ranges from $7.5 million to $14.5 million. For the RAP scenario, the budget ranges from $6.2 million to $9.6 million. The residential sector accounts for 91% of the total RAP budget and 90% of the total MAP budget.

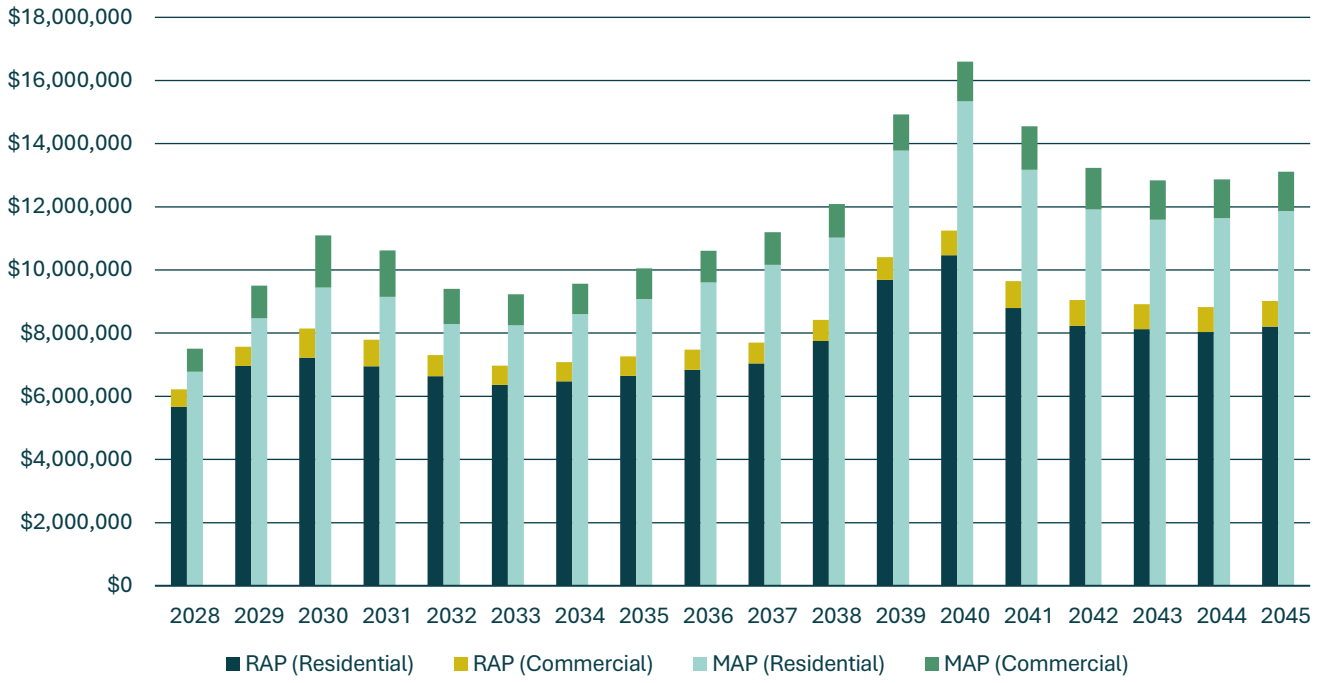


FIGURE 4-5: DEMAND RESPONSE ANNUAL BUDGETS – MAP AND RAP

Table 4-5 and Table 4-6 show the MAP and RAP residential NPVs of the total benefits, costs, and savings, along with the UCT ratio for each program for the length of the study.

TABLE 4-5 MAP NPV BENEFITS, COSTS, AND TRC RATIOS FOR EACH DEMAND RESPONSE PROGRAM

Sector	Program	MAP NPV Benefits	MAP NPV Costs	MAP UCT
Residential	DLC AC Switch	$1,306,809	$2,261,277	0.58
	DLC Thermostat (Smart Cycle)	$37,690,984	$30,708,879	1.23
	DLC Thermostat (BYOT)	$67,153,482	$63,331,695	1.47
	DLC Water Heater Switch	$541,476	$2,563,830	0.21
	DLC Grid-Enabled Water Heater	$19,036,235	$34,169,464	0.73
	DLC Electric Vehicle	$2,202,987	$7,556,272	0.67
	TOU + CPP Rate	$10,886,779	$1,606,725	6.78
	Battery Storage	$1,305,987	$1,791,468	0.73
Commercial	DLC Thermostat (BYOT)	$17,418,605	$9,645,507	3.21
	DLC Grid-Enabled Water Heater	$13,259,124	$5,636,904	2.81
	DLC Electric Vehicle	$1,986	$776,278	0.00

	TOU + CPP Rate	$7,303,437	$859,263	8.50
	Battery Storage	$717,468	$1,305,604	0.55

TABLE 4-6 RAP NPV BENEFITS, COSTS, AND TRC RATIOS FOR EACH DEMAND RESPONSE PROGRAM

Sector	Program	RAP NPV Benefits	RAP NPV Costs	RAP UCT
Residential	DLC AC Switch	$1,347,718	$2,257,653	0.60
	DLC Thermostat (Smart Cycle)	$39,577,520	$30,632,231	1.29
	DLC Thermostat (BYOT)	$47,814,104	$39,685,013	1.62
	DLC Water Heater Switch	$556,119	$2,563,830	0.22
	DLC Grid-Enabled Water Heater	$9,950,648	$17,356,000	0.75
	DLC Electric Vehicle	$1,762,422	$6,170,917	0.64
	TOU + CPP Rate	$7,659,804	$1,195,505	6.41
	Battery Storage	$1,142,866	$1,617,649	0.71
Commercial	DLC Thermostat (BYOT)	$8,545,967	$4,667,475	3.26
	DLC Grid-Enabled Water Heater	$6,747,318	$3,165,732	2.49
	DLC Electric Vehicle	$990	$772,336	0.00
	TOU + CPP Rate	$4,918,339	$785,756	6.26
	Battery Storage	$604,182	$1,231,826	0.49

05 ACTION PLAN SUMMARY

5.1 DEVELOPMENT OF DSM ACTION PLAN

The Market Potential Study serves as the basis for developing CenterPoint Indiana's DSM Action Plan. The DSM Action Plan is designed to extract the insights and data from the Market Potential Study and translate them into opportunities to deliver to customers. The DSM Action Plan provides guidance to mobilize the results of the Market Potential Study findings to provide a pathway to advance efforts that are reasonable and relevant in developing CenterPoint Indiana's portfolio in future years. The following section lays out the process, principles, and elements of CenterPoint Indiana's portfolio of programs. A summary of the results for the proposed portfolio is also provided.

5.2 DSM ACTION PLAN – GUIDING PRINCIPLES AND FRAMEWORK

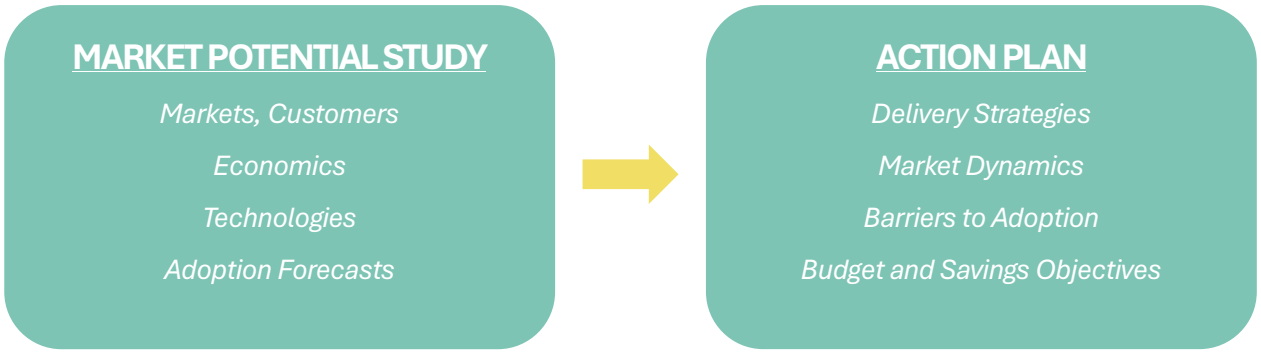
CenterPoint Indiana's DSM Action Plan was developed in accordance with a number of guiding principles and considerations. The process was built on using the most recent Market Potential Study as the foundation, and was then designed to incorporate industry best standards, implementer experiences, and projected changes in the market (such as codes and standards) in order to translate the insights and knowledge from the Market Potential Study into actionable energy efficiency programs for CenterPoint Indiana's planning purposes and customers.11 Key planning guidelines and considerations used to frame the Action Plan are listed in Table 5-1 below.

TABLE 5-1: RESIDENTIAL INCREMENTAL ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

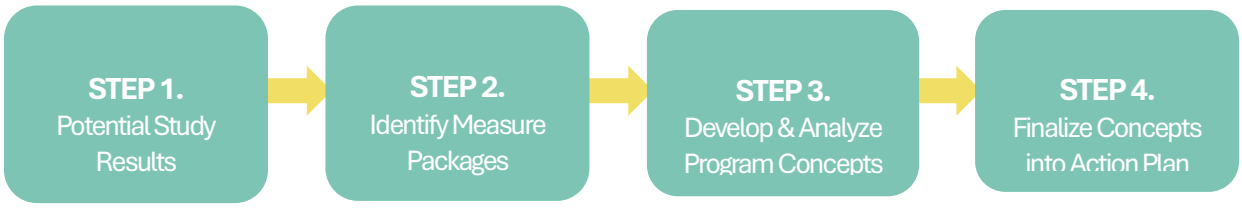
Plan Consideration	Description
Market Coverage	Consideration was given to crafting a portfolio of programs that offers opportunities for savings across all CenterPoint Indiana's customer groups.
Market Potential Study	The Action Plan is linked to the Market Potential Study.
Current Program Efforts	The Action Plan leverages current CenterPoint Indiana offerings to take advantage of market and trade ally understanding, to utilize existing market relationships, retain the relevant elements of programs already working well, and to continue promotional efforts.
Cost Effectiveness Analysis	All programs were screened for cost-effectiveness using the TRC test (except for the Income Qualified program)
Income-Qualified Programs	Program funding is linked to the Market Potential Study.
Program Costs and Budgets	A budget that characterizes the estimated costs for delivering programs to customers is presented for each program. The costs include all participant incentive, implementation, admin, and evaluation costs for each year of program operation.

The development of the Action Plan is designed to translate the insights and information from the broader Market Potential Study analysis into discrete and specific offerings for CenterPoint Indiana's customers. The Market Potential Study and the Action Plan are related and share common values, but the Action Plan provides more detail, specificity, and mobilization strategies. The Action Plan outlines recommended electric programs for 2028-2033, a shorter timeframe than the potential research. The Action Plan lays out how to achieve the savings identified in the potential study research, shifting the broad and high-level forecast of savings opportunities in the Market Potential Study results into specific and actionable savings opportunities. An illustrative view between the Market Potential Study and the Action Plan elements follows:

[11] The DSM Action Plan represents modified versions of the RAP from the MPS. The residential sector includes minor modifications to better align program measure mapping with current CenterPoint Indiana offerings. The C&I sector has slightly higher costs over the DSM Action Plan timeframe.



The effort to develop CenterPoint Indiana's energy efficiency programs follows a grounded and sequential process. The process was built on applying the recent market potential analytics as a starting point and, from there, developing program offerings that cost-effectively meet CenterPoint Indiana's planning and program objectives. An illustrative review of the process follows.



5.3 DSM ACTION PLAN – PORTFOLIO SUMMARY

Figure 5-1 below provides an overview of the savings and budgets. The annual savings range from approximately 32,000 MWh to 36,000 MWh with annual budgets ranging from $17 million to $20 million.

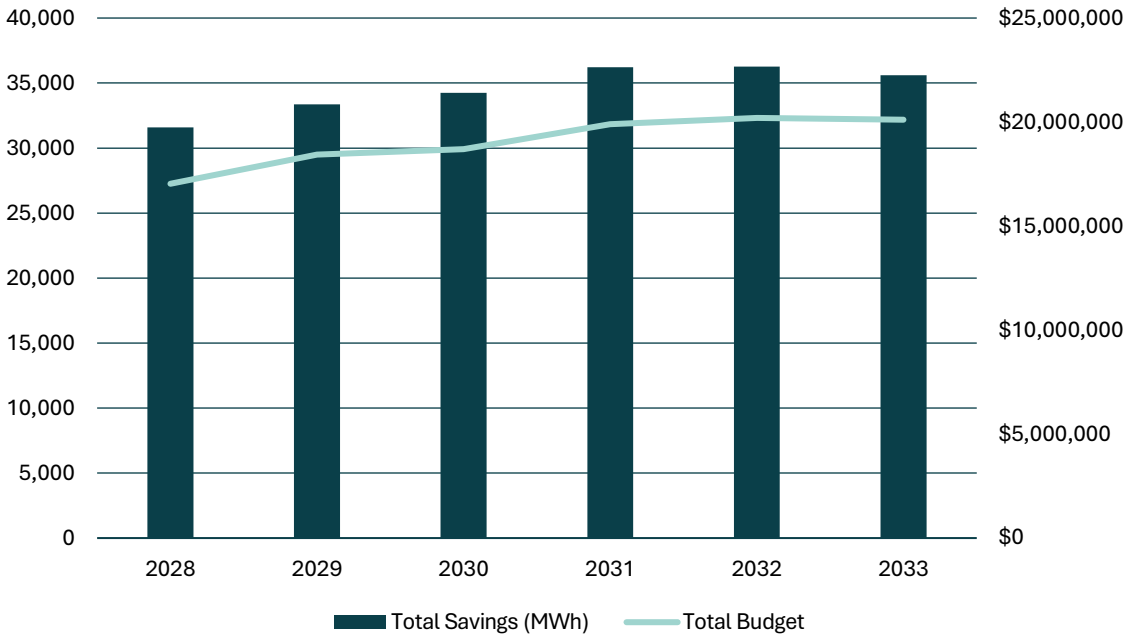


FIGURE 5-1: ANNUAL SAVINGS (MWH) AND BUDGET (2028-2033)

Table 5-2 below provides additional savings and budget detail by sector, as well as detailed indirect costs.[12] The residential sector accounts for approximately 33% of total savings and 50% of total spending.

TABLE 5-2: ANNUAL SAVINGS AND BUDGET DETAIL BY SECTOR (2028-2033)

	2028	2029	2030	2031	2032	2033
Residential Savings (MWh)	10,683	11,902	12,721	14,075	14,841	15,407
C&I Savings (MWh)	20,908	21,457	21,519	22,152	21,428	20,198
Total Savings (MWh)	***31,591***	***33,359***	***34,240***	***36,226***	***36,269***	***35,605***
Residential Budget	$8,229,275	$9,632,867	$9,677,086	$10,340,765	$11,222,641	$11,693,478
C&I Budget	$7,032,474	$7,307,997	$7,483,086	$7,547,478	$7,343,516	$6,812,014
Outreach & Education	$71,378	$75,373	$77,363	$81,852	$81,948	$80,449
Contact Center	$48,617	$51,338	$52,694	$55,751	$55,816	$54,796
Online Audit	$573,453	$605,551	$621,540	$657,599	$658,370	$646,331
Evaluation	$728,135	$768,891	$789,193	$834,978	$835,957	$820,671
Market Potential Study	$350,000	$0	$0	$375,000	$0	$0
Total Budget	***$17,033,332***	***$18,442,018***	***$18,700,963***	***$19,893,422***	***$20,198,248***	***$20,107,739***

Table 5-3 below provides additional savings and budget detail by sector. Annual budgets range from $17.0 million to $20.2 from 2028-2033. Incentives are the greatest expenditure by category, followed by delivery and implementation, administrative and indirect costs. Refer to Chapter 6 for additional detail.

TABLE 5-3: ANNUAL BUDGET DETAIL BY SECTOR AND SPENDING CATEGORY (2028-2033)

	2028	2029	2030	2031	2032	2033
Residential						
Incentives	$3,124,539	$3,673,645	$4,097,202	$4,529,397	$4,951,566	$5,266,900
Delivery & Implementation	$3,465,264	$4,121,451	$3,722,575	$3,838,454	$4,183,754	$4,360,214
Admin	$1,639,472	$1,837,771	$1,857,309	$1,972,914	$2,087,321	$2,066,364
Residential Budget	**$8,229,275**	**$9,632,867**	**$9,677,086**	**$10,340,765**	**$11,222,641**	**$11,693,478**
Commercial						
Incentives	$4,659,160	$4,723,701	$4,730,146	$4,646,868	$4,494,342	$4,038,782
Delivery & Implementation	$1,891,861	$2,046,642	$2,160,149	$2,267,428	$2,223,671	$2,161,541
Admin	$481,453	$537,654	$592,791	$633,181	$625,503	$611,691
Commercial Budget	**$7,032,474**	**$7,307,997**	**$7,483,086**	**$7,547,478**	**$7,343,516**	**$6,812,014**
All Sectors						
Incentives	$7,783,700	$8,397,346	$8,827,348	$9,176,265	$9,445,908	$9,305,682
Delivery & Implementation	$5,357,125	$6,168,094	$5,882,724	$6,105,882	$6,407,426	$6,521,755
Admin	$2,120,925	$2,375,425	$2,450,100	$2,606,095	$2,712,824	$2,678,055
Indirect	$1,771,583	$1,501,154	$1,540,791	$2,005,180	$1,632,090	$1,602,247
Total Budget	**$17,033,332**	**$18,442,018**	**$18,700,963**	**$19,893,422**	**$20,198,248**	**$20,107,739**

[12] Indirect costs include outreach and education, contact center, online audit, and evaluation.

5.4 PORTFOLIO TARGETS BY YEAR

TABLE 5-4: 2028 PORTFOLIO TARGETS

	Participants	Energy Savings (kWh)	Demand Savings (kW)	Incentives	Implementation	Admin	Total Budget
Residential							
Residential Prescriptive	921	235,269	68.9	$138,559	$32,403	$13,388	$184,351
Home Energy Assessment	2,374	402,429	99.7	$72,784	$101,135	$46,935	$220,855
Residential Midstream	2,128	1,620,551	249.1	$460,605	$513,594	$55,671	$1,029,870
In Store Discount	4,272	365,798	120.0	$52,443	$36,500	$12,731	$101,674
Multi-Family Energy Solutions	1,709	307,351	61.7	$34,186	$25,835	$17,673	$77,694
Community Connections	8,296	884,155	116.1	$72,283	$277,194	$0	$349,477
Income Qualified Weatherization	1,732	557,071	112.7	$437,641	$613,935	$0	$1,051,576
Residential New Construction	244	124,213	21.9	$48,292	$56,181	$7,805	$112,278
Residential Marketplace	8,316	1,187,694	333.4	$59,968	$205,683	$231,588	$497,239
Residential Behavioral	40,638	4,998,443	570.6	$0	$222,797	$2,133	$224,930
Smart Cycle	13,352	0	12,528.9	$901,260	$1,181,917	$733,422	$2,816,599
Bring Your Own Thermostat	12,541	0	11,767.9	$846,518	$198,090	$518,126	$1,562,733
CVR – Residential	0	0	0.0	$0	$0	$0	$0
Residential Subtotal	***96,522***	***10,682,974***	***26,050.9***	***$3,124,539***	***$3,465,264***	***$1,639,472***	***$8,229,275***
Commercial & Industrial							
Commercial Prescriptive	31,632	10,940,025	1,700.9	$1,995,931	$893,762	$223,440	$3,113,133
Commercial Custom	155	7,774,104	1,003.3	$1,664,963	$778,114	$194,528	$2,637,606
Small Business Energy Solutions	6,174	2,193,629	417.4	$986,453	$193,735	$48,434	$1,228,622
Bring Your Own Thermostat	175	0	339.9	$11,813	$26,250	$15,050	$53,113
CVR - Commercial	0	0	0.0	$0	$0	$0	$0
Commercial & Industrial Subtotal	**38,136**	**20,907,758**	**3,461.5**	**$4,659,160**	**$1,891,861**	**$481,453**	**$7,032,474**
Indirect Costs							
Contact Center							$71,378
Online Audit							$48,617
Outreach & Education							$573,453
Evaluation							$728,135
Indirect Costs Subtotal							***$1,421,583***
Other Costs							
Market Potential Study							$350,000
Unallocated Budget							$0
Other Costs Subtotal							***$350,000***
DSM Portfolio Totals	**134,658**	**31,590,732**	**29,512.3**	**$7,783,700**	**$5,357,125**	**$2,120,925**	**$17,033,332**

TABLE 5-5: 2029 PORTFOLIO TARGETS

	Participants	Energy Savings (kWh)	Demand Savings (kW)	Incentives	Implementation	Admin	Total Budget
Residential							
Residential Prescriptive	1,261	306,994	91.3	$154,224	$43,170	$17,837	$215,231
Home Energy Assessment	2,592	420,414	101.1	$76,699	$108,373	$50,294	$235,366
Residential Midstream	2,365	1,828,370	271.9	$539,024	$599,468	$64,980	$1,203,472
In Store Discount	5,162	430,965	138.8	$62,482	$44,006	$15,349	$121,837
Multi-Family Energy Solutions	1,001	174,038	39.4	$28,914	$16,731	$11,445	$57,089
Community Connections	8,819	1,011,664	130.6	$81,707	$324,923	$0	$406,630
Income Qualified Weatherization	2,050	661,703	125.4	$540,541	$747,412	$0	$1,287,953
Residential New Construction	283	143,917	25.4	$56,081	$66,743	$9,273	$132,097
Residential Marketplace	8,534	1,242,392	355.5	$67,577	$224,421	$252,686	$544,683
Residential Behavioral	46,194	5,681,824	648.6	$0	$259,083	$2,480	$261,563
Smart Cycle	15,958	0	14,771.3	$1,101,940	$1,476,462	$826,111	$3,404,513
Bring Your Own Thermostat	13,967	0	12,928.3	$964,456	$210,659	$587,317	$1,762,432
CVR – Residential	0	0	0.0	$0	$0	$0	$0
Residential Subtotal	***108,186***	***11,902,280***	***29,627.6***	***$3,673,645***	***$4,121,451***	***$1,837,771***	***$9,632,867***
Commercial & Industrial							
Commercial Prescriptive	29,618	10,790,182	1,634.2	$1,941,129	$910,060	$227,515	$3,078,704
Commercial Custom	177	8,798,340	1,139.2	$1,912,457	$905,042	$226,261	$3,043,760
Small Business Energy Solutions	5,186	1,868,172	349.1	$830,824	$171,081	$42,770	$1,044,675
Bring Your Own Thermostat	569	0	1,101.9	$39,291	$60,459	$41,108	$140,858
CVR - Commercial	0	0	0.0	$0	$0	$0	$0
Commercial & Industrial Subtotal	**35,550**	**21,456,694**	**4,224.3**	**$4,723,701**	**$2,046,642**	**$537,654**	**$7,307,997**
Indirect Costs							
Contact Center							$75,373
Online Audit							$51,338
Outreach & Education							$605,551
Evaluation							$768,891
Indirect Costs Subtotal							***$1,501,154***
Other Costs							
Market Potential Study							$0
Unallocated Budget							$0
Other Costs Subtotal							***$0***
DSM Portfolio Totals	**143,736**	**33,358,974**	**33,851.9**	**$8,397,346**	**$6,168,094**	**$2,375,425**	**$18,442,018**

TABLE 5-6: 2030 PORTFOLIO TARGETS

	Participants	Energy Savings (kWh)	Demand Savings (kW)	Incentives	Implementation	Admin	Total Budget
Residential							
Residential Prescriptive	1,537	359,685	101.9	$169,531	$52,098	$21,526	$243,155
Home Energy Assessment	2,791	435,446	100.6	$80,465	$115,144	$53,436	$249,046
Residential Midstream	2,128	1,620,551	249.1	$615,534	$682,673	$73,999	$1,372,206
In Store Discount	6,046	492,770	155.1	$71,895	$51,492	$17,961	$141,348
Multi-Family Energy Solutions	877	147,891	31.2	$26,850	$15,188	$10,389	$52,427
Community Connections	9,311	1,131,166	144.1	$90,558	$372,128	$0	$462,686
Income Qualified Weatherization	2,395	779,417	137.9	$659,805	$902,236	$0	$1,562,041
Residential New Construction	330	167,322	29.5	$65,373	$79,591	$11,058	$156,021
Residential Marketplace	9,036	1,284,002	368.2	$75,407	$238,260	$268,267	$581,934
Residential Behavioral	51,240	6,302,523	719.5	$0	$293,995	$2,814	$296,810
Smart Cycle	15,958	0	14,556.0	$1,127,284	$670,419	$708,749	$2,506,452
Bring Your Own Thermostat	15,777	0	14,390.9	$1,114,498	$249,351	$689,110	$2,052,960
CVR – Residential	0	0	0.0	$0	$0	$0	$0
Residential Subtotal	***117,427***	***12,720,772***	***30,984.0***	***$4,097,202***	***$3,722,575***	***$1,857,309***	***$9,677,086***
Commercial & Industrial							
Commercial Prescriptive	27,268	10,489,289	1,551.5	$1,889,867	$914,302	$228,576	$3,032,745
Commercial Custom	194	9,471,904	1,224.4	$2,065,733	$1,000,893	$250,223	$3,316,849
Small Business Energy Solutions	4,266	1,557,827	287.0	$690,766	$148,097	$37,024	$875,888
Bring Your Own Thermostat	1,186	0	2,289.3	$83,780	$96,856	$76,968	$257,604
CVR - Commercial	0	0	0.0	$0	$0	$0	$0
Commercial & Industrial Subtotal	**32,914**	**21,519,020**	**5,352.2**	**$4,730,146**	**$2,160,149**	**$592,791**	**$7,483,086**
Indirect Costs							
Contact Center							$77,363
Online Audit							$52,694
Outreach & Education							$621,540
Evaluation							$789,193
Indirect Costs Subtotal							***$1,540,791***
Other Costs							
Market Potential Study							$0
Unallocated Budget							$0
Other Costs Subtotal							***$0***
DSM Portfolio Totals	**150,341**	**34,239,792**	**36,336.3**	**$8,827,348**	**$5,882,724**	**$2,450,100**	**$18,700,963**

TABLE 5-7: 2031 PORTFOLIO TARGETS

	Participants	Energy Savings (kWh)	Demand Savings (kW)	Incentives	Implementation	Admin	Total Budget
Residential							
Residential Prescriptive	1,886	417,748	115.1	$187,956	$62,653	$25,887	$276,497
Home Energy Assessment	2,919	441,014	98.3	$83,759	$119,654	$55,529	$258,941
Residential Midstream	2,706	2,155,011	297.4	$686,820	$760,512	$82,436	$1,529,768
In Store Discount	6,835	545,426	166.9	$79,532	$58,326	$20,344	$158,203
Multi-Family Energy Solutions	371	55,190	5.8	$7,175	$4,249	$2,907	$14,332
Community Connections	9,699	1,225,018	154.7	$97,547	$412,779	$0	$510,326
Income Qualified Weatherization	3,087	947,671	180.7	$816,059	$1,124,110	$0	$1,940,169
Residential New Construction	339	171,341	30.3	$67,135	$83,617	$11,617	$162,369
Residential Marketplace	9,211	1,275,790	364.8	$81,510	$243,487	$274,153	$599,150
Residential Behavioral	55,613	6,840,346	780.9	$0	$326,422	$3,125	$329,547
Smart Cycle	15,958	0	14,331.5	$1,153,212	$390,353	$725,050	$2,268,615
Bring Your Own Thermostat	17,556	0	15,766.7	$1,268,692	$252,291	$771,866	$2,292,849
CVR – Residential	0	0	0.0	$0	$0	$0	$0
Residential Subtotal	***126,180***	***14,074,555***	***32,293.1***	***$4,529,397***	***$3,838,454***	***$1,972,914***	***$10,340,765***
Commercial & Industrial							
Commercial Prescriptive	24,923	10,179,104	1,476.7	$1,835,766	$916,620	$229,155	$2,981,540
Commercial Custom	203	10,698,611	1,405.4	$2,128,383	$1,161,211	$290,303	$3,579,896
Small Business Energy Solutions	3,447	1,273,947	232.2	$568,323	$125,843	$31,461	$725,628
Bring Your Own Thermostat	1,583	0	3,045.2	$114,396	$63,754	$82,263	$260,413
CVR - Commercial	0	0	0.0	$0	$0	$0	$0
Commercial & Industrial Subtotal	**30,156**	**22,151,662**	**6,159.4**	**$4,646,868**	**$2,267,428**	**$633,181**	**$7,547,478**
Indirect Costs							
Contact Center							$81,852
Online Audit							$55,751
Outreach & Education							$657,599
Evaluation							$834,978
Indirect Costs Subtotal							***$1,630,180***
Other Costs							
Market Potential Study							$375,000
Unallocated Budget							$0
Other Costs Subtotal							***$375,000***
DSM Portfolio Totals	**156,336**	**36,226,217**	**38,452.6**	**$9,176,265**	**$6,105,882**	**$2,606,095**	**$19,893,422**

TABLE 5-8: 2032 PORTFOLIO TARGETS

	Participants	Energy Savings (kWh)	Demand Savings (kW)	Incentives	Implementation	Admin	Total Budget
Residential							
Residential Prescriptive	2,206	476,458	127.4	$206,129	$73,703	$30,453	$310,285
Home Energy Assessment	3,010	441,169	94.5	$86,585	$122,839	$57,007	$266,432
Residential Midstream	2,813	2,267,113	301.4	$750,471	$831,673	$90,149	$1,672,294
In Store Discount	7,426	583,120	172.7	$84,350	$63,813	$22,258	$170,421
Multi-Family Energy Solutions	315	31,025	3.0	$4,140	$2,473	$1,692	$8,305
Community Connections	9,915	1,276,219	160.5	$101,429	$440,510	$0	$541,939
Income Qualified Weatherization	3,468	1,078,290	191.6	$958,191	$1,310,542	$0	$2,268,733
Residential New Construction	342	172,470	30.5	$67,785	$86,368	$11,999	$166,152
Residential Marketplace	9,109	1,226,012	347.8	$85,210	$240,885	$271,223	$597,318
Residential Behavioral	59,260	7,288,938	832.1	$0	$355,829	$3,406	$359,236
Smart Cycle	15,958	0	14,106.4	$1,179,736	$399,331	$741,727	$2,320,793
Bring Your Own Thermostat	19,310	0	17,069.5	$1,427,541	$255,787	$857,406	$2,540,735
CVR – Residential	0	0	0.0	$0	$0	$0	$0
Residential Subtotal	***133,130***	***14,840,813***	***33,437.3***	***$4,951,566***	***$4,183,754***	***$2,087,321***	***$11,222,641***
Commercial & Industrial							
Commercial Prescriptive	22,449	9,638,378	1,382.4	$1,756,550	$896,236	$224,059	$2,876,845
Commercial Custom	207	10,761,249	1,414.4	$2,147,152	$1,199,600	$299,900	$3,646,652
Small Business Energy Solutions	2,753	1,028,235	186.2	$463,632	$105,657	$26,414	$595,703
Bring Your Own Thermostat	1,718	0	3,292.9	$127,008	$22,178	$75,130	$224,316
CVR - Commercial	0	0	0.0	$0	$0	$0	$0
Commercial & Industrial Subtotal	**27,128**	**21,427,862**	**6,275.9**	**$4,494,342**	**$2,223,671**	**$625,503**	**$7,343,516**
Indirect Costs							
Contact Center							$81,948
Online Audit							$55,816
Outreach & Education							$658,370
Evaluation							$835,957
Indirect Costs Subtotal							***$1,632,090***
Other Costs							
Market Potential Study							$0
Unallocated Budget							$0
Other Costs Subtotal							***$0***
DSM Portfolio Totals	**160,257**	**36,268,674**	**39,713.2**	**$9,445,908**	**$6,407,426**	**$2,712,824**	**$20,198,248**

TABLE 5-9: 2033 PORTFOLIO TARGETS

	Participants	Energy Savings (kWh)	Demand Savings (kW)	Incentives	Implementation	Admin	Total Budget
Residential							
Residential Prescriptive	2,648	565,628	152.3	$230,141	$90,010	$37,190	$357,340
Home Energy Assessment	3,022	431,249	89.5	$89,316	$123,302	$57,222	$269,841
Residential Midstream	2,886	2,347,133	301.5	$805,088	$895,719	$97,092	$1,797,899
In Store Discount	7,727	600,631	171.8	$85,663	$67,264	$23,462	$176,390
Multi-Family Energy Solutions	280	26,213	2.5	$4,091	$2,158	$1,476	$7,725
Community Connections	9,915	1,274,103	160.1	$101,429	$450,642	$0	$552,071
Income Qualified Weatherization	3,787	1,196,333	197.8	$1,102,262	$1,489,892	$0	$2,592,154
Residential New Construction	340	171,035	30.3	$67,439	$87,903	$12,212	$167,554
Residential Marketplace	8,762	1,143,119	320.0	$86,018	$231,324	$260,458	$577,800
Residential Behavioral	62,210	7,651,781	873.5	$0	$382,134	$3,658	$385,792
Smart Cycle	15,958	0	13,881.6	$1,206,870	$408,516	$758,786	$2,374,172
Bring Your Own Thermostat	19,683	0	17,122.0	$1,488,584	$131,350	$814,807	$2,434,741
CVR – Residential	0	0	0.0	$0	$0	$0	$0
Residential Subtotal	***137,218***	***15,407,224***	***33,303.0***	***$5,266,900***	***$4,360,214***	***$2,066,364***	***$11,693,478***
Commercial & Industrial							
Commercial Prescriptive	18,554	8,679,105	1,200.4	$1,519,879	$832,946	$208,237	$2,561,062
Commercial Custom	207	10,946,638	1,451.3	$2,169,009	$1,256,608	$314,152	$3,739,769
Small Business Energy Solutions	1,415	572,523	85.4	$217,167	$65,768	$16,442	$299,378
Bring Your Own Thermostat	1,755	0	3,350.8	$132,727	$6,218	$72,860	$211,806
CVR - Commercial	0	0	0.0	$0	$0	$0	$0
Commercial & Industrial Subtotal	**21,932**	**20,198,266**	**6,087.9**	**$4,038,782**	**$2,161,541**	**$611,691**	**$6,812,014**
Indirect Costs							
Contact Center							$80,449
Online Audit							$54,796
Outreach & Education							$646,331
Evaluation							$820,671
Indirect Costs Subtotal							***$1,602,247***
Other Costs							
Market Potential Study							$0
Unallocated Budget							$0
Other Costs Subtotal							***$0***
DSM Portfolio Totals	**159,150**	**35,605,491**	**39,390.8**	**$9,305,682**	**$6,521,755**	**$2,678,055**	**$20,107,739**

06 ACTION PLAN PROGRAM DETAIL

6.1 RESIDENTIAL PRESCRIPTIVE PROGRAM

Program Description: The Residential Prescriptive Program is a cash-back rebate program that helps CenterPoint Energy residential customers afford high efficiency equipment options when replacing space heating and cooling equipment through the Residential Prescriptive Program channel. The equipment rebates help to educate customers about the energy savings and non-energy benefits associated with higher efficiency equipment that reduces energy consumption. The Insulation channel of the Residential Prescriptive Program offers home weatherization rebates to residential customers for attic insulation.

The following table indicates the measures in each of the programs, along with average incentives, and savings per unit.

TABLE 6-1: RESIDENTIAL PRESCRIPTIVE PROGRAM MEASURES

Measure	Avg. Incentive per Unit	Savings per Unit (kWh)	Savings per Unit (kW)
AC Tune Up	$25.00	97.3	0.10
ASHP Tune Up	$50.00	301.3	0.10
Attic Fan	$37.50	82.3	0.17
Attic Insulation - Inadequate Insulation - Electric furnace	$750.00	923.0	0.16
Attic Insulation - Inadequate Insulation - Gas Heating	$750.00	290.6	0.11
Attic Insulation - Inadequate Insulation - Heat pump	$750.00	592.7	0.10
CEE Advanced Tier Clothes Washer	$50.00	157.7	0.02
CEE Tier 2 Clothes Washer	$50.00	141.0	0.02
ENERGY STAR Air Purifier	$25.00	298.0	0.03
ENERGY STAR Clothes Dryer (Electric)	$50.00	159.9	0.02
ENERGY STAR Clothes Washer	$50.00	78.5	0.01
ENERGY STAR Dehumidifier	$10.00	157.0	0.04
ENERGY STAR Dishwasher	$7.50	67.0	0.00
ENERGY STAR Freezer - Chest	$1.25	27.2	0.00
ENERGY STAR Freezer - Compact Upright	$1.25	27.3	0.00
ENERGY STAR Most Efficient Dehumidifier	$10.00	230.0	0.05
ENERGY STAR Windows - Electric furnace	$502.25	2,901.2	0.49
ENERGY STAR Windows - Gas Heating	$502.25	271.8	0.10
ENERGY STAR Windows - Heat pump	$502.25	1,689.6	0.29
Heat Pump Swimming Pool Heater (COP >=6.0)	$800.00	1,594.3	0.00
Heat Pump Swimming Pool Heater (COP 5.5-5.9)	$350.00	1,005.2	0.00
Heat Pump Water Heater-electric resistance heat	$500.00	1,708.2	0.08
Heat Pump Water Heater-gas heat	$500.00	1,723.1	0.08
Heat Pump Water Heater-heat pump heat	$500.00	1,715.0	0.08
Smart Thermostat - Furnace baseline	$30.00	934.3	0.17
Smart Thermostat - Gas/CAC baseline	$19.20	169.8	0.18
Smart Thermostat - Heat pump baseline	$30.00	522.2	0.18

Eligible Customers: The program is available to all residential customers located in the CenterPoint Indiana electric service territory. For the equipment rebates, the applicant must reside in a single-family home or multi-family complex with up to 12 units.

Marketing: The marketing plan includes program specific marketing materials that will target contractors and trade allies in the Heating, Ventilation and Air Conditioning (HVAC) industry. The HVAC industry will be marketed by using targeted direct marketing, direct contact by the program vendor personnel, trade shows and trade association outreach. The program will be promoted through trade allies, distributors, manufacturers, industry organizations and appropriate retail outlets. CenterPoint Indiana will also use web banners, bill inserts, and mass market advertising. Program marketing directs customers and contractors to the CenterPoint Indiana website or call center for information.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor. Vendors will work with local contractors to deliver the program.

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-2: RESIDENTIAL PRESCRIPTIVE PROGRAM SUMMARY

Measure	2028	2029	2030	2031	2032	2033
AC Tune Up						
Participation	55	59	65	122	142	163
Incentive Budget	$1,379	$1,477	$1,627	$3,056	$3,559	$4,072
Projected kWh Savings	2,860	3,059	3,362	6,305	7,328	8,371
Projected kW Savings	3.0	3.2	3.5	6.7	7.7	8.8
ASHP Tune Up						
Participation	32	36	45	78	89	103
Incentive Budget	$1,621	$1,785	$2,234	$3,905	$4,469	$5,150
Projected kWh Savings	6,092	6,696	8,364	14,592	16,670	19,178
Projected kW Savings	2.0	2.1	2.7	4.7	5.4	6.2
Attic Fan						
Participation	8	13	14	15	17	21
Incentive Budget	$313	$472	$527	$567	$626	$783
Projected kWh Savings	524	781	865	921	1,006	1,245
Projected kW Savings	1.1	1.6	1.8	1.9	2.1	2.6
Attic Insulation - Inadequate Insulation - Electric furnace						
Participation	59	59	59	59	59	59
Incentive Budget	$44,157	$44,157	$44,157	$44,157	$44,157	$44,157
Projected kWh Savings	37,027	36,803	36,559	36,298	36,025	35,737
Projected kW Savings	6.3	6.3	6.2	6.2	6.1	6.1
Attic Insulation - Inadequate Insulation - Gas Heating						
Participation	32	32	32	32	32	32
Incentive Budget	$23,971	$23,971	$23,971	$23,971	$23,971	$23,971

Measure	2028	2029	2030	2031	2032	2033
Projected kWh Savings	6,329	6,291	6,249	6,205	6,158	6,109
Projected kW Savings	2.3	2.3	2.3	2.3	2.3	2.2
Attic Insulation - Inadequate Insulation - Heat pump						
Participation	42	42	42	42	42	42
Incentive Budget	$31,540	$31,540	$31,540	$31,540	$31,540	$31,540
Projected kWh Savings	16,985	16,882	16,770	16,650	16,525	16,393
Projected kW Savings	2.9	2.9	2.9	2.8	2.8	2.8
CEE Advanced Tier Clothes Washer						
Participation	3	8	13	18	24	32
Incentive Budget	$154	$386	$645	$919	$1,218	$1,592
Projected kWh Savings	365	913	1,526	2,173	2,882	3,767
Projected kW Savings	0.1	0.1	0.2	0.3	0.4	0.5
CEE Tier 2 Clothes Washer						
Participation	3	8	13	18	24	32
Incentive Budget	$155	$388	$649	$923	$1,224	$1,600
Projected kWh Savings	328	820	1,372	1,953	2,589	3,384
Projected kW Savings	0.0	0.1	0.2	0.3	0.4	0.5
ENERGY STAR Air Purifier						
Participation	3	6	11	15	20	26
Incentive Budget	$63	$159	$265	$378	$502	$657
Projected kWh Savings	567	1,419	2,369	3,378	4,486	5,872
Projected kW Savings	0.1	0.2	0.3	0.4	0.5	0.7
ENERGY STAR Clothes Dryer (Electric)						
Participation	35	88	147	209	278	363
Incentive Budget	$1,757	$4,398	$7,356	$10,472	$13,887	$18,146
Projected kWh Savings	4,216	10,555	17,652	25,126	33,311	43,520
Projected kW Savings	0.6	1.4	2.4	3.4	4.5	5.8
ENERGY STAR Clothes Washer						
Participation	17	23	31	40	50	62
Incentive Budget	$874	$1,174	$1,550	$1,998	$2,516	$3,094
Projected kWh Savings	1,029	1,382	1,825	2,352	2,963	3,643
Projected kW Savings	0.1	0.2	0.3	0.3	0.4	0.5
ENERGY STAR Dehumidifier						
Participation	30	38	47	57	66	75
Incentive Budget	$300	$381	$471	$565	$660	$750
Projected kWh Savings	3,534	4,486	5,549	6,659	7,769	8,830
Projected kW Savings	0.8	1.0	1.3	1.5	1.8	2.0
ENERGY STAR Dishwasher						
Participation	206	254	305	355	403	446
Incentive Budget	$1,548	$1,906	$2,284	$2,662	$3,020	$3,343
Projected kWh Savings	10,234	12,600	15,101	17,597	19,964	22,101
Projected kW Savings	0.8	0.9	1.1	1.3	1.5	1.6

Measure	2028	2029	2030	2031	2032	2033
ENERGY STAR Freezer - Chest						
Participation	11	28	46	66	87	114
Incentive Budget	$14	$34	$58	$82	$109	$143
Projected kWh Savings	222	555	927	1,321	1,754	2,295
Projected kW Savings	0.0	0.1	0.1	0.2	0.3	0.4
ENERGY STAR Freezer - Compact Upright						
Participation	13	33	55	78	104	136
Incentive Budget	$16	$41	$68	$98	$130	$170
Projected kWh Savings	265	663	1,106	1,578	2,098	2,747
Projected kW Savings	0.0	0.1	0.2	0.3	0.3	0.4
ENERGY STAR Most Efficient Dehumidifier						
Participation	54	69	85	102	120	136
Incentive Budget	$545	$691	$854	$1,025	$1,195	$1,358
Projected kWh Savings	9,400	11,921	14,734	17,676	20,618	23,428
Projected kW Savings	2.1	2.7	3.3	4.0	4.7	5.3
ENERGY STAR Windows - Electric furnace						
Participation	18	18	18	18	18	18
Incentive Budget	$9,205	$9,205	$9,205	$9,205	$9,205	$9,205
Projected kWh Savings	40,014	39,773	39,508	39,226	38,932	38,620
Projected kW Savings	6.8	6.8	6.7	6.7	6.6	6.6
ENERGY STAR Windows - Gas Heating						
Participation	12	12	12	12	12	12
Incentive Budget	$6,246	$6,246	$6,246	$6,246	$6,246	$6,246
Projected kWh Savings	2,544	2,529	2,512	2,494	2,475	2,455
Projected kW Savings	0.9	0.9	0.9	0.9	0.9	0.9
ENERGY STAR Windows - Heat pump						
Participation	7	7	7	7	7	7
Incentive Budget	$3,287	$3,287	$3,287	$3,287	$3,287	$3,287
Projected kWh Savings	8,323	8,273	8,218	8,159	8,098	8,033
Projected kW Savings	1.4	1.4	1.4	1.4	1.4	1.4
Heat Pump Swimming Pool Heater (COP >=6.0)						
Participation	0	1	1	1	2	2
Incentive Budget	$191	$478	$798	$1,138	$1,511	$1,976
Projected kWh Savings	285	714	1,193	1,701	2,258	2,954
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Heat Pump Swimming Pool Heater (COP 5.5-5.9)						
Participation	0	0	1	1	1	2
Incentive Budget	$56	$140	$233	$332	$441	$577
Projected kWh Savings	120	300	502	715	950	1,243
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Heat Pump Water Heater-electric resistance heat						

Measure	2028	2029	2030	2031	2032	2033
Participation	5	14	23	32	43	56
Incentive Budget	$2,708	$6,769	$11,282	$16,117	$21,441	$28,104
Projected kWh Savings	7,355	18,139	29,758	41,762	54,486	69,933
Projected kW Savings	0.3	0.9	1.4	2.0	2.6	3.3
Heat Pump Water Heater-gas heat						
Participation	1	3	4	6	8	11
Incentive Budget	$516	$1,289	$2,149	$3,070	$4,084	$5,353
Projected kWh Savings	1,413	3,485	5,718	8,024	10,469	13,437
Projected kW Savings	0.1	0.2	0.3	0.4	0.5	0.6
Heat Pump Water Heater-heat pump heat						
Participation	4	10	16	23	31	40
Incentive Budget	$1,934	$4,835	$8,058	$11,512	$15,315	$20,075
Projected kWh Savings	5,275	13,009	21,341	29,949	39,074	50,152
Projected kW Savings	0.2	0.6	1.0	1.4	1.9	2.4
Smart Thermostat - Furnace baseline						
Participation	38	58	64	68	75	94
Incentive Budget	$1,150	$1,725	$1,917	$2,054	$2,262	$2,831
Projected kWh Savings	27,939	41,909	46,566	49,892	54,937	68,759
Projected kW Savings	5.1	7.7	8.6	9.2	10.1	12.6
Smart Thermostat - Gas/CAC baseline						
Participation	187	280	311	334	367	460
Incentive Budget	$3,587	$5,380	$5,978	$6,405	$7,052	$8,827
Projected kWh Savings	24,737	37,106	41,229	44,173	48,640	60,878
Projected kW Savings	25.9	38.8	43.1	46.2	50.9	63.7
Smart Thermostat - Heat pump baseline						
Participation	42	64	71	76	83	104
Incentive Budget	$1,273	$1,910	$2,122	$2,274	$2,504	$3,133
Projected kWh Savings	17,287	25,931	28,812	30,870	33,992	42,544
Projected kW Savings	5.8	8.7	9.7	10.4	11.5	14.3
Total						
Participation	921	1,261	1,537	1,886	2,206	2,648
Incentive Budget	$138,559	$154,224	$169,531	$187,956	$206,129	$230,141
Projected kWh Savings	235,269	306,994	359,685	417,748	476,458	565,628
Projected kW Savings	68.9	91.3	101.9	115.1	127.4	152.3

TABLE 6-3: RESIDENTIAL PRESCRIPTIVE PROGRAM BUDGET SUMMARY

	2028	2029	2030	2031	2032	2033
Incentives	$138,559	$154,224	$169,531	$187,956	$206,129	$230,141
Delivery & Implementation	$32,403	$43,170	$52,098	$62,653	$73,703	$90,010
Admin	$13,388	$17,837	$21,526	$25,887	$30,453	$37,190
Total Budget	**$184,351**	**$215,231**	**$243,155**	**$276,497**	**$310,285**	**$357,340**
Participation	921	1,261	1,537	1,886	2,206	2,648
Energy Savings (kWh)	235,269	306,994	359,685	417,748	476,458	565,628
Demand Savings (kW)	68.9	91.3	101.9	115.1	127.4	152.3
Weighted Program EUL	18.5	17.2	16.7	16.0	15.6	15.2
NTG	0.73	0.73	0.74	0.73	0.74	0.74

6.2 HOME ENERGY ASSESSMENT PROGRAM

Program Description: The Home Energy Assessment program is designed to produce long term energy and demand savings in the residential market through in-home and virtual energy assessments for market rate customers. The program will provide direct installation of energy-saving measures and educate consumers on ways to reduce energy consumption through additional weatherization measures such as air sealing, duct sealing, and insulation.

The following table indicates the measures in each of the programs, along with average incentives, and savings per unit.

TABLE 6-4: HOME ENERGY ASSESSMENT PROGRAM MEASURES

Measure	Avg. Incentive per Unit	Savings per Unit (kWh)	Savings per Unit (kW)
Air Sealing - Inadequate Sealing - Gas Heating	$90.67	352.2	0.13
Air Sealing Inadequate Sealing - Electric furnace	$200.00	1,457.9	0.26
Air Sealing Inadequate Sealing - Heat pump	$200.00	957.9	0.17
Audit Recommendations	$75.00	82.0	0.01
Bathroom Aerator 1.0 gpm	$1.00	48.6	0.07
Door and Window Weather Stripping	$0.00	0.0	0.00
Duct Sealing - Inadequate Sealing - Electric furnace	$450.00	1,633.5	0.29
Duct Sealing - Inadequate Sealing - Gas Heating	$214.29	333.8	0.12
Duct Sealing - Inadequate Sealing - Heat pump	$450.00	1,080.8	0.19
Kitchen Faucet Aerator 1.5 gpm	$1.00	195.4	0.05
LED Nightlights	$1.00	13.6	0.00
Low Flow Showerhead 1.5 gpm	$5.00	254.4	0.03
Outlet Gaskets	$0.00	0.0	0.00
Pipe Wrap	$0.00	0.0	0.00
Smart Power Strips - Tier 2	$10.00	136.1	0.02
Smart Thermostat - Furnace baseline	$111.93	923.8	0.17
Smart Thermostat - Heat pump baseline	$125.00	527.1	0.18
Thermostatic Restrictor Shower Valve	$5.00	77.9	0.00
Water Heater Temperature Setback	$1.25	120.7	0.01

Eligible Customers: The program is available to all residential customers located in the CenterPoint Indiana electric service territory.

Marketing: The marketing plan includes program specific marketing materials that will target contractors and trade allies in the Heating, Ventilation and Air Conditioning (HVAC) industry. The HVAC industry will be marketed by using targeted direct marketing, direct contact by the program vendor personnel, trade shows and trade association outreach. The program will be promoted through trade allies, distributors, manufacturers, industry organizations and appropriate retail outlets. CenterPoint Indiana will also use web banners, bill inserts, and mass market advertising. Program marketing directs customers and contractors to the CenterPoint Indiana website or call center for information.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor. Vendors will work with local contractors to deliver the program

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-5: HOME ENERGY ASSESSMENT PROGRAM SUMMARY

Measure	2028	2029	2030	2031	2032	2033
Air Sealing - Inadequate Sealing - Gas Heating						
Participation	81	81	81	81	81	81
Incentive Budget	$7,313	$7,313	$7,313	$7,313	$7,313	$7,313
Projected kWh Savings	28,890	28,716	28,525	28,322	28,109	27,884
Projected kW Savings	10.5	10.5	10.4	10.3	10.3	10.2
Air Sealing Inadequate Sealing - Electric furnace						
Participation	30	30	30	30	30	30
Incentive Budget	$5,943	$5,943	$5,943	$5,943	$5,943	$5,943
Projected kWh Savings	44,059	43,793	43,502	43,191	42,867	42,524
Projected kW Savings	7.9	7.9	7.8	7.8	7.7	7.6
Air Sealing Inadequate Sealing - Heat pump						
Participation	21	21	21	21	21	21
Incentive Budget	$4,245	$4,245	$4,245	$4,245	$4,245	$4,245
Projected kWh Savings	20,677	20,552	20,416	20,270	20,118	19,957
Projected kW Savings	3.7	3.7	3.7	3.6	3.6	3.6
Audit Recommendations						
Participation	19	47	78	111	148	194
Incentive Budget	$1,400	$3,499	$5,832	$8,332	$11,084	$14,529
Projected kWh Savings	1,530	3,826	6,377	9,110	12,119	15,885
Projected kW Savings	0.2	0.4	0.7	1.0	1.4	1.8
Bathroom Aerator 1.0 gpm						
Participation	422	399	360	309	255	204
Incentive Budget	$422	$399	$360	$309	$255	$204
Projected kWh Savings	20,470	19,393	17,456	15,002	12,389	9,898
Projected kW Savings	28.1	26.7	24.0	20.6	17.0	13.6

Measure	2028	2029	2030	2031	2032	2033
Door and Window Weather Stripping[13]						
Participation	0	0	0	0	0	0
Incentive Budget	$0	$0	$0	$0	$0	$0
Projected kWh Savings	0	0	0	0	0	0
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Duct Sealing - Inadequate Sealing - Electric furnace						
Participation	30	30	30	30	30	30
Incentive Budget	$13,372	$13,372	$13,372	$13,372	$13,372	$13,372
Projected kWh Savings	49,365	49,067	48,741	48,393	48,030	47,645
Projected kW Savings	8.9	8.8	8.8	8.7	8.6	8.6
Duct Sealing - Inadequate Sealing - Gas Heating						
Participation	81	81	81	81	81	81
Incentive Budget	$17,284	$17,284	$17,284	$17,284	$17,284	$17,284
Projected kWh Savings	27,381	27,216	27,035	26,842	26,641	26,428
Projected kW Savings	10.0	9.9	9.9	9.8	9.7	9.6
Duct Sealing - Inadequate Sealing - Heat pump						
Participation	21	21	21	21	21	21
Incentive Budget	$9,551	$9,551	$9,551	$9,551	$9,551	$9,551
Projected kWh Savings	23,329	23,188	23,034	22,870	22,698	22,517
Projected kW Savings	4.2	4.2	4.1	4.1	4.1	4.0
Kitchen Faucet Aerator 1.5 gpm						
Participation	18	20	20	18	17	14
Incentive Budget	$18	$20	$20	$18	$17	$14
Projected kWh Savings	3,613	3,814	3,814	3,613	3,252	2,795
Projected kW Savings	0.9	0.9	0.9	0.9	0.8	0.7
LED Nightlights						
Participation	709	784	849	903	945	978
Incentive Budget	$709	$784	$849	$903	$945	$978
Projected kWh Savings	9,645	10,668	11,548	12,275	12,855	13,307
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Low Flow Showerhead 1.5 gpm						
Participation	198	180	156	130	105	82
Incentive Budget	$991	$902	$782	$652	$524	$411
Projected kWh Savings	50,681	45,971	39,796	33,079	26,577	20,774
Projected kW Savings	5.1	4.6	4.0	3.3	2.7	2.1
Outlet Gaskets						
Participation	0	0	0	0	0	0
Incentive Budget	$0	$0	$0	$0	$0	$0
Projected kWh Savings	0	0	0	0	0	0
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Pipe Wrap						

[13] For measures showing zero participation, these measures can still be offered by CenterPoint as they are currently part of the program. In these cases, the Action Plan forecasts that any participation for these measures will be attributable to other programs which offer the same measure.

Measure	2028	2029	2030	2031	2032	2033
Participation	0	0	0	0	0	0
Incentive Budget	$0	$0	$0	$0	$0	$0
Projected kWh Savings	0	0	0	0	0	0
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Smart Power Strips - Tier 2						
Participation	403	488	567	630	665	665
Incentive Budget	$4,026	$4,876	$5,673	$6,303	$6,653	$6,653
Projected kWh Savings	54,798	66,356	77,210	85,781	90,542	90,542
Projected kW Savings	10.0	12.1	14.1	15.7	16.5	16.5
Smart Thermostat - Furnace baseline						
Participation	42	46	49	49	46	42
Incentive Budget	$4,674	$5,193	$5,481	$5,481	$5,193	$4,674
Projected kWh Savings	38,579	42,861	45,240	45,240	42,861	38,579
Projected kW Savings	7.1	7.9	8.3	8.3	7.9	7.1
Smart Thermostat - Heat pump baseline						
Participation	12	13	14	14	13	12
Incentive Budget	$1,470	$1,633	$1,723	$1,723	$1,633	$1,470
Projected kWh Savings	6,197	6,885	7,267	7,267	6,885	6,197
Projected kW Savings	2.1	2.3	2.4	2.4	2.3	2.1
Thermostatic Restrictor Shower Valve						
Participation	268	332	398	457	502	524
Incentive Budget	$1,340	$1,661	$1,990	$2,287	$2,510	$2,621
Projected kWh Savings	20,766	25,787	30,947	35,645	39,207	41,018
Projected kW Savings	1.0	1.2	1.5	1.7	1.9	1.9
Water Heater Temperature Setback						
Participation	20	19	38	34	50	44
Incentive Budget	$25	$24	$47	$43	$62	$55
Projected kWh Savings	2,449	2,320	4,537	4,115	6,020	5,299
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Total						
Participation	2,374	2,592	2,791	2,919	3,010	3,022
Incentive Budget	$72,784	$76,699	$80,465	$83,759	$86,585	$89,316
Projected kWh Savings	402,429	420,414	435,446	441,014	441,169	431,249
Projected kW Savings	99.7	101.1	100.6	98.3	94.5	89.5

TABLE 6-6: HOME ENERGY ASSESSMENT PROGRAM BUDGET SUMMARY

	2028	2029	2030	2031	2032	2033
Incentives	$72,784	$76,699	$80,465	$83,759	$86,585	$89,316
Delivery & Implementation	$101,135	$108,373	$115,144	$119,654	$122,839	$123,302
Admin	$46,935	$50,294	$53,436	$55,529	$57,007	$57,222
Total Budget	**$220,855**	**$235,366**	**$249,046**	**$258,941**	**$266,432**	**$269,841**
Participation	2,374	2,592	2,791	2,919	3,010	3,022
Energy Savings (kWh)	402,429	420,414	435,446	441,014	441,169	431,249

	2028	2029	2030	2031	2032	2033
Demand Savings (kW)	99.7	101.1	100.6	98.3	94.5	89.5
Weighted Program EUL	14.4	14.0	13.7	13.5	13.4	13.3
NTG	1.00	1.00	1.00	1.00	1.00	1.00

6.3 RESIDENTIAL MIDSTREAM PROGRAM

Program Description: The Residential Midstream Program is very similar to the Residential Prescriptive Program, though it targets a smaller group of participating partners rather than focusing on end-use customers. By working with participating partners (Distributors and Contractors), the burden of the administrative paperwork is taken off end-use customers and absorbed through the partner. To help compensate participating partners for the administrative work, they receive a spiff for each piece of equipment submitted through the program.

The following table indicates the measures in each of the programs, along with average incentives, and savings per unit.

TABLE 6-7: RESIDENTIAL MIDSTREAM PROGRAM MEASURES

Measure	Avg. Incentive per Unit	Savings per Unit (kWh)	Savings per Unit (kW)
Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	$200.00	7,171.3	0.11
Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	$200.00	599.7	0.11
Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	$275.00	7,626.0	0.22
Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	$275.00	1,058.7	0.23
Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	$300.00	8,138.4	0.31
Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	$300.00	1,575.7	0.32
Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	$400.00	8,443.0	0.40
Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	$400.00	1,883.3	0.40
Central Air Conditioner 15.2 SEER	$100.00	108.7	0.11
Central Air Conditioner 16.2 SEER	$200.00	213.0	0.23
Central Air Conditioner 17.2 SEER	$320.66	301.0	0.32
Ductless Heat Pump 10.8 HSPF2 - Electric baseboard baseline	$500.00	6,990.6	0.32
Ductless Heat Pump 10.8 HSPF2 - Electric furnace baseline	$500.00	6,954.5	0.31
Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline	$500.00	1,613.4	0.31
Ductless Heat Pump 11.7 HSPF2 - Electric baseboard baseline	$500.00	7,327.2	0.41
Ductless Heat Pump 11.7 HSPF2 - Electric furnace baseline	$500.00	7,291.2	0.40
Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline	$500.00	1,933.9	0.39
Ductless Heat Pump 8.5 HSPF2 - Electric baseboard baseline	$250.00	5,963.8	0.11
Ductless Heat Pump 8.5 HSPF2 - Electric furnace baseline	$250.00	5,934.8	0.11
Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline	$250.00	615.9	0.11
Ductless Heat Pump 9.4 HSPF2 - Electric baseboard baseline	$350.00	6,441.2	0.23
Ductless Heat Pump 9.4 HSPF2 - Electric furnace baseline	$350.00	6,407.9	0.23
Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline	$350.00	1,083.5	0.22
Heat Pump Water Heater-electric resistance heat	$500.00	1,732.3	0.08
Heat Pump Water Heater-gas heat	$500.00	1,747.4	0.08
Heat Pump Water Heater-heat pump heat	$500.00	1,739.2	0.08
Smart Thermostat - Furnace baseline	$30.00	948.2	0.17
Smart Thermostat - Gas/CAC baseline	$111.52	154.1	0.14
Smart Thermostat - Heat pump baseline	$30.00	495.2	0.17

Eligible Customers: The program is available to all residential customers located in the CenterPoint Indiana electric service territory.

Marketing: The Midstream marketing plan will target distributors and large contractors through direct outreach to contractor trade networks. Co-branded materials will be available to participating distributors to draw attention to, and provide education on, the HVAC measures within the program. Fact Sheets will also be created to keep the program top of mind.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor. Vendors will work with local contractors to deliver the program

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-8: RESIDENTIAL MIDSTREAM PROGRAM SUMMARY

Measure	2028	2029	2030	2031	2032	2033
Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline						
Participation	34	39	43	47	50	52
Incentive Budget	$6,882	$7,802	$8,630	$9,342	$9,930	$10,399
Projected kWh Savings	126,478	143,127	158,023	170,737	181,156	189,384
Projected kW Savings	2.0	2.3	2.5	2.7	2.9	3.0
Air Source Heat Pump 15.2 SEER2 - Heat pump baseline						
Participation	20	22	24	26	28	29
Incentive Budget	$3,901	$4,422	$4,892	$5,295	$5,628	$5,895
Projected kWh Savings	5,995	6,784	7,490	8,093	8,587	8,977
Projected kW Savings	1.1	1.3	1.4	1.5	1.6	1.7
Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline						
Participation	28	32	35	38	41	42
Incentive Budget	$7,731	$8,765	$9,696	$10,495	$11,156	$11,683
Projected kWh Savings	109,897	124,363	137,306	148,353	157,406	164,556
Projected kW Savings	3.2	3.7	4.0	4.4	4.6	4.8
Air Source Heat Pump 16.2 SEER2 - Heat pump baseline						
Participation	16	18	20	22	23	24
Incentive Budget	$4,382	$4,968	$5,496	$5,949	$6,323	$6,622
Projected kWh Savings	8,648	9,787	10,805	11,674	12,387	12,949
Projected kW Savings	1.8	2.1	2.3	2.5	2.6	2.8
Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline						
Participation	26	30	33	36	38	40
Incentive Budget	$7,890	$8,945	$9,894	$10,710	$11,384	$11,922
Projected kWh Savings	109,705	124,147	137,067	148,095	157,132	164,269
Projected kW Savings	4.2	4.8	5.3	5.7	6.0	6.3
Air Source Heat Pump 17.1 SEER2 - Heat pump baseline						
Participation	15	17	19	20	22	23
Incentive Budget	$4,472	$5,070	$5,608	$6,071	$6,453	$6,758

Measure	2028	2029	2030	2031	2032	2033
Projected kWh Savings	12,040	13,625	15,043	16,253	17,245	18,028
Projected kW Savings	2.4	2.7	3.0	3.3	3.5	3.6
Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline						
Participation	26	30	33	36	38	40
Incentive Budget	$10,502	$11,906	$13,170	$14,257	$15,154	$15,870
Projected kWh Savings	113,624	128,581	141,963	153,385	162,745	170,137
Projected kW Savings	5.4	6.1	6.8	7.3	7.7	8.1
Air Source Heat Pump 18.1 SEER2 - Heat pump baseline						
Participation	15	17	19	20	21	22
Incentive Budget	$5,953	$6,749	$7,465	$8,081	$8,589	$8,996
Projected kWh Savings	14,366	16,257	17,949	19,393	20,577	21,512
Projected kW Savings	3.1	3.5	3.9	4.2	4.4	4.6
Central Air Conditioner 15.2 SEER						
Participation	298	330	357	380	398	412
Incentive Budget	$29,849	$33,017	$35,740	$37,989	$39,786	$41,184
Projected kWh Savings	17,282	19,082	20,616	21,873	22,866	23,627
Projected kW Savings	18.2	20.1	21.7	23.1	24.1	24.9
Central Air Conditioner 16.2 SEER						
Participation	292	342	390	434	472	504
Incentive Budget	$58,338	$68,344	$77,957	$86,730	$94,368	$100,749
Projected kWh Savings	33,122	38,723	44,077	48,937	53,142	56,625
Projected kW Savings	35.0	41.0	46.6	51.8	56.2	59.9
Central Air Conditioner 17.2 SEER						
Participation	176	210	244	276	305	329
Incentive Budget	$56,442	$67,353	$78,215	$88,462	$97,653	$105,529
Projected kWh Savings	28,152	33,569	38,948	44,008	48,532	52,386
Projected kW Savings	29.9	35.7	41.4	46.8	51.6	55.7
Ductless Heat Pump 10.8 HSPF2 - Electric baseboard baseline						
Participation	3	4	4	4	5	5
Incentive Budget	$1,547	$1,758	$1,949	$2,114	$2,251	$2,363
Projected kWh Savings	8,260	9,368	10,369	11,223	11,933	12,503
Projected kW Savings	0.4	0.4	0.5	0.5	0.5	0.6
Ductless Heat Pump 10.8 HSPF2 - Electric furnace baseline						
Participation	9	10	11	12	13	14
Incentive Budget	$4,473	$5,087	$5,648	$6,129	$6,535	$6,867
Projected kWh Savings	23,760	26,972	29,890	32,379	34,459	36,143
Projected kW Savings	1.1	1.2	1.4	1.5	1.6	1.6
Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline						
Participation	5	5	6	7	7	7
Incentive Budget	$2,414	$2,743	$3,043	$3,301	$3,517	$3,692
Projected kWh Savings	2,975	3,375	3,736	4,045	4,302	4,509
Projected kW Savings	0.6	0.6	0.7	0.8	0.8	0.9
Ductless Heat Pump 11.7 HSPF2 - Electric baseboard baseline						
Participation	3	3	4	4	4	4
Incentive Budget	$1,447	$1,644	$1,823	$1,977	$2,106	$2,211
Projected kWh Savings	8,098	9,184	10,166	11,004	11,701	12,260

Measure	2028	2029	2030	2031	2032	2033
Projected kW Savings	0.4	0.5	0.6	0.6	0.6	0.7
Ductless Heat Pump 11.7 HSPF2 - Electric furnace baseline						
Participation	8	10	11	11	12	13
Incentive Budget	$4,177	$4,750	$5,275	$5,725	$6,104	$6,414
Projected kWh Savings	23,262	26,408	29,267	31,706	33,745	35,396
Projected kW Savings	1.3	1.5	1.6	1.8	1.9	2.0
Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline						
Participation	4	5	6	6	7	7
Incentive Budget	$2,234	$2,539	$2,816	$3,055	$3,255	$3,418
Projected kWh Savings	3,300	3,743	4,145	4,488	4,773	5,003
Projected kW Savings	0.7	0.8	0.8	0.9	1.0	1.0
Ductless Heat Pump 8.5 HSPF2 - Electric baseboard baseline						
Participation	4	4	5	5	6	6
Incentive Budget	$961	$1,092	$1,211	$1,313	$1,398	$1,467
Projected kWh Savings	8,756	9,929	10,988	11,892	12,643	13,245
Projected kW Savings	0.2	0.2	0.2	0.2	0.2	0.3
Ductless Heat Pump 8.5 HSPF2 - Electric furnace baseline						
Participation	11	13	14	15	16	17
Incentive Budget	$2,774	$3,154	$3,501	$3,799	$4,050	$4,255
Projected kWh Savings	25,148	28,543	31,624	34,253	36,447	38,222
Projected kW Savings	0.5	0.5	0.6	0.7	0.7	0.7
Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline						
Participation	6	7	7	8	9	9
Incentive Budget	$1,484	$1,687	$1,871	$2,029	$2,161	$2,269
Projected kWh Savings	1,397	1,584	1,754	1,899	2,019	2,116
Projected kW Savings	0.3	0.3	0.3	0.3	0.4	0.4
Ductless Heat Pump 9.4 HSPF2 - Electric baseboard baseline						
Participation	3	4	4	4	5	5
Incentive Budget	$1,096	$1,245	$1,381	$1,497	$1,595	$1,674
Projected kWh Savings	7,701	8,734	9,667	10,464	11,126	11,657
Projected kW Savings	0.3	0.3	0.3	0.4	0.4	0.4
Ductless Heat Pump 9.4 HSPF2 - Electric furnace baseline						
Participation	9	10	11	12	13	14
Incentive Budget	$3,169	$3,603	$4,001	$4,342	$4,629	$4,864
Projected kWh Savings	22,156	25,151	27,872	30,193	32,132	33,702
Projected kW Savings	0.8	0.9	1.0	1.1	1.1	1.2
Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline						
Participation	5	6	6	7	7	7
Incentive Budget	$1,712	$1,945	$2,158	$2,341	$2,494	$2,618
Projected kWh Savings	2,024	2,296	2,542	2,752	2,927	3,067
Projected kW Savings	0.4	0.5	0.5	0.6	0.6	0.6
Heat Pump Water Heater-electric resistance heat						
Participation	200	246	294	343	389	430
Incentive Budget	$100,118	$123,040	$147,233	$171,426	$194,347	$214,978
Projected kWh Savings	272,893	330,837	389,681	445,707	495,559	536,760

Measure	2028	2029	2030	2031	2032	2033
Projected kW Savings	12.9	15.7	18.5	21.1	23.5	25.4
Heat Pump Water Heater-gas heat						
Participation	38	47	56	65	74	82
Incentive Budget	$19,070	$23,436	$28,044	$32,653	$37,018	$40,948
Projected kWh Savings	52,434	63,568	74,874	85,639	95,217	103,134
Projected kW Savings	2.5	3.0	3.5	4.1	4.5	4.9
Heat Pump Water Heater-heat pump heat						
Participation	143	176	210	245	278	307
Incentive Budget	$71,513	$87,885	$105,166	$122,447	$138,819	$153,556
Projected kWh Savings	195,704	237,258	279,458	319,636	355,388	384,935
Projected kW Savings	9.3	11.2	13.2	15.1	16.8	18.2
Smart Thermostat - Furnace baseline						
Participation	316	316	300	270	232	191
Incentive Budget	$9,485	$9,485	$8,986	$8,088	$6,951	$5,741
Projected kWh Savings	284,790	284,790	269,816	242,858	208,716	172,363
Projected kW Savings	52.3	52.3	49.6	44.6	38.4	31.7
Smart Thermostat - Gas/CAC baseline						
Participation	297	297	281	253	217	179
Incentive Budget	$33,073	$33,073	$31,334	$28,204	$24,239	$20,017
Projected kWh Savings	43,430	43,430	41,146	37,035	31,829	26,285
Projected kW Savings	40.0	40.0	37.9	34.1	29.3	24.2
Smart Thermostat - Heat pump baseline						
Participation	117	117	111	100	86	71
Incentive Budget	$3,517	$3,517	$3,333	$3,000	$2,578	$2,129
Projected kWh Savings	55,155	55,155	52,255	47,034	40,422	33,381
Projected kW Savings	18.7	18.7	17.7	16.0	13.7	11.3
Total						
Participation	2,128	2,365	2,559	2,706	2,813	2,886
Incentive Budget	$460,605	$539,024	$615,534	$686,820	$750,471	$805,088
Projected kWh Savings	1,620,551	1,828,370	2,008,538	2,155,011	2,267,113	2,347,133
Projected kW Savings	249.1	271.9	288.0	297.4	301.4	301.5

TABLE 6-9: RESIDENTIAL MIDSTREAM PROGRAM BUDGET SUMMARY

	2028	2029	2030	2031	2032	2033
Incentives	$460,605	$539,024	$615,534	$686,820	$750,471	$805,088
Delivery & Implementation	$513,594	$599,468	$682,673	$760,512	$831,673	$895,719
Admin	$55,671	$64,980	$73,999	$82,436	$90,149	$97,092
Total Budget	**$1,029,870**	**$1,203,472**	**$1,372,206**	**$1,529,768**	**$1,672,294**	**$1,797,899**
Participation	2,128	2,365	2,559	2,706	2,813	2,886
Energy Savings (kWh)	1,620,551	1,828,370	2,008,538	2,155,011	2,267,113	2,347,133
Demand Savings (kW)	249.1	271.9	288.0	297.4	301.4	301.5
Weighted Program EUL	15.1	15.1	15.2	15.3	15.4	15.5
NTG	0.63	0.62	0.62	0.61	0.61	0.61

6.4 IN STORE DISCOUNT PROGRAM

Program Description: The Residential In-Store Discount Program is a market-based residential energy efficiency program designed to reach residential customers through retail outlets. The program consists of a buy-down strategy that provides incentives to consumers to facilitate the purchase of energy efficient products. The overall program goal is to increase the penetration of energy efficient products by influencing customers' purchase decisions at the point of purchase.

The following table indicates the measures in each of the programs, along with average incentives, and savings per unit.

TABLE 6-10: IN STORE DISCOUNT PROGRAM MEASURES

Measure	Avg. Incentive per Unit	Savings per Unit (kWh)	Savings per Unit (kW)
Air Filter	$1.00	78.4	0.00
Bathroom Aerator 1.0 gpm	$1.00	39.8	0.04
Can Foam	$0.00	0.0	0.00
Caulk	$1.25	15.6	0.00
Door and Window Weather Stripping	$0.00	0.0	0.00
ENERGY STAR Air Purifier	$25.00	298.0	0.03
ENERGY STAR Bath Vent Fan	$25.00	38.1	0.05
ENERGY STAR Dehumidifier	$10.00	157.0	0.04
ENERGY STAR Most Efficient Dehumidifier	$10.00	230.0	0.05
ENERGY STAR Room Air Conditioner	$25.00	75.3	0.08
Kitchen Faucet Aerator 1.5 gpm	$1.00	232.2	0.05
Low Flow Showerhead 1.5 gpm	$5.00	192.6	0.02
Pipe Wrap	$0.00	0.0	0.00
Smart Power Strips - Tier 1	$6.00	56.6	0.01
Smart Thermostat - Gas/CAC baseline	$70.76	169.2	0.18

Eligible Customers: The program is available to all residential customers located in the CenterPoint Indiana electric service territory.

Marketing: The marketing plan includes program specific marketing materials that will target contractors and trade allies in the Heating, Ventilation and Air Conditioning (HVAC) industry. The HVAC industry will be marketed by using targeted direct marketing, direct contact by the program vendor personnel, trade shows and trade association outreach. The program will be promoted through trade allies, distributors, manufacturers, industry organizations and appropriate retail outlets. CenterPoint Indiana will also use web banners, bill inserts, and mass market advertising. Program marketing directs customers and contractors to the CenterPoint Indiana website or call center for information.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor. Vendors will work with local contractors to deliver the program

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-11: IN STORE DISCOUNT PROGRAM SUMMARY

Measure	2028	2029	2030	2031	2032	2033
Air Filter						
Participation	75	139	192	234	267	293
Incentive Budget	$75	$139	$192	$234	$267	$293
Projected kWh Savings	5,896	10,943	15,092	18,389	20,938	22,866
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Bathroom Aerator 1.0 gpm						
Participation	66	73	78	78	73	66
Incentive Budget	$66	$73	$78	$78	$73	$66
Projected kWh Savings	2,630	2,922	3,084	3,084	2,922	2,630
Projected kW Savings	2.4	2.7	2.8	2.8	2.7	2.4
Can Foam						
Participation	0	0	0	0	0	0
Incentive Budget	$0	$0	$0	$0	$0	$0
Projected kWh Savings	0	0	0	0	0	0
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Caulk						
Participation	256	256	256	256	256	256
Incentive Budget	$320	$320	$320	$320	$320	$320
Projected kWh Savings	4,049	4,024	3,997	3,969	3,939	3,908
Projected kW Savings	0.7	0.7	0.7	0.7	0.7	0.6
Door and Window Weather Stripping						
Participation	0	0	0	0	0	0
Incentive Budget	$0	$0	$0	$0	$0	$0
Projected kWh Savings	0	0	0	0	0	0
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
ENERGY STAR Air Purifier						
Participation	118	146	175	204	231	256
Incentive Budget	$2,960	$3,645	$4,371	$5,094	$5,780	$6,399
Projected kWh Savings	35,283	43,453	52,097	60,718	68,892	76,280
Projected kW Savings	4.0	5.0	6.0	6.9	7.9	8.7
ENERGY STAR Bath Vent Fan						
Participation	214	260	303	337	356	357
Incentive Budget	$5,360	$6,502	$7,579	$8,429	$8,908	$8,924
Projected kWh Savings	8,380	10,075	11,633	12,811	13,400	13,280
Projected kW Savings	10.0	12.0	13.9	15.3	16.0	15.8
ENERGY STAR Dehumidifier						
Participation	97	101	104	106	108	109
Incentive Budget	$973	$1,011	$1,041	$1,064	$1,082	$1,086
Projected kWh Savings	15,277	15,868	16,344	16,707	16,991	17,058
Projected kW Savings	3.5	3.6	3.7	3.8	3.9	3.9
ENERGY STAR Most Efficient Dehumidifier						
Participation	177	184	189	193	196	197
Incentive Budget	$1,768	$1,835	$1,890	$1,931	$1,963	$1,970
Projected kWh Savings	40,661	42,216	43,463	44,411	45,149	45,305

Measure	2028	2029	2030	2031	2032	2033
Projected kW Savings	9.2	9.6	9.9	10.1	10.3	10.3
ENERGY STAR Room Air Conditioner						
Participation	178	208	237	262	284	303
Incentive Budget	$4,460	$5,205	$5,916	$6,555	$7,106	$7,566
Projected kWh Savings	13,438	15,685	17,827	19,751	21,411	22,798
Projected kW Savings	14.4	16.8	19.1	21.1	22.9	24.4
Kitchen Faucet Aerator 1.5 gpm						
Participation	157	160	154	141	123	104
Incentive Budget	$157	$160	$154	$141	$123	$104
Projected kWh Savings	36,766	37,220	35,755	32,662	28,493	23,868
Projected kW Savings	7.4	7.5	7.2	6.6	5.8	4.9
Low Flow Showerhead 1.5 gpm						
Participation	36	36	34	30	26	22
Incentive Budget	$178	$178	$169	$152	$131	$108
Projected kWh Savings	6,869	6,869	6,508	5,858	5,034	4,157
Projected kW Savings	0.8	0.8	0.8	0.7	0.6	0.5
Pipe Wrap						
Participation	0	0	0	0	0	0
Incentive Budget	$0	$0	$0	$0	$0	$0
Projected kWh Savings	0	0	0	0	0	0
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Smart Power Strips - Tier 1						
Participation	2,607	3,263	3,951	4,598	5,108	5,391
Incentive Budget	$15,643	$19,578	$23,707	$27,586	$30,648	$32,349
Projected kWh Savings	147,563	184,688	223,640	260,224	289,109	305,154
Projected kW Savings	16.6	20.7	25.1	29.2	32.4	34.2
Smart Thermostat - Gas/CAC baseline						
Participation	289	337	374	395	395	374
Incentive Budget	$20,483	$23,833	$26,479	$27,949	$27,949	$26,479
Projected kWh Savings	48,987	57,001	63,328	66,842	66,842	63,328
Projected kW Savings	51.0	59.4	66.0	69.7	69.7	66.0
Total						
Participation	4,272	5,162	6,046	6,835	7,426	7,727
Incentive Budget	$52,443	$62,482	$71,895	$79,532	$84,350	$85,663
Projected kWh Savings	365,798	430,965	492,770	545,426	583,120	600,631
Projected kW Savings	120.0	138.8	155.1	166.9	172.7	171.8

TABLE 6-12: IN STORE DISCOUNT PROGRAM BUDGET SUMMARY

	2028	2029	2030	2031	2032	2033
Incentives	$52,443	$62,482	$71,895	$79,532	$84,350	$85,663
Delivery & Implementation	$36,500	$44,006	$51,492	$58,326	$63,813	$67,264
Admin	$12,731	$15,349	$17,961	$20,344	$22,258	$23,462
Total Budget	**$101,674**	**$121,837**	**$141,348**	**$158,203**	**$170,421**	**$176,390**
Participation	4,272	5,162	6,046	6,835	7,426	7,727
Energy Savings (kWh)	365,798	430,965	492,770	545,426	583,120	600,631

	2028	2029	2030	2031	2032	2033
Demand Savings (kW)	120.0	138.8	155.1	166.9	172.7	171.8
Weighted Program EUL	10.0	9.7	9.5	9.3	9.2	9.1
NTG	1.00	1.00	1.00	1.00	1.00	1.00

6.5 MULTI-FAMILY ENERGY SOLUTIONS PROGRAM

Program Description: The Multi-family Energy Solutions program is designed to produce long term energy savings within multifamily properties. The program provides customers with information on energy best practices and promotes energy efficiency through the installation of energy efficient technologies including high efficiency showerheads, aerators, door and window weatherstripping, door sweeps and Smart Thermostats. In addition, the program will begin offering weatherization services such as air and duct sealing. Additional measures may be available to properties that also have electric service from CenterPoint. The program is open for, and promoted to, owners and managers of multi-family properties. The program will educate consumers on ways to reduce energy consumption and cross-promote other programs to increase overall awareness.

The following table indicates the measures in each of the programs, along with average incentives, and savings per unit.

TABLE 6-13: MULTI-FAMILY ENERGY SOLUTIONS PROGRAM MEASURES

Measure	Avg. Incentive per Unit	Savings per Unit (kWh)	Savings per Unit (kW)
Air Filter	$6.00	78.5	0.00
Air Sealing - Inadequate Sealing - Gas Heating	$72.53	167.9	0.06
Air Sealing Inadequate Sealing - Electric furnace	$200.00	697.9	0.06
Air Sealing Inadequate Sealing - Heat pump	$200.00	456.9	0.04
Audit Recommendations	$75.00	82.0	0.01
Bathroom Aerator 1.0 gpm	$1.00	39.8	0.04
Door and Window Weather Stripping	$8.20	102.7	0.01
Door Sweep	$2.68	91.9	0.02
Duct Sealing - Inadequate Sealing - Electric furnace	$450.00	1,068.5	0.09
Duct Sealing - Inadequate Sealing - Gas Heating	$214.29	204.2	0.08
Duct Sealing - Inadequate Sealing - Heat pump	$450.00	707.5	0.06
Kitchen Faucet Aerator 1.5 gpm	$1.00	195.4	0.05
LED Nightlights	$1.00	13.6	0.00
Low Flow Showerhead 1.5 gpm	$5.00	192.6	0.02
Multifamily Whole Building Aerosol Sealing - Electric furnace	$450.00	1,261.1	0.11
Multifamily Whole Building Aerosol Sealing - Gas Heating / CAC	$214.29	0.0	0.00
Multifamily Whole Building Aerosol Sealing - Heat pump	$450.00	724.8	0.06
Pipe Wrap	$3.00	246.7	0.03
Programmable Thermostat - Furnace baseline	$5.00	471.1	0.00
Programmable Thermostat - Gas/CAC baseline	$5.00	0.0	0.00
Programmable Thermostat - Heat pump baseline	$5.00	214.2	0.00
Smart Thermostat - Furnace baseline	$125.00	762.1	0.14
Smart Thermostat - Gas/CAC baseline	$74.94	154.1	0.14
Smart Thermostat - Heat pump baseline	$125.00	409.9	0.14
Water Heater Temperature Setback	$1.25	120.7	0.01

Eligible Customers: The program is available to multifamily properties located in the CenterPoint Indiana electric service territory.

Marketing: The Multifamily Energy Solutions Program will be marketed to multifamily property ownership and property management organizations, as well as through direct outreach to property managers.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor.

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-14: MULTI-FAMILY ENERGY SOLUTIONS PROGRAM SUMMARY

Measure	2028	2029	2030	2031	2032	2033
Air Filter						
Participation	60	60	60	60	60	60
Incentive Budget	$358	$358	$358	$358	$358	$358
Projected kWh Savings	4,700	4,692	4,683	4,674	4,666	4,657
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Air Sealing - Inadequate Sealing - Gas Heating						
Participation	2	2	2	0	0	0
Incentive Budget	$144	$144	$144	$0	$0	$0
Projected kWh Savings	336	334	332	0	0	0
Projected kW Savings	0.1	0.1	0.1	0.0	0.0	0.0
Air Sealing Inadequate Sealing - Electric furnace						
Participation	1	1	1	1	1	1
Incentive Budget	$293	$293	$293	$293	$293	$293
Projected kWh Savings	1,040	1,034	1,027	1,020	1,012	1,004
Projected kW Savings	0.1	0.1	0.1	0.1	0.1	0.1
Air Sealing Inadequate Sealing - Heat pump						
Participation	3	3	3	3	3	3
Incentive Budget	$524	$524	$524	$524	$524	$524
Projected kWh Savings	1,216	1,209	1,201	1,192	1,183	1,174
Projected kW Savings	0.1	0.1	0.1	0.1	0.1	0.1
Audit Recommendations						
Participation	17	33	49	0	0	0
Incentive Budget	$1,238	$2,476	$3,649	$0	$0	$0
Projected kWh Savings	1,354	2,707	3,990	0	0	0
Projected kW Savings	0.2	0.3	0.5	0.0	0.0	0.0
Bathroom Aerator 1.0 gpm						
Participation	281	211	156	0	0	0
Incentive Budget	$281	$211	$156	$0	$0	$0
Projected kWh Savings	11,177	8,386	6,217	0	0	0
Projected kW Savings	10.2	7.7	5.7	0.0	0.0	0.0

Measure	2028	2029	2030	2031	2032	2033
Door and Window Weather Stripping						
Participation	70	70	70	70	70	70
Incentive Budget	$570	$570	$570	$570	$570	$570
Projected kWh Savings	7,262	7,218	7,170	7,119	7,066	7,009
Projected kW Savings	0.6	0.6	0.6	0.6	0.6	0.6
Door Sweep						
Participation	70	70	70	70	70	70
Incentive Budget	$187	$187	$187	$187	$187	$187
Projected kWh Savings	6,527	6,488	6,445	6,398	6,350	6,300
Projected kW Savings	1.2	1.2	1.2	1.2	1.1	1.1
Duct Sealing - Inadequate Sealing - Electric furnace						
Participation	3	3	3	3	3	3
Incentive Budget	$1,289	$1,289	$1,289	$1,289	$1,289	$1,289
Projected kWh Savings	3,114	3,095	3,074	3,053	3,030	3,005
Projected kW Savings	0.3	0.3	0.3	0.3	0.3	0.3
Duct Sealing - Inadequate Sealing - Gas Heating						
Participation	1	1	1	0	0	0
Incentive Budget	$213	$213	$213	$0	$0	$0
Projected kWh Savings	204	203	202	0	0	0
Projected kW Savings	0.1	0.1	0.1	0.0	0.0	0.0
Duct Sealing - Inadequate Sealing - Heat pump						
Participation	2	2	2	0	0	0
Incentive Budget	$921	$921	$921	$0	$0	$0
Projected kWh Savings	1,457	1,448	1,439	0	0	0
Projected kW Savings	0.1	0.1	0.1	0.0	0.0	0.0
Kitchen Faucet Aerator 1.5 gpm						
Participation	278	209	155	0	0	0
Incentive Budget	$278	$209	$155	$0	$0	$0
Projected kWh Savings	54,325	40,757	30,217	0	0	0
Projected kW Savings	13.0	9.7	7.2	0.0	0.0	0.0
LED Nightlights						
Participation	61	61	61	61	61	61
Incentive Budget	$61	$61	$61	$61	$61	$61
Projected kWh Savings	830	830	830	830	830	830
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Low Flow Showerhead 1.5 gpm						
Participation	475	0	0	0	0	0
Incentive Budget	$2,375	$0	$0	$0	$0	$0
Projected kWh Savings	91,471	0	0	0	0	0
Projected kW Savings	10.8	0.0	0.0	0.0	0.0	0.0
Multifamily Whole Building Aerosol Sealing - Electric furnace						
Participation	16	16	16	0	0	0
Incentive Budget	$7,328	$7,328	$7,328	$0	$0	$0
Projected kWh Savings	20,666	20,541	20,405	0	0	0
Projected kW Savings	1.8	1.8	1.8	0.0	0.0	0.0

Measure	2028	2029	2030	2031	2032	2033
Multifamily Whole Building Aerosol Sealing - Gas Heating / CAC						
Participation	4	4	4	4	4	4
Incentive Budget	$782	$782	$782	$782	$782	$782
Projected kWh Savings	0	0	0	0	0	0
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Multifamily Whole Building Aerosol Sealing - Heat pump						
Participation	1	1	1	0	0	0
Incentive Budget	$654	$654	$654	$0	$0	$0
Projected kWh Savings	1,060	1,054	1,047	0	0	0
Projected kW Savings	0.1	0.1	0.1	0.0	0.0	0.0
Pipe Wrap						
Participation	34	27	21	16	12	9
Incentive Budget	$103	$82	$64	$49	$37	$27
Projected kWh Savings	8,474	6,771	5,268	4,015	3,013	2,234
Projected kW Savings	1.0	0.8	0.6	0.5	0.3	0.3
Programmable Thermostat - Furnace baseline						
Participation	24	18	14	10	0	0
Incentive Budget	$119	$90	$68	$50	$0	$0
Projected kWh Savings	11,174	8,517	6,390	4,737	0	0
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Programmable Thermostat - Gas/CAC baseline						
Participation	64	49	37	27	0	0
Incentive Budget	$322	$245	$184	$136	$0	$0
Projected kWh Savings	0	0	0	0	0	0
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Programmable Thermostat - Heat pump baseline						
Participation	59	45	34	25	0	0
Incentive Budget	$297	$226	$170	$126	$0	$0
Projected kWh Savings	12,701	9,681	7,263	5,385	0	0
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Smart Thermostat - Furnace baseline						
Participation	52	40	30	22	0	0
Incentive Budget	$6,487	$4,944	$3,710	$2,750	$0	$0
Projected kWh Savings	39,548	30,143	22,615	16,766	0	0
Projected kW Savings	7.4	5.6	4.2	3.1	0.0	0.0
Smart Thermostat - Gas/CAC baseline						
Participation	63	48	36	0	0	0
Incentive Budget	$4,688	$3,573	$2,681	$0	$0	$0
Projected kWh Savings	9,643	7,350	5,514	0	0	0
Projected kW Savings	8.9	6.8	5.1	0.0	0.0	0.0
Smart Thermostat - Heat pump baseline						
Participation	37	28	21	0	0	0
Incentive Budget	$4,634	$3,532	$2,650	$0	$0	$0
Projected kWh Savings	15,194	11,580	8,688	0	0	0
Projected kW Savings	5.3	4.0	3.0	0.0	0.0	0.0

Measure	2028	2029	2030	2031	2032	2033
Water Heater Temperature Setback						
Participation	32	0	32	0	32	0
Incentive Budget	$40	$0	$40	$0	$40	$0
Projected kWh Savings	3,875	0	3,875	0	3,875	0
Projected kW Savings	0.4	0.0	0.4	0.0	0.4	0.0
Total						
Participation	1,709	1,001	877	371	315	280
Incentive Budget	$34,186	$28,914	$26,850	$7,175	$4,140	$4,091
Projected kWh Savings	307,351	174,038	147,891	55,190	31,025	26,213
Projected kW Savings	61.7	39.4	31.2	5.8	3.0	2.5

TABLE 6-15: MULTI-FAMILY ENERGY SOLUTIONS PROGRAM BUDGET SUMMARY

	2028	2029	2030	2031	2032	2033
Incentives	$34,186	$28,914	$26,850	$7,175	$4,140	$4,091
Delivery & Implementation	$25,835	$16,731	$15,188	$4,249	$2,473	$2,158
Admin	$17,673	$11,445	$10,389	$2,907	$1,692	$1,476
Total Budget	**$77,694**	**$57,089**	**$52,427**	**$14,332**	**$8,305**	**$7,725**
Participation	1,709	1,001	877	371	315	280
Energy Savings (kWh)	307,351	174,038	147,891	55,190	31,025	26,213
Demand Savings (kW)	61.7	39.4	31.2	5.8	3.0	2.5
Weighted Program EUL	11.8	13.0	13.0	14.2	13.8	15.6
NTG	1.00	1.00	1.00	1.00	1.00	1.00

6.6 COMMUNITY CONNECTIONS PROGRAM

Program Description: The Community Connections program is designed to provide energy efficient products to low-income customers who receive assistance from local food banks, township trustees, and additional community-assistance organizations. The program is intended to educate low-income customers on the benefits of energy efficient measures and provide them with products which would otherwise be unaffordable.

The following table indicates the measures in each of the programs, along with average incentives, and savings per unit.

TABLE 6-16: COMMUNITY CONNECTIONS PROGRAM MEASURES

Measure	Avg. Incentive per Unit	Savings per Unit (kWh)	Savings per Unit (kW)
Can Foam	$3.00	5.9	0.00
Door and Window Weather Stripping	$5.47	102.7	0.02
Door Sweep	$5.47	91.9	0.01
Outlet Gaskets	$5.47	2.9	0.00
Pipe Wrap	$18.00	246.7	0.03

Eligible Customers: The Community Connections program targets local food banks, township trustees, and additional community-assistance organizations who serve low-income homeowners and tenants within CenterPoint electric service territory.

Marketing: Marketing materials will be created to educate product recipients on the benefits of energy efficiency products.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor.

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-17: COMMUNITY CONNECTIONS PROGRAM SUMMARY

Measure	2028	2029	2030	2031	2032	2033
Can Foam						
Participation	1,700	1,700	1,700	1,700	1,700	1,700
Incentive Budget	$5,099	$5,099	$5,099	$5,099	$5,099	$5,099
Projected kWh Savings	10,145	10,084	10,017	9,945	9,870	9,792
Projected kW Savings	1.7	1.7	1.7	1.7	1.6	1.6
Door and Window Weather Stripping						
Participation	1,169	1,169	1,169	1,169	1,169	1,169
Incentive Budget	$6,395	$6,395	$6,395	$6,395	$6,395	$6,395
Projected kWh Savings	122,098	121,361	120,555	119,694	118,796	117,845
Projected kW Savings	21.3	21.2	21.0	20.9	20.7	20.5
Door Sweep						
Participation	1,445	1,445	1,445	1,445	1,445	1,445
Incentive Budget	$7,903	$7,903	$7,903	$7,903	$7,903	$7,903
Projected kWh Savings	135,096	134,281	133,389	132,436	131,442	130,391
Projected kW Savings	21.6	21.5	21.3	21.2	21.0	20.8
Outlet Gaskets						
Participation	1,500	1,500	1,500	1,500	1,500	1,500
Incentive Budget	$8,203	$8,203	$8,203	$8,203	$8,203	$8,203
Projected kWh Savings	4,475	4,448	4,419	4,387	4,354	4,319
Projected kW Savings	1.7	1.7	1.6	1.6	1.6	1.6
Pipe Wrap						
Participation	2,482	3,006	3,498	3,886	4,102	4,102
Incentive Budget	$44,683	$54,107	$62,957	$69,946	$73,828	$73,828
Projected kWh Savings	612,342	741,491	862,786	958,556	1,011,756	1,011,756
Projected kW Savings	69.9	84.6	98.5	109.4	115.5	115.5
Total						
Participation	8,296	8,819	9,311	9,699	9,915	9,915
Incentive Budget	$72,283	$81,707	$90,558	$97,547	$101,429	$101,429
Projected kWh Savings	884,155	1,011,664	1,131,166	1,225,018	1,276,219	1,274,103
Projected kW Savings	116.1	130.6	144.1	154.7	160.5	160.1

TABLE 6-18: COMMUNITY CONNECTIONS PROGRAM BUDGET SUMMARY

	2028	2029	2030	2031	2032	2033
Incentives	$72,283	$81,707	$90,558	$97,547	$101,429	$101,429
Delivery & Implementation	$277,194	$324,923	$372,128	$412,779	$440,510	$450,642
Admin	$0	$0	$0	$0	$0	$0
Total Budget	**$349,477**	**$406,630**	**$462,686**	**$510,326**	**$541,939**	**$552,071**
Participation	8,296	8,819	9,311	9,699	9,915	9,915
Energy Savings (kWh)	884,155	1,011,664	1,131,166	1,225,018	1,276,219	1,274,103
Demand Savings (kW)	116.1	130.6	144.1	154.7	160.5	160.1
Weighted Program EUL	14.5	14.1	13.9	13.7	13.7	13.6
NTG	1.00	1.00	1.00	1.00	1.00	1.00

6.7 INCOME QUALIFIED WEATHERIZATION PROGRAM

Program Description: The Income Qualified Weatherization (IQW) program is designed to produce long-term energy and demand savings in the residential market. The program is designed to provide weatherization upgrades to low-income homes that otherwise would not have been able to afford the energy saving measures. The program provides direct installation of energy-saving measures and educates consumers on ways to reduce energy consumption. Customers eligible through the Income Qualified Weatherization Program will have opportunity to receive deeper retrofit measures including refrigerators, attic insulation, duct sealing, air infiltration reduction and installation of new central air conditioner or air source heat pump.

Collaboration and coordination between gas and electric low-income programs along with state and federal funding is recommended to provide the greatest efficiencies among all programs. The challenge of meeting the goals set for this program have centered on health and safety as well as customer cancellations and scheduling. CenterPoint committed to finding innovative solutions to these areas. A health and safety (H&S) budget has been established, and we continue to work on improving methods of customer engagement with various confirmations via phone and email reminders prior to the appointment.

The following table indicates the measures in each of the programs, along with average incentives, and savings per unit.

TABLE 6-19: INCOME QUALIFIED WEATHERIZATION PROGRAM MEASURES

Measure	Avg. Incentive per Unit	Savings per Unit (kWh)	Savings per Unit (kW)
AC Tune Up	$75.00	93.0	0.10
Air Filter	$6.00	78.4	0.00
Air Sealing - Inadequate Sealing - Gas Heating	$123.58	302.4	0.11
Air Sealing Inadequate Sealing - Electric furnace	$200.00	1,254.6	0.21
Air Sealing Inadequate Sealing - Heat pump	$200.00	823.8	0.14
Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	$5,400.00	7,022.0	0.11
Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	$5,400.00	581.1	0.11
Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	$5,400.00	7,466.5	0.22
Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	$5,400.00	1,025.7	0.22
Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	$5,400.00	7,967.6	0.31
Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	$5,400.00	1,526.7	0.31
Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	$5,400.00	8,265.3	0.39
Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	$5,400.00	1,824.4	0.39
ASHP Tune Up	$75.00	290.6	0.09
Attic Insulation - Inadequate Insulation - Electric furnace	$750.00	914.5	0.14

Measure	Avg. Incentive per Unit	Savings per Unit (kWh)	Savings per Unit (kW)
Attic Insulation - Inadequate Insulation - Gas Heating	$157.15	277.3	0.10
Attic Insulation - Inadequate Insulation - Heat pump	$750.00	587.3	0.09
Audit Recommendations	$75.00	82.0	0.01
Bathroom Aerator 1.0 gpm	$1.00	46.9	0.06
Central Air Conditioner 15.2 SEER	$3,500.00	103.8	0.11
Door and Window Weather Stripping	$10.00	102.7	0.01
Door Sweep	$5.00	91.9	0.01
Duct Sealing - Inadequate Sealing - Electric furnace	$450.00	1,398.1	0.21
Duct Sealing - Inadequate Sealing - Gas Heating	$126.95	298.6	0.11
Duct Sealing - Inadequate Sealing - Heat pump	$450.00	922.1	0.14
ENERGY STAR Refrigerator	$580.00	209.0	0.03
Kitchen Faucet Aerator 1.5 gpm	$1.00	234.8	0.05
LED Nightlights	$1.00	7.3	0.00
Low Flow Showerhead 1.5 gpm	$5.00	244.3	0.03
Pipe Wrap	$3.00	246.7	0.03
Smart Power Strips - Tier 2	$10.00	136.1	0.02
Smart Thermostat - Furnace baseline	$125.00	935.6	0.17
Smart Thermostat - Gas/CAC baseline	$70.76	163.2	0.16
Smart Thermostat - Heat pump baseline	$125.00	492.1	0.17
Wall Insulation - Electric furnace	$877.00	1,787.3	0.31
Wall Insulation - Gas Heating	$446.63	266.3	0.10
Wall Insulation - Heat pump	$877.00	1,111.1	0.19
Water Heater Temperature Setback	$1.25	120.7	0.01

Eligible Customers: This program is available to residential customer who receive either electric only or gas and electric service from where CenterPoint is the homes primary heat source. Homes must be at least 5 years or older and have not received an audit within the last three years; and is owner occupied or authorized non-owner occupied where occupants have the service in their name. Eligible homes must be less than 4 total units, and units, and should not be stacked.

Marketing: CenterPoint will provide a list to the implementation contractor of customers who have received Energy Assistance Program (EAP) funds within the past 12 months to help prioritize those customers who will benefit most from the program. This will also help in any direct marketing activities to specifically target those customers. In addition to utilizing the EAP List, the program will utilize census data to target low-income areas within CenterPoint territory. CenterPoint uses door-to-door canvassing for obtaining most of the appointments. The program is marketed to the public as "Neighborhood Weatherization" at various community events.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor.

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-20: INCOME QUALIFIED WEATHERIZATION PROGRAM SUMMARY

Measure	2028	2029	2030	2031	2032	2033
AC Tune Up						
Participation	256	256	243	475	444	398
Incentive Budget	$19,229	$19,229	$18,218	$35,627	$33,322	$29,856
Projected kWh Savings	23,973	23,929	22,628	44,168	41,237	36,881
Projected kW Savings	25.6	25.6	24.2	47.2	44.1	39.4
Air Filter						
Participation	112	237	369	500	625	737
Incentive Budget	$674	$1,422	$2,212	$3,002	$3,751	$4,424
Projected kWh Savings	8,855	18,659	28,970	39,243	48,939	57,626
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Air Sealing - Inadequate Sealing - Gas Heating						
Participation	12	12	12	12	12	12
Incentive Budget	$1,532	$1,532	$1,532	$1,532	$1,532	$1,532
Projected kWh Savings	3,812	3,789	3,764	3,737	3,709	3,679
Projected kW Savings	1.4	1.4	1.4	1.4	1.4	1.3
Air Sealing Inadequate Sealing - Electric furnace						
Participation	5	5	5	5	5	5
Incentive Budget	$913	$913	$913	$913	$913	$913
Projected kWh Savings	5,826	5,791	5,753	5,712	5,669	5,623
Projected kW Savings	1.0	1.0	1.0	0.9	0.9	0.9
Air Sealing Inadequate Sealing - Heat pump						
Participation	3	3	3	3	3	3
Incentive Budget	$652	$652	$652	$652	$652	$652
Projected kWh Savings	2,733	2,716	2,698	2,679	2,659	2,638
Projected kW Savings	0.5	0.5	0.4	0.4	0.4	0.4
Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline						
Participation	7	8	11	13	16	18
Incentive Budget	$35,553	$45,761	$57,638	$70,833	$84,761	$98,689
Projected kWh Savings	46,494	59,733	75,095	92,116	110,031	127,882
Projected kW Savings	0.7	0.9	1.2	1.5	1.7	2.0
Air Source Heat Pump 15.2 SEER2 - Heat pump baseline						
Participation	5	6	8	9	11	13
Incentive Budget	$25,395	$32,686	$41,170	$50,595	$60,544	$70,492
Projected kWh Savings	2,748	3,531	4,439	5,445	6,504	7,559
Projected kW Savings	0.5	0.7	0.8	1.0	1.2	1.4
Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline						
Participation	7	8	11	13	16	18
Incentive Budget	$35,553	$45,761	$57,638	$70,833	$84,761	$98,689
Projected kWh Savings	49,437	63,515	79,849	97,947	116,997	135,978
Projected kW Savings	1.5	1.9	2.3	2.9	3.4	4.0
Air Source Heat Pump 16.2 SEER2 - Heat pump baseline						
Participation	5	6	8	9	11	13
Incentive Budget	$25,395	$32,686	$41,170	$50,595	$60,544	$70,492
Projected kWh Savings	4,851	6,232	7,835	9,610	11,480	13,342
Projected kW Savings	1.0	1.3	1.7	2.1	2.5	2.9

Measure	2028	2029	2030	2031	2032	2033
Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline						
Participation	7	8	11	13	16	18
Incentive Budget	$35,553	$45,761	$57,638	$70,833	$84,761	$98,689
Projected kWh Savings	52,755	67,777	85,208	104,520	124,848	145,103
Projected kW Savings	2.0	2.6	3.3	4.0	4.8	5.6
Air Source Heat Pump 17.1 SEER2 - Heat pump baseline						
Participation	5	6	8	9	11	13
Incentive Budget	$25,395	$32,686	$41,170	$50,595	$60,544	$70,492
Projected kWh Savings	7,220	9,277	11,662	14,305	17,088	19,860
Projected kW Savings	1.5	1.9	2.3	2.9	3.4	4.0
Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline						
Participation	7	8	11	13	16	18
Incentive Budget	$35,553	$45,761	$57,638	$70,833	$84,761	$98,689
Projected kWh Savings	54,726	70,310	88,392	108,426	129,514	150,525
Projected kW Savings	2.6	3.3	4.2	5.2	6.2	7.2
Air Source Heat Pump 18.1 SEER2 - Heat pump baseline						
Participation	5	6	8	9	11	13
Incentive Budget	$25,395	$32,686	$41,170	$50,595	$60,544	$70,492
Projected kWh Savings	8,629	11,085	13,936	17,095	20,420	23,733
Projected kW Savings	1.9	2.4	3.0	3.7	4.4	5.1
ASHP Tune Up						
Participation	48	45	41	83	74	64
Incentive Budget	$3,587	$3,398	$3,059	$6,216	$5,569	$4,794
Projected kWh Savings	13,973	13,214	11,871	24,079	21,536	18,502
Projected kW Savings	4.5	4.3	3.8	7.8	6.9	6.0
Attic Insulation - Inadequate Insulation - Electric furnace						
Participation	20	20	20	20	20	20
Incentive Budget	$15,102	$15,102	$15,102	$15,102	$15,102	$15,102
Projected kWh Savings	18,728	18,615	18,492	18,359	18,222	18,076
Projected kW Savings	2.9	2.9	2.9	2.9	2.9	2.8
Attic Insulation - Inadequate Insulation - Gas Heating						
Participation	55	55	55	55	55	55
Incentive Budget	$8,589	$8,589	$8,589	$8,589	$8,589	$8,589
Projected kWh Savings	15,411	15,318	15,216	15,107	14,994	14,874
Projected kW Savings	5.7	5.6	5.6	5.5	5.5	5.5
Attic Insulation - Inadequate Insulation - Heat pump						
Participation	14	14	14	14	14	14
Incentive Budget	$10,787	$10,787	$10,787	$10,787	$10,787	$10,787
Projected kWh Savings	8,591	8,539	8,482	8,422	8,359	8,292
Projected kW Savings	1.3	1.3	1.3	1.3	1.3	1.3
Audit Recommendations						
Participation	36	90	149	213	284	372
Incentive Budget	$2,689	$6,722	$11,204	$16,005	$21,292	$27,910
Projected kWh Savings	2,940	7,350	12,249	17,499	23,280	30,515
Projected kW Savings	0.3	0.8	1.4	2.0	2.7	3.5

Measure	2028	2029	2030	2031	2032	2033
Bathroom Aerator 1.0 gpm						
Participation	31	35	38	39	38	35
Incentive Budget	$31	$35	$38	$39	$38	$35
Projected kWh Savings	1,487	1,671	1,789	1,818	1,755	1,611
Projected kW Savings	2.0	2.2	2.3	2.4	2.3	2.1
Central Air Conditioner 15.2 SEER						
Participation	17	23	30	39	49	60
Incentive Budget	$60,391	$80,340	$105,308	$135,542	$170,722	$209,808
Projected kWh Savings	1,801	2,392	3,129	4,020	5,054	6,200
Projected kW Savings	1.9	2.6	3.3	4.3	5.4	6.6
Door and Window Weather Stripping						
Participation	70	70	70	70	70	70
Incentive Budget	$695	$695	$695	$695	$695	$695
Projected kWh Savings	7,264	7,220	7,172	7,121	7,067	7,011
Projected kW Savings	0.6	0.6	0.6	0.6	0.6	0.6
Door Sweep						
Participation	68	68	68	68	68	68
Incentive Budget	$342	$342	$342	$342	$342	$342
Projected kWh Savings	6,396	6,358	6,315	6,270	6,223	6,173
Projected kW Savings	0.6	0.6	0.6	0.6	0.6	0.5
Duct Sealing - Inadequate Sealing - Electric furnace						
Participation	3	3	3	3	3	3
Incentive Budget	$1,290	$1,290	$1,290	$1,290	$1,290	$1,290
Projected kWh Savings	4,076	4,051	4,024	3,996	3,966	3,934
Projected kW Savings	0.6	0.6	0.6	0.6	0.6	0.6
Duct Sealing - Inadequate Sealing - Gas Heating						
Participation	6	6	6	6	6	6
Incentive Budget	$787	$787	$787	$787	$787	$787
Projected kWh Savings	1,882	1,870	1,858	1,845	1,831	1,816
Projected kW Savings	0.7	0.7	0.7	0.7	0.7	0.7
Duct Sealing - Inadequate Sealing - Heat pump						
Participation	2	2	2	2	2	2
Incentive Budget	$921	$921	$921	$921	$921	$921
Projected kWh Savings	1,920	1,909	1,896	1,882	1,868	1,853
Projected kW Savings	0.3	0.3	0.3	0.3	0.3	0.3
ENERGY STAR Refrigerator						
Participation	29	36	43	50	57	63
Incentive Budget	$16,989	$20,878	$24,984	$29,089	$32,978	$36,479
Projected kWh Savings	6,122	7,523	9,003	10,482	11,884	13,145
Projected kW Savings	0.9	1.1	1.4	1.6	1.8	2.0
Kitchen Faucet Aerator 1.5 gpm						
Participation	67	75	79	80	77	70
Incentive Budget	$67	$75	$79	$80	$77	$70
Projected kWh Savings	15,697	17,547	18,661	18,829	18,021	16,398
Projected kW Savings	3.1	3.5	3.7	3.8	3.6	3.3

Measure	2028	2029	2030	2031	2032	2033
LED Nightlights						
Participation	137	164	191	217	240	260
Incentive Budget	$137	$164	$191	$217	$240	$260
Projected kWh Savings	1,009	1,207	1,406	1,594	1,763	1,908
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Low Flow Showerhead 1.5 gpm						
Participation	57	61	62	60	55	48
Incentive Budget	$284	$305	$310	$299	$274	$240
Projected kWh Savings	13,997	14,963	15,174	14,586	13,318	11,600
Projected kW Savings	1.4	1.5	1.6	1.5	1.4	1.2
Pipe Wrap						
Participation	9	10	11	14	17	19
Incentive Budget	$28	$30	$33	$41	$50	$58
Projected kWh Savings	2,277	2,440	2,686	3,362	4,071	4,738
Projected kW Savings	0.3	0.3	0.3	0.4	0.5	0.5
Smart Power Strips - Tier 2						
Participation	398	426	469	587	711	827
Incentive Budget	$3,976	$4,260	$4,691	$5,872	$7,110	$8,273
Projected kWh Savings	54,119	57,985	63,849	79,912	96,766	112,596
Projected kW Savings	9.9	10.6	11.7	14.6	17.7	20.6
Smart Thermostat - Furnace baseline						
Participation	36	45	55	64	71	75
Incentive Budget	$4,541	$5,684	$6,883	$8,008	$8,897	$9,391
Projected kWh Savings	33,990	42,542	51,515	59,941	66,595	70,291
Projected kW Savings	6.3	7.8	9.5	11.0	12.3	12.9
Smart Thermostat - Gas/CAC baseline						
Participation	85	106	128	149	166	175
Incentive Budget	$5,991	$7,498	$9,079	$10,564	$11,737	$12,388
Projected kWh Savings	13,815	17,290	20,937	24,362	27,066	28,568
Projected kW Savings	13.8	17.2	20.9	24.3	27.0	28.5
Smart Thermostat - Heat pump baseline						
Participation	47	59	71	83	92	97
Incentive Budget	$5,868	$7,344	$8,893	$10,347	$11,496	$12,134
Projected kWh Savings	23,097	28,908	35,006	40,732	45,253	47,765
Projected kW Savings	7.8	9.8	11.9	13.8	15.4	16.2
Wall Insulation - Electric furnace						
Participation	10	10	10	10	10	10
Incentive Budget	$8,956	$8,956	$8,956	$8,956	$8,956	$8,956
Projected kWh Savings	18,562	18,450	18,328	18,197	18,060	17,916
Projected kW Savings	3.2	3.2	3.2	3.1	3.1	3.1
Wall Insulation - Gas Heating						
Participation	28	28	28	28	28	28
Incentive Budget	$12,380	$12,380	$12,380	$12,380	$12,380	$12,380
Projected kWh Savings	7,506	7,461	7,411	7,358	7,303	7,245
Projected kW Savings	2.7	2.7	2.7	2.7	2.7	2.7

Measure	2028	2029	2030	2031	2032	2033
Wall Insulation - Heat pump						
Participation	7	7	7	7	7	7
Incentive Budget	$6,397	$6,397	$6,397	$6,397	$6,397	$6,397
Projected kWh Savings	8,242	8,193	8,138	8,080	8,020	7,955
Projected kW Savings	1.4	1.4	1.4	1.4	1.4	1.4
Water Heater Temperature Setback						
Participation	17	19	38	40	57	57
Incentive Budget	$22	$24	$47	$50	$72	$72
Projected kWh Savings	2,108	2,342	4,580	4,814	6,922	6,922
Projected kW Savings	0.2	0.3	0.5	0.5	0.8	0.8
Total						
Participation	1,732	2,050	2,395	3,087	3,468	3,787
Incentive Budget	$437,641	$540,541	$659,805	$816,059	$958,191	$1,102,262
Projected kWh Savings	557,071	661,703	779,417	947,671	1,078,290	1,196,333
Projected kW Savings	112.7	125.4	137.9	180.7	191.6	197.8

TABLE 6-21: INCOME QUALIFIED WEATHERIZATION PROGRAM BUDGET SUMMARY

	2028	2029	2030	2031	2032	2033
Incentives	$437,641	$540,541	$659,805	$816,059	$958,191	$1,102,262
Delivery & Implementation	$613,935	$747,412	$902,236	$1,124,110	$1,310,542	$1,489,892
Admin	$0	$0	$0	$0	$0	$0
Total Budget	**$1,051,576**	**$1,287,953**	**$1,562,041**	**$1,940,169**	**$2,268,733**	**$2,592,154**
Participation	1,732	2,050	2,395	3,087	3,468	3,787
Energy Savings (kWh)	557,071	661,703	779,417	947,671	1,078,290	1,196,333
Demand Savings (kW)	112.7	125.4	137.9	180.7	191.6	197.8
Weighted Program EUL	15.0	14.7	14.4	13.7	13.6	13.6
NTG	1.00	1.00	1.00	1.00	1.00	1.00

6.8 RESIDENTIAL NEW CONSTRUCTION PROGRAM

Program Description: The Residential New Construction (RNC) program produces long-term energy savings by encouraging the construction of single-family homes, duplexes, or end-unit townhomes with only one shared wall. The program will incentivize builders and help improve cost effectiveness.

The Residential New Construction program allows builders to individually select high-efficiency measures at a tiered approach, which improves flexibility enhancing the ability to meet participant demand. This approach also helps encourage a more energy efficiency focus at the measure level. Structuring this program around specific measures allows CenterPoint to analyze specific measures, add or remove measures and ensure the program is cost-effective.

The Residential New Construction Program will work closely with builders, educating them on the benefits of energy efficient new homes. Homes may feature additional insulation, better windows, and higher efficiency appliances. The homes should also be more efficient and comfortable than standard homes constructed to current building codes.

The following table indicates the measures in each of the programs, along with average incentives, and savings per unit.

TABLE 6-22: RESIDENTIAL NEW CONSTRUCTION PROGRAM MEASURES

Measure	Avg. Incentive per Unit	Savings per Unit (kWh)	Savings per Unit (kW)
Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	$275.00	7,202.6	0.11
Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	$275.00	597.0	0.11
Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	$500.00	7,659.5	0.23
Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	$500.00	1,053.9	0.23
Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	$500.00	8,174.2	0.31
Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	$500.00	1,568.6	0.31
Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	$500.00	8,480.3	0.40
Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	$500.00	1,874.7	0.40
Central Air Conditioner 15.2 SEER	$108.00	107.5	0.11
Central Air Conditioner 16.2 SEER	$108.00	212.9	0.23
Central Air Conditioner 17.2 SEER	$108.00	306.0	0.32
Heat Pump Water Heater-electric resistance heat	$500.00	1,746.2	0.08
Heat Pump Water Heater-gas heat	$500.00	1,761.5	0.08
Heat Pump Water Heater-heat pump heat	$500.00	1,753.2	0.08
Smart Thermostat - Furnace baseline	$30.00	936.5	0.17
Smart Thermostat - Gas/CAC baseline	$7.61	167.4	0.17
Smart Thermostat - Heat pump baseline	$30.00	509.5	0.17
Sub-52 HERS Kicker - Gas Heat + CAC	$66.12	1,523.0	0.17
Whole Home - BOP 1 - Gas Heat + CAC	$228.02	315.1	0.04
Whole Home - BOP 1 - Heat Pump	$375.00	1,013.0	0.12
Whole Home - BOP 2 - Gas Heat + CAC	$348.88	315.1	0.04
Whole Home - BOP 2 - Heat Pump	$600.00	1,351.1	0.15

Eligible Customers: Any customer or home builder constructing a home to the program specifications in the CenterPoint electric service territory are eligible to participate.

Marketing: In order to move the market toward an improved home building standard, education will be required for home builders, architects and designers as well as customers buying new homes. A combination of in-person meetings with these market participants as well as other educational methods will be necessary.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor.

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-23: RESIDENTIAL NEW CONSTRUCTION PROGRAM SUMMARY

Measure	2028	2029	2030	2031	2032	2033
Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline						
Participation	1	1	1	1	1	1
Incentive Budget	$217	$252	$293	$301	$304	$302
Projected kWh Savings	2,907	3,370	3,921	4,019	4,051	4,023
Projected kW Savings	0.0	0.1	0.1	0.1	0.1	0.1
Air Source Heat Pump 15.2 SEER2 - Heat pump baseline						
Participation	1	1	1	1	1	1
Incentive Budget	$155	$180	$209	$215	$217	$216
Projected kWh Savings	172	200	232	238	240	238
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline						
Participation	1	1	1	1	1	1
Incentive Budget	$394	$457	$533	$547	$553	$550
Projected kWh Savings	3,092	3,584	4,170	4,274	4,308	4,278
Projected kW Savings	0.1	0.1	0.1	0.1	0.1	0.1
Air Source Heat Pump 16.2 SEER2 - Heat pump baseline						
Participation	1	1	1	1	1	1
Incentive Budget	$281	$327	$381	$391	$395	$393
Projected kWh Savings	304	352	410	420	423	420
Projected kW Savings	0.1	0.1	0.1	0.1	0.1	0.1
Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline						
Participation	1	1	1	1	1	1
Incentive Budget	$357	$414	$483	$496	$501	$498
Projected kWh Savings	2,988	3,464	4,030	4,131	4,163	4,135
Projected kW Savings	0.1	0.1	0.2	0.2	0.2	0.2
Air Source Heat Pump 17.1 SEER2 - Heat pump baseline						
Participation	1	1	1	1	1	1
Incentive Budget	$255	$296	$345	$354	$358	$356
Projected kWh Savings	410	475	552	566	571	567
Projected kW Savings	0.1	0.1	0.1	0.1	0.1	0.1
Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline						
Participation	1	1	1	1	1	1
Incentive Budget	$332	$386	$450	$462	$466	$464
Projected kWh Savings	2,889	3,349	3,896	3,994	4,025	3,997
Projected kW Savings	0.1	0.2	0.2	0.2	0.2	0.2
Air Source Heat Pump 18.1 SEER2 - Heat pump baseline						
Participation	0	1	1	1	1	1
Incentive Budget	$237	$276	$321	$330	$333	$331
Projected kWh Savings	456	529	615	631	636	631
Projected kW Savings	0.1	0.1	0.1	0.1	0.1	0.1
Central Air Conditioner 15.2 SEER						
Participation	24	28	32	33	34	33
Incentive Budget	$2,582	$2,999	$3,496	$3,590	$3,625	$3,606
Projected kWh Savings	1,369	1,587	1,846	1,892	1,907	1,894
Projected kW Savings	1.4	1.7	2.0	2.0	2.0	2.0

Measure	2028	2029	2030	2031	2032	2033
Central Air Conditioner 16.2 SEER						
Participation	11	12	14	15	15	15
Incentive Budget	$1,150	$1,336	$1,557	$1,599	$1,614	$1,606
Projected kWh Savings	1,207	1,400	1,628	1,669	1,682	1,671
Projected kW Savings	1.3	1.5	1.7	1.8	1.8	1.8
Central Air Conditioner 17.2 SEER						
Participation	10	11	13	14	14	14
Incentive Budget	$1,068	$1,240	$1,445	$1,484	$1,499	$1,491
Projected kWh Savings	1,611	1,868	2,173	2,228	2,245	2,230
Projected kW Savings	1.7	2.0	2.3	2.4	2.4	2.4
Heat Pump Water Heater-electric resistance heat						
Participation	8	9	11	11	11	11
Incentive Budget	$3,914	$4,545	$5,299	$5,441	$5,494	$5,466
Projected kWh Savings	9,850	11,284	12,947	13,062	12,934	12,600
Projected kW Savings	0.5	0.5	0.6	0.6	0.6	0.6
Heat Pump Water Heater-gas heat						
Participation	1	2	2	2	2	2
Incentive Budget	$746	$866	$1,009	$1,036	$1,046	$1,041
Projected kWh Savings	1,893	2,168	2,488	2,510	2,485	2,421
Projected kW Savings	0.1	0.1	0.1	0.1	0.1	0.1
Heat Pump Water Heater-heat pump heat						
Participation	6	6	8	8	8	8
Incentive Budget	$2,796	$3,247	$3,785	$3,887	$3,924	$3,904
Projected kWh Savings	7,064	8,092	9,285	9,367	9,276	9,036
Projected kW Savings	0.3	0.4	0.4	0.4	0.4	0.4
Smart Thermostat - Furnace baseline						
Participation	17	20	24	24	25	24
Incentive Budget	$524	$609	$709	$728	$736	$732
Projected kWh Savings	12,759	14,818	17,273	17,738	17,910	17,818
Projected kW Savings	2.3	2.7	3.2	3.3	3.3	3.3
Smart Thermostat - Gas/CAC baseline						
Participation	32	37	43	44	45	45
Incentive Budget	$243	$282	$329	$338	$341	$339
Projected kWh Savings	4,172	4,844	5,647	5,799	5,855	5,826
Projected kW Savings	4.3	5.0	5.8	6.0	6.0	6.0
Smart Thermostat - Heat pump baseline						
Participation	12	14	17	17	18	17
Incentive Budget	$374	$435	$507	$520	$525	$523
Projected kWh Savings	4,958	5,758	6,712	6,893	6,960	6,924
Projected kW Savings	1.7	1.9	2.3	2.3	2.4	2.3
Sub-52 HERS Kicker - Gas Heat + CAC						
Participation	19	23	26	27	27	27
Incentive Budget	$1,284	$1,491	$1,738	$1,785	$1,803	$1,793
Projected kWh Savings	29,579	34,350	40,041	41,121	41,519	41,307
Projected kW Savings	3.4	3.9	4.6	4.7	4.7	4.7

Measure	2028	2029	2030	2031	2032	2033
Whole Home - BOP 1 - Gas Heat + CAC						
Participation	43	50	58	59	60	60
Incentive Budget	$9,749	$11,321	$13,197	$13,553	$13,684	$13,614
Projected kWh Savings	5,389	6,258	7,295	7,491	7,564	7,525
Projected kW Savings	0.6	0.7	0.8	0.9	0.9	0.9
Whole Home - BOP 1 - Heat Pump						
Participation	27	31	37	38	38	38
Incentive Budget	$10,126	$11,759	$13,708	$14,077	$14,213	$14,141
Projected kWh Savings	21,336	24,777	28,883	29,661	29,948	29,795
Projected kW Savings	2.4	2.8	3.3	3.4	3.4	3.4
Whole Home - BOP 2 - Gas Heat + CAC						
Participation	21	25	29	30	30	30
Incentive Budget	$7,458	$8,661	$10,096	$10,368	$10,469	$10,415
Projected kWh Savings	2,694	3,129	3,647	3,746	3,782	3,763
Projected kW Savings	0.3	0.4	0.4	0.4	0.4	0.4
Whole Home - BOP 2 - Heat Pump						
Participation	7	8	9	9	9	9
Incentive Budget	$4,050	$4,704	$5,483	$5,631	$5,685	$5,656
Projected kWh Savings	7,114	8,262	9,631	9,890	9,986	9,935
Projected kW Savings	0.8	0.9	1.1	1.1	1.1	1.1
Total						
Participation	244	283	330	339	342	340
Incentive Budget	$48,292	$56,081	$65,373	$67,135	$67,785	$67,439
Projected kWh Savings	124,213	143,917	167,322	171,341	172,470	171,035
Projected kW Savings	21.9	25.4	29.5	30.3	30.5	30.3

TABLE 6-24: RESIDENTIAL NEW CONSTRUCTION PROGRAM BUDGET SUMMARY

	2028	2029	2030	2031	2032	2033
Incentives	$48,292	$56,081	$65,373	$67,135	$67,785	$67,439
Delivery & Implementation	$56,181	$66,743	$79,591	$83,617	$86,368	$87,903
Admin	$7,805	$9,273	$11,058	$11,617	$11,999	$12,212
Total Budget	**$112,278**	**$132,097**	**$156,021**	**$162,369**	**$166,152**	**$167,554**
Participation	244	283	330	339	342	340
Energy Savings (kWh)	124,213	143,917	167,322	171,341	172,470	171,035
Demand Savings (kW)	21.9	25.4	29.5	30.3	30.5	30.3
Weighted Program EUL	18.3	18.3	18.3	18.4	18.4	18.4
NTG	0.71	0.71	0.71	0.71	0.71	0.71

6.9 RESIDENTIAL MARKETPLACE PROGRAM

Program Description: The online marketplace program encourages customers to purchase products online where an instant rebate is applied.

The following table indicates the measures in each of the programs, along with average incentives, and savings per unit.

TABLE 6-25: RESIDENTIAL MARKETPLACE PROGRAM MEASURES

Measure	Avg. Incentive per Unit	Savings per Unit (kWh)	Savings per Unit (kW)
Bathroom Aerator 1.0 gpm	$2.50	48.3	0.07
ENERGY STAR Air Purifier	$75.00	298.0	0.03
ENERGY STAR Dehumidifier	$35.00	157.0	0.04
ENERGY STAR Most Efficient Dehumidifier	$35.00	230.0	0.05
Exterior Lighting Controls	$0.75	86.4	0.00
Kitchen Faucet Aerator 1.5 gpm	$2.50	238.7	0.05
LED Nightlights	$2.00	13.6	0.00
Linear LED	$2.50	18.1	0.00
Low Flow Showerhead 1.5 gpm	$2.50	267.5	0.03
Occupancy Sensor	$7.50	89.4	0.01
Outlet Gaskets	$0.00	0.0	0.00
Pipe Wrap	$0.00	0.0	0.00
Shower Timer	$1.36	90.8	0.03
Smart Outlets	$2.25	50.4	0.01
Smart Power Strips - Tier 1	$10.00	56.6	0.01
Smart Power Strips - Tier 2	$10.00	136.1	0.02
Smart Thermostat - Furnace baseline	$100.00	925.4	0.17
Smart Thermostat - Gas/CAC baseline	$80.00	167.4	0.17
Smart Thermostat - Heat pump baseline	$100.00	512.3	0.17
Window Insulation	$3.04	44.3	0.01

Eligible Customers: Residential customers who receive electric service from CenterPoint are eligible to participate in this integrated natural gas and electric EE program.

Marketing: Proposed marketing effort is include utilizing direct mailers, email blasts, CenterPoint online audit tools, bill inserts as well as other outreach and education efforts and promotional campaigns throughout the year to ensure participation levels are maintained.

Program Delivery Channels: CenterPoint will oversee the program and will partner with an implementation contractor to deliver the program.

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-26: RESIDENTIAL MARKETPLACE PROGRAM SUMMARY

Measure	2028	2029	2030	2031	2032	2033
Bathroom Aerator 1.0 gpm						
Participation	2,329	2,470	2,485	2,370	2,149	1,865
Incentive Budget	$5,823	$6,176	$6,213	$5,924	$5,373	$4,663
Projected kWh Savings	112,549	119,314	119,959	114,303	103,592	89,828
Projected kW Savings	153.6	162.7	163.5	155.6	140.9	122.0

Measure	2028	2029	2030	2031	2032	2033
ENERGY STAR Air Purifier						
Participation	13	16	20	24	27	31
Incentive Budget	$948	$1,198	$1,475	$1,767	$2,058	$2,336
Projected kWh Savings	3,768	4,759	5,861	7,020	8,179	9,280
Projected kW Savings	0.4	0.5	0.7	0.8	0.9	1.1
ENERGY STAR Dehumidifier						
Participation	93	98	102	104	107	109
Incentive Budget	$3,252	$3,418	$3,553	$3,656	$3,737	$3,803
Projected kWh Savings	14,589	15,332	15,936	16,401	16,764	17,058
Projected kW Savings	3.3	3.5	3.6	3.7	3.8	3.9
ENERGY STAR Most Efficient Dehumidifier						
Participation	279	293	305	313	320	326
Incentive Budget	$9,757	$10,254	$10,658	$10,969	$11,212	$11,408
Projected kWh Savings	64,116	67,383	70,038	72,080	73,676	74,967
Projected kW Savings	14.6	15.3	15.9	16.4	16.7	17.0
Exterior Lighting Controls						
Participation	497	603	703	782	826	828
Incentive Budget	$373	$452	$527	$586	$620	$621
Projected kWh Savings	42,902	52,062	60,704	67,533	71,386	71,542
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Kitchen Faucet Aerator 1.5 gpm						
Participation	1,310	1,387	1,393	1,326	1,200	1,039
Incentive Budget	$3,275	$3,468	$3,483	$3,315	$3,000	$2,598
Projected kWh Savings	312,943	331,342	332,642	316,429	286,272	247,812
Projected kW Savings	61.6	65.2	65.5	62.3	56.4	48.8
LED Nightlights						
Participation	225	266	305	340	371	398
Incentive Budget	$450	$531	$610	$681	$743	$797
Projected kWh Savings	3,059	3,611	4,150	4,630	5,051	5,419
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Linear LED						
Participation	346	375	400	420	436	448
Incentive Budget	$863	$937	$998	$1,048	$1,087	$1,118
Projected kWh Savings	6,260	6,794	7,243	7,602	7,885	8,109
Projected kW Savings	0.5	0.6	0.6	0.7	0.7	0.7
Low Flow Showerhead 1.5 gpm						
Participation	1,569	1,577	1,504	1,363	1,181	987
Incentive Budget	$3,923	$3,943	$3,759	$3,406	$2,952	$2,466
Projected kWh Savings	420,430	422,294	402,356	364,340	315,527	263,463
Projected kW Savings	41.1	41.3	39.4	35.7	30.9	25.8
Occupancy Sensor						
Participation	211	256	298	332	351	352
Incentive Budget	$1,582	$1,919	$2,238	$2,490	$2,632	$2,638
Projected kWh Savings	18,844	22,867	26,663	29,663	31,355	31,423
Projected kW Savings	1.6	2.0	2.3	2.6	2.7	2.7
Outlet Gaskets						

Measure	2028	2029	2030	2031	2032	2033
Participation	0	0	0	0	0	0
Incentive Budget	$0	$0	$0	$0	$0	$0
Projected kWh Savings	0	0	0	0	0	0
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Pipe Wrap						
Participation	0	0	0	0	0	0
Incentive Budget	$0	$0	$0	$0	$0	$0
Projected kWh Savings	0	0	0	0	0	0
Projected kW Savings	0.0	0.0	0.0	0.0	0.0	0.0
Shower Timer						
Participation	20	29	52	65	92	114
Incentive Budget	$27	$40	$71	$88	$125	$155
Projected kWh Savings	1,774	2,666	4,761	5,875	8,320	10,324
Projected kW Savings	0.6	0.9	1.7	2.0	2.9	3.6
Smart Outlets						
Participation	499	79	119	159	198	238
Incentive Budget	$1,122	$241	$362	$482	$603	$723
Projected kWh Savings	25,139	3,568	5,317	7,038	8,732	10,394
Projected kW Savings	3.5	0.6	0.9	1.2	1.5	1.7
Smart Power Strips - Tier 1						
Participation	359	396	496	601	699	777
Incentive Budget	$3,595	$3,962	$4,962	$6,010	$6,994	$7,773
Projected kWh Savings	20,346	22,424	28,083	34,015	39,588	43,997
Projected kW Savings	2.3	2.5	3.2	3.8	4.4	4.9
Smart Power Strips - Tier 2						
Participation	277	306	382	463	539	599
Incentive Budget	$2,774	$3,055	$3,825	$4,632	$5,390	$5,989
Projected kWh Savings	37,748	41,580	52,055	63,041	73,360	81,514
Projected kW Savings	6.9	7.6	9.5	11.5	13.4	14.9
Smart Thermostat - Furnace baseline						
Participation	58	70	81	90	95	95
Incentive Budget	$5,772	$6,989	$8,133	$9,036	$9,537	$9,537
Projected kWh Savings	53,413	64,678	75,258	83,612	88,253	88,253
Projected kW Savings	9.8	11.9	13.9	15.4	16.2	16.2
Smart Thermostat - Gas/CAC baseline						
Participation	147	178	207	230	242	242
Incentive Budget	$11,733	$14,208	$16,532	$18,367	$19,387	$19,387
Projected kWh Savings	24,557	29,736	34,601	38,441	40,575	40,575
Projected kW Savings	25.3	30.6	35.6	39.6	41.7	41.7
Smart Thermostat - Heat pump baseline						
Participation	46	55	65	72	76	76
Incentive Budget	$4,580	$5,546	$6,453	$7,170	$7,568	$7,568
Projected kWh Savings	23,462	28,411	33,058	36,728	38,766	38,766
Projected kW Savings	7.9	9.6	11.2	12.4	13.1	13.1
Window Insulation						

Measure	2028	2029	2030	2031	2032	2033
Participation	40	79	119	159	198	238
Incentive Budget	$121	$241	$362	$482	$603	$723
Projected kWh Savings	1,795	3,568	5,317	7,038	8,732	10,394
Projected kW Savings	0.3	0.6	0.9	1.2	1.5	1.7
Total						
Participation	8,316	8,534	9,036	9,211	9,109	8,762
Incentive Budget	$59,968	$66,579	$74,214	$80,108	$83,620	$84,302
Projected kWh Savings	1,187,694	1,242,392	1,284,002	1,275,790	1,226,012	1,143,119
Projected kW Savings	333.4	355.5	368.2	364.8	347.8	320.0

TABLE 6-27: RESIDENTIAL MARKETPLACE PROGRAM BUDGET SUMMARY

	2028	2029	2030	2031	2032	2033
Incentives	$59,968	$67,577	$75,407	$81,510	$85,210	$86,018
Delivery & Implementation	$205,683	$224,421	$238,260	$243,487	$240,885	$231,324
Admin	$231,588	$252,686	$268,267	$274,153	$271,223	$260,458
Total Budget	**$497,239**	**$544,683**	**$581,934**	**$599,150**	**$597,318**	**$577,800**
Participation	8,316	8,534	9,036	9,211	9,109	8,762
Energy Savings (kWh)	1,187,694	1,242,392	1,284,002	1,275,790	1,226,012	1,143,119
Demand Savings (kW)	333.4	355.5	368.2	364.8	347.8	320.0
Weighted Program EUL	10.3	10.3	10.2	10.2	10.1	10.1
NTG	1.00	1.00	1.00	1.00	1.00	1.00

6.10 RESIDENTIAL BEHAVIORAL SAVINGS PROGRAM

Program Description: The Residential Behavioral Savings Program motivates behavior change and provides relevant, targeted information to the consumer through regularly scheduled direct contact via mailed and emailed home energy reports. The reports and web portal include a comparison against a group of similarly sized and equipped homes in the area, usage history comparisons, goal setting tools, and progress trackers. The Home Energy Report program anonymously compares customers' energy use with that of other customers with similar home size and demographics. Customers can view the past 12 months of their energy usage and compare and contrast their energy consumption and costs with others in the same neighborhood. The main delivery channel will be targeted mail and email with the addition of specific tips provided to the low-income customer segment.

The following table indicates the measures in each of the programs, along with average incentives, and savings per unit.

TABLE 6-28: RESIDENTIAL BEHAVIORAL PROGRAM MEASURES

Measure	Avg. Incentive per Unit	Savings per Unit (kWh)	Savings per Unit (kW)
Home Energy Reports	$0.00	123.0	0.01

Eligible Customers: The program is available to all residential customers located in the CenterPoint Indiana electric service territory.

Marketing: N/A

Program Delivery Channels: CenterPoint will oversee the program and partner with and implementation contractor to deliver the program.

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-29: RESIDENTIAL BEHAVIORAL PROGRAM SUMMARY

Measure	2028	2029	2030	2031	2032	2033
Home Energy Reports						
Participation	40,638	46,194	51,240	55,613	59,260	62,210
Incentive Budget	$0	$0	$0	$0	$0	$0
Projected kWh Savings	4,998,443	5,681,824	6,302,523	6,840,346	7,288,938	7,651,781
Projected kW Savings	570.6	648.6	719.5	780.9	832.1	873.5
Total						
Participation	40,638	46,194	51,240	55,613	59,260	62,210
Incentive Budget	$0	$0	$0	$0	$0	$0
Projected kWh Savings	4,998,443	5,681,824	6,302,523	6,840,346	7,288,938	7,651,781
Projected kW Savings	570.6	648.6	719.5	780.9	832.1	873.5

TABLE 6-30: RESIDENTIAL BEHAVIORAL PROGRAM BUDGET SUMMARY

	2028	2029	2030	2031	2032	2033
Incentives	$0	$0	$0	$0	$0	$0
Delivery & Implementation	$222,797	$259,083	$293,995	$326,422	$355,829	$382,134
Admin	$2,133	$2,480	$2,814	$3,125	$3,406	$3,658
Total Budget	**$224,930**	**$261,563**	**$296,810**	**$329,547**	**$359,236**	**$385,792**
Participation	40,638	46,194	51,240	55,613	59,260	62,210
Energy Savings (kWh)	4,998,443	5,681,824	6,302,523	6,840,346	7,288,938	7,651,781
Demand Savings (kW)	570.6	648.6	719.5	780.9	832.1	873.5
Weighted Program EUL	1.0	1.0	1.0	1.0	1.0	1.0
NTG	1.00	1.00	1.00	1.00	1.00	1.00

6.11 SMART CYCLE PROGRAM

Program Description: Until recently, Direct Load Control (DLC) switches have been the default choice for residential load control programs. However, with the advent of smart thermostats and the myriad of benefits they offer for both EE and DR, CenterPoint began replacing DLC switches with smart thermostats. Smart thermostats provide an alternative to traditional residential load control switches as well as enhance the way customers manage and understand their home energy use.

CenterPoint will continue to replace DLC switches with smart thermostats. As an alternative to DLC switches, smart thermostats can optimize heating and cooling of a home to reduce energy usage and control load while utilities can learn from occupant behavior/preference, adjusting heating, ventilation, and air conditioning (HVAC) settings. Evaluation results are showing significantly more load reduction delivered by smart thermostats.

Eligible Customers: The Smart Cycle (DLC Change Out) Program will focus on residential single-family homes and apartment dwellers that have access to a Wi-Fi network and are currently direct load control switch customers participating in the DLC program.

Marketing: Proposed marketing efforts include utilizing direct mailers, email blasts, online audit tools, bill inserts as well as other outreach and education efforts and promotional campaigns throughout the year to ensure participation levels are maintained.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor.

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-31: SMART CYCLE PROGRAM BUDGET SUMMARY

Smart Cycle	2028	2029	2030	2031	2032	2033
Incentives	$901,260	$1,101,940	$1,127,284	$1,153,212	$1,179,736	$1,206,870
Delivery & Implementation	$1,181,917	$1,476,462	$670,419	$390,353	$399,331	$408,516
Admin	$733,422	$826,111	$708,749	$725,050	$741,727	$758,786
Total Budget	**$2,816,599**	**$3,404,513**	**$2,506,452**	**$2,268,615**	**$2,320,793**	**$2,374,172**
Participation	13,352	15,958	15,958	15,958	15,958	15,958
Energy Savings (kWh)	0	0	0	0	0	0
Demand Savings (kW)	12,529	14,771	14,556	14,332	14,106	13,882
Weighted Program EUL	15.0	15.0	15.0	15.0	15.0	15.0
NTG	1.00	1.00	1.00	1.00	1.00	1.00

6.12 BRING YOUR OWN THERMOSTAT PROGRAM – RESIDENTIAL

Program Description: The BYOT program allows customers with a compatible thermostat to participate in demand response (DR) events - utility managed load curtailing programs during periods when electricity demand is high. The BYOT program allows the utility to avoid the costs of hardware, installation, and maintenance associated with traditional load control methods. Customers choose to participate in this program by enrolling their eligible device. Upon enrolling, they receive a one-time credit. A customer actively participating in the program will also receive monthly credits during the months DR events are called.

By taking advantage of two-way communicating smart thermostats, BYOT programs can help utilities curtail load, reduce acquisition costs associated with typical load curtailment programs and improve customer satisfaction. With smart enabled thermostats, the utility can remotely verify how many customers are participating in DR events. Customers will be notified of all events and have the capability of opting out of events at any time during the actual event.

Eligible Customers: Any eligible residential customer who receives electric service from CenterPoint at a single-family residence.

Marketing: Proposed marketing efforts include utilizing direct mailers, email blasts, online audit tools, bill inserts as well as other outreach and education efforts and promotional campaigns throughout the year to ensure participation levels are maintained.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor.

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-32: BRING YOUR OWN THERMOSTAT (RESIDENTIAL) PROGRAM BUDGET SUMMARY

BYOT	2028	2029	2030	2031	2032	2033
Incentives	$846,518	$964,456	$1,114,498	$1,268,692	$1,427,541	$1,488,584
Delivery & Implementation	$198,090	$210,659	$249,351	$252,291	$255,787	$131,350
Admin	$518,126	$587,317	$689,110	$771,866	$857,406	$814,807
Total Budget	**$1,562,733**	**$1,762,432**	**$2,052,960**	**$2,292,849**	**$2,540,735**	**$2,434,741**
Participation	12,541	13,967	15,777	17,556	19,310	19,683
Energy Savings (kWh)	0	0	0	0	0	0
Demand Savings (kW)	11,768	12,928	14,391	15,767	17,069	17,122
Weighted Program EUL	15.0	15.0	15.0	15.0	15.0	15.0
NTG	1.00	1.00	1.00	1.00	1.00	1.00

6.13 COMMERCIAL PRESCRIPTIVE PROGRAM

Program Description: The Commercial & Industrial (C&I) Prescriptive Program is designed to provide financial incentives on qualifying products to produce greater energy savings in the C&I market. The rebates are designed to promote lower electric energy consumption, assist customers in managing their energy costs, and build a sustainable market around EE. Program participation is achieved by offering incentives structured to cover a portion of the customer's incremental cost of installing prescriptive efficiency measures.

The following table describes the end-uses included in this program, and an estimate of average savings per project within each end-use.

TABLE 6-33: COMMERCIAL PRESCRTIPTIVE PROGRAM MEASURES

End Use	Avg. Incentive per Unit	Savings per Unit (kWh)	Savings per Unit (kW)
Compressed Air	$107 - $142	$1,333.00	0.2
Food Service / Refrigeration	$246 - $255	$2,127.00	0.2
Hot Water	$207 - $323	$10,000.00	0.9
HVAC	$2144 - $2337	$9,745.00	2.0
Lighting	$49 - $54	$294.00	0.1
Misc	$2631 - $3411	$99,658.00	1.1

Eligible Customers: Any participating commercial or industrial customer receiving electric service from CenterPoint.

Marketing: Proposed marketing efforts include trade ally outreach, trade ally meetings, direct mail, face-to-face meetings with customers, targeted marketing campaigns potential bonuses, web-based marketing, and coordination with key account managers.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor.

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-34: COMMERCIAL PRESCRTIPTIVE PROGRAM SUMMARY

Measure	2028	2029	2030	2031	2032	2033
Compressed Air						
Participation	163	172	174	270	264	250
Incentive Budget	$18,142	$21,462	$24,720	$28,820	$31,523	$33,668
Projected kWh Savings	182,617	192,253	195,031	302,819	295,749	279,845
Projected kWh Savings	30.3	32.8	34.4	49.5	49.6	48.4
Food Service / Refrigeration						
Participation	1,204	1,316	1,382	1,397	1,385	1,334
Incentive Budget	$298,727	$323,729	$339,580	$345,972	$344,834	$339,968
Projected kWh Savings	2,150,823	2,351,554	2,469,273	2,496,481	2,474,107	2,382,852
Projected kW Savings	208.0	228.0	240.6	245.3	246.6	239.3
Hot Water						
Participation	6	7	8	9	11	14
Incentive Budget	$1,308	$1,736	$2,247	$2,835	$3,489	$4,195
Projected kWh Savings	52,987	59,263	67,761	78,362	90,661	118,393
Projected kW Savings	4.9	6.4	8.1	10.0	12.1	14.2
HVAC						
Participation	77	84	93	102	106	112
Incentive Budget	$179,357	$194,416	$211,966	$228,600	$231,634	$239,344
Projected kWh Savings	628,322	691,007	764,461	836,428	867,678	914,019
Projected kW Savings	129.2	145.8	164.7	183.7	196.7	211.1
Lighting						
Participation	30,177	28,032	25,603	23,134	20,674	16,835
Incentive Budget	$1,483,537	$1,381,616	$1,289,611	$1,203,927	$1,115,864	$869,029
Projected kWh Savings	7,452,396	6,922,804	6,322,796	5,713,246	5,105,618	4,157,632
Projected kW Savings	1,323.1	1,214.5	1,095.4	978.1	865.7	674.2
Misc						
Participation	6	7	8	9	10	10
Incentive Budget	$14,861	$18,171	$21,743	$25,612	$29,206	$33,675
Projected kWh Savings	472,881	573,301	669,967	751,768	804,564	826,365

Measure	2028	2029	2030	2031	2032	2033
Projected kW Savings	5.4	6.8	8.4	10.0	11.6	13.2
Total						
Participation	31,632	29,618	27,268	24,923	22,449	18,554
Incentive Budget	$1,995,931	$1,941,129	$1,889,867	$1,835,766	$1,756,550	$1,519,879
Projected kWh Savings	10,940,025	10,790,182	10,489,289	10,179,104	9,638,378	8,679,105
Projected kW Savings	1,700.9	1,634.2	1,551.5	1,476.7	1,382.4	1,200.4

TABLE 6-35: COMMERCIAL PRESCRTIPTIVE PROGRAM BUDGET SUMMARY

	2028	2029	2030	2031	2032	2033
Incentives	$1,995,931	$1,941,129	$1,889,867	$1,835,766	$1,756,550	$1,519,879
Delivery & Implementation	$893,762	$910,060	$914,302	$916,620	$896,236	$832,946
Admin	$223,440	$227,515	$228,576	$229,155	$224,059	$208,237
Total Budget	**$3,113,133**	**$3,078,704**	**$3,032,745**	**$2,981,540**	**$2,876,845**	**$2,561,062**
Participation	31,632	29,618	27,268	24,923	22,449	18,554
Energy Savings (kWh)	10,940,025	10,790,182	10,489,289	10,179,104	9,638,378	8,679,105
Demand Savings (kW)	1,701	1,634	1,551	1,477	1,382	1,200
Weighted Program EUL	13.4	13.3	13.2	13.0	12.9	12.7
NTG	0.84	0.84	0.84	0.84	0.84	0.84

6.14 COMMERCIAL CUSTOM PROGRAM

Program Description: The Custom Program promotes the implementation of customized energy-saving projects at qualifying customer facilities. Incentives promoted through this program serve to reduce the cost of implementing energy-reducing projects and upgrading to high-efficiency equipment. Due to the nature of a custom EE program, a wide variety of projects are eligible.

Eligible Customers: Any participating commercial or industrial customer receiving electric service from CenterPoint.

Marketing: Proposed marketing efforts include individualized outreach to large C&I customers through a variety of channels and coordination with key account managers to leverage the contacts and relationships they have with the customers. Direct mail, media outreach, trade shows, marketing campaigns and bonuses, trade ally meetings, and educational seminars could also be used to promote the program.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor.

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-36: COMMERCIAL CUSTOM PROGRAM SUMMARY

Measure	2028	2029	2030	2031	2032	2033
Custom						
Participation	155	177	194	203	207	207
Incentive Budget	$1,568,930	$1,806,616	$1,954,869	$1,996,439	$2,020,277	$2,014,875
Projected kWh Savings	5,969,701	6,853,404	7,479,285	7,847,609	8,010,541	8,010,551
Projected kW Savings	753.6	869.5	947.6	1,003.6	1,025.8	1,031.9
RCx						
Participation	28	30	31	39	37	45
Incentive Budget	$79,345	$87,845	$92,703	$101,017	$97,143	$125,591
Projected kWh Savings	1,063,622	1,164,827	1,214,938	1,499,242	1,445,256	1,727,049
Projected kW Savings	112.2	125.0	132.7	151.0	146.4	195.1
SEM						
Participation	19	20	20	35	34	31
Incentive Budget	$16,687	$17,994	$18,158	$30,923	$29,727	$28,537
Projected kWh Savings	881,883	928,700	925,810	1,609,238	1,554,109	1,439,331
Projected kW Savings	163.6	172.2	171.7	298.5	288.3	266.9
Total						
Participation	201	228	245	277	279	283
Incentive Budget	$1,664,963	$1,912,455	$2,065,729	$2,128,380	$2,147,147	$2,169,003
Projected kWh Savings	7,915,205	8,946,932	9,620,033	10,956,089	11,009,906	11,176,931
Projected kW Savings	1,029.4	1,166.7	1,251.9	1,453.1	1,460.5	1,494.0

TABLE 6-37: COMMERCIAL CUSTOM PROGRAM BUDGET SUMMARY

	2028	2029	2030	2031	2032	2033
Incentives	$1,664,963	$1,912,457	$2,065,733	$2,128,383	$2,147,152	$2,169,009
Delivery & Implementation	$778,114	$905,042	$1,000,893	$1,161,211	$1,199,600	$1,256,608
Admin	$194,528	$226,261	$250,223	$290,303	$299,900	$314,152
Total Budget	**$2,637,606**	**$3,043,760**	**$3,316,849**	**$3,579,896**	**$3,646,652**	**$3,739,769**
Participation	155	177	194	203	207	207
Energy Savings (kWh)	7,774,104	8,798,340	9,471,904	10,698,611	10,761,249	10,946,638
Demand Savings (kW)	1,003	1,139	1,224	1,405	1,414	1,451
Weighted Program EUL	10.6	10.7	10.7	9.9	9.9	9.8
NTG	0.84	0.84	0.84	0.84	0.84	0.84

6.15 SMALL BUSINESS ENERGY SOLUTIONS PROGRAM

Program Description: The Small Business Energy Solutions Program provides value by directly installing EE products such as high efficiency lighting, pre-rinse sprayers, refrigeration controls, electrically commutated motors, smart the1mostats and vending machine controls. The program helps small businesses, multi-family and not-for-profit customers identify and install cost effective energy saving measures by providing an on-site energy assessment customized for their business.

The following table indicates the measures in each of the programs, along with average incentives, and savings per unit.

TABLE 6-38: SMALL BUSINESS ENERGY SOLUTIONS PROGRAM MEASURES

End Use	Avg. Incentive per Unit	Savings per Unit (kWh)	Savings per Unit (kW)
HVAC	$27 - $71	$1,594.00	0.3
Lighting	$105 - $142	$390.00	0.1
Other	$2 - $3	$500.00	0.0

Eligible Customers: Any participating CenterPoint business customer with a maximum peak energy demand of less than 400 kW or any designated non-profit, opt-in customer of any peak energy demand usage. Additionally, multifamily building owners with CenterPoint general electric service may qualify for the program, including apartment buildings, condominiums, cooperatives, duplexes, quadraplexes, townhomes, nursing homes and retirement communities.

Marketing: The SBES Program will be marketed primarily through in-network trade ally outreach. The program implementer will provide trade ally-specific marketing collateral to support trade allies as they connect with customers.

The program will provide targeted marketing efforts as needed to individual customer segments (e.g., hospitality, grocery stores, and non-profit organizations) to increase participation in under-performing segments, including direct customer outreach and enhanced incentive campaigns. Additional program marketing may occur through direct mail, trade associations, local business organizations, marketing campaigns and bonuses, educational seminars, and direct personal communication from CenterPoint staff and third-party contractors. Marketing efforts will continue to target Multi-Family, Non-Profit and Civil/Governmental sectors within this program.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor.

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-39: SMALL BUSINESS ENERGY SOLUTIONS PROGRAM SUMMARY

Measure	2028	2029	2030	2031	2032	2033
HVAC						
Participation	165	164	156	142	124	104
Incentive Budget	$4,510	$5,461	$6,355	$7,060	$7,452	$7,431
Projected kWh Savings	220,595	219,599	208,564	189,639	165,849	139,769
Projected kW Savings	38.6	38.6	36.8	33.7	29.6	25.1
Lighting						
Participation	5,961	4,984	4,082	3,290	2,618	1,276
Incentive Budget	$846,605	$692,824	$561,102	$452,187	$363,533	$134,056

Measure	2028	2029	2030	2031	2032	2033
Projected kWh Savings	1,952,851	1,632,863	1,337,327	1,077,707	857,517	417,859
Projected kW Savings	377.4	309.5	249.5	198.5	156.5	60.3
Other						
Participation	48	37	28	16	12	35
Incentive Budget	$95	$76	$59	$45	$34	$106
Projected kWh Savings	20,183	15,711	11,936	6,602	4,869	14,896
Projected kW Savings	1.3	1.0	0.7	0.0	0.0	0.0
Total						
Participation	6,174	5,186	4,266	3,447	2,753	1,415
Incentive Budget	$851,211	$698,361	$567,516	$459,292	$371,019	$141,592
Projected kWh Savings	2,193,629	1,868,172	1,557,827	1,273,947	1,028,235	572,523
Projected kW Savings	417.4	349.1	287.0	232.2	186.2	85.4

TABLE 6-40: SMALL BUSINESS ENERGY SOLUTIONS PROGRAM BUDGET SUMMARY

	2028	2029	2030	2031	2032	2033
Incentives	$986,453	$830,824	$690,766	$568,323	$463,632	$217,167
Delivery & Implementation	$193,735	$171,081	$148,097	$125,843	$105,657	$65,768
Admin	$48,434	$42,770	$37,024	$31,461	$26,414	$16,442
Total Budget	**$1,228,622**	**$1,044,675**	**$875,888**	**$725,628**	**$595,703**	**$299,378**
Participation	6,174	5,186	4,266	3,447	2,753	1,415
Energy Savings (kWh)	2,193,629	1,868,172	1,557,827	1,273,947	1,028,235	572,523
Demand Savings (kW)	417	349	287	232	186	85
Weighted Program EUL	13.6	13.5	13.4	13.3	13.3	12.3
NTG	0.84	0.84	0.84	0.84	0.84	0.84

6.16 BRING YOUR OWN THERMOSTAT PROGRAM – C&I

Program Description: The BYOT program allows customers with a compatible thermostat to participate in demand response (DR) events - utility managed load curtailing programs during periods when electricity demand is high. The BYOT program allows the utility to avoid the costs of hardware, installation, and maintenance associated with traditional load control methods. Customers choose to participate in this program by enrolling their eligible device. Upon enrolling, they receive a one-time credit. A customer actively participating in the program will also receive monthly credits during the months DR events are called.

By taking advantage of two-way communicating smart thermostats, BYOT programs can help utilities curtail load, reduce acquisition costs associated with typical load curtailment programs and improve customer satisfaction. With smart enabled thermostats, the utility can remotely verify how many customers are participating in DR events. Customers will be notified of all events and have the capability of opting out of events at any time during the actual event.

Eligible Customers: Any participating commercial or industrial customer receiving electric service from CenterPoint.

Marketing: Proposed marketing efforts include utilizing direct mailers, email blasts, online audit tools, bill inserts as well as other outreach and education efforts and promotional campaigns throughout the year to ensure participation levels are maintained.

Program Delivery Channels: CenterPoint Indiana will oversee the program and will partner with a program implementation contractor.

Evaluation: CenterPoint will hire a third-party evaluator contractor to evaluate the program savings. The evaluation budget is an estimated 5% of the total budget for the program. CenterPoint will evaluate the program annually.

Estimated Participation, Savings, and Budgets:

TABLE 6-41: BRING YOUR OWN THERMOSTAT (C&I) PROGRAM BUDGET SUMMARY

BYOT	2028	2029	2030	2031	2032	2033
Incentives	$11,813	$39,291	$83,780	$114,396	$127,008	$132,727
Delivery & Implementation	$26,250	$60,459	$96,856	$63,754	$22,178	$6,218
Admin	$15,050	$41,108	$76,968	$82,263	$75,130	$72,860
Total Budget	**$53,113**	**$140,858**	**$257,604**	**$260,413**	**$224,316**	**$211,806**
Participation	175	569	1,186	1,583	1,718	1,755
Energy Savings (kWh)	0	0	0	0	0	0
Demand Savings (kW)	340	1,102	2,289	3,045	3,293	3,351
Weighted Program EUL	15.0	15.0	15.0	15.0	15.0	15.0
NTG	1.00	1.00	1.00	1.00	1.00	1.00

6.17 COST-EFFECTIVENESS

As part of the development of the DSM Action Plan, GDS evaluated the cost-effectiveness results of each program. Table 6-46 provides program-level, sector-level and overall portfolio-level cost-effectiveness results. The TRC and UCT ratios are provided, along with TRC and UCT net benefits.[14] The overall portfolio has a TRC ratio of 1.4 and a UCT ratio of 1.7.

TABLE 6-42: DSM ACTION PLAN BENEFIT-COST RATIOS – BY PROGRAM AND SECTOR

	TRC Ratio	UCT Ratio	TRC Net Benefits ($)	UCT Net Benefits ($)
Residential				
Residential Prescriptive	1.35	1.69	$703,537	$934,169
Home Energy Assessment	1.15	1.72	$363,685	$928,426
Residential Midstream	1.24	1.17	$2,595,955	$1,220,133
In Store Discount	2.75	3.53	$1,718,543	$1,878,564
Multi-Family Energy Solutions	1.88	2.03	$239,714	$208,025
Community Connections	1.87	1.87	$2,089,923	$2,089,923
Income Qualified Weatherization	0.44	0.36	-$5,670,217	-$5,772,027
Residential New Construction	1.14	1.08	$122,065	$64,868
Residential Marketplace	2.46	2.08	$4,494,473	$3,178,633
Residential Behavioral	1.41	1.41	$646,778	$646,778
Smart Cycle	1.26	1.26	$3,530,641	$3,530,641

[14] The Income Qualified Weatherization program does not need to be cost-effective.

	TRC Ratio	UCT Ratio	TRC Net Benefits ($)	UCT Net Benefits ($)
Bring Your Own Thermostat	1.11	1.68	$1,781,069	$7,358,717
Residential Sub-total	***1.20***	***1.31***	***$12,616,166***	***$16,266,849***
Commercial				
C&I Prescriptive	2.21	3.44	$24,367,237	$37,607,170
C&I Custom	1.45	2.14	$9,588,579	$19,503,462
Small Business	3.01	3.13	$7,551,381	$9,162,369
Bring Your Own Thermostat	1.23	2.76	$494,793	$1,703,930
Commercial Sub-total	***1.89***	***2.80***	***$41,507,197***	***$66,273,001***
All Sectors				
Total	***1.39***	***1.78***	***$54,123,364***	***$82,539,850***

TABLE 6-43: ANNUAL TRC RATIOS – BY PROGRAM

Annual TRC Ratios	2028	2029	2030	2031	2032	2033
Residential						
Residential Prescriptive	1.29	1.38	1.37	1.34	1.34	1.38
Home Energy Assessment	1.28	1.23	1.17	1.12	1.07	1.02
Residential Midstream	1.30	1.28	1.25	1.23	1.22	1.20
In Store Discount	3.02	2.90	2.79	2.70	2.63	2.58
Multi-Family Energy Solutions	2.51	1.71	1.43	1.09	1.40	1.41
Community Connections	1.95	1.90	1.86	1.84	1.83	1.84
Income Qualified Weatherization	0.49	0.47	0.46	0.43	0.43	0.42
Residential New Construction	1.14	1.13	1.13	1.14	1.14	1.15
Residential Marketplace	2.67	2.60	2.50	2.41	2.31	2.21
Residential Behavioral	1.55	1.53	1.40	1.36	1.33	1.33
Smart Cycle	1.00	1.00	1.37	1.52	1.49	1.46
Bring Your Own Thermostat	1.04	1.06	1.03	1.07	1.10	1.39
Residential Sub-total	***1.19***	***1.16***	***1.21***	***1.21***	***1.19***	***1.25***
Commercial						
C&I Prescriptive	2.18	2.17	2.14	2.12	2.11	2.13
C&I Custom	1.44	1.44	1.44	1.44	1.46	1.49
Small Business	3.89	3.67	3.46	3.15	3.02	2.91
Bring Your Own Thermostat	1.00	1.01	1.01	1.27	2.42	3.46
Commercial Sub-total	***1.95***	***1.89***	***1.82***	***1.79***	***1.83***	***1.84***
All Sectors						
Total	**1.43**	**1.38**	**1.38**	**1.36**	**1.36**	**1.39**

TABLE 6-44: ANNUAL UCT RATIOS – BY PROGRAM

Annual UCT Ratios	2028	2029	2030	2031	2032	2033
Residential						
Residential Prescriptive	1.53	1.69	1.70	1.69	1.71	1.79

Annual UCT Ratios	2028	2029	2030	2031	2032	2033
Home Energy Assessment	1.89	1.81	1.73	1.67	1.61	1.57
Residential Midstream	1.26	1.22	1.18	1.15	1.12	1.11
In Store Discount	3.78	3.67	3.56	3.48	3.42	3.38
Multi-Family Energy Solutions	2.46	1.91	1.68	1.46	1.70	1.72
Community Connections	1.95	1.90	1.86	1.84	1.83	1.84
Income Qualified Weatherization	0.41	0.39	0.37	0.35	0.34	0.33
Residential New Construction	1.08	1.08	1.08	1.08	1.09	1.10
Residential Marketplace	2.19	2.16	2.10	2.06	2.01	1.96
Residential Behavioral	1.55	1.53	1.40	1.36	1.33	1.33
Smart Cycle	1.00	1.00	1.37	1.52	1.49	1.46
Bring Your Own Thermostat	1.70	1.69	1.65	1.65	1.65	1.76
Residential Sub-total	***1.30***	***1.26***	***1.36***	***1.37***	***1.34***	***1.33***
Commercial						
C&I Prescriptive	3.35	3.35	3.31	3.29	3.28	3.35
C&I Custom	2.14	2.13	2.12	2.12	2.14	2.18
Small Business	4.10	3.86	3.64	3.31	3.18	3.06
Bring Your Own Thermostat	1.44	1.80	2.09	2.81	3.60	3.96
Commercial Sub-total	***2.91***	***2.82***	***2.75***	***2.71***	***2.72***	***2.71***
All Sectors						
Total	**1.85**	**1.77**	**1.81**	**1.79**	**1.75**	**1.73**

APPENDIX A. C&I OPT-OUT SCENARIO

Table A-1 provides additional detail regarding the cumulative annual technical, economic, MAP, RAP and Enhanced RAP energy savings, in total MWh and as a percentage of the sector-level sales forecast over 3-yr, 6-yr and 18-yr timeframes. The associated MW of demand savings are also provided.

TABLE A-45: C&I CUMULATIVE ANNUAL ENERGY EFFICIENCY POTENTIAL SUMMARY

	3 YR	6 YR	18 YR
Energy (MWh)			
Technical	182,585	367,166	781,742
Economic	182,567	367,136	782,987
MAP	131,512	248,598	506,825
RAP	111,770	216,992	456,511
Enhanced RAP	117,581	225,150	467,462
Energy Savings (as% of Sector Sales Forecast)			
Technical	5.3%	10.6%	22.2%
Economic	5.3%	10.6%	22.3%
MAP	3.8%	7.2%	14.4%
RAP	3.2%	6.3%	13.0%
Enhanced RAP	3.4%	6.5%	13.3%
Demand (MW)			
Technical	25	93	150
Economic	25	93	150
MAP	19	64	99
RAP	15	55	87
Enhanced RAP	17	58	91

Figure A-1 provides the RAP results for the 3-year, 6-year, and 18-year timeframes for both the RAP scenario and the RAP scenario including opt-out customers. The savings as a percentage of forecasted sales is slightly higher in the RAP scenario, though total MWh savings are higher in the scenario in which opt-out customers are included in the analysis.

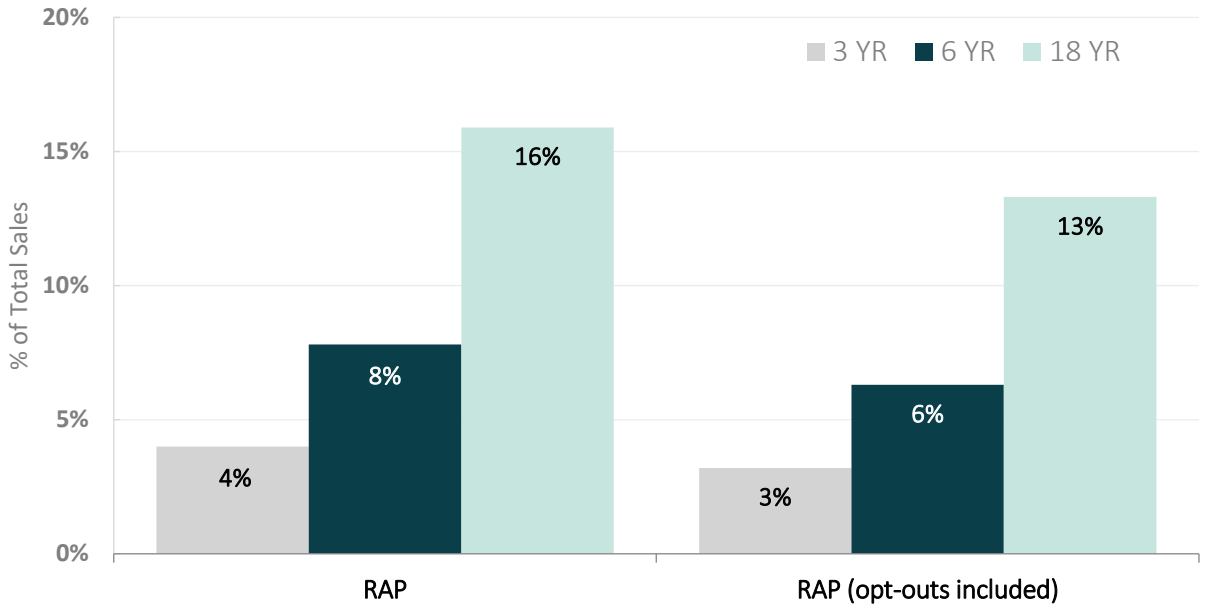


FIGURE A-1: C&I ELECTRIC ENERGY CUMULATIVE ANNUAL POTENTIAL (AS A % OF C&I SALES)

Figure A-2 provides the annual budgets for commercial RAP, with and without opt-out customers. The budgets in the RAP scenario range from $6 million to $7 million, while the budgets in the RAP scenario with opt-out customers included range from $15 million to $18 million.

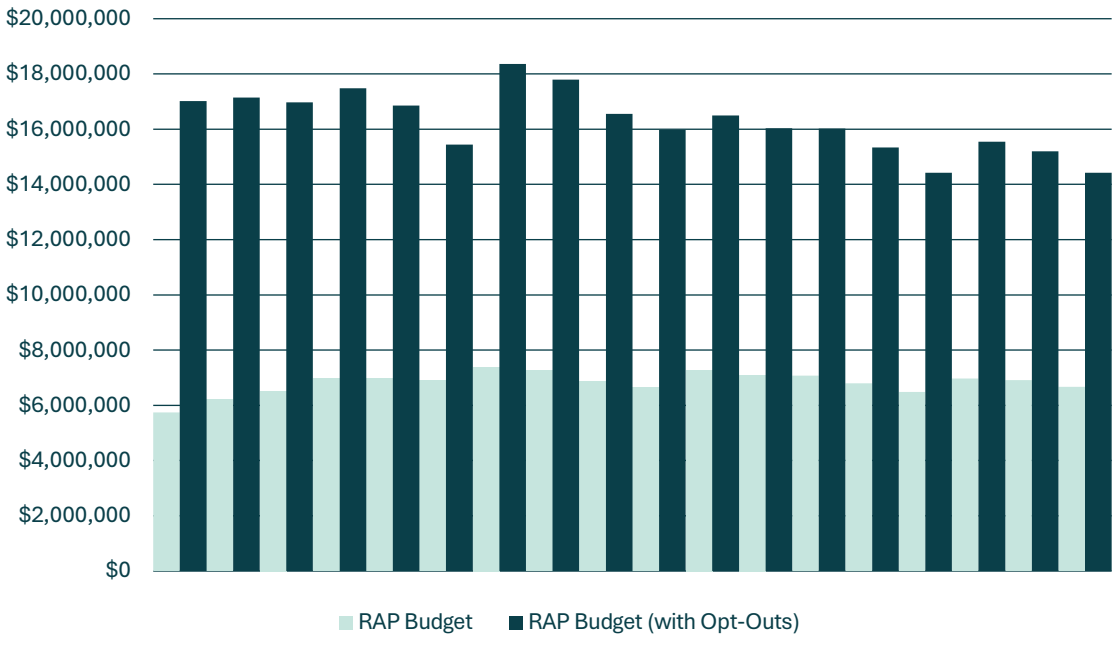


FIGURE A-2: C&I RAP BUDGETS – EXCLUDING AND INCLUDING OPT-OUT CUSTOMERS

APPENDIX B. RESIDENTIAL MEASURE DETAIL

Appendix B: Residential Measure Assumptions

Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	UCT Score
1001	Appliances	ENERGY STAR Air Purifier	Residential Prescriptive	SF	MO	512	58%	298	0.03	9	$92	100%	54%	AIR PURIFIER-1	12%	36%	95.0%	55.2%	2.9
1002	Appliances	ENERGY STAR Air Purifier	Residential Prescriptive	SF	NC	512	58%	298	0.03	9	$92	100%	54%	AIR PURIFIER-2	12%	0%	95.0%	55.2%	2.9
1003	Appliances	ENERGY STAR Air Purifier	Residential Prescriptive	MF	MO	512	58%	298	0.03	9	$92	100%	54%	AIR PURIFIER-3	12%	36%	95.0%	55.2%	2.9
1004	Appliances	ENERGY STAR Air Purifier	Residential Prescriptive	MF	NC	512	58%	298	0.03	9	$92	100%	54%	AIR PURIFIER-4	12%	0%	95.0%	55.2%	2.9
1005	Appliances	ENERGY STAR Air Purifier	In Store Discount	SF	MO	512	58%	298	0.03	9	$92	100%	27%	AIR PURIFIER-1	12%	36%	95.0%	38.8%	5.9
1006	Appliances	ENERGY STAR Air Purifier	In Store Discount	SF	NC	512	58%	298	0.03	9	$92	100%	27%	AIR PURIFIER-2	12%	0%	95.0%	38.8%	5.9
1007	Appliances	ENERGY STAR Air Purifier	In Store Discount	MF	MO	512	58%	298	0.03	9	$92	100%	27%	AIR PURIFIER-3	12%	36%	95.0%	38.8%	5.9
1008	Appliances	ENERGY STAR Air Purifier	In Store Discount	MF	NC	512	58%	298	0.03	9	$92	100%	27%	AIR PURIFIER-4	12%	0%	95.0%	38.8%	5.9
1009	Appliances	ENERGY STAR Air Purifier	Residential Marketplac	SF	MO	512	58%	298	0.03	9	$92	100%	81%	AIR PURIFIER-1	12%	36%	95.0%	73.9%	2.0
1010	Appliances	ENERGY STAR Air Purifier	Residential Marketplac	SF	NC	512	58%	298	0.03	9	$92	100%	81%	AIR PURIFIER-2	12%	0%	95.0%	73.9%	2.0
1011	Appliances	ENERGY STAR Air Purifier	Residential Marketplac	MF	MO	512	58%	298	0.03	9	$92	100%	81%	AIR PURIFIER-3	12%	36%	95.0%	73.9%	2.0
1012	Appliances	ENERGY STAR Air Purifier	Residential Marketplac	MF	NC	512	58%	298	0.03	9	$92	100%	81%	AIR PURIFIER-4	12%	0%	95.0%	73.9%	2.0
1013	Appliances	ENERGY STAR Refrigerator	No Program	SF	MO	349	14%	49	0.01	15	$9	100%	25%	REFRIGERATOR-1	150%	57%	91.0%	35.0%	17.6
1014	Appliances	ENERGY STAR Refrigerator	ne Qualified Weatheriz	SF	MO	349	60%	209	0.03	15	$580	100%	100%	REFRIGERATOR-2	150%	57%	95.0%	95.0%	0.3
1015	Appliances	ENERGY STAR Refrigerator	No Program	SF	NC	349	14%	49	0.01	15	$9	100%	25%	REFRIGERATOR-3	150%	0%	91.0%	35.0%	17.6
1016	Appliances	ENERGY STAR Refrigerator	No Program	MF	MO	349	14%	49	0.01	15	$580	100%	100%	REFRIGERATOR-4	110%	57%	95.0%	95.0%	0.1
1017	Appliances	ENERGY STAR Refrigerator	ne Qualified Weatheriz	MF	MO	349	60%	209	0.03	15	$9	100%	100%	REFRIGERATOR-5	110%	57%	91.0%	91.0%	18.8
1018	Appliances	ENERGY STAR Refrigerator	No Program	MF	NC	349	14%	49	0.01	15	$9	100%	25%	REFRIGERATOR-6	110%	0%	91.0%	35.0%	17.6
1019	Appliances	CEE Tier 2 Refrigerator	No Program	SF	MO	349	19%	66	0.01	15	$26	100%	25%	REFRIGERATOR-1	150%	57%	91.0%	35.0%	8.3
1020	Appliances	CEE Tier 2 Refrigerator	No Program	SF	NC	349	19%	66	0.01	15	$26	100%	25%	REFRIGERATOR-2	150%	0%	91.0%	35.0%	8.3
1021	Appliances	CEE Tier 2 Refrigerator	No Program	MF	MO	349	19%	66	0.01	15	$26	100%	25%	REFRIGERATOR-3	110%	57%	91.0%	35.0%	8.3
1022	Appliances	CEE Tier 2 Refrigerator	No Program	MF	NC	349	19%	66	0.01	15	$26	100%	25%	REFRIGERATOR-4	110%	0%	91.0%	35.0%	8.3
1023	Appliances	CEE Tier 3 Refrigerator	No Program	SF	MO	349	24%	84	0.01	15	$135	50%	25%	REFRIGERATOR-1	150%	57%	48.0%	35.0%	2.0
1024	Appliances	CEE Tier 3 Refrigerator	No Program	SF	NC	349	24%	84	0.01	15	$135	50%	25%	REFRIGERATOR-2	150%	0%	48.0%	35.0%	2.0
1025	Appliances	CEE Tier 3 Refrigerator	No Program	MF	MO	349	24%	84	0.01	15	$135	50%	25%	REFRIGERATOR-3	110%	57%	48.0%	35.0%	2.0
1026	Appliances	CEE Tier 3 Refrigerator	No Program	MF	NC	349	24%	84	0.01	15	$135	50%	25%	REFRIGERATOR-4	110%	0%	48.0%	35.0%	2.0
1027	Appliances	Refrigerator Recycling	No Program	SF	Recycle	1,014	100%	1,014	0.15	7	$50	100%	25%	RECYCLING-1	10%	0%	91.0%	35.0%	36.2
1028	Appliances	Refrigerator Recycling	No Program	MF	Recycle	1,014	100%	1,014	0.15	7	$50	100%	25%	RECYCLING-2	2%	0%	91.0%	35.0%	36.2
1029	Appliances	Freezer Recycling	No Program	SF	Recycle	722	100%	722	0.11	7	$50	100%	25%	RECYCLING-3	6%	0%	91.0%	35.0%	25.8
1030	Appliances	Freezer Recycling	No Program	MF	Recycle	722	100%	722	0.11	7	$50	100%	25%	RECYCLING-4	1%	0%	91.0%	35.0%	25.8
1031	Appliances	Dehumidifier Recycling	No Program	SF	Recycle	1,000	100%	1,000	0.00	7	$20	100%	25%	RECYCLING-5	4%	0%	91.0%	35.0%	53.3
1032	Appliances	Dehumidifier Recycling	No Program	MF	Recycle	1,000	100%	1,000	0.00	7	$20	100%	25%	RECYCLING-6	1%	0%	91.0%	35.0%	53.3
1033	Appliances	ENERGY STAR Freezer - Chest	No Program	SF	MO	272	10%	27	0.00	21	$5	100%	25%	FREEZER-1	47%	33%	91.0%	35.0%	23.1
1034	Appliances	ENERGY STAR Freezer - Chest	No Program	SF	NC	272	10%	27	0.00	21	$5	100%	25%	FREEZER-2	47%	0%	91.0%	35.0%	23.1
1035	Appliances	ENERGY STAR Freezer - Chest	No Program	MF	MO	272	10%	27	0.00	21	$5	100%	25%	FREEZER-3	47%	33%	91.0%	35.0%	23.1
1036	Appliances	ENERGY STAR Freezer - Chest	No Program	MF	NC	272	10%	27	0.00	21	$5	100%	25%	FREEZER-4	47%	0%	91.0%	35.0%	23.1
1037	Appliances	ENERGY STAR Freezer - Compact Upright	No Program	SF	MO	273	10%	27	0.00	10	$5	100%	25%	FREEZER-1	47%	33%	91.0%	35.0%	13.4
1038	Appliances	ENERGY STAR Freezer - Compact Upright	No Program	SF	NC	273	10%	27	0.00	10	$5	100%	25%	FREEZER-2	47%	0%	91.0%	35.0%	13.4
1039	Appliances	ENERGY STAR Freezer - Compact Upright	No Program	MF	MO	273	10%	27	0.00	10	$5	100%	25%	FREEZER-3	47%	33%	91.0%	35.0%	13.4
1040	Appliances	ENERGY STAR Freezer - Compact Upright	No Program	MF	NC	273	10%	27	0.00	10	$5	100%	25%	FREEZER-4	47%	0%	91.0%	35.0%	13.4
1041	Appliances	ENERGY STAR Dehumidifier	Residential Prescriptive	SF	MO	1,075	15%	157	0.04	17	$9	100%	100%	DEHUMIDIFIER-1	37%	89%	95.0%	95.0%	4.8
1042	Appliances	ENERGY STAR Dehumidifier	Residential Prescriptive	SF	NC	1,075	15%	157	0.04	17	$9	100%	100%	DEHUMIDIFIER-2	37%	0%	95.0%	95.0%	4.8
1043	Appliances	ENERGY STAR Dehumidifier	Residential Prescriptive	MF	MO	1,075	15%	157	0.04	17	$9	100%	100%	DEHUMIDIFIER-3	6%	89%	95.0%	95.0%	4.8
1044	Appliances	ENERGY STAR Dehumidifier	Residential Prescriptive	MF	NC	1,075	15%	157	0.04	17	$9	100%	100%	DEHUMIDIFIER-4	6%	0%	95.0%	95.0%	4.8
1045	Appliances	ENERGY STAR Most Efficient Dehumidifier	Residential Prescriptive	SF	MO	1,075	21%	230	0.05	17	$12	100%	100%	DEHUMIDIFIER-1	37%	89%	95.0%	95.0%	7.1
1046	Appliances	ENERGY STAR Most Efficient Dehumidifier	Residential Prescriptive	SF	NC	1,075	21%	230	0.05	17	$12	100%	100%	DEHUMIDIFIER-2	37%	0%	95.0%	95.0%	7.1
1047	Appliances	ENERGY STAR Most Efficient Dehumidifier	Residential Prescriptive	MF	MO	1,075	21%	230	0.05	17	$12	100%	100%	DEHUMIDIFIER-3	6%	89%	95.0%	95.0%	7.1
1048	Appliances	ENERGY STAR Most Efficient Dehumidifier	Residential Prescriptive	MF	NC	1,075	21%	230	0.05	17	$12	100%	100%	DEHUMIDIFIER-4	6%	0%	95.0%	95.0%	7.1
1049	Appliances	ENERGY STAR Dehumidifier	In Store Discount	SF	MO	1,075	15%	157	0.04	17	$9	100%	100%	DEHUMIDIFIER-1	37%	89%	95.0%	95.0%	6.8
1050	Appliances	ENERGY STAR Dehumidifier	In Store Discount	SF	NC	1,075	15%	157	0.04	17	$9	100%	100%	DEHUMIDIFIER-2	37%	0%	95.0%	95.0%	6.8
1051	Appliances	ENERGY STAR Dehumidifier	In Store Discount	MF	MO	1,075	15%	157	0.04	17	$9	100%	100%	DEHUMIDIFIER-3	6%	89%	95.0%	95.0%	6.8
1052	Appliances	ENERGY STAR Dehumidifier	In Store Discount	MF	NC	1,075	15%	157	0.04	17	$9	100%	100%	DEHUMIDIFIER-4	6%	0%	95.0%	95.0%	6.8
1053	Appliances	ENERGY STAR Most Efficient Dehumidifier	In Store Discount	SF	MO	1,075	21%	230	0.05	17	$12	100%	100%	DEHUMIDIFIER-1	37%	89%	95.0%	95.0%	9.9
1054	Appliances	ENERGY STAR Most Efficient Dehumidifier	In Store Discount	SF	NC	1,075	21%	230	0.05	17	$12	100%	100%	DEHUMIDIFIER-2	37%	0%	95.0%	95.0%	9.9
1055	Appliances	ENERGY STAR Most Efficient Dehumidifier	In Store Discount	MF	MO	1,075	21%	230	0.05	17	$12	100%	100%	DEHUMIDIFIER-3	6%	89%	95.0%	95.0%	9.9
1056	Appliances	ENERGY STAR Most Efficient Dehumidifier	In Store Discount	MF	NC	1,075	21%	230	0.05	17	$12	100%	100%	DEHUMIDIFIER-4	6%	0%	95.0%	95.0%	9.9
1057	Appliances	ENERGY STAR Dehumidifier	Residential Marketplac	SF	MO	1,075	15%	157	0.04	17	$9	100%	100%	DEHUMIDIFIER-1	37%	89%	95.0%	95.0%	4.8
1058	Appliances	ENERGY STAR Dehumidifier	Residential Marketplac	SF	NC	1,075	15%	157	0.04	17	$9	100%	100%	DEHUMIDIFIER-2	37%	0%	95.0%	95.0%	4.8

Appendix B: Residential Measure Assumptions

Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	UCT Score
1059	Appliances	ENERGY STAR Dehumidifier	Residential Marketplac	MF	MO	1,075	15%	157	0.04	17	$9	100%	100%	DEHUMIDIFIER-3	6%	89%	95.0%	95.0%	4.8
1060	Appliances	ENERGY STAR Dehumidifier	Residential Marketplac	MF	NC	1,075	15%	157	0.04	17	$9	100%	100%	DEHUMIDIFIER-4	6%	0%	95.0%	95.0%	4.8
1061	Appliances	ENERGY STAR Most Efficient Dehumidifier	Residential Marketplac	SF	MO	1,075	21%	230	0.05	17	$12	100%	100%	DEHUMIDIFIER-1	37%	89%	95.0%	95.0%	7.1
1062	Appliances	ENERGY STAR Most Efficient Dehumidifier	Residential Marketplac	SF	NC	1,075	21%	230	0.05	17	$12	100%	100%	DEHUMIDIFIER-2	37%	0%	95.0%	95.0%	7.1
1063	Appliances	ENERGY STAR Most Efficient Dehumidifier	Residential Marketplac	MF	MO	1,075	21%	230	0.05	17	$12	100%	100%	DEHUMIDIFIER-3	6%	89%	95.0%	95.0%	7.1
1064	Appliances	ENERGY STAR Most Efficient Dehumidifier	Residential Marketplac	MF	NC	1,075	21%	230	0.05	17	$12	100%	100%	DEHUMIDIFIER-4	6%	0%	95.0%	95.0%	7.1
1065	Appliances	ENERGY STAR Dishwasher	No Program	SF	MO	307	22%	67	0.00	11	$30	100%	25%	DISHWASHER-1	84%	90%	91.0%	35.0%	4.5
1066	Appliances	ENERGY STAR Dishwasher	No Program	SF	NC	307	22%	67	0.00	11	$30	100%	25%	DISHWASHER-2	84%	0%	91.0%	35.0%	4.5
1067	Appliances	ENERGY STAR Dishwasher	No Program	MF	MO	307	22%	67	0.00	11	$30	100%	25%	DISHWASHER-3	84%	90%	91.0%	35.0%	4.5
1068	Appliances	ENERGY STAR Dishwasher	No Program	MF	NC	307	22%	67	0.00	11	$30	100%	25%	DISHWASHER-4	84%	0%	91.0%	35.0%	4.5
1069	Appliances	ENERGY STAR Clothes Washer	Residential Prescriptive	SF	MO	612	13%	79	0.01	14	$87	57%	57%	LOTHES WASHER-	92%	57%	57.1%	57.1%	1.2
1070	Appliances	ENERGY STAR Clothes Washer	Residential Prescriptive	SF	NC	612	13%	79	0.01	14	$87	57%	57%	LOTHES WASHER-	92%	0%	57.1%	57.1%	1.2
1071	Appliances	ENERGY STAR Clothes Washer	Residential Prescriptive	MF	MO	612	13%	79	0.01	14	$87	57%	57%	LOTHES WASHER-	92%	57%	57.1%	57.1%	1.2
1072	Appliances	ENERGY STAR Clothes Washer	Residential Prescriptive	MF	NC	612	13%	79	0.01	14	$87	57%	57%	LOTHES WASHER-	92%	0%	57.1%	57.1%	1.2
1073	Appliances	CEE Tier 2 Clothes Washer	Residential Prescriptive	SF	MO	612	23%	141	0.02	14	$85	100%	59%	LOTHES WASHER-	92%	57%	95.0%	57.9%	2.1
1074	Appliances	CEE Tier 2 Clothes Washer	Residential Prescriptive	SF	NC	612	23%	141	0.02	14	$85	100%	59%	LOTHES WASHER-	92%	0%	95.0%	57.9%	2.1
1075	Appliances	CEE Tier 2 Clothes Washer	Residential Prescriptive	MF	MO	612	23%	141	0.02	14	$85	100%	59%	LOTHES WASHER-	92%	57%	95.0%	57.9%	2.1
1076	Appliances	CEE Tier 2 Clothes Washer	Residential Prescriptive	MF	NC	612	23%	141	0.02	14	$85	100%	59%	LOTHES WASHER-	92%	0%	95.0%	57.9%	2.1
1077	Appliances	CEE Advanced Tier Clothes Washer	Residential Prescriptive	SF	MO	612	26%	158	0.02	14	$99	100%	51%	LOTHES WASHER-	92%	57%	95.0%	53.3%	2.3
1078	Appliances	CEE Advanced Tier Clothes Washer	Residential Prescriptive	SF	NC	612	26%	158	0.02	14	$99	100%	51%	LOTHES WASHER-	92%	0%	95.0%	53.3%	2.3
1079	Appliances	CEE Advanced Tier Clothes Washer	Residential Prescriptive	MF	MO	612	26%	158	0.02	14	$99	100%	51%	LOTHES WASHER-	92%	57%	95.0%	53.3%	2.3
1080	Appliances	CEE Advanced Tier Clothes Washer	Residential Prescriptive	MF	NC	612	26%	158	0.02	14	$99	100%	51%	LOTHES WASHER-	92%	0%	95.0%	53.3%	2.3
1081	Appliances	ENERGY STAR Clothes Dryer (Electric)	Residential Prescriptive	SF	MO	769	21%	160	0.02	16	$152	75%	33%	CLOTHES DRYER-1	86%	36%	68.0%	44.2%	2.6
1082	Appliances	ENERGY STAR Clothes Dryer (Electric)	Residential Prescriptive	SF	NC	769	21%	160	0.02	16	$152	75%	33%	CLOTHES DRYER-2	86%	0%	68.0%	44.2%	2.6
1083	Appliances	ENERGY STAR Clothes Dryer (Electric)	Residential Prescriptive	MF	MO	769	21%	160	0.02	16	$152	75%	33%	CLOTHES DRYER-3	86%	36%	68.0%	44.2%	2.6
1084	Appliances	ENERGY STAR Clothes Dryer (Electric)	Residential Prescriptive	MF	NC	769	21%	160	0.02	16	$152	75%	33%	CLOTHES DRYER-4	86%	0%	68.0%	44.2%	2.6
1085	Appliances	Heat Pump Dryer	No Program	SF	MO	769	57%	435	0.06	16	$900	25%	25%	CLOTHES DRYER-1	86%	36%	35.0%	35.0%	1.5
1086	Appliances	Heat Pump Dryer	No Program	SF	NC	769	57%	435	0.06	16	$900	25%	25%	CLOTHES DRYER-2	86%	0%	35.0%	35.0%	1.5
1087	Appliances	Heat Pump Dryer	No Program	MF	MO	769	57%	435	0.06	16	$900	25%	25%	CLOTHES DRYER-3	86%	36%	35.0%	35.0%	1.5
1088	Appliances	Heat Pump Dryer	No Program	MF	NC	769	57%	435	0.06	16	$900	25%	25%	CLOTHES DRYER-4	86%	0%	35.0%	35.0%	1.5
1089	Appliances	Ultrasonic Clothes Dryer	No Program	SF	MO	769	10%	77	0.01	16	$150	25%	25%	CLOTHES DRYER-1	86%	0%	35.0%	35.0%	1.8
1090	Appliances	Ultrasonic Clothes Dryer	No Program	SF	NC	769	10%	77	0.01	16	$150	25%	25%	CLOTHES DRYER-2	86%	0%	35.0%	35.0%	1.8
1091	Appliances	Ultrasonic Clothes Dryer	No Program	MF	MO	769	10%	77	0.01	16	$150	25%	25%	CLOTHES DRYER-3	86%	0%	35.0%	35.0%	1.8
1092	Appliances	Ultrasonic Clothes Dryer	No Program	MF	NC	769	10%	77	0.01	16	$150	25%	25%	CLOTHES DRYER-4	86%	0%	35.0%	35.0%	1.8
1093	Appliances	Bolt-On Smart Dryer Sensor to Electric Dryer	No Program	SF	MO	769	5%	39	0.01	16	$150	25%	25%	DRYER SENSOR-1	86%	0%	35.0%	35.0%	0.8
1094	Appliances	Bolt-On Smart Dryer Sensor to Electric Dryer	No Program	SF	NC	769	5%	39	0.01	16	$150	25%	25%	DRYER SENSOR-2	86%	0%	35.0%	35.0%	0.8
1095	Appliances	Bolt-On Smart Dryer Sensor to Electric Dryer	No Program	MF	MO	769	5%	39	0.01	16	$150	25%	25%	DRYER SENSOR-3	86%	0%	35.0%	35.0%	0.8
1096	Appliances	Bolt-On Smart Dryer Sensor to Electric Dryer	No Program	MF	NC	769	5%	39	0.01	16	$150	25%	25%	DRYER SENSOR-4	86%	0%	35.0%	35.0%	0.8
1097	Appliances	Ozone Laundry	No Program	SF	MO	1,225	14%	175	0.03	8	$300	25%	25%	OZONE-1	86%	0%	35.0%	35.0%	1.2
1098	Appliances	Ozone Laundry	No Program	SF	NC	1,225	14%	175	0.03	8	$300	25%	25%	OZONE-2	86%	0%	35.0%	35.0%	1.2
1099	Appliances	Ozone Laundry	No Program	MF	MO	1,225	14%	175	0.03	8	$300	25%	25%	OZONE-3	86%	0%	35.0%	35.0%	1.2
1100	Appliances	Ozone Laundry	No Program	MF	NC	1,225	14%	175	0.03	8	$300	25%	25%	OZONE-4	86%	0%	35.0%	35.0%	1.2
1101	Appliances	Water Dispenser	No Program	SF	MO	320	77%	246	0.03	10	$60	100%	25%	WATER COOLER-1	5%	56%	91.0%	35.0%	8.8
1102	Appliances	Water Dispenser	No Program	SF	NC	320	77%	246	0.03	10	$60	100%	25%	WATER COOLER-2	5%	0%	91.0%	35.0%	8.8
1103	Appliances	Water Dispenser	No Program	MF	MO	320	77%	246	0.03	10	$60	100%	25%	WATER COOLER-3	5%	56%	91.0%	35.0%	8.8
1104	Appliances	Water Dispenser	No Program	MF	NC	320	77%	246	0.03	10	$60	100%	25%	WATER COOLER-4	5%	0%	91.0%	35.0%	8.8
1105	Appliances	Induction Cooktop	No Program	SF	MO	123	10%	12	0.00	16	$687	25%	25%	COOKTOP-1	66%	4%	35.0%	35.0%	1.0
1106	Appliances	Induction Cooktop	No Program	SF	NC	123	10%	12	0.00	16	$687	25%	25%	COOKTOP-2	66%	0%	35.0%	35.0%	1.0
1107	Appliances	Induction Cooktop	No Program	MF	MO	123	10%	12	0.00	16	$687	25%	25%	COOKTOP-3	66%	3%	35.0%	35.0%	1.0
1108	Appliances	Induction Cooktop	No Program	MF	NC	123	10%	12	0.00	16	$687	25%	25%	COOKTOP-4	66%	0%	35.0%	35.0%	1.0
2001	Behavior	Home Energy Reports	Residential Behavioral	SF	MO	11,455	1%	123	0.01	1	$0	100%	100%	HER-1	100%	0%	100.0%	100.0%	1.0
2002	Behavior	Home Energy Reports	Residential Behavioral	SF	NC	11,455	1%	123	0.01	1	$0	100%	100%	HER-2	100%	0%	100.0%	100.0%	1.0
2003	Behavior	Home Energy Reports	Residential Behavioral	MF	MO	5,728	2%	123	0.01	1	$0	100%	100%	HER-3	100%	0%	100.0%	100.0%	1.0
2004	Behavior	Home Energy Reports	Residential Behavioral	MF	NC	5,728	2%	123	0.01	1	$0	100%	100%	HER-4	100%	0%	100.0%	100.0%	1.0
2005	Behavior	Audit Recommendations	No Program	SF	Retrofit	11,455	1%	82	0.01	1	$0	100%	25%	AUDIT-1	100%	0%	91.0%	72.0%	1.0
2006	Behavior	Audit Recommendations	No Program	MF	Retrofit	5,728	1%	82	0.01	1	$0	100%	25%	AUDIT-2	100%	0%	91.0%	72.0%	1.0
2007	Behavior	Audit Recommendations	No Program	SF	Retrofit	11,455	1%	82	0.01	1	$0	100%	25%	AUDIT-3	100%	0%	91.0%	72.0%	1.0
2008	Behavior	Audit Recommendations	No Program	MF	Retrofit	5,728	1%	82	0.01	1	$0	100%	25%	AUDIT-4	100%	0%	91.0%	72.0%	1.0

Appendix B: Residential Measure Assumptions

Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	UCT Score
3001	HVAC	Air Filter	In Store Discount	SF	Retrofit	11,455	1%	79	0.00	1	$7	50%	14%	FILTER-1	97%	49%	43.0%	28.8%	3.9
3002	HVAC	Air Filter	In Store Discount	SF	Retrofit	11,455	1%	79	0.00	1	$7	100%	14%	FILTER-2	97%	49%	89.0%	28.8%	3.9
3003	HVAC	Air Filter	In Store Discount	MF	Retrofit	5,728	1%	79	0.00	1	$7	50%	14%	FILTER-3	97%	49%	43.0%	28.8%	3.9
3004	HVAC	Air Filter	In Store Discount	MF	Retrofit	5,728	1%	79	0.00	1	$7	100%	14%	FILTER-4	97%	49%	89.0%	28.8%	3.9
3005	HVAC	ASHP Tune Up	Residential Prescriptive	SF	Retrofit	6,223	5%	311	0.10	3	$225	22%	22%	HP TUNE-1	15%	49%	34.1%	34.1%	2.0
3006	HVAC	ASHP Tune Up	ne Qualified Weatheriz	SF	Retrofit	6,223	5%	311	0.10	3	$225	75%	33%	HP TUNE-2	15%	49%	60.0%	42.4%	1.3
3007	HVAC	ASHP Tune Up	Residential Prescriptive	MF	Retrofit	4,838	5%	242	0.08	3	$225	22%	22%	HP TUNE-3	15%	49%	34.1%	34.1%	1.5
3008	HVAC	ASHP Tune Up	ne Qualified Weatheriz	MF	Retrofit	4,838	5%	242	0.08	3	$225	50%	33%	HP TUNE-4	15%	49%	43.0%	42.4%	1.0
3009	HVAC	Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	Residential Midstream	SF	MO	6,223	10%	621	0.12	16	$135	100%	100%	HP-1	15%	36%	89.0%	89.0%	2.3
3010	HVAC	Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	ne Qualified Weatheriz	SF	MO	6,223	10%	621	0.12	16	$135	100%	100%	HP-2	15%	36%	89.0%	89.0%	0.1
3011	HVAC	Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	idential New Construct	SF	NC	6,223	10%	621	0.12	16	$135	100%	100%	HP-3	15%	0%	89.0%	89.0%	2.1
3012	HVAC	Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	Residential Midstream	MF	MO	4,838	10%	488	0.09	16	$135	100%	100%	HP-4	15%	36%	89.0%	89.0%	1.9
3013	HVAC	Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	ne Qualified Weatheriz	MF	MO	4,838	10%	488	0.09	16	$135	100%	100%	HP-5	15%	36%	89.0%	89.0%	0.1
3014	HVAC	Air Source Heat Pump 15.2 SEER2 - Heat pump baseline	idential New Construct	MF	NC	4,838	10%	488	0.09	16	$135	100%	100%	HP-6	15%	0%	89.0%	89.0%	1.7
3015	HVAC	Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	Residential Midstream	SF	MO	6,223	18%	1,096	0.23	16	$421	100%	71%	HP-1	15%	36%	89.0%	78.1%	3.6
3016	HVAC	Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	ne Qualified Weatheriz	SF	MO	6,223	18%	1,096	0.23	16	$421	100%	100%	HP-2	15%	36%	89.0%	89.0%	0.2
3017	HVAC	Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	idential New Construct	SF	NC	6,223	18%	1,096	0.23	16	$421	100%	65%	HP-3	15%	0%	89.0%	76.7%	4.0
3018	HVAC	Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	Residential Midstream	MF	MO	4,838	18%	861	0.19	16	$421	100%	71%	HP-4	15%	36%	89.0%	78.1%	2.9
3019	HVAC	Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	ne Qualified Weatheriz	MF	MO	4,838	18%	861	0.19	16	$421	100%	100%	HP-5	15%	36%	89.0%	89.0%	0.2
3020	HVAC	Air Source Heat Pump 16.2 SEER2 - Heat pump baseline	idential New Construct	MF	NC	4,838	18%	861	0.19	16	$421	100%	65%	HP-6	15%	0%	89.0%	76.7%	3.2
3021	HVAC	Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	Residential Midstream	SF	MO	6,223	26%	1,631	0.33	16	$630	100%	63%	HP-1	15%	36%	89.0%	76.2%	3.9
3022	HVAC	Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	ne Qualified Weatheriz	SF	MO	6,223	26%	1,631	0.33	16	$630	100%	100%	HP-2	15%	36%	89.0%	89.0%	0.3
3023	HVAC	Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	idential New Construct	SF	NC	6,223	26%	1,631	0.33	16	$630	100%	79%	HP-3	15%	0%	89.0%	80.6%	3.2
3024	HVAC	Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	Residential Midstream	MF	MO	4,838	26%	1,282	0.26	16	$630	100%	63%	HP-4	15%	36%	89.0%	76.2%	3.1
3025	HVAC	Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	ne Qualified Weatheriz	MF	MO	4,838	26%	1,282	0.26	16	$630	100%	100%	HP-5	15%	36%	89.0%	89.0%	0.2
3026	HVAC	Air Source Heat Pump 17.1 SEER2 - Heat pump baseline	idential New Construct	MF	NC	4,838	26%	1,282	0.26	16	$630	100%	79%	HP-6	15%	0%	89.0%	80.6%	2.5
3027	HVAC	Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	Residential Midstream	SF	MO	6,223	31%	1,950	0.42	16	$855	100%	58%	HP-1	15%	36%	89.0%	75.1%	3.9
3028	HVAC	Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	ne Qualified Weatheriz	SF	MO	6,223	31%	1,950	0.42	16	$855	100%	100%	HP-2	15%	36%	89.0%	89.0%	0.4
3029	HVAC	Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	idential New Construct	SF	NC	6,223	31%	1,950	0.42	16	$855	100%	58%	HP-3	15%	0%	89.0%	75.1%	3.9
3030	HVAC	Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	Residential Midstream	MF	MO	4,838	32%	1,531	0.33	16	$855	100%	58%	HP-4	15%	36%	89.0%	75.1%	3.1
3031	HVAC	Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	ne Qualified Weatheriz	MF	MO	4,838	32%	1,531	0.33	16	$855	100%	100%	HP-5	15%	36%	89.0%	89.0%	0.3
3032	HVAC	Air Source Heat Pump 18.1 SEER2 - Heat pump baseline	idential New Construct	MF	NC	4,838	32%	1,531	0.33	16	$855	100%	58%	HP-6	15%	0%	89.0%	75.1%	3.1
3033	HVAC	Ground Source Heat Pump 20 SEER - Heat pump baseline	No Program	SF	MO	6,223	27%	1,692	0.57	25	$5,186	50%	25%	HP-1	15%	36%	62.8%	46.2%	2.3
3034	HVAC	Ground Source Heat Pump 20 SEER - Heat pump baseline	No Program	SF	NC	6,223	27%	1,692	0.57	25	$5,186	50%	25%	HP-3	15%	0%	62.8%	46.2%	2.3
3035	HVAC	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline	Residential Midstream	SF	MO	6,223	11%	657	0.12	15	$155	100%	100%	HP-1	15%	36%	89.0%	89.0%	2.3
3036	HVAC	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline	Residential Midstream	SF	NC	6,223	11%	657	0.12	15	$155	100%	100%	HP-3	15%	0%	89.0%	89.0%	2.3
3037	HVAC	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline	Residential Midstream	MF	MO	4,838	11%	517	0.09	15	$124	100%	100%	HP-4	15%	36%	89.0%	89.0%	1.8
3038	HVAC	Ductless Heat Pump 8.5 HSPF2 - Heat pump baseline	Residential Midstream	MF	NC	4,838	11%	517	0.09	15	$124	100%	100%	HP-6	15%	0%	89.0%	89.0%	1.8
3039	HVAC	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline	Residential Midstream	SF	MO	6,223	19%	1,159	0.23	15	$560	100%	63%	HP-1	15%	36%	89.0%	76.0%	3.1
3040	HVAC	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline	Residential Midstream	SF	NC	6,223	19%	1,159	0.23	15	$560	100%	63%	HP-3	15%	0%	89.0%	76.0%	3.1
3041	HVAC	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline	Residential Midstream	MF	MO	4,838	19%	910	0.19	16	$448	100%	78%	HP-4	15%	36%	89.0%	80.2%	2.5
3042	HVAC	Ductless Heat Pump 9.4 HSPF2 - Heat pump baseline	Residential Midstream	MF	NC	4,838	19%	910	0.19	16	$448	100%	78%	HP-6	15%	0%	89.0%	80.2%	2.5
3043	HVAC	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline	Residential Midstream	SF	MO	6,223	28%	1,725	0.33	16	$835	100%	60%	HP-1	15%	36%	89.0%	75.4%	3.2
3044	HVAC	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline	Residential Midstream	SF	NC	6,223	28%	1,725	0.33	16	$835	100%	60%	HP-3	15%	0%	89.0%	75.4%	3.2
3045	HVAC	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline	Residential Midstream	MF	MO	4,838	28%	1,356	0.26	16	$668	100%	75%	HP-4	15%	36%	89.0%	79.1%	2.6
3046	HVAC	Ductless Heat Pump 10.8 HSPF2 - Heat pump baseline	Residential Midstream	MF	NC	4,838	28%	1,356	0.26	16	$668	100%	75%	HP-6	15%	0%	89.0%	79.1%	2.6
3047	HVAC	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline	Residential Midstream	SF	MO	6,223	33%	2,062	0.42	16	$1,650	100%	30%	HP-1	15%	36%	89.0%	72.3%	4.0
3048	HVAC	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline	Residential Midstream	SF	NC	6,223	33%	2,062	0.42	16	$1,650	100%	30%	HP-3	15%	0%	89.0%	72.3%	4.0
3049	HVAC	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline	Residential Midstream	MF	MO	4,838	33%	1,619	0.33	16	$1,320	100%	38%	HP-4	15%	36%	89.0%	72.2%	3.2
3050	HVAC	Ductless Heat Pump 11.7 HSPF2 - Heat pump baseline	Residential Midstream	MF	NC	4,838	33%	1,619	0.33	16	$1,320	100%	38%	HP-6	15%	0%	89.0%	72.2%	3.2
3051	HVAC	Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	Residential Midstream	SF	MO	11,402	66%	7,476	0.12	16	$135	100%	100%	HP-7	21%	36%	89.0%	89.0%	15.8
3052	HVAC	Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	ne Qualified Weatheriz	SF	MO	11,402	66%	7,476	0.12	16	$135	100%	100%	HP-8	21%	36%	89.0%	89.0%	0.7
3053	HVAC	Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	idential New Construct	SF	NC	11,402	66%	7,476	0.12	16	$135	100%	100%	HP-9	21%	0%	89.0%	89.0%	14.4
3054	HVAC	Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	Residential Midstream	MF	MO	8,982	66%	5,972	0.09	16	$135	100%	100%	HP-10	21%	36%	89.0%	89.0%	12.6
3055	HVAC	Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	ne Qualified Weatheriz	MF	MO	8,982	66%	5,972	0.09	16	$135	100%	100%	HP-11	21%	36%	89.0%	89.0%	0.6
3056	HVAC	Air Source Heat Pump 15.2 SEER2 - Electric furnace baseline	idential New Construct	MF	NC	8,982	66%	5,972	0.09	16	$135	100%	100%	HP-12	21%	0%	89.0%	89.0%	11.5
3057	HVAC	Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	Residential Midstream	SF	MO	11,402	70%	7,951	0.23	16	$421	100%	71%	HP-7	21%	36%	89.0%	78.1%	14.9
3058	HVAC	Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	ne Qualified Weatheriz	SF	MO	11,402	70%	7,951	0.23	16	$421	100%	100%	HP-8	21%	36%	89.0%	89.0%	0.8

Appendix B: Residential Measure Assumptions

Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	UCT Score
3059	HVAC	Air Source Heat Pump 16.2 SEER2 - Electric furnace	idential New Construct	SF	NC	11,402	70%	7,951	0.23	16	$421	100%	65%	HP-9	21%	0%	89.0%	76.7%	16.2
3060	HVAC	Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	Residential Midstream	MF	MO	8,982	71%	6,345	0.19	16	$421	100%	71%	HP-10	21%	36%	89.0%	78.1%	11.9
3061	HVAC	Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	ne Qualified Weatheriz	MF	MO	8,982	71%	6,345	0.19	16	$421	100%	100%	HP-11	21%	36%	89.0%	89.0%	0.7
3062	HVAC	Air Source Heat Pump 16.2 SEER2 - Electric furnace baseline	idential New Construct	MF	NC	8,982	71%	6,345	0.19	16	$421	100%	65%	HP-12	21%	0%	89.0%	76.7%	13.0
3063	HVAC	Air Source Heat Pump 17.1 SEER2 - Electric furnace	Residential Midstream	SF	MO	11,402	74%	8,486	0.33	16	$630	100%	63%	HP-7	21%	36%	89.0%	76.2%	12.4
3064	HVAC	Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	ne Qualified Weatheriz	SF	MO	11,402	74%	8,486	0.33	16	$630	100%	100%	HP-8	21%	36%	89.0%	89.0%	0.9
3065	HVAC	Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	idential New Construct	SF	NC	11,402	74%	8,486	0.33	16	$630	100%	79%	HP-9	21%	0%	89.0%	80.6%	9.9
3066	HVAC	Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	Residential Midstream	MF	MO	8,982	75%	6,766	0.26	16	$630	100%	63%	HP-10	21%	36%	89.0%	76.2%	9.9
3067	HVAC	Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	ne Qualified Weatheriz	MF	MO	8,982	75%	6,766	0.26	16	$630	100%	100%	HP-11	21%	36%	89.0%	89.0%	0.7
3068	HVAC	Air Source Heat Pump 17.1 SEER2 - Electric furnace baseline	idential New Construct	MF	NC	8,982	75%	6,766	0.26	16	$630	100%	79%	HP-12	21%	0%	89.0%	80.6%	7.9
3069	HVAC	Air Source Heat Pump 18.1 SEER2 - Electric furnace	Residential Midstream	SF	MO	11,402	77%	8,805	0.42	16	$855	100%	58%	HP-7	21%	36%	89.0%	75.1%	10.6
3070	HVAC	Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	ne Qualified Weatheriz	SF	MO	11,402	77%	8,805	0.42	16	$855	100%	100%	HP-8	21%	36%	89.0%	89.0%	1.0
3071	HVAC	Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	idential New Construct	SF	NC	11,402	77%	8,805	0.42	16	$855	100%	58%	HP-9	21%	0%	89.0%	75.1%	10.6
3072	HVAC	Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	Residential Midstream	MF	MO	8,982	78%	7,015	0.33	16	$855	100%	58%	HP-10	21%	36%	89.0%	75.1%	8.5
3073	HVAC	Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	ne Qualified Weatheriz	MF	MO	8,982	78%	7,015	0.33	16	$855	100%	100%	HP-11	21%	36%	89.0%	89.0%	0.8
3074	HVAC	Air Source Heat Pump 18.1 SEER2 - Electric furnace baseline	idential New Construct	MF	NC	8,982	78%	7,015	0.33	16	$855	100%	58%	HP-12	21%	0%	89.0%	75.1%	8.5
3075	HVAC	Ductless Heat Pump 8.5 HSPF2 - Electric furnace	Residential Midstream	SF	MO	11,402	54%	6,140	0.12	16	$155	100%	100%	HP-7	21%	36%	89.0%	89.0%	13.2
3076	HVAC	Ductless Heat Pump 8.5 HSPF2 - Electric furnace baseline	Residential Midstream	SF	NC	11,402	54%	6,140	0.12	16	$155	100%	100%	HP-9	21%	0%	89.0%	89.0%	13.2
3077	HVAC	Ductless Heat Pump 8.5 HSPF2 - Electric furnace baseline	Residential Midstream	MF	MO	8,982	55%	4,904	0.09	16	$124	100%	100%	HP-10	21%	36%	89.0%	89.0%	10.5
3078	HVAC	Ductless Heat Pump 8.5 HSPF2 - Electric furnace baseline	Residential Midstream	MF	NC	8,982	55%	4,904	0.09	16	$124	100%	100%	HP-12	21%	0%	89.0%	89.0%	10.5
3079	HVAC	Ductless Heat Pump 9.4 HSPF2 - Electric furnace	Residential Midstream	SF	MO	11,402	58%	6,643	0.23	16	$560	100%	63%	HP-7	21%	36%	89.0%	76.0%	10.9
3080	HVAC	Ductless Heat Pump 9.4 HSPF2 - Electric furnace baseline	Residential Midstream	SF	NC	11,402	58%	6,643	0.23	16	$560	100%	63%	HP-9	21%	0%	89.0%	76.0%	10.9
3081	HVAC	Ductless Heat Pump 9.4 HSPF2 - Electric furnace baseline	Residential Midstream	MF	MO	8,982	59%	5,297	0.19	16	$448	100%	78%	HP-10	21%	36%	89.0%	80.2%	8.7
3082	HVAC	Ductless Heat Pump 9.4 HSPF2 - Electric furnace baseline	Residential Midstream	MF	NC	8,982	59%	5,297	0.19	16	$448	100%	78%	HP-12	21%	0%	89.0%	80.2%	8.7
3083	HVAC	Ductless Heat Pump 10.8 HSPF2 - Electric furnace	Residential Midstream	SF	MO	11,402	63%	7,209	0.33	16	$835	100%	60%	HP-7	21%	36%	89.0%	75.4%	8.6
3084	HVAC	Ductless Heat Pump 10.8 HSPF2 - Electric furnace baseline	Residential Midstream	SF	NC	11,402	63%	7,209	0.33	16	$835	100%	60%	HP-9	21%	0%	89.0%	75.4%	8.6
3085	HVAC	Ductless Heat Pump 10.8 HSPF2 - Electric furnace baseline	Residential Midstream	MF	MO	8,982	64%	5,743	0.26	16	$668	100%	75%	HP-10	21%	36%	89.0%	79.1%	6.9
3086	HVAC	Ductless Heat Pump 10.8 HSPF2 - Electric furnace baseline	Residential Midstream	MF	NC	8,982	64%	5,743	0.26	16	$668	100%	75%	HP-12	21%	0%	89.0%	79.1%	6.9
3087	HVAC	Ductless Heat Pump 11.7 HSPF2 - Electric furnace	Residential Midstream	SF	MO	11,402	66%	7,546	0.42	16	$1,650	100%	30%	HP-7	21%	36%	89.0%	72.3%	9.4
3088	HVAC	Ductless Heat Pump 11.7 HSPF2 - Electric furnace baseline	Residential Midstream	SF	NC	11,402	66%	7,546	0.42	16	$1,650	100%	30%	HP-9	21%	0%	89.0%	72.3%	9.4
3089	HVAC	Ductless Heat Pump 11.7 HSPF2 - Electric furnace baseline	Residential Midstream	MF	MO	8,982	67%	6,006	0.33	16	$1,320	100%	38%	HP-10	21%	36%	89.0%	72.2%	7.5
3090	HVAC	Ductless Heat Pump 11.7 HSPF2 - Electric furnace baseline	Residential Midstream	MF	NC	8,982	67%	6,006	0.33	16	$1,320	100%	38%	HP-12	21%	0%	89.0%	72.2%	7.5
3091	HVAC	AC Tune Up	Residential Prescriptive	SF	Retrofit	2,021	5%	101	0.11	3	$225	11%	11%	AC TUNE-1	64%	44%	27.4%	27.4%	2.9
3092	HVAC	AC Tune Up	ne Qualified Weatheriz	SF	Retrofit	2,021	5%	101	0.11	3	$225	50%	33%	AC TUNE-2	64%	44%	43.0%	42.4%	1.0
3093	HVAC	AC Tune Up	Residential Prescriptive	MF	Retrofit	1,468	5%	73	0.08	3	$225	11%	11%	AC TUNE-3	64%	44%	27.4%	27.4%	2.3
3094	HVAC	AC Tune Up	ne Qualified Weatheriz	MF	Retrofit	1,468	5%	73	0.08	3	$225	50%	33%	AC TUNE-4	64%	44%	43.0%	42.4%	0.8
3095	HVAC	Ductless Heat Pump 8.5 HSPF2 - Electric baseboard baseline	Residential Midstream	SF	MO	11,402	54%	6,140	0.12	16	$155	100%	100%	HP-13	1%	36%	89.0%	89.0%	13.2
3096	HVAC	Ductless Heat Pump 8.5 HSPF2 - Electric baseboard baseline	Residential Midstream	SF	NC	11,402	54%	6,140	0.12	16	$155	100%	100%	HP-14	1%	0%	89.0%	89.0%	13.2
3097	HVAC	Ductless Heat Pump 8.5 HSPF2 - Electric baseboard baseline	Residential Midstream	MF	MO	8,982	55%	4,904	0.09	16	$124	100%	100%	HP-15	1%	36%	89.0%	89.0%	10.5
3098	HVAC	Ductless Heat Pump 8.5 HSPF2 - Electric baseboard baseline	Residential Midstream	MF	NC	8,982	55%	4,904	0.09	16	$124	100%	100%	HP-16	1%	0%	89.0%	89.0%	10.5
3099	HVAC	Ductless Heat Pump 9.4 HSPF2 - Electric baseboard baseline	Residential Midstream	SF	MO	11,402	58%	6,643	0.23	16	$560	100%	63%	HP-13	1%	36%	89.0%	76.0%	10.9
3100	HVAC	Ductless Heat Pump 9.4 HSPF2 - Electric baseboard baseline	Residential Midstream	SF	NC	11,402	58%	6,643	0.23	16	$560	100%	63%	HP-14	1%	0%	89.0%	76.0%	10.9
3101	HVAC	Ductless Heat Pump 9.4 HSPF2 - Electric baseboard baseline	Residential Midstream	MF	MO	8,982	59%	5,297	0.19	16	$448	100%	78%	HP-15	1%	36%	89.0%	80.2%	8.7
3102	HVAC	Ductless Heat Pump 9.4 HSPF2 - Electric baseboard baseline	Residential Midstream	MF	NC	8,982	59%	5,297	0.19	16	$448	100%	78%	HP-16	1%	0%	89.0%	80.2%	8.7
3103	HVAC	Ductless Heat Pump 10.8 HSPF2 - Electric baseboard baseline	Residential Midstream	SF	MO	11,402	63%	7,209	0.33	16	$835	100%	60%	HP-13	1%	36%	89.0%	75.4%	8.6
3104	HVAC	Ductless Heat Pump 10.8 HSPF2 - Electric baseboard baseline	Residential Midstream	SF	NC	11,402	63%	7,209	0.33	16	$835	100%	60%	HP-14	1%	0%	89.0%	75.4%	8.6
3105	HVAC	Ductless Heat Pump 10.8 HSPF2 - Electric baseboard baseline	Residential Midstream	MF	MO	8,982	64%	5,743	0.26	16	$668	100%	75%	HP-15	1%	36%	89.0%	79.1%	6.9
3106	HVAC	Ductless Heat Pump 10.8 HSPF2 - Electric baseboard baseline	Residential Midstream	MF	NC	8,982	64%	5,743	0.26	16	$668	100%	75%	HP-16	1%	0%	89.0%	79.1%	6.9
3107	HVAC	Ductless Heat Pump 11.7 HSPF2 - Electric baseboard baseline	Residential Midstream	SF	MO	11,402	66%	7,546	0.42	16	$1,650	100%	30%	HP-13	1%	36%	89.0%	72.3%	9.4
3108	HVAC	Ductless Heat Pump 11.7 HSPF2 - Electric baseboard baseline	Residential Midstream	SF	NC	11,402	66%	7,546	0.42	16	$1,650	100%	30%	HP-14	1%	0%	89.0%	72.3%	9.4
3109	HVAC	Ductless Heat Pump 11.7 HSPF2 - Electric baseboard baseline	Residential Midstream	MF	MO	8,982	67%	6,006	0.33	16	$1,320	100%	38%	HP-15	1%	36%	89.0%	72.2%	7.5
3110	HVAC	Ductless Heat Pump 11.7 HSPF2 - Electric baseboard baseline	Residential Midstream	MF	NC	8,982	67%	6,006	0.33	16	$1,320	100%	38%	HP-16	1%	0%	89.0%	72.2%	7.5
3111	HVAC	Central Air Conditioner 15.2 SEER	Residential Midstream	SF	MO	2,021	6%	113	0.12	18	$1,070	23%	23%	CAC-1	64%	22%	54.3%	54.3%	1.5
3112	HVAC	Central Air Conditioner 15.2 SEER	ne Qualified Weatheriz	SF	MO	2,021	6%	113	0.12	18	$1,070	100%	100%	CAC-2	64%	22%	89.0%	89.0%	0.1
3113	HVAC	Central Air Conditioner 15.2 SEER	idential New Construct	SF	NC	2,021	6%	113	0.12	18	$1,070	9%	9%	CAC-3	64%	0%	43.8%	43.8%	3.7
3114	HVAC	Central Air Conditioner 15.2 SEER	Residential Midstream	MF	MO	1,468	6%	82	0.09	18	$1,070	23%	23%	CAC-4	64%	22%	54.3%	54.3%	1.2
3115	HVAC	Central Air Conditioner 15.2 SEER	ne Qualified Weatheriz	MF	MO	1,468	6%	82	0.09	18	$1,070	100%	100%	CAC-5	64%	22%	89.0%	89.0%	0.1
3116	HVAC	Central Air Conditioner 15.2 SEER	idential New Construct	MF	NC	1,468	6%	82	0.09	18	$1,070	9%	9%	CAC-6	64%	0%	43.8%	43.8%	2.9

Appendix B: Residential Measure Assumptions

Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	UCT Score
3117	HVAC	Central Air Conditioner 16.2 SEER	Residential Midstream	SF	MO	2,021	11%	223	0.23	18	$1,270	50%	24%	CAC-1	64%	22%	70.9%	49.4%	2.4
3118	HVAC	Central Air Conditioner 16.2 SEER	ne Qualified Weatheriz	SF	MO	2,021	11%	223	0.23	18	$1,270	100%	100%	CAC-2	64%	22%	89.0%	89.0%	0.2
3119	HVAC	Central Air Conditioner 16.2 SEER	idential New Construct	SF	NC	2,021	11%	223	0.23	18	$1,270	50%	8%	CAC-3	64%	0%	70.9%	39.1%	7.2
3120	HVAC	Central Air Conditioner 16.2 SEER	Residential Midstream	MF	MO	1,468	11%	162	0.19	18	$1,270	24%	24%	CAC-4	64%	22%	49.4%	49.4%	1.9
3121	HVAC	Central Air Conditioner 16.2 SEER	ne Qualified Weatheriz	MF	MO	1,468	11%	162	0.19	18	$1,270	100%	100%	CAC-5	64%	22%	89.0%	89.0%	0.2
3122	HVAC	Central Air Conditioner 16.2 SEER	idential New Construct	MF	NC	1,468	11%	162	0.19	18	$1,270	8%	8%	CAC-6	64%	0%	39.1%	39.1%	5.7
3123	HVAC	Central Air Conditioner 17.2 SEER	Residential Midstream	SF	MO	2,021	16%	321	0.34	18	$1,470	50%	27%	CAC-1	64%	22%	65.4%	48.9%	2.6
3124	HVAC	Central Air Conditioner 17.2 SEER	ne Qualified Weatheriz	SF	MO	2,021	16%	321	0.34	18	$1,470	100%	100%	CAC-2	64%	22%	89.0%	89.0%	0.3
3125	HVAC	Central Air Conditioner 17.2 SEER	idential New Construct	SF	NC	2,021	16%	321	0.34	18	$1,470	50%	7%	CAC-3	64%	0%	65.4%	36.5%	10.4
3126	HVAC	Central Air Conditioner 17.2 SEER	Residential Midstream	MF	MO	1,468	16%	233	0.27	18	$1,470	50%	27%	CAC-4	64%	22%	65.4%	48.9%	2.0
3127	HVAC	Central Air Conditioner 17.2 SEER	ne Qualified Weatheriz	MF	MO	1,468	16%	233	0.27	18	$1,470	100%	100%	CAC-5	64%	22%	89.0%	89.0%	0.2
3128	HVAC	Central Air Conditioner 17.2 SEER	idential New Construct	MF	NC	1,468	16%	233	0.27	18	$1,470	50%	7%	CAC-6	64%	0%	65.4%	36.5%	8.2
3129	HVAC	Smart Thermostat - Heat pump baseline	Residential Prescriptive	SF	Retrofit	6,223	8%	527	0.18	11	$79	100%	63%	T-STAT-1	15%	30%	89.0%	51.3%	10.2
3130	HVAC	Smart Thermostat - Heat pump baseline	Residential Marketplac	SF	Retrofit	6,223	8%	527	0.18	11	$79	100%	100%	T-STAT-1	15%	30%	89.0%	89.0%	5.1
3131	HVAC	Smart Thermostat - Heat pump baseline	Residential Marketplac	SF	Retrofit	6,223	8%	527	0.18	11	$79	100%	100%	T-STAT-1	15%	30%	89.0%	89.0%	5.1
3132	HVAC	Smart Thermostat - Heat pump baseline	Residential Prescriptive	SF	Retrofit	6,223	8%	527	0.18	11	$79	100%	63%	T-STAT-2	15%	30%	89.0%	51.3%	10.2
3133	HVAC	Smart Thermostat - Heat pump baseline	Residential Marketplac	SF	Retrofit	6,223	8%	527	0.18	11	$79	100%	100%	T-STAT-2	15%	30%	89.0%	89.0%	5.1
3134	HVAC	Smart Thermostat - Heat pump baseline	Residential Marketplac	SF	Retrofit	6,223	8%	527	0.18	11	$79	100%	100%	T-STAT-2	15%	30%	89.0%	89.0%	5.1
3135	HVAC	Smart Thermostat - Heat pump baseline	ne Qualified Weatheriz	SF	Retrofit	6,223	8%	527	0.18	11	$79	100%	100%	T-STAT-2	15%	30%	89.0%	89.0%	6.5
3136	HVAC	Smart Thermostat - Heat pump baseline	idential New Construct	SF	NC	6,223	8%	527	0.18	11	$79	100%	63%	T-STAT-3	15%	0%	89.0%	51.3%	10.2
3137	HVAC	Smart Thermostat - Heat pump baseline	Residential Prescriptive	MF	Retrofit	4,838	8%	410	0.14	11	$79	100%	63%	T-STAT-4	15%	30%	89.0%	51.3%	8.1
3138	HVAC	Smart Thermostat - Heat pump baseline	Residential Marketplac	MF	Retrofit	4,838	8%	410	0.14	11	$79	100%	100%	T-STAT-4	15%	30%	89.0%	89.0%	4.1
3139	HVAC	Smart Thermostat - Heat pump baseline	Residential Marketplac	MF	Retrofit	4,838	8%	410	0.14	11	$79	100%	100%	T-STAT-4	15%	30%	89.0%	89.0%	4.1
3140	HVAC	Smart Thermostat - Heat pump baseline	lti-Family Energy Soluti	MF	Retrofit	4,838	8%	410	0.14	11	$79	100%	100%	T-STAT-4	15%	30%	89.0%	89.0%	5.1
3141	HVAC	Smart Thermostat - Heat pump baseline	Residential Prescriptive	MF	Retrofit	4,838	8%	410	0.14	11	$79	100%	63%	T-STAT-5	15%	30%	89.0%	51.3%	8.1
3142	HVAC	Smart Thermostat - Heat pump baseline	Residential Marketplac	MF	Retrofit	4,838	8%	410	0.14	11	$79	100%	100%	T-STAT-5	15%	30%	89.0%	89.0%	4.1
3143	HVAC	Smart Thermostat - Heat pump baseline	ne Qualified Weatheriz	MF	Retrofit	4,838	8%	410	0.14	11	$79	100%	100%	T-STAT-5	15%	30%	89.0%	89.0%	4.1
3144	HVAC	Smart Thermostat - Heat pump baseline	idential New Construct	MF	NC	4,838	8%	410	0.14	11	$79	100%	63%	T-STAT-6	15%	0%	89.0%	51.3%	8.1
3145	HVAC	Smart Thermostat - Furnace baseline	Residential Prescriptive	SF	Retrofit	11,402	8%	967	0.18	11	$79	100%	63%	T-STAT-7	21%	30%	89.0%	51.3%	13.5
3146	HVAC	Smart Thermostat - Furnace baseline	Residential Marketplac	SF	Retrofit	11,402	8%	967	0.18	11	$79	100%	100%	T-STAT-7	21%	30%	89.0%	89.0%	6.8
3147	HVAC	Smart Thermostat - Furnace baseline	Residential Marketplac	SF	Retrofit	11,402	8%	967	0.18	11	$79	100%	100%	T-STAT-7	21%	30%	89.0%	89.0%	6.8
3148	HVAC	Smart Thermostat - Furnace baseline	Residential Prescriptive	SF	Retrofit	11,402	8%	967	0.18	11	$79	100%	63%	T-STAT-8	21%	30%	89.0%	51.3%	13.5
3149	HVAC	Smart Thermostat - Furnace baseline	Residential Marketplac	SF	Retrofit	11,402	8%	967	0.18	11	$79	100%	100%	T-STAT-8	21%	30%	89.0%	89.0%	6.8
3150	HVAC	Smart Thermostat - Furnace baseline	Residential Marketplac	SF	Retrofit	11,402	8%	967	0.18	11	$79	100%	100%	T-STAT-8	21%	30%	89.0%	89.0%	6.8
3151	HVAC	Smart Thermostat - Furnace baseline	ne Qualified Weatheriz	SF	Retrofit	11,402	8%	967	0.18	11	$79	100%	100%	T-STAT-8	21%	30%	89.0%	89.0%	8.6
3152	HVAC	Smart Thermostat - Furnace baseline	idential New Construct	SF	NC	11,402	8%	967	0.18	11	$79	100%	63%	T-STAT-9	21%	0%	89.0%	51.3%	13.5
3153	HVAC	Smart Thermostat - Furnace baseline	Residential Prescriptive	MF	Retrofit	8,982	8%	762	0.14	11	$79	100%	63%	T-STAT-10	21%	30%	89.0%	51.3%	10.7
3154	HVAC	Smart Thermostat - Furnace baseline	Residential Marketplac	MF	Retrofit	8,982	8%	762	0.14	11	$79	100%	100%	T-STAT-10	21%	30%	89.0%	89.0%	5.4
3155	HVAC	Smart Thermostat - Furnace baseline	Residential Marketplac	MF	Retrofit	8,982	8%	762	0.14	11	$79	100%	100%	T-STAT-10	21%	30%	89.0%	89.0%	5.4
3156	HVAC	Smart Thermostat - Furnace baseline	lti-Family Energy Soluti	MF	Retrofit	8,982	8%	762	0.14	11	$79	100%	100%	T-STAT-10	21%	30%	89.0%	89.0%	6.8
3157	HVAC	Smart Thermostat - Furnace baseline	Residential Prescriptive	MF	Retrofit	8,982	8%	762	0.14	11	$79	100%	63%	T-STAT-11	21%	30%	89.0%	51.3%	10.7
3158	HVAC	Smart Thermostat - Furnace baseline	Residential Marketplac	MF	Retrofit	8,982	8%	762	0.14	11	$79	100%	100%	T-STAT-11	21%	30%	89.0%	89.0%	5.4
3159	HVAC	Smart Thermostat - Furnace baseline	ne Qualified Weatheriz	MF	Retrofit	8,982	8%	762	0.14	11	$79	100%	100%	T-STAT-11	21%	30%	89.0%	89.0%	5.4
3160	HVAC	Smart Thermostat - Furnace baseline	idential New Construct	MF	NC	8,982	8%	762	0.14	11	$79	100%	63%	T-STAT-12	21%	0%	89.0%	51.3%	10.7
3161	HVAC	Smart Thermostat - Gas/CAC baseline	Residential Prescriptive	SF	Retrofit	2,021	8%	170	0.18	11	$79	100%	51%	T-STAT-13	57%	30%	89.0%	43.4%	9.5
3162	HVAC	Smart Thermostat - Gas/CAC baseline	Residential Marketplac	SF	Retrofit	2,021	8%	170	0.18	11	$79	100%	63%	T-STAT-13	57%	30%	89.0%	51.3%	7.6
3163	HVAC	Smart Thermostat - Gas/CAC baseline	Residential Marketplac	SF	Retrofit	2,021	8%	170	0.18	11	$79	100%	63%	T-STAT-13	57%	30%	89.0%	51.3%	7.6
3164	HVAC	Smart Thermostat - Gas/CAC baseline	Residential Prescriptive	SF	Retrofit	2,021	8%	170	0.18	11	$79	100%	51%	T-STAT-14	57%	30%	89.0%	43.4%	9.5
3165	HVAC	Smart Thermostat - Gas/CAC baseline	Residential Marketplac	SF	Retrofit	2,021	8%	170	0.18	11	$79	100%	63%	T-STAT-14	57%	30%	89.0%	51.3%	7.6
3166	HVAC	Smart Thermostat - Gas/CAC baseline	Residential Marketplac	SF	Retrofit	2,021	8%	170	0.18	11	$79	100%	63%	T-STAT-14	57%	30%	89.0%	51.3%	7.6
3167	HVAC	Smart Thermostat - Gas/CAC baseline	ne Qualified Weatheriz	SF	Retrofit	2,021	8%	170	0.18	11	$79	100%	100%	T-STAT-14	57%	30%	89.0%	89.0%	4.8
3168	HVAC	Smart Thermostat - Gas/CAC baseline	idential New Construct	SF	NC	2,021	8%	170	0.18	11	$79	100%	51%	T-STAT-15	57%	0%	89.0%	43.4%	9.5
3169	HVAC	Smart Thermostat - Gas/CAC baseline	Residential Marketplac	MF	Retrofit	1,835	8%	154	0.14	11	$79	100%	63%	T-STAT-16	57%	30%	89.0%	51.3%	6.2
3170	HVAC	Smart Thermostat - Gas/CAC baseline	Residential Marketplac	MF	Retrofit	1,835	8%	154	0.14	11	$79	100%	63%	T-STAT-16	57%	30%	89.0%	51.3%	6.2
3171	HVAC	Smart Thermostat - Gas/CAC baseline	lti-Family Energy Soluti	MF	Retrofit	1,835	8%	154	0.14	11	$79	100%	100%	T-STAT-16	57%	30%	89.0%	89.0%	3.9
3172	HVAC	Smart Thermostat - Gas/CAC baseline	Residential Prescriptive	MF	Retrofit	1,835	8%	154	0.14	11	$79	100%	51%	T-STAT-17	57%	30%	89.0%	43.4%	7.7
3173	HVAC	Smart Thermostat - Gas/CAC baseline	Residential Marketplac	MF	Retrofit	1,835	8%	154	0.14	11	$79	100%	63%	T-STAT-17	57%	30%	89.0%	51.3%	6.2
3174	HVAC	Smart Thermostat - Gas/CAC baseline	ne Qualified Weatheriz	MF	Retrofit	1,835	8%	154	0.14	11	$79	100%	63%	T-STAT-17	57%	30%	89.0%	51.3%	6.2

Appendix B: Residential Measure Assumptions

Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	UCT Score
3175	HVAC	Smart Thermostat - Gas/CAC baseline	Residential Marketplac	MF	Retrofit	1,835	8%	154	0.14	11	$79	100%	63%	T-STAT-17	57%	30%	89.0%	51.3%	6.2
3176	HVAC	Smart Thermostat - Gas/CAC baseline	idential New Construct	MF	NC	1,835	8%	154	0.14	11	$79	100%	51%	T-STAT-18	57%	0%	89.0%	43.4%	7.7
3177	HVAC	ECM HVAC Motor	No Program	SF	Retrofit	-	0%	657	0.07	6	$350	50%	25%	ECM-1	97%	35%	48.0%	35.0%	2.6
3178	HVAC	ECM HVAC Motor	No Program	SF	NC	-	0%	657	0.07	6	$350	50%	25%	ECM-2	97%	0%	48.0%	35.0%	2.6
3179	HVAC	ECM HVAC Motor	No Program	MF	Retrofit	-	0%	438	0.07	6	$350	25%	25%	ECM-3	97%	35%	35.0%	35.0%	2.0
3180	HVAC	ECM HVAC Motor	No Program	MF	NC	-	0%	438	0.07	6	$350	25%	25%	ECM-4	97%	0%	35.0%	35.0%	2.0
3181	HVAC	Programmable Thermostat - Heat pump baseline	ne Qualified Weatheriz	SF	Retrofit	6,223	4%	268	0.00	16	$60	100%	100%	T-STAT-2	15%	30%	89.0%	89.0%	2.2
3182	HVAC	Programmable Thermostat - Heat pump baseline	ne Qualified Weatheriz	MF	Retrofit	4,838	4%	214	0.00	16	$60	100%	100%	T-STAT-5	15%	30%	89.0%	89.0%	1.8
3183	HVAC	Programmable Thermostat - Furnace baseline	ne Qualified Weatheriz	SF	Retrofit	11,402	5%	589	0.00	16	$60	100%	100%	T-STAT-8	21%	30%	89.0%	89.0%	4.8
3184	HVAC	Programmable Thermostat - Furnace baseline	ne Qualified Weatheriz	MF	Retrofit	8,982	5%	471	0.00	16	$60	100%	100%	T-STAT-11	21%	30%	89.0%	89.0%	3.9
3185	HVAC	Programmable Thermostat - Gas/CAC baseline	ne Qualified Weatheriz	SF	Retrofit	2,021	0%	0	0.00	16	$60	100%	100%	T-STAT-14	57%	30%	89.0%	89.0%	0.0
3186	HVAC	Programmable Thermostat - Gas/CAC baseline	ne Qualified Weatheriz	MF	Retrofit	1,835	0%	0	0.00	16	$60	100%	100%	T-STAT-17	57%	30%	89.0%	89.0%	0.0
3187	HVAC	ENERGY STAR Room Air Conditioner	In Store Discount	SF	MO	1,234	6%	77	0.08	12	$40	100%	63%	RAC-1	35%	53%	89.0%	50.8%	7.4
3188	HVAC	ENERGY STAR Room Air Conditioner	In Store Discount	SF	NC	1,234	6%	77	0.08	12	$40	100%	63%	RAC-2	35%	0%	89.0%	50.8%	7.4
3189	HVAC	ENERGY STAR Room Air Conditioner	In Store Discount	MF	MO	1,107	6%	70	0.08	12	$40	100%	63%	RAC-3	67%	53%	89.0%	50.8%	7.3
3190	HVAC	ENERGY STAR Room Air Conditioner	In Store Discount	MF	NC	1,107	6%	70	0.08	12	$40	100%	63%	RAC-4	67%	0%	89.0%	50.8%	7.3
3191	HVAC	Room AC Recycling	No Program	SF	Recycle	874	100%	874	0.91	4	$20	100%	25%	Room AC Recycle-1	3%	0%	91.0%	35.0%	163.9
3192	HVAC	Room AC Recycling	No Program	MF	Recycle	793	100%	793	0.91	4	$20	100%	25%	Room AC Recycle-2	3%	0%	91.0%	35.0%	161.1
3193	HVAC	Smart Vents/Sensors - Heat pump baseline	No Program	SF	Retrofit	6,223	9%	560	0.10	15	$1,625	25%	25%	Smart Vent-1	15%	16%	35.0%	35.0%	1.2
3194	HVAC	Smart Vents/Sensors - Heat pump baseline	No Program	SF	NC	6,223	9%	560	0.10	15	$1,625	25%	25%	Smart Vent-2	15%	0%	35.0%	35.0%	1.2
3195	HVAC	Smart Vents/Sensors - Heat pump baseline	No Program	MF	Retrofit	4,838	9%	435	0.04	15	$1,040	25%	25%	Smart Vent-3	15%	16%	35.0%	35.0%	1.1
3196	HVAC	Smart Vents/Sensors - Heat pump baseline	No Program	MF	NC	4,838	9%	435	0.04	15	$1,040	25%	25%	Smart Vent-4	15%	0%	35.0%	35.0%	1.1
3197	HVAC	Smart Vents/Sensors - Furnace baseline	No Program	SF	Retrofit	11,402	9%	1,026	0.18	15	$1,625	50%	25%	Smart Vent-5	21%	16%	48.0%	35.0%	2.2
3198	HVAC	Smart Vents/Sensors - Furnace baseline	No Program	SF	NC	11,402	9%	1,026	0.18	15	$1,625	50%	25%	Smart Vent-6	21%	0%	48.0%	35.0%	2.2
3199	HVAC	Smart Vents/Sensors - Furnace baseline	No Program	MF	Retrofit	8,982	9%	808	0.07	15	$1,040	50%	25%	Smart Vent-7	21%	16%	48.0%	35.0%	2.1
3200	HVAC	Smart Vents/Sensors - Furnace baseline	No Program	MF	NC	8,982	9%	808	0.07	15	$1,040	50%	25%	Smart Vent-8	21%	0%	48.0%	35.0%	2.1
3201	HVAC	Smart Vents/Sensors - Gas/CAC baseline	No Program	SF	Retrofit	2,021	9%	182	0.07	15	$1,625	25%	25%	Smart Vent-9	57%	16%	35.0%	35.0%	0.6
3202	HVAC	Smart Vents/Sensors - Gas/CAC baseline	No Program	SF	NC	2,021	9%	182	0.07	15	$1,625	25%	25%	Smart Vent-10	57%	0%	35.0%	35.0%	0.6
3203	HVAC	Smart Vents/Sensors - Gas/CAC baseline	No Program	MF	Retrofit	1,835	9%	165	0.06	15	$1,040	25%	25%	Smart Vent-11	57%	16%	35.0%	35.0%	0.8
3204	HVAC	Smart Vents/Sensors - Gas/CAC baseline	No Program	MF	NC	1,835	9%	165	0.06	15	$1,040	25%	25%	Smart Vent-12	57%	0%	35.0%	35.0%	0.8
3205	HVAC	Whole House Attic Fan	No Program	SF	Retrofit	2,021	4%	82	0.01	15	$1,128	25%	25%	WHAF-1	10%	22%	35.0%	35.0%	0.2
3206	HVAC	Whole House Attic Fan	No Program	SF	NC	2,021	4%	82	0.01	15	$1,128	25%	25%	WHAF-2	10%	0%	35.0%	35.0%	0.2
3207	HVAC	Whole House Attic Fan	No Program	MF	Retrofit	1,468	6%	82	0.01	15	$1,128	25%	25%	WHAF-3	1%	22%	35.0%	35.0%	0.2
3208	HVAC	Whole House Attic Fan	No Program	MF	NC	1,468	6%	82	0.01	15	$1,128	25%	25%	WHAF-4	1%	0%	35.0%	35.0%	0.2
3209	HVAC	Attic Fan	No Program	SF	Retrofit	2,021	4%	87	0.18	15	$125	100%	25%	AF-1	10%	22%	91.0%	35.0%	14.4
3210	HVAC	Attic Fan	No Program	SF	NC	2,021	4%	87	0.18	15	$125	100%	25%	AF-2	10%	0%	91.0%	35.0%	14.4
3211	HVAC	Attic Fan	No Program	MF	Retrofit	1,468	2%	34	0.12	15	$125	100%	25%	AF-3	1%	22%	91.0%	35.0%	9.2
3212	HVAC	Attic Fan	No Program	MF	NC	1,468	2%	34	0.12	15	$125	100%	25%	AF-4	1%	0%	91.0%	35.0%	9.2
3213	HVAC	ENERGY STAR Bath Vent Fan	In Store Discount	SF	Retrofit	47	84%	39	0.05	19	$48	100%	52%	BATH FAN-1	223%	22%	89.0%	44.2%	5.9
3214	HVAC	ENERGY STAR Bath Vent Fan	In Store Discount	SF	NC	47	84%	39	0.05	19	$48	100%	52%	BATH FAN-2	223%	0%	89.0%	44.2%	5.9
3215	HVAC	ENERGY STAR Bath Vent Fan	In Store Discount	MF	Retrofit	47	84%	39	0.05	19	$48	100%	52%	BATH FAN-3	145%	22%	89.0%	44.2%	5.9
3216	HVAC	ENERGY STAR Bath Vent Fan	In Store Discount	MF	NC	47	84%	39	0.05	19	$48	100%	52%	BATH FAN-4	145%	0%	89.0%	44.2%	5.9
3217	HVAC	Energy Recovery Ventilator - Heat Pump	No Program	SF	Retrofit	6,223	13%	794	0.06	15	$4,710	25%	25%	ERV-1	15%	0%	35.0%	35.0%	0.4
3218	HVAC	Energy Recovery Ventilator - Electric Resistance	No Program	SF	Retrofit	11,402	13%	1,458	0.11	15	$4,710	25%	25%	ERV-2	21%	0%	35.0%	35.0%	0.8
3219	HVAC	Energy Recovery Ventilator - Heat Pump	No Program	SF	NC	6,223	13%	794	0.06	15	$4,710	25%	25%	ERV-3	15%	0%	35.0%	35.0%	0.4
3220	HVAC	Energy Recovery Ventilator - Electric Resistance	No Program	SF	NC	11,402	13%	1,458	0.11	15	$4,710	25%	25%	ERV-4	21%	0%	35.0%	35.0%	0.8
3221	HVAC	Energy Recovery Ventilator - Heat Pump	No Program	MF	Retrofit	4,838	1%	38	0.00	15	$4,710	25%	25%	ERV-5	15%	0%	35.0%	35.0%	0.0
3222	HVAC	Energy Recovery Ventilator - Electric Resistance	No Program	MF	Retrofit	8,982	5%	411	0.03	15	$4,710	25%	25%	ERV-6	21%	0%	35.0%	35.0%	0.2
3223	HVAC	Energy Recovery Ventilator - Heat Pump	No Program	MF	NC	4,838	1%	38	0.00	15	$4,710	25%	25%	ERV-7	15%	0%	35.0%	35.0%	0.0
3224	HVAC	Energy Recovery Ventilator - Electric Resistance	No Program	MF	NC	8,982	5%	411	0.03	15	$4,710	25%	25%	ERV-8	21%	0%	35.0%	35.0%	0.2
3225	HVAC	Eco-Snap Air Conditioning	No Program	SF	MO	1,234	6%	75	0.05	15	$80	100%	25%	RAC-1	35%	0%	91.0%	35.0%	7.4
3226	HVAC	Eco-Snap Air Conditioning	No Program	SF	NC	1,234	6%	75	0.05	15	$80	100%	25%	RAC-2	35%	0%	91.0%	35.0%	7.4
3227	HVAC	Eco-Snap Air Conditioning	No Program	MF	MO	1,107	7%	75	0.05	15	$80	100%	25%	RAC-3	67%	0%	91.0%	35.0%	7.4
3228	HVAC	Eco-Snap Air Conditioning	No Program	MF	NC	1,107	7%	75	0.05	15	$80	100%	25%	RAC-4	67%	0%	91.0%	35.0%	7.4
3229	HVAC	Residential-Sized Sub-Wet Bulb Chiller	No Program	SF	MO	2,021	35%	707	0.50	20	$1,950	75%	25%	CAC-1	64%	0%	64.0%	35.0%	3.7
3230	HVAC	Residential-Sized Sub-Wet Bulb Chiller	No Program	SF	NC	2,021	35%	707	0.50	20	$1,950	75%	25%	CAC-2	64%	0%	64.0%	35.0%	3.7
3231	HVAC	Residential-Sized Sub-Wet Bulb Chiller	No Program	MF	MO	1,835	35%	642	0.50	20	$1,950	75%	25%	CAC-3	64%	0%	64.0%	35.0%	3.6
3232	HVAC	Residential-Sized Sub-Wet Bulb Chiller	No Program	MF	NC	1,835	35%	642	0.50	20	$1,950	75%	25%	CAC-4	64%	0%	64.0%	35.0%	3.6

Appendix B: Residential Measure Assumptions

Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	UCT Score
3233	HVAC	Solar-Assisted Air Conditioning	No Program	SF	MO	2,021	30%	606	0.50	15	$533	100%	25%	CAC-1	64%	0%	91.0%	35.0%	10.6
3234	HVAC	Solar-Assisted Air Conditioning	No Program	SF	NC	2,021	30%	606	0.50	15	$533	100%	25%	CAC-2	64%	0%	91.0%	35.0%	10.6
3235	HVAC	Solar-Assisted Air Conditioning	No Program	MF	MO	1,835	30%	551	0.50	15	$533	100%	25%	CAC-3	64%	0%	91.0%	35.0%	10.4
3236	HVAC	Solar-Assisted Air Conditioning	No Program	MF	NC	1,835	30%	551	0.50	15	$533	100%	25%	CAC-4	64%	0%	91.0%	35.0%	10.4
3237	HVAC	Electro Caloric Heat Pump	No Program	SF	MO	8,255	33%	2,724	1.20	15	$2,508	100%	25%	HP-1	15%	0%	91.0%	35.0%	6.4
3238	HVAC	Electro Caloric Heat Pump	No Program	SF	NC	8,255	33%	2,724	1.20	15	$2,508	100%	25%	HP-2	15%	0%	91.0%	35.0%	6.4
3239	HVAC	Electro Caloric Heat Pump	No Program	MF	MO	5,503	33%	1,816	1.20	15	$2,006	100%	25%	HP-3	15%	0%	91.0%	35.0%	7.1
3240	HVAC	Electro Caloric Heat Pump	No Program	MF	NC	5,503	33%	1,816	1.20	15	$2,006	100%	25%	HP-4	15%	0%	91.0%	35.0%	7.1
4001	Lighting	LED Nightlights	Residential Marketplac	SF	MO	15	93%	14	0.00	8	$3	100%	60%	NIGHT-1	132%	59%	95.0%	58.4%	2.0
4002	Lighting	LED Nightlights	Residential Marketplac	SF	MO	15	93%	14	0.00	8	$3	100%	60%	NIGHT-2	132%	59%	95.0%	58.4%	2.0
4003	Lighting	LED Nightlights	ne Qualified Weatheriz	SF	MO	15	47%	7	0.00	8	$3	100%	100%	NIGHT-2	132%	59%	95.0%	95.0%	0.6
4004	Lighting	LED Nightlights	Residential Marketplac	SF	NC	15	93%	14	0.00	8	$3	100%	60%	NIGHT-3	132%	0%	95.0%	58.4%	2.0
4005	Lighting	LED Nightlights	Residential Marketplac	MF	MO	15	93%	14	0.00	8	$3	100%	60%	NIGHT-4	63%	59%	95.0%	58.4%	2.0
4006	Lighting	LED Nightlights	lti-Family Energy Soluti	MF	MO	15	93%	14	0.00	8	$3	100%	100%	NIGHT-4	63%	59%	95.0%	95.0%	1.2
4007	Lighting	LED Nightlights	Residential Marketplac	MF	MO	15	93%	14	0.00	8	$3	100%	60%	NIGHT-5	63%	59%	95.0%	58.4%	2.0
4008	Lighting	LED Nightlights	ne Qualified Weatheriz	MF	MO	15	93%	14	0.00	8	$3	100%	100%	NIGHT-5	63%	59%	95.0%	95.0%	1.2
4009	Lighting	LED Nightlights	Residential Marketplac	MF	NC	15	93%	14	0.00	8	$3	100%	60%	NIGHT-6	63%	0%	95.0%	58.4%	2.0
4010	Lighting	Ceiling Fan	No Program	SF	MO	36	58%	21	0.00	10	$46	25%	25%	CFAN-1	257%	22%	35.0%	35.0%	0.6
4011	Lighting	Ceiling Fan	No Program	SF	NC	36	58%	21	0.00	10	$46	25%	25%	CFAN-2	257%	0%	35.0%	35.0%	0.6
4012	Lighting	Ceiling Fan	No Program	MF	MO	36	58%	21	0.00	10	$46	25%	25%	CFAN-3	96%	22%	35.0%	35.0%	0.6
4013	Lighting	Ceiling Fan	No Program	MF	NC	36	58%	21	0.00	10	$46	25%	25%	CFAN-4	96%	0%	35.0%	35.0%	0.6
4014	Lighting	Linear LED	No Program	SF	MO	41	45%	18	0.00	10	$10	75%	25%	LINEAR-1	509%	59%	64.0%	35.0%	1.8
4015	Lighting	Linear LED	No Program	SF	NC	41	45%	18	0.00	10	$10	75%	25%	LINEAR-2	509%	0%	64.0%	35.0%	1.8
4016	Lighting	Linear LED	No Program	MF	MO	41	45%	18	0.00	10	$10	75%	25%	LINEAR-3	325%	59%	64.0%	35.0%	1.8
4017	Lighting	Linear LED	No Program	MF	NC	41	45%	18	0.00	9	$10	75%	25%	LINEAR-4	325%	0%	64.0%	35.0%	1.6
4018	Lighting	Occupancy Sensor	No Program	SF	Retrofit	302	30%	89	0.01	10	$30	100%	25%	SENSOR-1	100%	31%	91.0%	35.0%	5.8
4019	Lighting	Occupancy Sensor	No Program	SF	NC	302	30%	89	0.01	10	$30	100%	25%	SENSOR-2	100%	0%	91.0%	35.0%	5.8
4020	Lighting	Occupancy Sensor	No Program	MF	Retrofit	302	30%	89	0.01	10	$30	100%	25%	SENSOR-3	100%	31%	91.0%	35.0%	5.8
4021	Lighting	Occupancy Sensor	No Program	MF	NC	302	30%	89	0.01	10	$30	100%	25%	SENSOR-4	100%	0%	91.0%	35.0%	5.8
4022	Lighting	Exterior Lighting Controls	No Program	SF	Retrofit	108	80%	86	0.00	10	$3	100%	25%	ELC-1	252%	31%	91.0%	35.0%	39.9
4023	Lighting	Exterior Lighting Controls	No Program	SF	NC	108	80%	86	0.00	10	$3	100%	25%	ELC-2	252%	0%	91.0%	35.0%	39.9
4024	Lighting	Exterior Lighting Controls	No Program	MF	Retrofit	108	80%	86	0.00	10	$3	100%	25%	ELC-3	145%	31%	91.0%	35.0%	39.9
4025	Lighting	Exterior Lighting Controls	No Program	MF	NC	108	80%	86	0.00	10	$3	100%	25%	ELC-4	145%	0%	91.0%	35.0%	39.9
4026	Lighting	EISA Exempt LED	No Program	SF	MO	11	50%	6	0.01	15	$2	100%	25%	EISA BULB-1	100%	59%	91.0%	35.0%	35.5
4027	Lighting	EISA Exempt LED	No Program	SF	NC	11	50%	6	0.01	15	$2	100%	25%	EISA BULB-2	100%	0%	91.0%	35.0%	35.5
4028	Lighting	EISA Exempt LED	No Program	MF	MO	11	50%	6	0.01	15	$2	100%	25%	EISA BULB-3	100%	59%	91.0%	35.0%	35.5
4029	Lighting	EISA Exempt LED	No Program	MF	NC	11	50%	6	0.01	15	$2	100%	25%	EISA BULB-4	100%	0%	91.0%	35.0%	35.5
4030	Lighting	Connected LED Lamps	No Program	SF	MO	9	33%	3	0.00	10	$20	25%	25%	CONNECTED LED-1	100%	59%	35.0%	35.0%	0.2
4031	Lighting	Connected LED Lamps	No Program	SF	NC	9	33%	3	0.00	10	$20	25%	25%	CONNECTED LED-2	100%	0%	35.0%	35.0%	0.2
4032	Lighting	Connected LED Lamps	No Program	MF	MO	9	33%	3	0.00	10	$20	25%	25%	CONNECTED LED-3	100%	59%	35.0%	35.0%	0.2
4033	Lighting	Connected LED Lamps	No Program	MF	NC	9	33%	3	0.00	10	$20	25%	25%	CONNECTED LED-4	100%	0%	35.0%	35.0%	0.2
4034	Lighting	Ultra-Efficient LED	No Program	SF	MO	11	50%	6	0.01	20	$3	100%	25%	UE LED-1	100%	59%	91.0%	35.0%	26.7
4035	Lighting	Ultra-Efficient LED	No Program	SF	NC	11	50%	6	0.01	20	$3	100%	25%	UE LED-2	100%	0%	91.0%	35.0%	26.7
4036	Lighting	Ultra-Efficient LED	No Program	MF	MO	11	50%	5	0.01	20	$3	100%	25%	UE LED-3	100%	59%	91.0%	35.0%	25.8
4037	Lighting	Ultra-Efficient LED	No Program	MF	NC	11	50%	5	0.01	20	$3	100%	25%	UE LED-4	100%	0%	91.0%	35.0%	25.8
4038	Lighting	Advanced Lighting	No Program	SF	MO	2,000	10%	200	0.02	18	$194	75%	25%	ADVANCED LIGHT-	100%	0%	64.0%	35.0%	3.3
4039	Lighting	Advanced Lighting	No Program	SF	NC	2,000	10%	200	0.02	18	$194	75%	25%	ADVANCED LIGHT-	100%	0%	64.0%	35.0%	3.3
4040	Lighting	Advanced Lighting	No Program	MF	MO	1,000	10%	100	0.01	18	$97	75%	25%	ADVANCED LIGHT-	100%	0%	64.0%	35.0%	3.3
4041	Lighting	Advanced Lighting	No Program	MF	NC	1,000	10%	100	0.01	18	$97	75%	25%	ADVANCED LIGHT-	100%	0%	64.0%	35.0%	3.3
5001	New Construction	Sub-52 HERS Kicker - Gas Heat + CAC	idential New Construct	SF	NC	11,455	13%	1,523	0.17	25	$160	100%	100%	NC-1	57%	0%	89.0%	89.0%	9.9
5002	New Construction	Whole Home - BOP 1 - Gas Heat + CAC	idential New Construct	SF	NC	11,455	3%	315	0.04	25	$95	100%	100%	NC-1	57%	0%	89.0%	89.0%	3.4
5003	New Construction	Whole Home - BOP 1 - Heat Pump	idential New Construct	SF	NC	11,455	9%	1,013	0.12	20	$375	100%	100%	NC-2	36%	0%	89.0%	89.0%	2.4
5004	New Construction	Whole Home - BOP 2 - Gas Heat + CAC	idential New Construct	SF	NC	11,455	3%	315	0.04	20	$180	100%	100%	NC-1	57%	0%	89.0%	89.0%	1.6
5005	New Construction	Whole Home - BOP 2 - Heat Pump	idential New Construct	SF	NC	11,455	12%	1,351	0.15	20	$600	100%	100%	NC-2	36%	0%	89.0%	89.0%	2.0
5006	New Construction	Sub-52 HERS Kicker - Gas Heat + CAC	idential New Construct	MF	NC	5,728	27%	1,523	0.17	20	$160	100%	100%	NC-3	57%	0%	89.0%	89.0%	3.0
5007	New Construction	Whole Home - BOP 1 - Gas Heat + CAC	idential New Construct	MF	NC	5,728	6%	315	0.04	20	$95	100%	100%	NC-3	57%	0%	89.0%	89.0%	1.1
5008	New Construction	Whole Home - BOP 1 - Heat Pump	idential New Construct	MF	NC	5,728	18%	1,013	0.12	20	$375	100%	100%	NC-4	36%	0%	89.0%	89.0%	2.4
5009	New Construction	Whole Home - BOP 2 - Gas Heat + CAC	idential New Construct	MF	NC	5,728	6%	315	0.04	20	$180	100%	100%	NC-3	57%	0%	89.0%	89.0%	0.6

Appendix B: Residential Measure Assumptions

Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	UCT Score
5010	New Construction	Whole Home - BOP 2 - Heat Pump	idential New Construct	MF	NC	5,728	24%	1,351	0.15	20	$600	100%	100%	NC-4	36%	0%	89.0%	89.0%	2.0
6001	Pool/Pump	Variable Speed Pool Pump	No Program	SF	MO	1,159	26%	297	2.02	7	$314	100%	25%	POOL-1	7%	11%	91.0%	35.0%	32.3
6002	Pool/Pump	Variable Speed Pool Pump	No Program	SF	NC	1,159	26%	297	2.02	7	$314	100%	25%	POOL-2	7%	0%	91.0%	35.0%	32.3
6003	Pool/Pump	Variable Speed Pool Pump	No Program	MF	MO	1,159	26%	297	2.02	7	$314	100%	25%	POOL-3	1%	11%	91.0%	35.0%	32.3
6004	Pool/Pump	Variable Speed Pool Pump	No Program	MF	NC	1,159	26%	297	2.02	7	$314	100%	25%	POOL-4	1%	0%	91.0%	35.0%	32.3
6005	Pool/Pump	Heat Pump Swimming Pool Heater (COP >=6.0)	Residential Prescriptive	SF	MO	15,496	10%	1,594	0.00	15	$1,916	42%	42%	POOL HEATER-1	1%	2%	47.1%	47.1%	0.9
6006	Pool/Pump	Heat Pump Swimming Pool Heater (COP >=6.0)	Residential Prescriptive	SF	NC	15,496	10%	1,594	0.00	15	$1,916	42%	42%	POOL HEATER-2	1%	0%	47.1%	47.1%	0.9
6007	Pool/Pump	Heat Pump Swimming Pool Heater (COP >=6.0)	Residential Prescriptive	MF	MO	15,496	10%	1,594	0.00	15	$1,916	42%	42%	POOL HEATER-3	0%	2%	47.1%	47.1%	0.9
6008	Pool/Pump	Heat Pump Swimming Pool Heater (COP >=6.0)	Residential Prescriptive	MF	NC	15,496	10%	1,594	0.00	15	$1,916	42%	42%	POOL HEATER-4	0%	0%	47.1%	47.1%	0.9
6009	Pool/Pump	Heat Pump Swimming Pool Heater (COP 5.5-5.9)	Residential Prescriptive	SF	MO	15,496	6%	1,005	0.00	15	$1,916	18%	18%	POOL HEATER-1	1%	2%	31.8%	31.8%	1.3
6010	Pool/Pump	Heat Pump Swimming Pool Heater (COP 5.5-5.9)	Residential Prescriptive	SF	NC	15,496	6%	1,005	0.00	15	$1,916	18%	18%	POOL HEATER-2	1%	0%	31.8%	31.8%	1.3
6011	Pool/Pump	Heat Pump Swimming Pool Heater (COP 5.5-5.9)	Residential Prescriptive	MF	MO	15,496	6%	1,005	0.00	15	$1,916	18%	18%	POOL HEATER-3	0%	2%	31.8%	31.8%	1.3
6012	Pool/Pump	Heat Pump Swimming Pool Heater (COP 5.5-5.9)	Residential Prescriptive	MF	NC	15,496	6%	1,005	0.00	15	$1,916	18%	18%	POOL HEATER-4	0%	0%	31.8%	31.8%	1.3
7001	Plug Loads	Smart Power Strips - Tier 1	Residential Marketplac	SF	Retrofit	466	12%	57	0.01	7	$10	100%	60%	TIER 1 SS-1	178%	16%	95.0%	58.6%	3.8
7002	Plug Loads	Smart Power Strips - Tier 1	In Store Discount	SF	Retrofit	466	12%	57	0.01	7	$10	100%	60%	TIER 1 SS-1	178%	16%	95.0%	58.6%	3.8
7003	Plug Loads	Smart Power Strips - Tier 1	Residential Marketplac	SF	NC	466	12%	57	0.01	7	$10	100%	60%	TIER 1 SS-2	178%	0%	95.0%	58.6%	3.8
7004	Plug Loads	Smart Power Strips - Tier 1	Residential Marketplac	MF	Retrofit	466	12%	57	0.01	7	$10	100%	60%	TIER 1 SS-3	178%	16%	95.0%	58.6%	3.8
7005	Plug Loads	Smart Power Strips - Tier 1	In Store Discount	MF	Retrofit	466	12%	57	0.01	7	$10	100%	60%	TIER 1 SS-3	178%	16%	95.0%	58.6%	3.8
7006	Plug Loads	Smart Power Strips - Tier 1	Residential Marketplac	MF	NC	466	12%	57	0.01	7	$10	100%	60%	TIER 1 SS-4	178%	0%	95.0%	58.6%	3.8
7007	Plug Loads	Smart Power Strips - Tier 2	Residential Marketplac	SF	Retrofit	466	29%	136	0.02	7	$20	100%	30%	TIER 2 SS-1	100%	16%	95.0%	41.4%	11.1
7008	Plug Loads	Smart Power Strips - Tier 2	In Store Discount	SF	Retrofit	466	29%	136	0.02	7	$20	100%	30%	TIER 2 SS-1	100%	16%	95.0%	41.4%	11.1
7009	Plug Loads	Smart Power Strips - Tier 2	Residential Marketplac	SF	Retrofit	466	29%	136	0.02	7	$20	100%	30%	TIER 2 SS-2	100%	16%	95.0%	41.4%	11.1
7010	Plug Loads	Smart Power Strips - Tier 2	In Store Discount	SF	Retrofit	466	29%	136	0.02	7	$20	100%	30%	TIER 2 SS-2	100%	16%	95.0%	41.4%	11.1
7011	Plug Loads	Smart Power Strips - Tier 2	ne Qualified Weatheriz	SF	Retrofit	466	29%	136	0.02	7	$20	100%	100%	TIER 2 SS-2	100%	16%	95.0%	95.0%	3.3
7012	Plug Loads	Smart Power Strips - Tier 2	Residential Marketplac	SF	NC	466	29%	136	0.02	7	$20	100%	30%	TIER 2 SS-3	100%	0%	95.0%	41.4%	11.1
7013	Plug Loads	Smart Power Strips - Tier 2	Residential Marketplac	MF	Retrofit	466	29%	136	0.02	7	$20	100%	30%	TIER 2 SS-4	100%	16%	95.0%	41.4%	11.1
7014	Plug Loads	Smart Power Strips - Tier 2	In Store Discount	MF	Retrofit	466	29%	136	0.02	7	$20	100%	30%	TIER 2 SS-4	100%	16%	95.0%	41.4%	11.1
7015	Plug Loads	Smart Power Strips - Tier 2	Residential Marketplac	MF	Retrofit	466	29%	136	0.02	7	$20	100%	30%	TIER 2 SS-5	100%	16%	95.0%	41.4%	11.1
7016	Plug Loads	Smart Power Strips - Tier 2	In Store Discount	MF	Retrofit	466	29%	136	0.02	7	$20	100%	30%	TIER 2 SS-5	100%	16%	95.0%	41.4%	11.1
7017	Plug Loads	Smart Power Strips - Tier 2	ne Qualified Weatheriz	MF	Retrofit	466	29%	136	0.02	7	$20	100%	100%	TIER 2 SS-5	100%	16%	95.0%	95.0%	3.3
7018	Plug Loads	Smart Power Strips - Tier 2	Residential Marketplac	MF	NC	466	29%	136	0.02	7	$20	100%	30%	TIER 2 SS-6	100%	0%	95.0%	41.4%	11.1
7019	Plug Loads	ENERGY STAR Television	No Program	SF	MO	286	25%	72	0.01	5	$60	25%	25%	TV-1	259%	46%	35.0%	35.0%	1.5
7020	Plug Loads	ENERGY STAR Television	No Program	SF	NC	286	25%	72	0.01	5	$60	25%	25%	TV-2	259%	0%	35.0%	35.0%	1.5
7021	Plug Loads	ENERGY STAR Television	No Program	MF	MO	286	25%	72	0.01	5	$60	25%	25%	TV-3	171%	46%	35.0%	35.0%	1.5
7022	Plug Loads	ENERGY STAR Television	No Program	MF	NC	286	25%	72	0.01	5	$60	25%	25%	TV-4	171%	0%	35.0%	35.0%	1.5
7023	Plug Loads	Smart Outlets	No Program	SF	Retrofit	466	11%	50	0.01	7	$9	100%	25%	SMART SOCKET-1	100%	16%	91.0%	35.0%	9.7
7024	Plug Loads	Smart Outlets	No Program	SF	NC	466	11%	50	0.01	7	$9	100%	25%	SMART SOCKET-2	100%	0%	91.0%	35.0%	9.7
7025	Plug Loads	Smart Outlets	No Program	MF	Retrofit	466	11%	50	0.01	7	$9	100%	25%	SMART SOCKET-3	100%	16%	91.0%	35.0%	9.7
7026	Plug Loads	Smart Outlets	No Program	MF	NC	466	11%	50	0.01	7	$9	100%	25%	SMART SOCKET-4	100%	0%	91.0%	35.0%	9.7
7027	Plug Loads	Level 2 Electric Vehicle Charger	No Program	SF	Retrofit	84	72%	61	0.01	10	$47	50%	25%	EV-1	2%	31%	76.4%	72.0%	2.8
7028	Plug Loads	Level 2 Electric Vehicle Charger	No Program	SF	NC	84	72%	61	0.01	10	$47	50%	25%	EV-2	2%	0%	76.4%	72.0%	2.8
7029	Plug Loads	Level 2 Electric Vehicle Charger	No Program	MF	Retrofit	84	72%	61	0.01	10	$47	50%	25%	EV-3	2%	31%	76.4%	72.0%	2.8
7030	Plug Loads	Level 2 Electric Vehicle Charger	No Program	MF	NC	84	72%	61	0.01	10	$47	50%	25%	EV-4	2%	0%	76.4%	72.0%	2.8
8001	Shell	Advanced Walls - Heat pump	No Program	SF	Retrofit	6,223	8%	467	0.08	20	$2,470	25%	25%	WALL-1	15%	88%	45.5%	45.5%	0.8
8002	Shell	Advanced Walls - Heat pump	No Program	MF	Retrofit	4,838	8%	363	0.03	20	$1,581	25%	25%	WALL-2	15%	88%	45.5%	45.5%	0.8
8003	Shell	Advanced Walls - Electric furnace	No Program	SF	Retrofit	11,402	8%	855	0.15	20	$2,470	25%	25%	WALL-3	21%	88%	45.5%	45.5%	1.5
8004	Shell	Advanced Walls - Electric furnace	No Program	MF	Retrofit	8,982	8%	674	0.06	20	$1,581	25%	25%	WALL-4	21%	88%	45.5%	45.5%	1.4
8005	Shell	Advanced Walls - Gas Heating	No Program	SF	Retrofit	2,021	8%	152	0.06	20	$2,470	25%	25%	WALL-5	57%	88%	45.5%	45.5%	0.4
8006	Shell	Advanced Walls - Gas Heating	No Program	MF	Retrofit	1,835	8%	138	0.05	20	$1,581	25%	25%	WALL-6	57%	88%	45.5%	45.5%	0.6
8007	Shell	Air Sealing Inadequate Sealing - Heat pump	lome Energy Assessmer	SF	Retrofit	6,223	16%	979	0.18	20	$769	100%	25%	AIR SEAL-1	15%	73%	91.0%	45.5%	5.5
8008	Shell	Air Sealing Inadequate Sealing - Heat pump	ne Qualified Weatheriz	SF	Retrofit	6,223	16%	979	0.18	20	$769	100%	100%	AIR SEAL-2	15%	73%	91.0%	91.0%	1.4
8009	Shell	Air Sealing Inadequate Sealing - Heat pump	lome Energy Assessmer	MF	Retrofit	4,838	10%	467	0.04	20	$447	75%	25%	AIR SEAL-3	15%	73%	81.8%	45.5%	3.4
8010	Shell	Air Sealing Inadequate Sealing - Heat pump	ne Qualified Weatheriz	MF	Retrofit	4,838	10%	467	0.04	20	$447	100%	100%	AIR SEAL-4	15%	73%	91.0%	91.0%	0.9
8011	Shell	Air Sealing Inadequate Sealing - Electric furnace	lome Energy Assessmer	SF	Retrofit	11,402	13%	1,491	0.27	20	$769	100%	25%	AIR SEAL-5	21%	73%	91.0%	45.5%	8.4
8012	Shell	Air Sealing Inadequate Sealing - Electric furnace	ne Qualified Weatheriz	SF	Retrofit	11,402	13%	1,491	0.27	20	$769	100%	100%	AIR SEAL-6	21%	73%	91.0%	91.0%	2.1
8013	Shell	Air Sealing Inadequate Sealing - Electric furnace	lome Energy Assessmer	MF	Retrofit	8,982	8%	714	0.06	20	$447	100%	25%	AIR SEAL-7	21%	73%	91.0%	45.5%	5.3
8014	Shell	Air Sealing Inadequate Sealing - Electric furnace	ne Qualified Weatheriz	MF	Retrofit	8,982	8%	714	0.06	20	$447	100%	100%	AIR SEAL-8	21%	73%	91.0%	91.0%	1.3
8015	Shell	Air Sealing - Inadequate Sealing - Gas Heating	lome Energy Assessmer	SF	Retrofit	2,021	18%	360	0.13	20	$769	50%	25%	AIR SEAL-9	57%	73%	61.6%	45.5%	3.0

Appendix B: Residential Measure Assumptions

Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	UCT Score
8016	Shell	Air Sealing - Inadequate Sealing - Gas Heating	ne Qualified Weatheriz	SF	Retrofit	2,021	18%	360	0.13	20	$769	100%	100%	AIR SEAL-10	57%	73%	91.0%	91.0%	0.7
8017	Shell	Air Sealing - Inadequate Sealing - Gas Heating	lome Energy Assessmer	MF	Retrofit	1,835	9%	170	0.06	20	$447	50%	25%	AIR SEAL-11	57%	73%	61.6%	45.5%	2.5
8018	Shell	Air Sealing - Inadequate Sealing - Gas Heating	ne Qualified Weatheriz	MF	Retrofit	1,835	9%	170	0.06	20	$447	100%	100%	AIR SEAL-12	57%	73%	91.0%	91.0%	0.6
8019	Shell	Can Foam	In Store Discount	SF	Retrofit	11,455	0%	6	0.00	20	$3	100%	33%	FOAM-1	100%	73%	91.0%	42.2%	6.5
8020	Shell	Can Foam	In Store Discount	MF	Retrofit	5,728	0%	6	0.00	20	$3	100%	33%	FOAM-2	100%	73%	91.0%	42.2%	5.0
8021	Shell	Caulk	No Program	SF	Retrofit	11,455	0%	16	0.00	10	$5	100%	25%	CAULK-1	100%	73%	91.0%	35.0%	8.2
8022	Shell	Caulk	No Program	MF	Retrofit	5,728	0%	16	0.00	10	$5	100%	25%	CAULK-2	100%	73%	91.0%	35.0%	6.3
8023	Shell	Outlet Gaskets	Residential Marketplac	SF	Retrofit	11,455	0%	3	0.00	20	$5	91%	91%	GASKET-1	100%	73%	80.6%	80.6%	1.0
8024	Shell	Outlet Gaskets	Community Connection	SF	Retrofit	11,455	0%	3	0.00	20	$5	100%	100%	GASKET-2	100%	73%	91.0%	91.0%	0.9
8025	Shell	Outlet Gaskets	Residential Marketplac	MF	Retrofit	5,728	0%	3	0.00	20	$5	91%	91%	GASKET-1	100%	73%	80.6%	80.6%	1.0
8026	Shell	Outlet Gaskets	Community Connection	MF	Retrofit	5,728	0%	3	0.00	20	$5	100%	100%	GASKET-2	100%	73%	91.0%	91.0%	0.9
8027	Shell	Door Sweep	In Store Discount	SF	Retrofit	11,455	1%	94	0.02	20	$5	100%	55%	SWEEP-1	100%	73%	91.0%	50.8%	33.8
8028	Shell	Door Sweep	Community Connection	SF	Retrofit	11,455	1%	94	0.01	20	$5	100%	100%	SWEEP-2	100%	73%	91.0%	91.0%	14.2
8029	Shell	Door Sweep	In Store Discount	MF	Retrofit	5,728	2%	94	0.02	20	$5	100%	55%	SWEEP-3	100%	73%	91.0%	50.8%	33.8
8030	Shell	Door Sweep	Community Connection	MF	Retrofit	5,728	2%	94	0.01	20	$5	100%	100%	SWEEP-4	100%	73%	91.0%	91.0%	14.2
8031	Shell	Door and Window Weather Stripping	In Store Discount	SF	Retrofit	11,455	1%	105	0.02	20	$5	100%	18%	WX STRIP-1	100%	73%	91.0%	30.1%	113.3
8032	Shell	Door and Window Weather Stripping	Residential Marketplac	SF	Retrofit	11,455	1%	105	0.02	20	$5	100%	55%	WX STRIP-1	100%	73%	91.0%	50.8%	37.8
8033	Shell	Door and Window Weather Stripping	Community Connection	SF	Retrofit	11,455	1%	105	0.02	20	$5	100%	100%	WX STRIP-2	100%	73%	91.0%	91.0%	20.7
8034	Shell	Door and Window Weather Stripping	In Store Discount	MF	Retrofit	5,728	2%	105	0.01	20	$5	100%	18%	WX STRIP-3	100%	73%	91.0%	30.1%	86.7
8035	Shell	Door and Window Weather Stripping	Residential Marketplac	MF	Retrofit	5,728	2%	105	0.01	20	$5	100%	55%	WX STRIP-3	100%	73%	91.0%	50.8%	28.9
8036	Shell	Door and Window Weather Stripping	Community Connection	MF	Retrofit	5,728	2%	105	0.01	20	$5	100%	100%	WX STRIP-4	100%	73%	91.0%	91.0%	15.8
8037	Shell	Attic Insulation - Inadequate Insulation - Heat	Residential Prescriptive	SF	Retrofit	6,223	10%	610	0.11	30	$1,243	50%	36%	ATTIC-1	15%	88%	61.6%	51.9%	1.9
8038	Shell	Attic Insulation - Inadequate Insulation - Heat	ne Qualified Weatheriz	SF	Retrofit	6,223	10%	610	0.11	30	$1,243	100%	100%	ATTIC-2	15%	88%	91.0%	91.0%	0.6
8039	Shell	Attic Insulation - Inadequate Insulation - Heat	lti-Family Energy Soluti	MF	Retrofit	4,838	12%	575	0.05	30	$1,172	100%	100%	ATTIC-3	15%	88%	91.0%	91.0%	0.5
8040	Shell	Attic Insulation - Inadequate Insulation - Heat	ne Qualified Weatheriz	MF	Retrofit	4,838	12%	575	0.05	30	$1,172	100%	100%	ATTIC-4	15%	88%	91.0%	91.0%	0.4
8041	Shell	Attic Insulation - Inadequate Insulation - Electric	Residential Prescriptive	SF	Retrofit	11,402	8%	950	0.17	30	$1,243	100%	36%	ATTIC-5	21%	88%	91.0%	51.9%	2.9
8042	Shell	Attic Insulation - Inadequate Insulation - Electric	ne Qualified Weatheriz	SF	Retrofit	11,402	8%	950	0.17	30	$1,243	100%	100%	ATTIC-6	21%	88%	91.0%	91.0%	0.9
8043	Shell	Attic Insulation - Inadequate Insulation - Electric	lti-Family Energy Soluti	MF	Retrofit	8,982	10%	895	0.08	30	$1,172	100%	100%	ATTIC-7	21%	88%	91.0%	91.0%	0.8
8044	Shell	Attic Insulation - Inadequate Insulation - Electric	ne Qualified Weatheriz	MF	Retrofit	8,982	10%	895	0.08	30	$1,172	100%	100%	ATTIC-8	21%	88%	91.0%	91.0%	0.7
8045	Shell	Attic Insulation - Inadequate Insulation - Gas	Residential Prescriptive	SF	Retrofit	2,021	15%	307	0.11	30	$1,243	50%	29%	ATTIC-9	57%	88%	61.6%	48.1%	1.7
8046	Shell	Attic Insulation - Inadequate Insulation - Gas	ne Qualified Weatheriz	SF	Retrofit	2,021	15%	307	0.11	30	$1,243	100%	57%	ATTIC-10	57%	88%	91.0%	67.5%	0.9
8047	Shell	Attic Insulation - Inadequate Insulation - Gas	lti-Family Energy Soluti	MF	Retrofit	1,835	12%	220	0.08	30	$1,172	100%	100%	ATTIC-11	57%	88%	91.0%	91.0%	0.4
8048	Shell	Attic Insulation - Inadequate Insulation - Gas	ne Qualified Weatheriz	MF	Retrofit	1,835	12%	220	0.08	30	$1,172	75%	60%	ATTIC-12	57%	88%	81.8%	70.8%	0.7
8049	Shell	Duct Sealing - Inadequate Sealing - Heat pump	Residential Prescriptive	SF	Retrofit	6,223	18%	1,105	0.20	20	$910	100%	27%	DUCT-1	15%	73%	91.0%	47.1%	4.8
8050	Shell	Duct Sealing - Inadequate Sealing - Heat pump	ne Qualified Weatheriz	SF	Retrofit	6,223	18%	1,105	0.20	20	$910	100%	27%	DUCT-2	15%	73%	91.0%	47.1%	4.8
8051	Shell	Duct Sealing - Inadequate Sealing - Heat pump	Residential Prescriptive	MF	Retrofit	4,838	15%	716	0.06	20	$455	100%	55%	DUCT-3	15%	73%	91.0%	65.9%	2.4
8052	Shell	Duct Sealing - Inadequate Sealing - Heat pump	ne Qualified Weatheriz	MF	Retrofit	4,838	15%	716	0.06	20	$455	100%	55%	DUCT-4	15%	73%	91.0%	65.9%	2.4
8053	Shell	Duct Sealing - Inadequate Sealing - Electric furnace	Residential Prescriptive	SF	Retrofit	11,402	15%	1,670	0.30	20	$910	100%	27%	DUCT-5	21%	73%	91.0%	47.1%	7.2
8054	Shell	Duct Sealing - Inadequate Sealing - Electric furnace	ne Qualified Weatheriz	SF	Retrofit	11,402	15%	1,670	0.30	20	$910	100%	27%	DUCT-6	21%	73%	91.0%	47.1%	7.2
8055	Shell	Duct Sealing - Inadequate Sealing - Electric furnace	Residential Prescriptive	MF	Retrofit	8,982	12%	1,092	0.10	20	$455	100%	55%	DUCT-7	21%	73%	91.0%	65.9%	3.6
8056	Shell	Duct Sealing - Inadequate Sealing - Electric furnace	ne Qualified Weatheriz	MF	Retrofit	8,982	12%	1,092	0.10	20	$455	100%	55%	DUCT-8	21%	73%	91.0%	65.9%	3.6
8057	Shell	Duct Sealing - Inadequate Sealing - Gas Heating	Residential Prescriptive	SF	Retrofit	2,021	17%	341	0.12	20	$910	50%	14%	DUCT-9	57%	73%	61.6%	38.5%	4.3
8058	Shell	Duct Sealing - Inadequate Sealing - Gas Heating	ne Qualified Weatheriz	SF	Retrofit	2,021	17%	341	0.12	20	$910	100%	14%	DUCT-10	57%	73%	91.0%	38.5%	4.3
8059	Shell	Duct Sealing - Inadequate Sealing - Gas Heating	Residential Prescriptive	MF	Retrofit	1,835	11%	207	0.08	20	$455	50%	27%	DUCT-11	57%	73%	61.6%	47.1%	2.7
8060	Shell	Duct Sealing - Inadequate Sealing - Gas Heating	ne Qualified Weatheriz	MF	Retrofit	1,835	11%	207	0.08	20	$455	100%	27%	DUCT-12	57%	73%	91.0%	47.1%	2.7
8061	Shell	Rim/Band Joist Insulation - Heat pump	No Program	SF	Retrofit	6,223	2%	117	0.02	30	$208	75%	25%	RIM JOIST-1	15%	88%	81.8%	45.5%	3.1
8062	Shell	Rim/Band Joist Insulation - Heat pump	No Program	MF	Retrofit	4,838	2%	117	0.01	30	$121	100%	25%	RIM JOIST-2	15%	88%	91.0%	45.5%	4.1
8063	Shell	Rim/Band Joist Insulation - Electric furnace	No Program	SF	Retrofit	11,402	2%	187	0.03	30	$208	100%	25%	RIM JOIST-3	21%	88%	91.0%	45.5%	5.0
8064	Shell	Rim/Band Joist Insulation - Electric furnace	No Program	MF	Retrofit	8,982	2%	187	0.02	30	$121	100%	25%	RIM JOIST-4	21%	88%	91.0%	45.5%	6.6
8065	Shell	Rim/Band Joist Insulation - Gas Heating	No Program	SF	Retrofit	2,021	1%	29	0.01	30	$208	25%	25%	RIM JOIST-5	57%	88%	45.5%	45.5%	1.1
8066	Shell	Rim/Band Joist Insulation - Gas Heating	No Program	MF	Retrofit	1,835	2%	29	0.01	30	$121	25%	25%	RIM JOIST-6	57%	88%	45.5%	45.5%	2.0
8067	Shell	Wall Insulation - Heat pump	Residential Prescriptive	SF	Retrofit	6,223	23%	1,442	0.26	30	$1,539	100%	25%	WALL-1	15%	88%	91.0%	45.5%	5.2
8068	Shell	Wall Insulation - Heat pump	ne Qualified Weatheriz	SF	Retrofit	6,223	23%	1,442	0.26	30	$1,539	100%	57%	WALL-2	15%	88%	91.0%	67.7%	2.3
8069	Shell	Wall Insulation - Heat pump	lti-Family Energy Soluti	MF	Retrofit	4,838	7%	340	0.03	30	$363	100%	100%	WALL-3	15%	88%	91.0%	91.0%	1.0
8070	Shell	Wall Insulation - Heat pump	ne Qualified Weatheriz	MF	Retrofit	4,838	7%	340	0.03	30	$363	100%	100%	WALL-4	15%	88%	91.0%	91.0%	0.4
8071	Shell	Wall Insulation - Electric furnace	Residential Prescriptive	SF	Retrofit	11,402	20%	2,320	0.42	30	$1,539	100%	25%	WALL-5	21%	88%	91.0%	45.5%	8.4
8072	Shell	Wall Insulation - Electric furnace	ne Qualified Weatheriz	SF	Retrofit	11,402	20%	2,320	0.42	30	$1,539	100%	57%	WALL-6	21%	88%	91.0%	67.7%	3.7
8073	Shell	Wall Insulation - Electric furnace	lti-Family Energy Soluti	MF	Retrofit	8,982	6%	547	0.05	30	$363	100%	100%	WALL-7	21%	88%	91.0%	91.0%	1.6

Appendix B: Residential Measure Assumptions

Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	UCT Score
8074	Shell	Wall Insulation - Electric furnace	ne Qualified Weatheriz	MF	Retrofit	8,982	6%	547	0.05	30	$363	100%	100%	WALL-8	21%	88%	91.0%	91.0%	0.7
8075	Shell	Wall Insulation - Gas Heating	Residential Prescriptive	SF	Retrofit	2,021	17%	338	0.12	30	$1,539	25%	25%	WALL-9	57%	88%	45.5%	45.5%	1.8
8076	Shell	Wall Insulation - Gas Heating	ne Qualified Weatheriz	SF	Retrofit	2,021	17%	338	0.12	30	$1,539	75%	57%	WALL-10	57%	88%	81.8%	67.7%	0.8
8077	Shell	Wall Insulation - Gas Heating	lti-Family Energy Soluti	MF	Retrofit	1,835	6%	101	0.04	30	$363	100%	100%	WALL-11	57%	88%	91.0%	91.0%	0.6
8078	Shell	Wall Insulation - Gas Heating	ne Qualified Weatheriz	MF	Retrofit	1,835	6%	101	0.04	30	$363	100%	100%	WALL-12	57%	88%	91.0%	91.0%	0.2
8079	Shell	Basement Sidewall Insulation - Heat pump	No Program	SF	Retrofit	6,223	15%	940	0.17	30	$5,171	25%	25%	BASEMENT-1	15%	88%	42.9%	42.9%	1.0
8080	Shell	Basement Sidewall Insulation - Heat pump	No Program	MF	Retrofit	4,838	10%	470	0.04	30	$2,586	25%	25%	BASEMENT-2	15%	88%	45.5%	45.5%	0.8
8081	Shell	Basement Sidewall Insulation - Electric furnace	No Program	SF	Retrofit	11,402	14%	1,636	0.29	30	$5,171	25%	25%	BASEMENT-3	21%	88%	42.9%	42.9%	1.8
8082	Shell	Basement Sidewall Insulation - Electric furnace	No Program	MF	Retrofit	8,982	9%	818	0.07	30	$2,586	25%	25%	BASEMENT-4	21%	88%	45.5%	45.5%	1.3
8083	Shell	Basement Sidewall Insulation - Gas Heating	No Program	SF	Retrofit	2,021	3%	70	0.03	30	$5,171	25%	25%	BASEMENT-5	57%	88%	42.9%	42.9%	0.1
8084	Shell	Basement Sidewall Insulation - Gas Heating	No Program	MF	Retrofit	1,835	2%	35	0.01	30	$2,586	25%	25%	BASEMENT-6	57%	88%	45.5%	45.5%	0.1
8085	Shell	Floor Insulation Above Crawlspace - Heat pump	No Program	SF	Retrofit	6,223	17%	1,088	0.20	30	$961	100%	25%	FLOOR-1	15%	88%	91.0%	45.5%	6.3
8086	Shell	Floor Insulation Above Crawlspace - Heat pump	No Program	MF	Retrofit	4,838	11%	544	0.05	30	$905	50%	25%	FLOOR-2	15%	88%	61.6%	45.5%	2.6
8087	Shell	Floor Insulation Above Crawlspace - Electric furnace	No Program	SF	Retrofit	11,402	16%	1,819	0.33	30	$961	100%	25%	FLOOR-3	21%	88%	91.0%	45.5%	10.5
8088	Shell	Floor Insulation Above Crawlspace - Electric furnace	No Program	MF	Retrofit	8,982	10%	909	0.08	30	$905	100%	25%	FLOOR-4	21%	88%	91.0%	45.5%	4.3
8089	Shell	Floor Insulation Above Crawlspace - Gas Heating	No Program	SF	Retrofit	2,021	8%	162	0.06	30	$961	25%	25%	FLOOR-5	57%	88%	45.5%	45.5%	1.4
8090	Shell	Floor Insulation Above Crawlspace - Gas Heating	No Program	MF	Retrofit	1,835	4%	81	0.03	30	$905	25%	25%	FLOOR-6	57%	88%	45.5%	45.5%	0.7
8091	Shell	ENERGY STAR Windows - Heat pump	No Program	SF	Retrofit	6,223	30%	1,856	0.33	20	$2,159	75%	25%	WINDOW-1	15%	73%	81.8%	44.6%	3.7
8092	Shell	ENERGY STAR Windows - Heat pump	No Program	MF	Retrofit	4,838	22%	1,080	0.10	20	$1,256	50%	25%	WINDOW-2	15%	56%	61.6%	45.5%	2.8
8093	Shell	ENERGY STAR Windows - Electric furnace	No Program	SF	Retrofit	11,402	28%	3,187	0.57	20	$2,159	100%	25%	WINDOW-3	21%	73%	91.0%	44.6%	6.4
8094	Shell	ENERGY STAR Windows - Electric furnace	No Program	MF	Retrofit	8,982	21%	1,854	0.16	20	$1,256	100%	25%	WINDOW-4	21%	56%	91.0%	45.5%	4.9
8095	Shell	ENERGY STAR Windows - Gas Heating	No Program	SF	Retrofit	2,021	15%	300	0.11	20	$2,159	25%	25%	WINDOW-5	57%	73%	44.6%	44.6%	0.9
8096	Shell	ENERGY STAR Windows - Gas Heating	No Program	MF	Retrofit	1,835	9%	167	0.06	20	$1,256	25%	25%	WINDOW-6	57%	56%	45.5%	45.5%	0.9
8097	Shell	Thin Triple Windows - Heat pump	No Program	SF	Retrofit	6,223	6%	393	0.07	40	$12,964	25%	25%	WINDOW-1	15%	73%	37.5%	37.5%	0.2
8098	Shell	Thin Triple Windows - Heat pump	No Program	MF	Retrofit	4,838	5%	229	0.02	40	$8,297	25%	25%	WINDOW-2	15%	56%	39.1%	39.1%	0.1
8099	Shell	Thin Triple Windows - Electric furnace	No Program	SF	Retrofit	11,402	5%	594	0.11	40	$12,964	25%	25%	WINDOW-3	21%	73%	37.5%	37.5%	0.3
8100	Shell	Thin Triple Windows - Electric furnace	No Program	MF	Retrofit	8,982	4%	346	0.03	40	$8,297	25%	25%	WINDOW-4	21%	56%	39.1%	39.1%	0.2
8101	Shell	Thin Triple Windows - Gas heating	No Program	SF	Retrofit	2,021	10%	211	0.08	40	$12,964	25%	25%	WINDOW-5	57%	73%	37.5%	37.5%	0.2
8102	Shell	Thin Triple Windows - Gas heating	No Program	MF	Retrofit	1,835	7%	123	0.05	40	$8,297	25%	25%	WINDOW-6	57%	56%	39.1%	39.1%	0.1
8103	Shell	Window Insulation	Residential Marketplac	SF	Retrofit	11,455	0%	46	0.01	1	$0	100%	100%	WINDOW INS-1	100%	88%	91.0%	91.0%	1.3
8104	Shell	Window Insulation	Residential Marketplac	MF	Retrofit	5,728	1%	46	0.00	1	$0	100%	100%	WINDOW INS-2	100%	88%	91.0%	91.0%	1.0
8105	Shell	Insulated Cellular Shades - Heat pump	No Program	SF	Retrofit	6,223	3%	189	0.03	10	$600	25%	25%	SHADES-1	15%	73%	45.5%	45.5%	0.8
8106	Shell	Insulated Cellular Shades - Heat pump	No Program	MF	Retrofit	4,838	4%	180	0.02	10	$240	25%	25%	SHADES-2	15%	56%	45.5%	45.5%	1.5
8107	Shell	Insulated Cellular Shades - Electric furnace	No Program	SF	Retrofit	11,402	3%	324	0.06	10	$600	25%	25%	SHADES-3	21%	73%	45.5%	45.5%	1.4
8108	Shell	Insulated Cellular Shades - Electric furnace	No Program	MF	Retrofit	8,982	4%	315	0.03	10	$240	50%	25%	SHADES-4	21%	56%	61.6%	45.5%	2.6
8109	Shell	Insulated Cellular Shades - Gas Heating / CAC	No Program	SF	Retrofit	2,021	6%	116	0.04	10	$600	25%	25%	SHADES-5	57%	73%	45.5%	45.5%	0.7
8110	Shell	Insulated Cellular Shades - Gas Heating / CAC	No Program	MF	Retrofit	1,835	5%	85	0.03	10	$240	25%	25%	SHADES-6	57%	56%	45.5%	45.5%	1.4
8111	Shell	Multifamily Whole Building Aerosol Sealing - Heat	lti-Family Energy Soluti	MF	Retrofit	4,838	15%	733	0.06	20	$533	100%	100%	AEROSOL-1	15%	73%	91.0%	91.0%	1.1
8112	Shell	Multifamily Whole Building Aerosol Sealing - Electric furnace	lti-Family Energy Soluti	MF	Retrofit	8,982	14%	1,276	0.11	20	$533	100%	100%	AEROSOL-2	21%	73%	91.0%	91.0%	2.0
8113	Shell	Multifamily Whole Building Aerosol Sealing - Gas Heating / CAC	lti-Family Energy Soluti	MF	Retrofit	1,835	0%	0	0.00	20	$533	100%	100%	AEROSOL-3	57%	73%	91.0%	91.0%	0.0
8114	Shell	Basement Wall Insulation - Nanoinsulation	No Program	SF	Retrofit	11,455	6%	630	0.11	25	$1,327	50%	25%	NANO-1	100%	0%	61.6%	45.5%	2.4
8115	Shell	Basement Wall Insulation - Nanoinsulation	No Program	MF	Retrofit	5,728	6%	315	0.03	25	$1,327	25%	25%	NANO-2	100%	0%	45.5%	45.5%	0.9
8116	Shell	Ceiling / Attic Insulation - Nanoinsulation	No Program	SF	Retrofit	11,455	20%	2,291	0.41	25	$6,310	25%	25%	NANO-3	100%	0%	41.3%	41.3%	1.8
8117	Shell	Ceiling / Attic Insulation - Nanoinsulation	No Program	MF	Retrofit	5,728	20%	1,146	0.10	25	$6,310	25%	25%	NANO-4	100%	0%	41.3%	41.3%	0.7
8118	Shell	Crawlspace Insulation - Nanoinsulation	No Program	SF	Retrofit	11,455	30%	3,437	0.62	25	$1,313	100%	25%	NANO-5	100%	0%	91.0%	45.5%	13.1
8119	Shell	Crawlspace Insulation - Nanoinsulation	No Program	MF	Retrofit	5,728	30%	1,718	0.15	25	$1,313	100%	25%	NANO-6	100%	0%	91.0%	45.5%	5.0
8120	Shell	Floor Insulation - Nanoinsulation	No Program	SF	Retrofit	11,455	2%	229	0.04	25	$1,269	25%	25%	NANO-7	100%	0%	45.5%	45.5%	0.9
8121	Shell	Floor Insulation - Nanoinsulation	No Program	MF	Retrofit	5,728	2%	115	0.01	25	$1,269	25%	25%	NANO-8	100%	0%	45.5%	45.5%	0.3
8122	Shell	Rim and Band Joist Insulation - Nanoinsulation	No Program	SF	Retrofit	11,455	2%	229	0.04	25	$169	100%	25%	NANO-9	100%	0%	91.0%	45.5%	6.8
8123	Shell	Rim and Band Joist Insulation - Nanoinsulation	No Program	MF	Retrofit	5,728	2%	115	0.01	25	$169	50%	25%	NANO-10	100%	0%	61.6%	45.5%	2.6
8124	Shell	Wall Insulation - Nanoinsulation	No Program	SF	Retrofit	11,455	14%	1,604	0.29	25	$3,426	50%	25%	NANO-11	100%	0%	61.6%	45.5%	2.3
8125	Shell	Wall Insulation - Nanoinsulation	No Program	MF	Retrofit	5,728	14%	802	0.07	25	$3,426	25%	25%	NANO-12	100%	0%	45.5%	45.5%	0.9
9001	Water Heating	Heat Pump Water Heater-electric resistance heat	Residential Prescriptive	SF	MO	3,242	57%	1,855	0.09	15	$1,030	100%	78%	HPWH-1	21%	17%	93.0%	84.3%	1.3
9002	Water Heating	Heat Pump Water Heater-electric resistance heat	Residential Midstream	SF	MO	3,242	57%	1,855	0.09	15	$1,030	100%	49%	HPWH-1	21%	17%	93.0%	77.8%	2.1
9003	Water Heating	Heat Pump Water Heater-electric resistance heat	idential New Construct	SF	NC	3,242	57%	1,855	0.09	15	$1,030	100%	49%	HPWH-2	21%	0%	93.0%	77.8%	2.1
9004	Water Heating	Heat Pump Water Heater-electric resistance heat	Residential Prescriptive	MF	MO	3,045	56%	1,707	0.08	15	$1,030	78%	78%	HPWH-3	21%	17%	84.3%	84.3%	1.2
9005	Water Heating	Heat Pump Water Heater-electric resistance heat	Residential Midstream	MF	MO	3,045	56%	1,707	0.08	15	$1,030	75%	49%	HPWH-3	21%	17%	83.5%	77.8%	2.0
9006	Water Heating	Heat Pump Water Heater-electric resistance heat	idential New Construct	MF	NC	3,045	56%	1,707	0.08	15	$1,030	75%	49%	HPWH-4	21%	0%	83.5%	77.8%	2.0

Appendix B: Residential Measure Assumptions

Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	UCT Score
9007	Water Heating	Heat Pump Water Heater-heat pump heat	Residential Prescriptive	SF	MO	3,242	57%	1,863	0.09	15	$1,030	100%	78%	HPWH-5	15%	17%	93.0%	84.3%	1.3
9008	Water Heating	Heat Pump Water Heater-heat pump heat	Residential Midstream	SF	MO	3,242	57%	1,863	0.09	15	$1,030	100%	49%	HPWH-5	15%	17%	93.0%	77.8%	2.1
9009	Water Heating	Heat Pump Water Heater-heat pump heat	idential New Construct	SF	NC	3,242	57%	1,863	0.09	15	$1,030	100%	49%	HPWH-6	15%	0%	93.0%	77.8%	2.1
9010	Water Heating	Heat Pump Water Heater-heat pump heat	Residential Prescriptive	MF	MO	3,045	56%	1,714	0.08	15	$1,030	78%	78%	HPWH-7	15%	17%	84.3%	84.3%	1.2
9011	Water Heating	Heat Pump Water Heater-heat pump heat	Residential Midstream	MF	MO	3,045	56%	1,714	0.08	15	$1,030	75%	49%	HPWH-7	15%	17%	83.5%	77.8%	2.0
9012	Water Heating	Heat Pump Water Heater-heat pump heat	idential New Construct	MF	NC	3,045	56%	1,714	0.08	15	$1,030	75%	49%	HPWH-8	15%	0%	83.5%	77.8%	2.0
9013	Water Heating	Heat Pump Water Heater-gas heat	Residential Prescriptive	SF	MO	3,242	58%	1,872	0.09	15	$1,030	100%	78%	HPWH-9	4%	17%	93.0%	84.3%	1.3
9014	Water Heating	Heat Pump Water Heater-gas heat	Residential Midstream	SF	MO	3,242	58%	1,872	0.09	15	$1,030	100%	49%	HPWH-9	4%	17%	93.0%	77.8%	2.2
9015	Water Heating	Heat Pump Water Heater-gas heat	idential New Construct	SF	NC	3,242	58%	1,872	0.09	15	$1,030	100%	49%	HPWH-10	4%	0%	93.0%	77.8%	2.2
9016	Water Heating	Heat Pump Water Heater-gas heat	Residential Prescriptive	MF	MO	3,045	57%	1,722	0.08	15	$1,030	78%	78%	HPWH-11	4%	17%	84.3%	84.3%	1.2
9017	Water Heating	Heat Pump Water Heater-gas heat	Residential Midstream	MF	MO	3,045	57%	1,722	0.08	15	$1,030	75%	49%	HPWH-11	4%	17%	83.5%	77.8%	2.0
9018	Water Heating	Heat Pump Water Heater-gas heat	idential New Construct	MF	NC	3,045	57%	1,722	0.08	15	$1,030	75%	49%	HPWH-12	4%	0%	83.5%	77.8%	2.0
9019	Water Heating	Thermostatic Restrictor Shower Valve	Residential Marketplac	SF	Retrofit	3,242	2%	80	0.00	10	$35	86%	86%	TRSV-1	90%	14%	75.8%	75.8%	1.1
9020	Water Heating	Thermostatic Restrictor Shower Valve	Residential Marketplac	SF	NC	3,242	2%	80	0.00	10	$35	86%	86%	TRSV-2	90%	0%	75.8%	75.8%	1.1
9021	Water Heating	Thermostatic Restrictor Shower Valve	Residential Marketplac	MF	Retrofit	3,045	2%	65	0.00	10	$35	86%	86%	TRSV-3	58%	14%	75.8%	75.8%	0.9
9022	Water Heating	Thermostatic Restrictor Shower Valve	Residential Marketplac	MF	NC	3,045	2%	65	0.00	10	$35	86%	86%	TRSV-4	58%	0%	75.8%	75.8%	0.9
9023	Water Heating	Drain water Heat Recovery	No Program	SF	Retrofit	3,242	17%	538	0.05	30	$744	75%	25%	DWHR-1	40%	1%	64.0%	35.0%	3.2
9024	Water Heating	Drain water Heat Recovery	No Program	SF	NC	3,242	17%	538	0.05	30	$744	75%	25%	DWHR-2	40%	0%	64.0%	35.0%	3.2
9025	Water Heating	Drain water Heat Recovery	No Program	MF	Retrofit	3,045	14%	439	0.05	30	$744	50%	25%	DWHR-3	40%	1%	48.0%	35.0%	2.8
9026	Water Heating	Drain water Heat Recovery	No Program	MF	NC	3,045	14%	439	0.05	30	$744	50%	25%	DWHR-4	40%	0%	48.0%	35.0%	2.8
9027	Water Heating	Shower Timer	No Program	SF	Retrofit	3,242	3%	92	0.03	2	$5	100%	25%	ST-1	90%	5%	91.0%	35.0%	15.5
9028	Water Heating	Shower Timer	No Program	SF	NC	3,242	3%	92	0.03	2	$5	100%	25%	ST-2	90%	0%	91.0%	35.0%	15.5
9029	Water Heating	Shower Timer	No Program	MF	Retrofit	3,045	2%	76	0.03	2	$5	100%	25%	ST-3	58%	5%	91.0%	35.0%	12.7
9030	Water Heating	Shower Timer	No Program	MF	NC	3,045	2%	76	0.03	2	$5	100%	25%	ST-4	58%	0%	91.0%	35.0%	12.7
9031	Water Heating	Low Flow Showerhead 1.5 gpm	Residential Marketplac	SF	Retrofit	3,242	8%	271	0.03	10	$7	100%	36%	LFSH-1	90%	61%	93.0%	46.0%	54.9
9032	Water Heating	Low Flow Showerhead 1.5 gpm	Residential Marketplac	SF	Retrofit	3,242	8%	271	0.03	10	$7	100%	36%	LFSH-2	90%	61%	93.0%	48.2%	54.9
9033	Water Heating	Low Flow Showerhead 1.5 gpm	ne Qualified Weatheriz	SF	Retrofit	3,242	8%	271	0.03	10	$12	100%	100%	LFSH-2	90%	61%	93.0%	93.0%	11.4
9034	Water Heating	Low Flow Showerhead 1.5 gpm	Residential Marketplac	SF	NC	3,242	8%	271	0.03	10	$7	100%	36%	LFSH-3	90%	0%	93.0%	48.2%	54.9
9035	Water Heating	Low Flow Showerhead 1.5 gpm	Residential Marketplac	MF	Retrofit	3,045	6%	193	0.02	10	$7	100%	36%	LFSH-4	58%	51%	93.0%	48.2%	41.6
9036	Water Heating	Low Flow Showerhead 1.5 gpm	lti-Family Energy Soluti	MF	Retrofit	3,045	6%	193	0.02	10	$12	100%	100%	LFSH-4	58%	51%	93.0%	93.0%	5.0
9037	Water Heating	Low Flow Showerhead 1.5 gpm	Residential Marketplac	MF	Retrofit	3,045	6%	193	0.02	10	$7	100%	36%	LFSH-5	58%	51%	93.0%	48.2%	41.6
9038	Water Heating	Low Flow Showerhead 1.5 gpm	ne Qualified Weatheriz	MF	Retrofit	3,045	6%	193	0.02	10	$7	100%	100%	LFSH-5	58%	51%	93.0%	93.0%	14.9
9039	Water Heating	Low Flow Showerhead 1.5 gpm	lti-Family Energy Soluti	MF	Retrofit	3,045	6%	193	0.02	10	$12	100%	100%	LFSH-5	58%	51%	93.0%	93.0%	8.7
9040	Water Heating	Low Flow Showerhead 1.5 gpm	Residential Marketplac	MF	NC	3,045	6%	193	0.02	10	$7	100%	36%	LFSH-6	58%	0%	93.0%	48.2%	41.6
9041	Water Heating	Kitchen Faucet Aerator 1.5 gpm	Residential Marketplac	SF	Retrofit	3,242	7%	239	0.05	10	$3	100%	83%	KITCH-1	40%	49%	93.0%	73.2%	64.1
9042	Water Heating	Kitchen Faucet Aerator 1.5 gpm	Residential Marketplac	SF	Retrofit	3,242	7%	239	0.05	10	$3	100%	100%	KITCH-2	40%	49%	93.0%	93.0%	53.4
9043	Water Heating	Kitchen Faucet Aerator 1.5 gpm	ne Qualified Weatheriz	SF	Retrofit	3,242	7%	239	0.05	10	$8	100%	100%	KITCH-2	40%	49%	93.0%	93.0%	20.0
9044	Water Heating	Kitchen Faucet Aerator 1.5 gpm	Residential Marketplac	SF	NC	3,242	7%	239	0.05	10	$3	100%	83%	KITCH-3	40%	0%	93.0%	73.2%	64.1
9045	Water Heating	Kitchen Faucet Aerator 1.5 gpm	Residential Marketplac	MF	Retrofit	3,045	6%	195	0.05	10	$3	100%	83%	KITCH-4	40%	38%	93.0%	73.2%	57.8
9046	Water Heating	Kitchen Faucet Aerator 1.5 gpm	lti-Family Energy Soluti	MF	Retrofit	3,045	6%	195	0.05	10	$3	100%	100%	KITCH-4	40%	38%	93.0%	93.0%	48.2
9047	Water Heating	Kitchen Faucet Aerator 1.5 gpm	Residential Marketplac	MF	Retrofit	3,045	6%	195	0.05	10	$3	100%	83%	KITCH-5	40%	38%	93.0%	73.2%	57.8
9048	Water Heating	Kitchen Faucet Aerator 1.5 gpm	ne Qualified Weatheriz	MF	Retrofit	3,045	6%	195	0.05	10	$3	100%	100%	KITCH-5	40%	38%	93.0%	93.0%	48.2
9049	Water Heating	Kitchen Faucet Aerator 1.5 gpm	lti-Family Energy Soluti	MF	Retrofit	3,045	6%	195	0.05	10	$8	100%	100%	KITCH-5	40%	38%	93.0%	93.0%	18.1
9050	Water Heating	Kitchen Faucet Aerator 1.5 gpm	Residential Marketplac	MF	NC	3,045	6%	177	0.04	10	$3	100%	83%	KITCH-6	40%	0%	93.0%	73.2%	52.4
9051	Water Heating	Bathroom Aerator 1.0 gpm	Residential Marketplac	SF	Retrofit	3,242	1%	49	0.07	10	$3	100%	33%	BATH-1	70%	49%	93.0%	44.7%	129.2
9052	Water Heating	Bathroom Aerator 1.0 gpm	Residential Marketplac	SF	Retrofit	3,242	1%	49	0.07	10	$3	100%	100%	BATH-2	70%	49%	93.0%	93.0%	42.2
9053	Water Heating	Bathroom Aerator 1.0 gpm	ne Qualified Weatheriz	SF	Retrofit	3,242	1%	49	0.07	10	$8	100%	100%	BATH-2	70%	49%	93.0%	93.0%	15.8
9054	Water Heating	Bathroom Aerator 1.0 gpm	Residential Marketplac	SF	NC	3,242	1%	49	0.07	10	$3	100%	33%	BATH-3	70%	0%	93.0%	44.7%	129.2
9055	Water Heating	Bathroom Aerator 1.0 gpm	Residential Marketplac	MF	Retrofit	3,045	1%	40	0.04	10	$3	100%	33%	BATH-4	52%	38%	93.0%	44.7%	75.3
9056	Water Heating	Bathroom Aerator 1.0 gpm	lti-Family Energy Soluti	MF	Retrofit	3,045	1%	40	0.04	10	$3	100%	100%	BATH-4	52%	38%	93.0%	93.0%	24.6
9057	Water Heating	Bathroom Aerator 1.0 gpm	Residential Marketplac	MF	Retrofit	3,045	1%	40	0.04	10	$3	100%	33%	BATH-5	52%	38%	93.0%	44.7%	75.3
9058	Water Heating	Bathroom Aerator 1.0 gpm	ne Qualified Weatheriz	MF	Retrofit	3,045	1%	40	0.04	10	$3	100%	100%	BATH-5	52%	38%	93.0%	93.0%	24.6
9059	Water Heating	Bathroom Aerator 1.0 gpm	lti-Family Energy Soluti	MF	Retrofit	3,045	1%	40	0.04	10	$8	100%	100%	BATH-5	52%	38%	93.0%	93.0%	9.2
9060	Water Heating	Bathroom Aerator 1.0 gpm	Residential Marketplac	MF	NC	3,045	1%	40	0.04	10	$3	100%	33%	BATH-6	52%	0%	93.0%	44.7%	75.3
9061	Water Heating	Pipe Wrap	In Store Discount	SF	Retrofit	3,242	8%	247	0.03	12	$18	100%	25%	PIPE-1	40%	17%	93.0%	37.0%	33.7
9062	Water Heating	Pipe Wrap	Residential Marketplac	SF	Retrofit	3,242	8%	247	0.03	12	$18	100%	11%	PIPE-1	40%	17%	93.0%	26.3%	75.8
9063	Water Heating	Pipe Wrap	In Store Discount	SF	Retrofit	3,242	8%	247	0.03	12	$18	100%	100%	PIPE-2	40%	17%	93.0%	93.0%	8.4
9064	Water Heating	Pipe Wrap	Residential Marketplac	SF	Retrofit	3,242	8%	247	0.03	12	$18	100%	11%	PIPE-2	40%	17%	93.0%	26.3%	75.8

Appendix B: Residential Measure Assumptions

Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	UCT Score
9065	Water Heating	Pipe Wrap	ne Qualified Weatheriz	SF	Retrofit	3,242	8%	247	0.03	12	$18	100%	100%	PIPE-2	40%	17%	93.0%	93.0%	8.4
9066	Water Heating	Pipe Wrap	In Store Discount	MF	Retrofit	3,045	8%	247	0.03	12	$18	100%	25%	PIPE-3	40%	17%	93.0%	37.0%	33.7
9067	Water Heating	Pipe Wrap	Residential Marketplac	MF	Retrofit	3,045	8%	247	0.03	12	$18	100%	11%	PIPE-3	40%	17%	93.0%	26.3%	75.8
9068	Water Heating	Pipe Wrap	In Store Discount	MF	Retrofit	3,045	8%	247	0.03	12	$18	100%	100%	PIPE-4	40%	17%	93.0%	93.0%	8.4
9069	Water Heating	Pipe Wrap	Residential Marketplac	MF	Retrofit	3,045	8%	247	0.03	12	$18	100%	11%	PIPE-4	40%	17%	93.0%	26.3%	75.8
9070	Water Heating	Pipe Wrap	ne Qualified Weatheriz	MF	Retrofit	3,045	8%	247	0.03	12	$18	100%	100%	PIPE-4	40%	17%	93.0%	93.0%	8.4
9071	Water Heating	Water Heater Temperature Setback	No Program	SF	Retrofit	3,242	4%	121	0.01	2	$5	100%	25%	WH TEMP-1	40%	54%	91.0%	35.0%	13.5
9072	Water Heating	Water Heater Temperature Setback	No Program	SF	Retrofit	3,242	4%	121	0.01	2	$5	100%	25%	WH TEMP-2	40%	54%	91.0%	35.0%	3.4
9073	Water Heating	Water Heater Temperature Setback	No Program	SF	Retrofit	3,242	4%	121	0.01	2	$5	100%	25%	WH TEMP-2	40%	54%	91.0%	35.0%	3.4
9074	Water Heating	Water Heater Temperature Setback	No Program	MF	Retrofit	3,045	4%	121	0.01	2	$5	100%	25%	WH TEMP-3	40%	54%	91.0%	35.0%	13.5
9075	Water Heating	Water Heater Temperature Setback	No Program	MF	Retrofit	3,045	4%	121	0.01	2	$5	100%	25%	WH TEMP-4	40%	54%	91.0%	35.0%	3.4
9076	Water Heating	Water Heater Temperature Setback	No Program	MF	Retrofit	3,045	4%	121	0.01	2	$5	100%	25%	WH TEMP-4	40%	54%	91.0%	35.0%	3.4
9077	Water Heating	Recirculating Pump Controls	No Program	SF	MO	3,242	15%	484	0.04	15	$222	100%	25%	RECIRC-1	40%	36%	91.0%	35.0%	5.6
9078	Water Heating	Recirculating Pump Controls	No Program	SF	NC	3,242	15%	484	0.04	15	$222	100%	25%	RECIRC-2	40%	0%	91.0%	35.0%	5.6
9079	Water Heating	Recirculating Pump Controls	No Program	MF	MO	3,045	15%	460	0.03	15	$222	100%	25%	RECIRC-3	40%	36%	91.0%	35.0%	5.2
9080	Water Heating	Recirculating Pump Controls	No Program	MF	NC	3,045	15%	460	0.03	15	$222	100%	25%	RECIRC-4	40%	0%	91.0%	35.0%	5.2
3241	HVAC	Ductless Heat Pump 8.5 HSPF2 - Electric furnace baseline	Income Qualified HEAR	SF	MO	11,402	54%	6,140	0.12	16	$3,608	100%	83%	HP-8	21%	36%	89.0%	81.9%	1.1
3242	HVAC	Ductless Heat Pump 8.5 HSPF2 - Electric furnace baseline	Income Qualified HEAR	MF	MO	8,982	55%	4,904	0.09	16	$2,886	100%	100%	HP-11	21%	36%	89.0%	89.0%	0.9
3243	HVAC	Ductless Heat Pump 9.4 HSPF2 - Electric furnace baseline	Income Qualified HEAR	SF	MO	11,402	58%	6,643	0.23	16	$4,013	100%	75%	HP-8	21%	36%	89.0%	79.1%	1.3
3244	HVAC	Ductless Heat Pump 9.4 HSPF2 - Electric furnace baseline	Income Qualified HEAR	MF	MO	8,982	59%	5,297	0.19	16	$3,210	100%	93%	HP-11	21%	36%	89.0%	86.0%	1.0
3245	HVAC	Ductless Heat Pump 10.8 HSPF2 - Electric furnace baseline	Income Qualified HEAR	SF	MO	11,402	63%	7,209	0.33	16	$4,288	100%	70%	HP-8	21%	36%	89.0%	77.8%	1.4
3246	HVAC	Ductless Heat Pump 10.8 HSPF2 - Electric furnace baseline	Income Qualified HEAR	MF	MO	8,982	64%	5,743	0.26	16	$3,430	100%	87%	HP-11	21%	36%	89.0%	83.6%	1.1
3247	HVAC	Ductless Heat Pump 11.7 HSPF2 - Electric furnace baseline	Income Qualified HEAR	SF	MO	11,402	66%	7,546	0.42	16	$5,103	100%	59%	HP-8	21%	36%	89.0%	73.3%	1.6
3248	HVAC	Ductless Heat Pump 11.7 HSPF2 - Electric furnace baseline	Income Qualified HEAR	MF	MO	8,982	67%	6,006	0.33	16	$4,082	100%	73%	HP-11	21%	36%	89.0%	78.7%	1.2
3249	HVAC	Ductless Heat Pump 8.5 HSPF2 - Electric baseboard baseline	Income Qualified HEAR	SF	MO	11,402	54%	6,140	0.12	16	$3,608	100%	83%	HP-8	1%	36%	89.0%	81.9%	1.1
3250	HVAC	Ductless Heat Pump 8.5 HSPF2 - Electric baseboard baseline	Income Qualified HEAR	MF	MO	8,982	55%	4,904	0.09	16	$2,886	100%	100%	HP-11	1%	36%	89.0%	89.0%	0.9
3251	HVAC	Ductless Heat Pump 9.4 HSPF2 - Electric baseboard baseline	Income Qualified HEAR	SF	MO	11,402	58%	6,643	0.23	16	$4,013	100%	75%	HP-8	1%	36%	89.0%	79.1%	1.3
3252	HVAC	Ductless Heat Pump 9.4 HSPF2 - Electric baseboard baseline	Income Qualified HEAR	MF	MO	8,982	59%	5,297	0.19	16	$3,210	100%	93%	HP-11	1%	36%	89.0%	86.0%	1.0
3253	HVAC	Ductless Heat Pump 10.8 HSPF2 - Electric baseboard baseline	Income Qualified HEAR	SF	MO	11,402	63%	7,209	0.33	16	$4,288	100%	70%	HP-8	1%	36%	89.0%	77.8%	1.4
3254	HVAC	Ductless Heat Pump 10.8 HSPF2 - Electric baseboard baseline	Income Qualified HEAR	MF	MO	8,982	64%	5,743	0.26	16	$3,430	100%	87%	HP-11	1%	36%	89.0%	83.6%	1.1
3255	HVAC	Ductless Heat Pump 11.7 HSPF2 - Electric baseboard baseline	Income Qualified HEAR	SF	MO	11,402	66%	7,546	0.42	16	$5,103	100%	59%	HP-8	1%	36%	89.0%	73.3%	1.6
3256	HVAC	Ductless Heat Pump 11.7 HSPF2 - Electric baseboard baseline	Income Qualified HEAR	MF	MO	8,982	67%	6,006	0.33	16	$4,082	100%	73%	HP-11	1%	36%	89.0%	78.7%	1.2
9081	Water Heating	Heat Pump Water Heater-electric resistance heat	Income Qualified HEAR	SF	MO	3,242	57%	1,855	0.09	15	$2,062	100%	100%	HPWH-13	21%	17%	93.0%	93.0%	0.5
9082	Water Heating	Heat Pump Water Heater-electric resistance heat	Income Qualified HEAR	MF	MO	3,045	56%	1,707	0.08	15	$2,062	100%	100%	HPWH-14	21%	17%	93.0%	93.0%	0.5
9083	Water Heating	Heat Pump Water Heater-heat pump heat	Income Qualified HEAR	SF	MO	3,242	57%	1,863	0.09	15	$2,062	100%	100%	HPWH-15	15%	17%	93.0%	93.0%	0.5
9084	Water Heating	Heat Pump Water Heater-heat pump heat	Income Qualified HEAR	MF	MO	3,045	56%	1,714	0.08	15	$2,062	100%	100%	HPWH-16	15%	17%	93.0%	93.0%	0.5
9085	Water Heating	Heat Pump Water Heater-gas heat	Income Qualified HEAR	SF	MO	3,242	58%	1,872	0.09	15	$2,062	100%	100%	HPWH-17	4%	17%	93.0%	93.0%	0.5
9086	Water Heating	Heat Pump Water Heater-gas heat	Income Qualified HEAR	MF	MO	3,045	57%	1,722	0.08	15	$2,062	100%	100%	HPWH-18	4%	17%	93.0%	93.0%	0.5

APPENDIX C. C&I MEASURE DETAIL

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
1	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Assembly	TOS	per unit	19,496	39%	7,532	0.88	0.80	12	$2,270	100%	44%	67%	1	17%	55%	88.0%	81.6%	84.0%	4.9
2	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Education	TOS	per unit	19,496	39%	7,532	0.88	0.29	12	$2,270	100%	44%	67%	1	17%	55%	88.0%	81.6%	84.0%	4.9
3	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Food Sales	TOS	per unit	19,496	39%	7,532	0.88	0.95	12	$2,270	100%	44%	67%	1	17%	55%	88.0%	81.6%	84.0%	5.0
4	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Food Service	TOS	per unit	19,496	39%	7,532	0.88	1.24	12	$2,270	100%	44%	67%	1	17%	55%	88.0%	81.6%	84.0%	5.0
5	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Health	TOS	per unit	19,496	39%	7,532	0.88	0.76	12	$2,270	100%	44%	67%	1	17%	55%	88.0%	81.6%	84.0%	4.9
6	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Lodging	TOS	per unit	19,496	39%	7,532	0.88	0.74	12	$2,270	100%	44%	67%	1	17%	55%	88.0%	81.6%	84.0%	4.9
7	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Retail	TOS	per unit	19,496	39%	7,532	0.88	0.95	12	$2,270	100%	44%	67%	1	17%	55%	88.0%	81.6%	84.0%	5.0
8	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Office	TOS	per unit	19,496	39%	7,532	0.88	0.80	12	$2,270	100%	44%	67%	1	17%	55%	88.0%	81.6%	84.0%	4.9
9	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Warehouse	TOS	per unit	19,496	39%	7,532	0.88	0.80	12	$2,270	100%	44%	67%	1	17%	55%	88.0%	81.6%	84.0%	4.9
10	Cooking	Commercial Combination Oven (Electric)	Biz - Prescriptive	Other	TOS	per unit	19,496	39%	7,532	0.88	0.86	12	$2,270	100%	44%	67%	1	17%	55%	88.0%	81.6%	84.0%	4.9
11	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Assembly	TOS	per unit	10,864	19%	2,064	0.19	0.22	12	$960	100%	36%	63%	1	17%	19%	88.0%	77.2%	81.5%	3.6
12	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Education	TOS	per unit	10,864	19%	2,064	0.19	0.08	12	$960	100%	36%	63%	1	17%	19%	88.0%	77.2%	81.5%	3.6
13	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Food Sales	TOS	per unit	10,864	19%	2,064	0.19	0.26	12	$960	100%	36%	63%	1	17%	19%	88.0%	77.2%	81.5%	3.6
14	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Food Service	TOS	per unit	10,864	19%	2,064	0.19	0.34	12	$960	100%	36%	63%	1	17%	19%	88.0%	77.2%	81.5%	3.6
15	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Health	TOS	per unit	10,864	19%	2,064	0.19	0.21	12	$960	100%	36%	63%	1	17%	19%	88.0%	77.2%	81.5%	3.6
16	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Lodging	TOS	per unit	10,864	19%	2,064	0.19	0.20	12	$960	100%	36%	63%	1	17%	19%	88.0%	77.2%	81.5%	3.6
17	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Retail	TOS	per unit	10,864	19%	2,064	0.19	0.26	12	$960	100%	36%	63%	1	17%	19%	88.0%	77.2%	81.5%	3.6
18	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Office	TOS	per unit	10,864	19%	2,064	0.19	0.22	12	$960	100%	36%	63%	1	17%	19%	88.0%	77.2%	81.5%	3.6
19	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Warehouse	TOS	per unit	10,864	19%	2,064	0.19	0.22	12	$960	100%	36%	63%	1	17%	19%	88.0%	77.2%	81.5%	3.6
20	Cooking	Commercial Electric Convection Oven	Biz - Prescriptive	Other	TOS	per unit	10,864	19%	2,064	0.19	0.24	12	$960	100%	36%	63%	1	17%	19%	88.0%	77.2%	81.5%	3.6
21	Cooking	Commercial Electric Griddle	Biz - Prescriptive	Assembly	TOS	per unit	17,056	15%	2,596	0.23	0.28	12	$0	100%	100%	100%	2	14%	19%	88.0%	88.0%	88.0%	2.8
22	Cooking	Commercial Electric Griddle	Biz - Prescriptive	Education	TOS	per unit	17,056	15%	2,596	0.23	0.10	12	$0	100%	100%	100%	2	14%	19%	88.0%	88.0%	88.0%	2.8
23	Cooking	Commercial Electric Griddle	Biz - Prescriptive	Food Sales	TOS	per unit	17,056	15%	2,596	0.23	0.33	12	$0	100%	100%	100%	2	14%	19%	88.0%	88.0%	88.0%	2.8
24	Cooking	Commercial Electric Griddle	Biz - Prescriptive	Food Service	TOS	per unit	17,056	15%	2,596	0.23	0.43	12	$0	100%	100%	100%	2	14%	19%	88.0%	88.0%	88.0%	2.9
25	Cooking	Commercial Electric Griddle	Biz - Prescriptive	Health	TOS	per unit	17,056	15%	2,596	0.23	0.26	12	$0	100%	100%	100%	2	14%	19%	88.0%	88.0%	88.0%	2.8
26	Cooking	Commercial Electric Griddle	Biz - Prescriptive	Lodging	TOS	per unit	17,056	15%	2,596	0.23	0.25	12	$0	100%	100%	100%	2	14%	19%	88.0%	88.0%	88.0%	2.8
27	Cooking	Commercial Electric Griddle	Biz - Prescriptive	Retail	TOS	per unit	17,056	15%	2,596	0.23	0.33	12	$0	100%	100%	100%	2	14%	19%	88.0%	88.0%	88.0%	2.8
28	Cooking	Commercial Electric Griddle	Biz - Prescriptive	Office	TOS	per unit	17,056	15%	2,596	0.23	0.28	12	$0	100%	100%	100%	2	14%	19%	88.0%	88.0%	88.0%	2.8
29	Cooking	Commercial Electric Griddle	Biz - Prescriptive	Warehouse	TOS	per unit	17,056	15%	2,596	0.23	0.28	12	$0	100%	100%	100%	2	14%	19%	88.0%	88.0%	88.0%	2.8
30	Cooking	Commercial Electric Griddle	Biz - Prescriptive	Other	TOS	per unit	17,056	15%	2,596	0.23	0.30	12	$0	100%	100%	100%	2	14%	19%	88.0%	88.0%	88.0%	2.8
31	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Assembly	TOS	per unit	17,057	80%	13,645	2.43	1.45	12	$2,757	100%	22%	51%	3	6%	25%	88.0%	82.0%	84.0%	17.7
32	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Education	TOS	per unit	17,057	80%	13,645	2.43	0.52	12	$2,757	100%	22%	51%	3	6%	25%	88.0%	82.0%	84.0%	17.6
33	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Food Sales	TOS	per unit	17,057	80%	13,645	2.43	1.72	12	$2,757	100%	22%	51%	3	6%	25%	88.0%	82.0%	84.0%	17.7
34	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Food Service	TOS	per unit	17,057	80%	13,645	2.43	2.24	12	$2,757	100%	22%	51%	3	6%	25%	88.0%	82.0%	84.0%	17.8
35	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Health	TOS	per unit	17,057	80%	13,645	2.43	1.38	12	$2,757	100%	22%	51%	3	6%	25%	88.0%	82.0%	84.0%	17.7
36	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Lodging	TOS	per unit	17,057	80%	13,645	2.43	1.34	12	$2,757	100%	22%	51%	3	6%	25%	88.0%	82.0%	84.0%	17.7
37	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Retail	TOS	per unit	17,057	80%	13,645	2.43	1.71	12	$2,757	100%	22%	51%	3	6%	25%	88.0%	82.0%	84.0%	17.7
38	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Office	TOS	per unit	17,057	80%	13,645	2.43	1.45	12	$2,757	100%	22%	51%	3	6%	25%	88.0%	82.0%	84.0%	17.7
39	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Warehouse	TOS	per unit	17,057	80%	13,645	2.43	1.45	12	$2,757	100%	22%	51%	3	6%	25%	88.0%	82.0%	84.0%	17.7
40	Cooking	Commercial Electric Steam Cooker	Biz - Prescriptive	Other	TOS	per unit	17,057	80%	13,645	2.43	1.56	12	$2,757	100%	22%	51%	3	6%	25%	88.0%	82.0%	84.0%	17.7
41	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Assembly	TOS	per unit	35,655	44%	15,766	0.98	1.68	16	$467	100%	75%	10%	4	26%	6%	88.0%	87.7%	86.9%	30.6
42	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Education	TOS	per unit	35,655	44%	15,766	0.98	0.60	16	$467	100%	75%	10%	4	26%	6%	88.0%	87.7%	86.9%	30.3
43	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Food Sales	TOS	per unit	35,655	44%	15,766	0.98	1.99	16	$467	100%	75%	10%	4	26%	6%	88.0%	87.7%	86.9%	30.7
44	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Food Service	TOS	per unit	35,655	44%	15,766	0.98	2.59	16	$467	100%	75%	10%	4	26%	6%	88.0%	87.7%	86.9%	30.8
45	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Health	TOS	per unit	35,655	44%	15,766	0.98	1.59	16	$467	100%	75%	10%	4	26%	6%	88.0%	87.7%	86.9%	30.6
46	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Lodging	TOS	per unit	35,655	44%	15,766	0.98	1.55	16	$467	100%	75%	10%	4	26%	6%	88.0%	87.7%	86.9%	30.6
47	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Retail	TOS	per unit	35,655	44%	15,766	0.98	1.98	16	$467	100%	75%	10%	4	26%	6%	88.0%	87.7%	86.9%	30.7
48	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Office	TOS	per unit	35,655	44%	15,766	0.98	1.68	16	$467	100%	75%	10%	4	26%	6%	88.0%	87.7%	86.9%	30.6
49	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Warehouse	TOS	per unit	35,655	44%	15,766	0.98	1.68	16	$467	100%	75%	10%	4	26%	6%	88.0%	87.7%	86.9%	30.6
50	Cooking	Dishwasher Low Temp Door (Energy Star)	Biz - Prescriptive	Other	TOS	per unit	35,655	44%	15,766	0.98	1.80	16	$467	100%	75%	10%	4	26%	6%	88.0%	87.7%	86.9%	30.6
51	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Assembly	TOS	per unit	38,282	16%	6,279	0.39	0.67	15	$1,550	100%	61%	59%	4	26%	6%	88.0%	84.2%	84.0%	4.3
52	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Education	TOS	per unit	38,282	16%	6,279	0.39	0.24	15	$1,550	100%	61%	59%	4	26%	6%	88.0%	84.2%	84.0%	4.2
53	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Food Sales	TOS	per unit	38,282	16%	6,279	0.39	0.79	15	$1,550	100%	61%	59%	4	26%	6%	88.0%	84.2%	84.0%	4.3
54	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Food Service	TOS	per unit	38,282	16%	6,279	0.39	1.03	15	$1,550	100%	61%	59%	4	26%	6%	88.0%	84.2%	84.0%	4.3
55	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Health	TOS	per unit	38,282	16%	6,279	0.39	0.63	15	$1,550	100%	61%	59%	4	26%	6%	88.0%	84.2%	84.0%	4.3
56	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Lodging	TOS	per unit	38,282	16%	6,279	0.39	0.62	15	$1,550	100%	61%	59%	4	26%	6%	88.0%	84.2%	84.0%	4.3
57	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Retail	TOS	per unit	38,282	16%	6,279	0.39	0.79	15	$1,550	100%	61%	59%	4	26%	6%	88.0%	84.2%	84.0%	4.3
58	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Office	TOS	per unit	38,282	16%	6,279	0.39	0.67	15	$1,550	100%	61%	59%	4	26%	6%	88.0%	84.2%	84.0%	4.3
59	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Warehouse	TOS	per unit	38,282	16%	6,279	0.39	0.67	15	$1,550	100%	61%	59%	4	26%	6%	88.0%	84.2%	84.0%	4.3
60	Cooking	Dishwasher High Temp Door (Energy Star)	Biz - Prescriptive	Other	TOS	per unit	38,282	16%	6,279	0.39	0.72	15	$1,550	100%	61%	59%	4	26%	6%	88.0%	84.2%	84.0%	4.3
61	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Assembly	TOS	per unit	18,955	17%	3,274	0.22	0.35	12	$1,500	100%	16%	64%	5	27%	25%	88.0%	69.4%	81.7%	7.6
62	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Education	TOS	per unit	18,955	17%	3,274	0.22	0.13	12	$1,500	100%	16%	64%	5	27%	25%	88.0%	69.4%	81.7%	7.5
63	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Food Sales	TOS	per unit	18,955	17%	3,274	0.22	0.41	12	$1,500	100%	16%	64%	5	27%	25%	88.0%	69.4%	81.7%	7.6
64	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Food Service	TOS	per unit	18,955	17%	3,274	0.22	0.54	12	$1,500	100%	16%	64%	5	27%	25%	88.0%	69.4%	81.7%	7.6
65	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Health	TOS	per unit	18,955	17%	3,274	0.22	0.33	12	$1,500	100%	16%	64%	5	27%	25%	88.0%	69.4%	81.7%	7.6
66	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Lodging	TOS	per unit	18,955	17%	3,274	0.22	0.32	12	$1,500	100%	16%	64%	5	27%	25%	88.0%	69.4%	81.7%	7.6
67	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Retail	TOS	per unit	18,955	17%	3,274	0.22	0.41	12	$1,500	100%	16%	64%	5	27%	25%	88.0%	69.4%	81.7%	7.6
68	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Office	TOS	per unit	18,955	17%	3,274	0.22	0.35	12	$1,500	100%	16%	64%	5	27%	25%	88.0%	69.4%	81.7%	7.6
69	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Warehouse	TOS	per unit	18,955	17%	3,274	0.22	0.35	12	$1,500	100%	16%	64%	5	27%	25%	88.0%	69.4%	81.7%	7.6
70	Cooking	Energy efficient electric fryer	Biz - Prescriptive	Other	TOS	per unit	18,955	17%	3,274	0.22	0.37	12	$1,500	100%	16%	64%	5	27%	25%	88.0%	69.4%	81.7%	7.6
71	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Assembly	TOS	per unit	1,478	37%	545	0.06	0.06	12	$1,000	30%	30%	16%	6	3%	15%	39.8%	32.0%	32.0%	1.2
72	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Education	TOS	per unit	1,478	37%	545	0.06	0.02	12	$1,000	30%	30%	16%	6	3%	15%	39.8%	32.0%	32.0%	1.2

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
73	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Food Sales	TOS	per unit	1,478	37%	545	0.06	0.07	12	$1,000	30%	30%	16%	6	3%	15%	39.8%	32.0%	32.0%	1.2
74	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Food Service	TOS	per unit	1,478	37%	545	0.06	0.09	12	$1,000	30%	30%	16%	6	3%	15%	39.8%	32.0%	32.0%	1.2
75	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Health	TOS	per unit	1,478	37%	545	0.06	0.06	12	$1,000	30%	30%	16%	6	3%	15%	39.8%	32.0%	32.0%	1.2
76	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Lodging	TOS	per unit	1,478	37%	545	0.06	0.05	12	$1,000	30%	30%	16%	6	3%	15%	39.8%	32.0%	32.0%	1.2
77	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Retail	TOS	per unit	1,478	37%	545	0.06	0.07	12	$1,000	30%	30%	16%	6	3%	15%	39.8%	32.0%	32.0%	1.2
78	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Office	TOS	per unit	1,478	37%	545	0.06	0.06	12	$1,000	30%	30%	16%	6	3%	15%	39.8%	32.0%	32.0%	1.2
79	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Warehouse	TOS	per unit	1,478	37%	545	0.06	0.06	12	$1,000	30%	30%	16%	6	3%	15%	39.8%	32.0%	32.0%	1.2
80	Cooking	Insulated Holding Cabinets	Biz - Prescriptive	Other	TOS	per unit	1,478	37%	545	0.06	0.06	12	$1,000	30%	30%	16%	6	3%	15%	39.8%	32.0%	32.0%	1.2
81	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Assembly	TOS	per 10 hp	23,742	21%	4,935	1.28	0.59	13	$3,368	100%	22%	45%	2	100%	20%	88.0%	57.6%	70.4%	6.6
82	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Education	TOS	per 10 hp	23,742	21%	4,935	1.28	0.56	13	$3,368	100%	22%	45%	2	100%	20%	88.0%	57.6%	70.4%	6.6
83	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Food Sales	TOS	per 10 hp	23,742	21%	4,935	1.28	0.57	13	$3,368	100%	22%	45%	2	100%	20%	88.0%	57.6%	70.4%	6.6
84	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Food Service	TOS	per 10 hp	23,742	21%	4,935	1.28	0.59	13	$3,368	100%	22%	45%	2	100%	20%	88.0%	57.6%	70.4%	6.6
85	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Health	TOS	per 10 hp	23,742	21%	4,935	1.28	0.56	13	$3,368	100%	22%	45%	2	100%	20%	88.0%	57.6%	70.4%	6.6
86	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Lodging	TOS	per 10 hp	23,742	21%	4,935	1.28	0.64	13	$3,368	100%	22%	45%	2	100%	20%	88.0%	57.6%	70.4%	6.6
87	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Retail	TOS	per 10 hp	23,742	21%	4,935	1.28	0.57	13	$3,368	100%	22%	45%	2	100%	20%	88.0%	57.6%	70.4%	6.6
88	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Office	TOS	per 10 hp	23,742	21%	4,935	1.28	0.56	13	$3,368	100%	22%	45%	2	100%	20%	88.0%	57.6%	70.4%	6.6
89	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Warehouse	TOS	per 10 hp	23,742	21%	4,935	1.28	0.54	13	$3,368	100%	22%	45%	2	100%	20%	88.0%	57.6%	70.4%	6.6
90	Compressed Air	Efficient Air Compressors (VSD)	Biz - Prescriptive	Other	TOS	per 10 hp	23,742	21%	4,935	1.28	0.58	13	$3,368	100%	22%	45%	2	100%	20%	88.0%	57.6%	70.4%	6.6
91	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Assembly	TOS	per unit (1/4")	1,130	50%	565	0.15	0.07	15	$57	100%	70%	10%	4	5%	20%	88.0%	86.8%	84.4%	15.8
92	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Education	TOS	per unit (1/4")	1,130	50%	565	0.15	0.06	15	$57	100%	70%	10%	4	5%	20%	88.0%	86.8%	84.4%	15.8
93	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Food Sales	TOS	per unit (1/4")	1,130	50%	565	0.15	0.06	15	$57	100%	70%	10%	4	5%	20%	88.0%	86.8%	84.4%	15.8
94	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Food Service	TOS	per unit (1/4")	1,130	50%	565	0.15	0.07	15	$57	100%	70%	10%	4	5%	20%	88.0%	86.8%	84.4%	15.8
95	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Health	TOS	per unit (1/4")	1,130	50%	565	0.15	0.06	15	$57	100%	70%	10%	4	5%	20%	88.0%	86.8%	84.4%	15.8
96	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Lodging	TOS	per unit (1/4")	1,130	50%	565	0.15	0.07	15	$57	100%	70%	10%	4	5%	20%	88.0%	86.8%	84.4%	15.8
97	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Retail	TOS	per unit (1/4")	1,130	50%	565	0.15	0.07	15	$57	100%	70%	10%	4	5%	20%	88.0%	86.8%	84.4%	15.8
98	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Office	TOS	per unit (1/4")	1,130	50%	565	0.15	0.06	15	$57	100%	70%	10%	4	5%	20%	88.0%	86.8%	84.4%	15.8
99	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Warehouse	TOS	per unit (1/4")	1,130	50%	565	0.15	0.06	15	$57	100%	70%	10%	4	5%	20%	88.0%	86.8%	84.4%	15.7
100	Compressed Air	Efficient Air Nozzles	Biz - Prescriptive	Other	TOS	per unit (1/4")	1,130	50%	565	0.15	0.07	15	$57	100%	70%	10%	4	5%	20%	88.0%	86.8%	84.4%	15.8
101	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Assembly	RET	per unit	476,154	0%	1,970	0.30	0.23	10	$244	100%	82%	19%	3	100%	5%	88.0%	87.1%	84.0%	6.3
102	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Education	RET	per unit	476,154	0%	1,970	0.30	0.22	10	$244	100%	82%	19%	3	100%	5%	88.0%	87.1%	84.0%	6.3
103	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Food Sales	RET	per unit	476,154	0%	1,970	0.30	0.23	10	$244	100%	82%	19%	3	100%	5%	88.0%	87.1%	84.0%	6.3
104	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Food Service	RET	per unit	476,154	0%	1,970	0.30	0.23	10	$244	100%	82%	19%	3	100%	5%	88.0%	87.1%	84.0%	6.3
105	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Health	RET	per unit	476,154	0%	1,970	0.30	0.22	10	$244	100%	82%	19%	3	100%	5%	88.0%	87.1%	84.0%	6.3
106	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Lodging	RET	per unit	476,154	0%	1,970	0.30	0.25	10	$244	100%	82%	19%	3	100%	5%	88.0%	87.1%	84.0%	6.3
107	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Retail	RET	per unit	476,154	0%	1,970	0.30	0.23	10	$244	100%	82%	19%	3	100%	5%	88.0%	87.1%	84.0%	6.3
108	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Office	RET	per unit	476,154	0%	1,970	0.30	0.23	10	$244	100%	82%	19%	3	100%	5%	88.0%	87.1%	84.0%	6.3
109	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Warehouse	RET	per unit	476,154	0%	1,970	0.30	0.21	10	$244	100%	82%	19%	3	100%	5%	88.0%	87.1%	84.0%	6.3
110	Compressed Air	No Loss Condensate Drain	Biz - Prescriptive	Other	RET	per unit	476,154	0%	1,970	0.30	0.23	10	$244	100%	82%	19%	3	100%	5%	88.0%	87.1%	84.0%	6.3
111	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Assembly	RET	per kWh	6	17%	1	0.00	0.00	3	$0	100%	100%	10%	1	100%	39%	88.0%	88.0%	85.1%	2.8
112	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Education	RET	per kWh	6	17%	1	0.00	0.00	3	$0	100%	100%	10%	1	100%	39%	88.0%	88.0%	85.1%	2.5
113	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Food Sales	RET	per kWh	6	17%	1	0.00	0.00	3	$0	100%	100%	10%	1	100%	39%	88.0%	88.0%	85.1%	2.9
114	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Food Service	RET	per kWh	6	17%	1	0.00	0.00	3	$0	100%	100%	10%	1	100%	39%	88.0%	88.0%	85.1%	3.3
115	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Health	RET	per kWh	6	17%	1	0.00	0.00	3	$0	100%	100%	10%	1	100%	39%	88.0%	88.0%	85.1%	2.7
116	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Lodging	RET	per kWh	6	17%	1	0.00	0.00	3	$0	100%	100%	10%	1	100%	39%	88.0%	88.0%	85.1%	2.6
117	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Retail	RET	per kWh	6	17%	1	0.00	0.00	3	$0	100%	100%	10%	1	100%	39%	88.0%	88.0%	85.1%	3.0
118	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Office	RET	per kWh	6	17%	1	0.00	0.00	3	$0	100%	100%	10%	1	100%	39%	88.0%	88.0%	85.1%	2.6
119	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Warehouse	RET	per kWh	6	17%	1	0.00	0.00	3	$0	100%	100%	10%	1	100%	39%	88.0%	88.0%	85.1%	2.8
120	Compressed Air	Compressed Air Leak Repair	Biz - Prescriptive	Other	RET	per kWh	6	17%	1	0.00	0.00	3	$0	100%	100%	10%	1	100%	39%	88.0%	88.0%	85.1%	2.8
121	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - Custom	Assembly	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	1	100%	20%	66.0%	63.6%	63.0%	2.5
122	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - Custom	Education	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	1	100%	20%	66.0%	63.6%	63.0%	2.2
123	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - Custom	Food Sales	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	1	100%	20%	66.0%	63.6%	63.0%	2.6
124	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - Custom	Food Service	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	1	100%	20%	66.0%	63.6%	63.0%	2.9
125	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - Custom	Health	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	1	100%	20%	66.0%	63.6%	63.0%	2.4
126	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - Custom	Lodging	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	1	100%	20%	66.0%	63.6%	63.0%	2.3
127	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - Custom	Retail	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	1	100%	20%	66.0%	63.6%	63.0%	2.6
128	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - Custom	Office	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	1	100%	20%	66.0%	63.6%	63.0%	2.3
129	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - Custom	Warehouse	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	1	100%	20%	66.0%	63.6%	63.0%	2.5
130	Compressed Air	Retro-commissioning_Compressed Air Optimization	Biz - Custom	Other	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	1	100%	20%	66.0%	63.6%	63.0%	2.5
131	Cooling	Air Conditioner - Tier 1 (15.2 SEER2) (<5 Tons)	Biz - Prescriptive	Assembly	TOS	per ton	891	9%	79	0.03	0.00	15	$63	100%	48%	43%	5	23%	5%	88.0%	66.5%	62.9%	4.0
132	Cooling	Air Conditioner - Tier 1 (15.2 SEER2) (<5 Tons)	Biz - Prescriptive	Education	TOS	per ton	643	9%	57	0.03	0.00	15	$63	100%	48%	31%	5	0%	5%	88.0%	55.4%	46.8%	3.6
133	Cooling	Air Conditioner - Tier 1 (15.2 SEER2) (<5 Tons)	Biz - Prescriptive	Food Sales	TOS	per ton	1,094	9%	97	0.03	0.00	15	$63	100%	48%	52%	5	23%	5%	88.0%	73.4%	76.2%	4.2
134	Cooling	Air Conditioner - Tier 1 (15.2 SEER2) (<5 Tons)	Biz - Prescriptive	Food Service	TOS	per ton	1,210	9%	107	0.03	0.00	15	$63	100%	48%	58%	5	25%	5%	88.0%	76.4%	78.9%	4.4
135	Cooling	Air Conditioner - Tier 1 (15.2 SEER2) (<5 Tons)	Biz - Prescriptive	Health	TOS	per ton	1,431	9%	127	0.03	0.00	15	$63	100%	48%	68%	5	0%	5%	88.0%	78.4%	82.0%	4.7
136	Cooling	Air Conditioner - Tier 1 (15.2 SEER2) (<5 Tons)	Biz - Prescriptive	Lodging	TOS	per ton	1,381	9%	123	0.03	0.00	15	$63	100%	48%	66%	5	0%	5%	88.0%	78.1%	81.4%	4.7
137	Cooling	Air Conditioner - Tier 1 (15.2 SEER2) (<5 Tons)	Biz - Prescriptive	Retail	TOS	per ton	737	9%	65	0.03	0.00	15	$63	100%	48%	35%	5	22%	5%	88.0%	58.8%	53.3%	3.7
138	Cooling	Air Conditioner - Tier 1 (15.2 SEER2) (<5 Tons)	Biz - Prescriptive	Office	TOS	per ton	2,218	9%	197	0.03	0.00	15	$63	100%	48%	69%	5	6%	5%	88.0%	81.6%	84.0%	5.9
139	Cooling	Air Conditioner - Tier 1 (15.2 SEER2) (<5 Tons)	Biz - Prescriptive	Warehouse	TOS	per ton	345	9%	31	0.03	0.00	15	$63	100%	48%	17%	5	38%	5%	88.0%	34.2%	24.0%	3.2
140	Cooling	Air Conditioner - Tier 1 (15.2 SEER2) (<5 Tons)	Biz - Prescriptive	Other	TOS	per ton	1,169	9%	104	0.03	0.00	15	$63	100%	48%	56%	5	0%	5%	88.0%	75.4%	78.1%	4.4
141	Cooling	Air Conditioner - Tier 2 (16 SEER2) (<5 Tons)	Biz - Prescriptive	Assembly	TOS	per ton	891	13%	120	0.05	0.00	15	$127	100%	24%	32%	5	23%	8%	88.0%	44.7%	48.8%	6.0
142	Cooling	Air Conditioner - Tier 2 (16 SEER2) (<5 Tons)	Biz - Prescriptive	Education	TOS	per ton	643	13%	86	0.05	0.00	15	$127	100%	24%	23%	5	0%	8%	88.0%	33.0%	32.8%	5.4
143	Cooling	Air Conditioner - Tier 2 (16 SEER2) (<5 Tons)	Biz - Prescriptive	Food Sales	TOS	per ton	1,094	13%	147	0.05	0.00	15	$127	100%	24%	39%	5	23%	8%	88.0%	51.7%	57.9%	6.4

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
144	Cooling	Air Conditioner - Tier 2 (16 SEER2) (<5 Tons)	Biz - Prescriptive	Food Service	TOS	per ton	1,210	13%	163	0.05	0.00	15	$127	100%	24%	43%	5	25%	8%	88.0%	54.6%	64.2%	6.7
145	Cooling	Air Conditioner - Tier 2 (16 SEER2) (<5 Tons)	Biz - Prescriptive	Health	TOS	per ton	1,431	13%	192	0.05	0.00	15	$127	100%	24%	51%	5	0%	8%	88.0%	58.8%	75.1%	7.2
146	Cooling	Air Conditioner - Tier 2 (16 SEER2) (<5 Tons)	Biz - Prescriptive	Lodging	TOS	per ton	1,381	13%	186	0.05	0.01	15	$127	100%	24%	50%	5	0%	8%	88.0%	58.0%	73.0%	7.1
147	Cooling	Air Conditioner - Tier 2 (16 SEER2) (<5 Tons)	Biz - Prescriptive	Retail	TOS	per ton	737	13%	99	0.05	0.00	15	$127	100%	24%	26%	5	22%	8%	88.0%	36.9%	38.6%	5.6
148	Cooling	Air Conditioner - Tier 2 (16 SEER2) (<5 Tons)	Biz - Prescriptive	Office	TOS	per ton	2,218	13%	298	0.05	0.01	15	$127	100%	24%	77%	5	6%	8%	88.0%	74.7%	84.0%	8.9
149	Cooling	Air Conditioner - Tier 2 (16 SEER2) (<5 Tons)	Biz - Prescriptive	Warehouse	TOS	per ton	345	13%	46	0.05	0.00	15	$127	100%	24%	12%	5	38%	8%	88.0%	26.0%	26.0%	4.8
150	Cooling	Air Conditioner - Tier 2 (16 SEER2) (<5 Tons)	Biz - Prescriptive	Other	TOS	per ton	1,169	13%	157	0.05	0.00	15	$127	100%	24%	42%	5	0%	8%	88.0%	53.6%	61.8%	6.6
151	Cooling	Air Conditioner - 15.7 IEER (5-20 Tons)	Biz - Prescriptive	Assembly	TOS	per ton	863	9%	79	0.03	0.00	15	$63	100%	48%	43%	1	21%	8%	88.0%	66.6%	63.1%	4.0
152	Cooling	Air Conditioner - 15.7 IEER (5-20 Tons)	Biz - Prescriptive	Education	TOS	per ton	622	9%	57	0.03	0.00	15	$63	100%	48%	31%	1	27%	8%	88.0%	55.5%	47.0%	3.6
153	Cooling	Air Conditioner - 15.7 IEER (5-20 Tons)	Biz - Prescriptive	Food Sales	TOS	per ton	1,060	9%	98	0.03	0.00	15	$63	100%	48%	53%	1	19%	8%	88.0%	73.6%	76.4%	4.3
154	Cooling	Air Conditioner - 15.7 IEER (5-20 Tons)	Biz - Prescriptive	Food Service	TOS	per ton	1,172	9%	108	0.03	0.00	15	$63	100%	48%	58%	1	21%	8%	88.0%	76.5%	78.9%	4.4
155	Cooling	Air Conditioner - 15.7 IEER (5-20 Tons)	Biz - Prescriptive	Health	TOS	per ton	1,386	9%	128	0.03	0.00	15	$63	100%	48%	69%	1	28%	8%	88.0%	78.4%	82.1%	4.8
156	Cooling	Air Conditioner - 15.7 IEER (5-20 Tons)	Biz - Prescriptive	Lodging	TOS	per ton	1,338	9%	123	0.03	0.00	15	$63	100%	48%	66%	1	13%	8%	88.0%	78.1%	81.5%	4.7
157	Cooling	Air Conditioner - 15.7 IEER (5-20 Tons)	Biz - Prescriptive	Retail	TOS	per ton	714	9%	66	0.03	0.00	15	$63	100%	48%	35%	1	17%	8%	88.0%	58.9%	53.5%	3.7
158	Cooling	Air Conditioner - 15.7 IEER (5-20 Tons)	Biz - Prescriptive	Office	TOS	per ton	2,148	9%	198	0.03	0.00	15	$63	100%	48%	69%	1	28%	8%	88.0%	81.7%	84.0%	5.9
159	Cooling	Air Conditioner - 15.7 IEER (5-20 Tons)	Biz - Prescriptive	Warehouse	TOS	per ton	334	9%	31	0.03	0.00	15	$63	100%	48%	17%	1	31%	8%	88.0%	34.3%	26.0%	3.2
160	Cooling	Air Conditioner - 15.7 IEER (5-20 Tons)	Biz - Prescriptive	Other	TOS	per ton	1,133	9%	104	0.03	0.00	15	$63	100%	48%	56%	1	28%	8%	88.0%	75.5%	78.2%	4.4
161	Cooling	Air Conditioner - 17.3 IEER (5-20 Tons)	Biz - Prescriptive	Assembly	TOS	per ton	863	17%	150	0.06	0.00	15	$127	100%	24%	40%	1	21%	8%	88.0%	52.2%	58.6%	7.5
162	Cooling	Air Conditioner - 17.3 IEER (5-20 Tons)	Biz - Prescriptive	Education	TOS	per ton	622	17%	108	0.06	0.00	15	$127	100%	24%	29%	1	27%	8%	88.0%	40.7%	43.5%	6.8
163	Cooling	Air Conditioner - 17.3 IEER (5-20 Tons)	Biz - Prescriptive	Food Sales	TOS	per ton	1,060	17%	184	0.06	0.00	15	$127	100%	24%	49%	1	19%	8%	88.0%	57.7%	72.3%	8.0
164	Cooling	Air Conditioner - 17.3 IEER (5-20 Tons)	Biz - Prescriptive	Food Service	TOS	per ton	1,172	17%	203	0.06	0.00	15	$127	100%	24%	54%	1	21%	8%	88.0%	61.0%	77.5%	8.4
165	Cooling	Air Conditioner - 17.3 IEER (5-20 Tons)	Biz - Prescriptive	Health	TOS	per ton	1,386	17%	240	0.06	0.00	15	$127	100%	24%	64%	1	28%	8%	88.0%	67.7%	80.9%	9.0
166	Cooling	Air Conditioner - 17.3 IEER (5-20 Tons)	Biz - Prescriptive	Lodging	TOS	per ton	1,338	17%	232	0.06	0.01	15	$127	100%	24%	62%	1	13%	8%	88.0%	66.4%	80.2%	8.8
167	Cooling	Air Conditioner - 17.3 IEER (5-20 Tons)	Biz - Prescriptive	Retail	TOS	per ton	714	17%	124	0.06	0.00	15	$127	100%	24%	33%	1	17%	8%	88.0%	45.9%	50.4%	7.0
168	Cooling	Air Conditioner - 17.3 IEER (5-20 Tons)	Biz - Prescriptive	Office	TOS	per ton	2,148	17%	373	0.06	0.01	15	$127	100%	24%	71%	1	28%	8%	88.0%	78.4%	84.0%	11.1
169	Cooling	Air Conditioner - 17.3 IEER (5-20 Tons)	Biz - Prescriptive	Warehouse	TOS	per ton	334	17%	58	0.06	0.00	15	$127	100%	24%	15%	1	31%	8%	88.0%	26.0%	26.0%	6.0
170	Cooling	Air Conditioner - 17.3 IEER (5-20 Tons)	Biz - Prescriptive	Other	TOS	per ton	1,133	17%	196	0.06	0.00	15	$127	100%	24%	52%	1	28%	8%	88.0%	59.5%	76.3%	8.2
171	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Assembly	TOS	per ton	949	9%	86	0.04	0.00	15	$19	100%	100%	55%	2	21%	8%	88.0%	88.0%	84.0%	4.3
172	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Education	TOS	per ton	685	9%	62	0.04	0.00	15	$19	100%	100%	67%	2	27%	8%	88.0%	88.0%	84.0%	3.9
173	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Food Sales	TOS	per ton	1,166	9%	106	0.04	0.00	15	$19	100%	100%	44%	2	19%	8%	88.0%	88.0%	84.0%	4.6
174	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Food Service	TOS	per ton	1,289	9%	117	0.04	0.00	15	$19	100%	100%	38%	2	21%	8%	88.0%	88.0%	84.0%	4.8
175	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Health	TOS	per ton	1,524	9%	139	0.04	0.00	15	$19	100%	100%	27%	2	28%	8%	88.0%	88.0%	84.0%	5.2
176	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Lodging	TOS	per ton	1,472	9%	134	0.04	0.01	15	$19	100%	100%	30%	2	13%	8%	88.0%	88.0%	84.0%	5.1
177	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Retail	TOS	per ton	785	9%	71	0.04	0.00	15	$19	100%	100%	62%	2	17%	8%	88.0%	88.0%	84.0%	4.1
178	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Office	TOS	per ton	2,363	9%	215	0.04	0.00	15	$19	100%	100%	10%	2	28%	8%	88.0%	88.0%	84.8%	6.4
179	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Warehouse	TOS	per ton	368	9%	33	0.04	0.00	15	$19	100%	100%	60%	2	31%	8%	88.0%	88.0%	79.5%	3.4
180	Cooling	Air Conditioner - 14.3 IEER (20+ Tons)	Biz - Prescriptive	Other	TOS	per ton	1,246	9%	113	0.04	0.00	15	$19	100%	100%	40%	2	28%	8%	88.0%	88.0%	84.0%	4.8
181	Cooling	Air Conditioner - 15.6 IEER (20+ Tons)	Biz - Prescriptive	Assembly	TOS	per ton	949	17%	158	0.07	0.00	15	$38	100%	79%	58%	2	21%	8%	88.0%	86.0%	84.0%	7.9
182	Cooling	Air Conditioner - 15.6 IEER (20+ Tons)	Biz - Prescriptive	Education	TOS	per ton	685	17%	114	0.07	0.00	15	$38	100%	79%	70%	2	27%	8%	88.0%	85.2%	84.0%	7.2
183	Cooling	Air Conditioner - 15.6 IEER (20+ Tons)	Biz - Prescriptive	Food Sales	TOS	per ton	1,166	17%	194	0.07	0.00	15	$38	100%	79%	49%	2	19%	8%	88.0%	86.4%	84.0%	8.5
184	Cooling	Air Conditioner - 15.6 IEER (20+ Tons)	Biz - Prescriptive	Food Service	TOS	per ton	1,289	17%	215	0.07	0.00	15	$38	100%	79%	43%	2	21%	8%	88.0%	86.5%	84.0%	8.8
185	Cooling	Air Conditioner - 15.6 IEER (20+ Tons)	Biz - Prescriptive	Health	TOS	per ton	1,524	17%	254	0.07	0.00	15	$38	100%	79%	33%	2	28%	8%	88.0%	86.7%	84.0%	9.5
186	Cooling	Air Conditioner - 15.6 IEER (20+ Tons)	Biz - Prescriptive	Lodging	TOS	per ton	1,472	17%	245	0.07	0.01	15	$38	100%	79%	35%	2	13%	8%	88.0%	86.7%	84.0%	9.3
187	Cooling	Air Conditioner - 15.6 IEER (20+ Tons)	Biz - Prescriptive	Retail	TOS	per ton	785	17%	131	0.07	0.00	15	$38	100%	79%	66%	2	17%	8%	88.0%	85.6%	84.0%	7.5
188	Cooling	Air Conditioner - 15.6 IEER (20+ Tons)	Biz - Prescriptive	Office	TOS	per ton	2,363	17%	394	0.07	0.01	15	$38	100%	79%	10%	2	28%	8%	88.0%	87.2%	84.5%	11.8
189	Cooling	Air Conditioner - 15.6 IEER (20+ Tons)	Biz - Prescriptive	Warehouse	TOS	per ton	368	17%	61	0.07	0.00	15	$38	100%	79%	55%	2	31%	8%	88.0%	82.9%	77.7%	6.3
190	Cooling	Air Conditioner - 15.6 IEER (20+ Tons)	Biz - Prescriptive	Other	TOS	per ton	1,246	17%	208	0.07	0.00	15	$38	100%	79%	45%	2	28%	8%	88.0%	86.5%	84.0%	8.7
191	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Prescriptive	Assembly	TOS	per ton	1,299	10%	134	0.06	0.00	8	$84	100%	36%	35%	7	0%	20%	88.0%	67.8%	67.3%	4.1
192	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Prescriptive	Education	TOS	per ton	937	10%	97	0.06	0.00	8	$84	100%	36%	25%	7	0%	20%	88.0%	56.4%	52.1%	3.7
193	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Prescriptive	Food Sales	TOS	per ton	1,595	10%	165	0.06	0.00	8	$84	100%	36%	43%	7	38%	20%	88.0%	74.6%	77.3%	4.4
194	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Prescriptive	Food Service	TOS	per ton	1,765	10%	183	0.06	0.00	8	$84	100%	36%	47%	7	33%	20%	88.0%	77.1%	79.0%	4.6
195	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Prescriptive	Health	TOS	per ton	2,086	10%	216	0.06	0.00	8	$84	100%	36%	56%	7	0%	20%	88.0%	78.7%	81.5%	4.9
196	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Prescriptive	Lodging	TOS	per ton	2,014	10%	208	0.06	0.01	8	$84	100%	36%	54%	7	15%	20%	88.0%	78.4%	81.0%	4.9
197	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Prescriptive	Retail	TOS	per ton	1,074	10%	111	0.06	0.00	8	$84	100%	36%	29%	7	19%	20%	88.0%	60.3%	57.2%	3.9
198	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Prescriptive	Office	TOS	per ton	3,234	10%	335	0.06	0.01	8	$84	100%	36%	60%	7	6%	20%	88.0%	81.9%	84.0%	6.2
199	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Prescriptive	Warehouse	TOS	per ton	503	10%	52	0.06	0.00	8	$84	100%	36%	13%	7	0%	20%	88.0%	36.0%	36.0%	3.3
200	Cooling	PTAC - 7,000 to 15,000 Btuh	Biz - Prescriptive	Other	TOS	per ton	1,705	10%	176	0.06	0.00	8	$84	100%	36%	46%	7	0%	20%	88.0%	76.5%	78.4%	4.5
201	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Assembly	RET	per ton	1,164	5%	58	0.02	0.00	3	$35	50%	23%	16%	3	42%	50%	65.0%	60.0%	60.0%	2.8
202	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Education	RET	per ton	840	5%	42	0.02	0.00	3	$35	50%	17%	11%	3	55%	50%	65.0%	60.0%	60.0%	3.5
203	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Food Sales	RET	per ton	1,430	5%	71	0.02	0.00	3	$35	50%	29%	19%	3	38%	50%	65.0%	60.0%	60.0%	2.5
204	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Food Service	RET	per ton	1,581	5%	79	0.02	0.00	3	$35	50%	32%	21%	3	42%	50%	65.0%	60.0%	60.0%	2.3
205	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Health	RET	per ton	1,869	5%	93	0.02	0.00	3	$35	75%	37%	25%	3	57%	50%	65.0%	60.0%	60.0%	2.1
206	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Lodging	RET	per ton	1,805	5%	90	0.02	0.00	3	$35	75%	36%	24%	3	27%	50%	65.0%	60.0%	60.0%	2.2
207	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Retail	RET	per ton	963	5%	48	0.02	0.00	3	$35	50%	19%	13%	3	33%	50%	65.0%	60.0%	60.0%	3.2
208	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Office	RET	per ton	2,898	5%	145	0.02	0.00	3	$35	100%	58%	39%	3	55%	50%	66.0%	63.0%	61.7%	1.7
209	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Warehouse	RET	per ton	451	5%	23	0.02	0.00	3	$35	50%	9%	10%	3	62%	50%	65.0%	59.8%	59.9%	5.6
210	Cooling	Comprehensive Rooftop Unit Quality Maintenance (AC Tune-up)	Biz - Custom	Other	RET	per ton	1,528	5%	76	0.02	0.00	3	$35	50%	31%	20%	3	57%	50%	65.0%	60.0%	60.0%	2.4
211	Cooling	Cooling Tower Water Side Economizer	Biz - Custom	Assembly	RET	per ton	549	19%	103	0.04	0.00	10	$4,883	0%	0%	10%	10	3%	10%	26.2%	26.2%	26.2%	7.8
212	Cooling	Cooling Tower Water Side Economizer	Biz - Custom	Education	RET	per ton	396	19%	74	0.03	0.00	10	$4,883	0%	0%	10%	10	5%	10%	26.2%	26.2%	26.2%	8.0
213	Cooling	Cooling Tower Water Side Economizer	Biz - Custom	Food Sales	RET	per ton	674	19%	126	0.08	0.00	10	$4,883	0%	0%	10%	10	0%	10%	26.2%	26.2%	26.2%	10.7
214	Cooling	Cooling Tower Water Side Economizer	Biz - Custom	Food Service	RET	per ton	746	19%	139	0.06	0.00	10	$4,883	0%	0%	10%	10	0%	10%	26.2%	26.2%	26.2%	8.3

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
215	Cooling	Cooling Tower Water Side Economizer	Biz - Custom	Health	RET	per ton	882	19%	165	0.05	0.00	10	$4,883	0%	0%	10%	10	4%	10%	26.2%	26.2%	26.2%	6.4
216	Cooling	Cooling Tower Water Side Economizer	Biz - Custom	Lodging	RET	per ton	851	19%	159	0.05	0.01	10	$4,883	0%	0%	10%	10	5%	10%	26.2%	26.2%	26.2%	6.3
217	Cooling	Cooling Tower Water Side Economizer	Biz - Custom	Retail	RET	per ton	454	19%	85	0.04	0.00	10	$4,883	0%	0%	10%	10	3%	10%	26.2%	26.2%	26.2%	8.6
218	Cooling	Cooling Tower Water Side Economizer	Biz - Custom	Office	RET	per ton	1,367	19%	256	0.09	0.01	10	$4,883	1%	1%	10%	10	3%	10%	26.2%	26.2%	26.2%	7.1
219	Cooling	Cooling Tower Water Side Economizer	Biz - Custom	Warehouse	RET	per ton	213	19%	40	0.02	0.00	10	$4,883	0%	0%	10%	10	0%	10%	26.2%	26.2%	26.2%	8.2
220	Cooling	Cooling Tower Water Side Economizer	Biz - Custom	Other	RET	per ton	721	19%	135	0.06	0.00	10	$4,883	0%	0%	10%	10	4%	10%	26.2%	26.2%	26.2%	7.7
221	Cooling	Air Cooled Chiller	Biz - Prescriptive	Assembly	TOS	per ton	891	10%	89	0.04	0.00	23	$265	50%	11%	14%	8	31%	8%	30.1%	26.0%	26.0%	6.0
222	Cooling	Air Cooled Chiller	Biz - Prescriptive	Education	TOS	per ton	643	10%	65	0.04	0.00	23	$265	50%	11%	10%	8	41%	8%	29.7%	26.0%	26.0%	5.5
223	Cooling	Air Cooled Chiller	Biz - Prescriptive	Food Sales	TOS	per ton	1,095	10%	110	0.04	0.00	23	$265	50%	11%	18%	8	0%	8%	35.3%	26.0%	26.0%	6.5
224	Cooling	Air Cooled Chiller	Biz - Prescriptive	Food Service	TOS	per ton	1,211	10%	122	0.04	0.00	23	$265	75%	11%	20%	8	0%	8%	56.9%	26.0%	26.0%	6.7
225	Cooling	Air Cooled Chiller	Biz - Prescriptive	Health	TOS	per ton	1,432	10%	144	0.04	0.00	23	$265	75%	11%	23%	8	39%	8%	62.5%	26.0%	26.0%	7.2
226	Cooling	Air Cooled Chiller	Biz - Prescriptive	Lodging	TOS	per ton	1,382	10%	139	0.04	0.01	23	$265	75%	11%	22%	8	42%	8%	61.0%	26.0%	26.0%	7.1
227	Cooling	Air Cooled Chiller	Biz - Prescriptive	Retail	TOS	per ton	737	10%	74	0.04	0.00	23	$265	50%	11%	12%	8	23%	8%	29.7%	26.0%	26.0%	5.7
228	Cooling	Air Cooled Chiller	Biz - Prescriptive	Office	TOS	per ton	2,219	10%	223	0.04	0.01	23	$265	100%	11%	36%	8	29%	8%	88.0%	34.7%	47.0%	9.0
229	Cooling	Air Cooled Chiller	Biz - Prescriptive	Warehouse	TOS	per ton	345	10%	35	0.04	0.00	23	$265	50%	11%	10%	8	0%	8%	29.7%	26.0%	26.0%	4.8
230	Cooling	Air Cooled Chiller	Biz - Prescriptive	Other	TOS	per ton	1,170	10%	117	0.04	0.00	23	$265	75%	11%	19%	8	39%	8%	56.0%	26.0%	26.0%	6.7
231	Cooling	Water Cooled Chiller	Biz - Prescriptive	Assembly	TOS	per ton	549	10%	54	0.02	0.00	23	$62	100%	48%	38%	9	4%	8%	88.0%	55.0%	49.4%	3.7
232	Cooling	Water Cooled Chiller	Biz - Prescriptive	Education	TOS	per ton	396	10%	39	0.02	0.00	23	$62	100%	48%	27%	9	5%	8%	88.0%	44.6%	32.5%	3.3
233	Cooling	Water Cooled Chiller	Biz - Prescriptive	Food Sales	TOS	per ton	674	10%	67	0.02	0.00	23	$62	100%	48%	46%	9	0%	8%	88.0%	61.0%	59.3%	3.9
234	Cooling	Water Cooled Chiller	Biz - Prescriptive	Food Service	TOS	per ton	746	10%	74	0.02	0.00	23	$62	100%	48%	51%	9	0%	8%	88.0%	65.1%	67.3%	4.1
235	Cooling	Water Cooled Chiller	Biz - Prescriptive	Health	TOS	per ton	882	10%	88	0.02	0.00	23	$62	100%	48%	61%	9	4%	8%	88.0%	71.1%	77.7%	4.4
236	Cooling	Water Cooled Chiller	Biz - Prescriptive	Lodging	TOS	per ton	851	10%	84	0.02	0.00	23	$62	100%	48%	59%	9	5%	8%	88.0%	69.9%	76.6%	4.3
237	Cooling	Water Cooled Chiller	Biz - Prescriptive	Retail	TOS	per ton	454	10%	45	0.02	0.00	23	$62	100%	48%	31%	9	3%	8%	88.0%	49.3%	38.5%	3.5
238	Cooling	Water Cooled Chiller	Biz - Prescriptive	Office	TOS	per ton	1,367	10%	136	0.02	0.00	23	$62	100%	48%	78%	9	3%	8%	88.0%	79.2%	84.0%	5.5
239	Cooling	Water Cooled Chiller	Biz - Prescriptive	Warehouse	TOS	per ton	213	10%	21	0.02	0.00	23	$62	100%	48%	15%	9	0%	8%	88.0%	26.0%	26.0%	2.9
240	Cooling	Water Cooled Chiller	Biz - Prescriptive	Other	TOS	per ton	721	10%	72	0.02	0.00	23	$62	100%	48%	50%	9	4%	8%	88.0%	63.7%	64.6%	4.1
241	Cooling	Smart Thermostat	Biz - Prescriptive	Assembly	RET	per thermostat	5,058	14%	716	0.17	0.01	11	$175	100%	57%	59%	6	23%	15%	88.0%	83.8%	84.0%	5.9
242	Cooling	Smart Thermostat	Biz - Prescriptive	Education	RET	per thermostat	3,649	14%	517	0.17	0.01	11	$175	100%	57%	70%	6	0%	15%	88.0%	82.4%	84.0%	5.1
243	Cooling	Smart Thermostat	Biz - Prescriptive	Food Sales	RET	per thermostat	6,213	14%	880	0.17	0.00	11	$175	100%	57%	50%	6	23%	15%	88.0%	84.6%	84.0%	6.5
244	Cooling	Smart Thermostat	Biz - Prescriptive	Food Service	RET	per thermostat	6,871	14%	973	0.17	0.02	11	$175	100%	57%	44%	6	25%	15%	88.0%	84.9%	84.0%	6.9
245	Cooling	Smart Thermostat	Biz - Prescriptive	Health	RET	per thermostat	8,124	14%	1,150	0.17	0.02	11	$175	100%	57%	34%	6	0%	15%	88.0%	85.4%	84.0%	7.6
246	Cooling	Smart Thermostat	Biz - Prescriptive	Lodging	RET	per thermostat	7,843	14%	1,111	0.17	0.04	11	$175	100%	57%	37%	6	0%	15%	88.0%	85.3%	84.0%	7.4
247	Cooling	Smart Thermostat	Biz - Prescriptive	Retail	RET	per thermostat	4,183	14%	592	0.17	0.01	11	$175	100%	57%	66%	6	22%	15%	88.0%	83.1%	84.0%	5.4
248	Cooling	Smart Thermostat	Biz - Prescriptive	Office	RET	per thermostat	12,593	14%	1,783	0.17	0.04	11	$175	100%	57%	10%	6	6%	15%	88.0%	86.3%	84.5%	10.1
249	Cooling	Smart Thermostat	Biz - Prescriptive	Warehouse	RET	per thermostat	1,959	14%	277	0.17	0.00	11	$175	100%	57%	44%	6	38%	15%	88.0%	78.0%	72.0%	4.2
250	Cooling	Smart Thermostat	Biz - Prescriptive	Other	RET	per thermostat	6,639	14%	940	0.17	0.02	11	$175	100%	57%	46%	6	0%	15%	88.0%	84.8%	84.0%	6.8
251	Cooling	Window Film	Biz - Prescriptive	Assembly	RET	per 100 sq ft	6,364	4%	280	0.12	0.01	10	$154	100%	65%	47%	11	100%	25%	88.0%	80.8%	77.3%	3.1
252	Cooling	Window Film	Biz - Prescriptive	Education	RET	per 100 sq ft	6,364	4%	280	0.12	0.00	10	$154	100%	65%	47%	11	100%	25%	88.0%	80.8%	77.3%	3.1
253	Cooling	Window Film	Biz - Prescriptive	Food Sales	RET	per 100 sq ft	6,364	4%	280	0.18	0.00	10	$154	100%	65%	47%	11	100%	25%	88.0%	80.8%	77.3%	4.2
254	Cooling	Window Film	Biz - Prescriptive	Food Service	RET	per 100 sq ft	6,364	4%	280	0.13	0.01	10	$154	100%	65%	47%	11	100%	25%	88.0%	80.8%	77.3%	3.3
255	Cooling	Window Film	Biz - Prescriptive	Health	RET	per 100 sq ft	6,364	4%	280	0.09	0.00	10	$154	100%	65%	47%	11	100%	25%	88.0%	80.8%	77.3%	2.5
256	Cooling	Window Film	Biz - Prescriptive	Lodging	RET	per 100 sq ft	6,364	4%	280	0.09	0.01	10	$154	100%	65%	47%	11	100%	25%	88.0%	80.8%	77.3%	2.5
257	Cooling	Window Film	Biz - Prescriptive	Retail	RET	per 100 sq ft	6,364	4%	280	0.14	0.00	10	$154	100%	65%	47%	11	100%	25%	88.0%	80.8%	77.3%	3.4
258	Cooling	Window Film	Biz - Prescriptive	Office	RET	per 100 sq ft	6,364	4%	280	0.10	0.01	10	$154	100%	65%	47%	11	100%	25%	88.0%	80.8%	77.3%	2.8
259	Cooling	Window Film	Biz - Prescriptive	Warehouse	RET	per 100 sq ft	6,364	4%	280	0.13	0.00	10	$154	100%	65%	47%	11	100%	25%	88.0%	80.8%	77.3%	3.2
260	Cooling	Window Film	Biz - Prescriptive	Other	RET	per 100 sq ft	6,364	4%	280	0.12	0.01	10	$154	100%	65%	47%	11	100%	25%	88.0%	80.8%	77.3%	3.0
261	Cooling	Secondary Windows	Biz - Custom	Assembly	RET	per 100 sq ft	6,364	0%	0	0.00	0.00	30	$3,200	100%	0%	100%	11	100%	25%	66.0%	66.0%	66.0%	2.0
262	Cooling	Secondary Windows	Biz - Custom	Education	RET	per 100 sq ft	6,364	7%	449	0.20	0.00	30	$3,200	2%	2%	10%	11	100%	25%	38.5%	38.5%	38.5%	17.3
263	Cooling	Secondary Windows	Biz - Custom	Food Sales	RET	per 100 sq ft	6,364	0%	0	0.00	0.00	30	$3,200	100%	0%	100%	11	100%	25%	66.0%	66.0%	66.0%	2.0
264	Cooling	Secondary Windows	Biz - Custom	Food Service	RET	per 100 sq ft	6,364	6%	397	0.18	0.01	30	$3,200	2%	2%	10%	11	100%	25%	38.5%	38.5%	38.5%	18.0
265	Cooling	Secondary Windows	Biz - Custom	Health	RET	per 100 sq ft	6,364	8%	526	0.16	0.01	30	$3,200	2%	2%	10%	11	100%	25%	38.5%	38.5%	38.5%	13.9
266	Cooling	Secondary Windows	Biz - Custom	Lodging	RET	per 100 sq ft	6,364	7%	457	0.14	0.02	30	$3,200	2%	2%	10%	11	100%	25%	38.5%	38.5%	38.5%	13.7
267	Cooling	Secondary Windows	Biz - Custom	Retail	RET	per 100 sq ft	6,364	7%	464	0.23	0.00	30	$3,200	2%	2%	10%	11	100%	25%	38.5%	38.5%	38.5%	18.7
268	Cooling	Secondary Windows	Biz - Custom	Office	RET	per 100 sq ft	6,364	7%	439	0.16	0.01	30	$3,200	2%	2%	10%	11	100%	25%	38.5%	38.5%	38.5%	15.4
269	Cooling	Secondary Windows	Biz - Custom	Warehouse	RET	per 100 sq ft	6,364	0%	0	0.00	0.00	30	$3,200	100%	0%	100%	11	100%	25%	66.0%	66.0%	66.0%	2.0
270	Cooling	Secondary Windows	Biz - Custom	Other	RET	per 100 sq ft	6,364	0%	0	0.00	0.00	30	$3,200	100%	0%	100%	11	100%	25%	66.0%	66.0%	66.0%	2.0
271	Cooling	Triple Pane Windows	Biz - Custom	Assembly	TOS	per 100 sq ft	6,364	6%	382	0.16	0.01	30	$700	100%	8%	26%	11	100%	2%	66.0%	19.6%	21.6%	16.9
272	Cooling	Triple Pane Windows	Biz - Custom	Education	TOS	per 100 sq ft	6,364	6%	382	0.17	0.00	30	$700	100%	8%	26%	11	100%	2%	66.0%	19.6%	21.6%	17.3
273	Cooling	Triple Pane Windows	Biz - Custom	Food Sales	TOS	per 100 sq ft	6,364	6%	382	0.25	0.00	30	$700	100%	8%	26%	11	100%	2%	66.0%	19.6%	21.6%	23.0
274	Cooling	Triple Pane Windows	Biz - Custom	Food Service	TOS	per 100 sq ft	6,364	6%	382	0.18	0.01	30	$700	100%	8%	26%	11	100%	2%	66.0%	19.6%	21.6%	18.0
275	Cooling	Triple Pane Windows	Biz - Custom	Health	TOS	per 100 sq ft	6,364	6%	382	0.12	0.01	30	$700	100%	8%	26%	11	100%	2%	66.0%	19.6%	21.6%	13.9
276	Cooling	Triple Pane Windows	Biz - Custom	Lodging	TOS	per 100 sq ft	6,364	6%	382	0.12	0.02	30	$700	100%	8%	26%	11	100%	2%	66.0%	19.6%	21.6%	13.7
277	Cooling	Triple Pane Windows	Biz - Custom	Retail	TOS	per 100 sq ft	6,364	6%	382	0.19	0.00	30	$700	100%	8%	26%	11	100%	2%	66.0%	19.6%	21.6%	18.7
278	Cooling	Triple Pane Windows	Biz - Custom	Office	TOS	per 100 sq ft	6,364	6%	382	0.14	0.01	30	$700	100%	8%	26%	11	100%	2%	66.0%	19.6%	21.6%	15.4
279	Cooling	Triple Pane Windows	Biz - Custom	Warehouse	TOS	per 100 sq ft	6,364	6%	382	0.17	0.00	30	$700	100%	8%	26%	11	100%	2%	66.0%	19.6%	21.6%	17.7
280	Cooling	Triple Pane Windows	Biz - Custom	Other	TOS	per 100 sq ft	6,364	6%	382	0.16	0.01	30	$700	100%	8%	26%	11	100%	2%	66.0%	19.6%	21.6%	16.6
281	Cooling	Energy Recovery Ventilator	Biz - Custom	Assembly	RET	per ton	949	0%	0	0.00	0.00	15	$1,500	100%	0%	100%	4	42%	2%	66.0%	66.0%	66.0%	2.0
282	Cooling	Energy Recovery Ventilator	Biz - Custom	Education	RET	per ton	685	0%	0	0.00	0.00	15	$1,500	100%	0%	100%	4	55%	2%	66.0%	66.0%	66.0%	2.0
283	Cooling	Energy Recovery Ventilator	Biz - Custom	Food Sales	RET	per ton	1,166	0%	0	0.00	0.00	15	$1,500	100%	0%	100%	4	38%	2%	66.0%	66.0%	66.0%	2.0
284	Cooling	Energy Recovery Ventilator	Biz - Custom	Food Service	RET	per ton	1,289	0%	0	0.00	0.00	15	$1,500	100%	0%	100%	4	42%	2%	66.0%	66.0%	66.0%	2.0
285	Cooling	Energy Recovery Ventilator	Biz - Custom	Health	RET	per ton	1,524	29%	446	0.14	0.01	15	$1,500	4%	4%	10%	4	57%	2%	19.6%	19.6%	19.6%	8.8

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
286	Cooling	Energy Recovery Ventilator	Biz - Custom	Lodging	RET	per ton	1,472	0%	0	0.00	0.00	15	$1,500	100%	0%	100%	4	27%	2%	66.0%	66.0%	66.0%	2.0
287	Cooling	Energy Recovery Ventilator	Biz - Custom	Retail	RET	per ton	785	4%	35	0.02	0.00	15	$1,500	0%	0%	10%	4	33%	2%	19.6%	19.6%	19.6%	11.8
288	Cooling	Energy Recovery Ventilator	Biz - Custom	Office	RET	per ton	2,363	14%	327	0.12	0.01	15	$1,500	3%	3%	10%	4	55%	2%	19.6%	19.6%	19.6%	9.8
289	Cooling	Energy Recovery Ventilator	Biz - Custom	Warehouse	RET	per ton	368	0%	0	0.00	0.00	15	$1,500	100%	0%	100%	4	62%	2%	66.0%	66.0%	66.0%	2.0
290	Cooling	Energy Recovery Ventilator	Biz - Custom	Other	RET	per ton	1,246	0%	0	0.00	0.00	15	$1,500	100%	0%	100%	4	57%	2%	66.0%	66.0%	66.0%	2.0
291	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Assembly	TOS	per ton	3,708	25%	917	0.10	0.21	15	$100	100%	10%	10%	1	20%	15%	88.0%	84.1%	84.1%	69.4
292	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Education	TOS	per ton	2,603	25%	643	0.09	0.17	15	$100	100%	10%	36%	1	0%	15%	88.0%	82.6%	84.0%	53.7
293	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Food Sales	TOS	per ton	3,444	25%	846	0.09	0.22	15	$100	100%	10%	15%	1	23%	15%	88.0%	83.8%	84.0%	64.1
294	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Food Service	TOS	per ton	3,241	24%	792	0.09	0.16	15	$100	100%	10%	21%	1	24%	15%	88.0%	83.5%	84.0%	61.0
295	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Health	TOS	per ton	3,932	24%	962	0.09	0.20	15	$100	100%	10%	10%	1	0%	15%	88.0%	84.3%	84.3%	69.6
296	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Lodging	TOS	per ton	3,910	24%	957	0.09	0.22	15	$100	100%	10%	10%	1	0%	15%	88.0%	84.2%	84.2%	69.6
297	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Retail	TOS	per ton	2,792	25%	689	0.09	0.15	15	$100	100%	10%	31%	1	20%	15%	88.0%	82.9%	84.0%	55.8
298	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Office	TOS	per ton	6,292	24%	1,541	0.09	0.34	15	$100	100%	10%	10%	1	4%	15%	88.0%	85.7%	85.7%	99.2
299	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Warehouse	TOS	per ton	2,378	25%	593	0.09	0.14	15	$100	100%	10%	41%	1	13%	15%	88.0%	82.2%	84.0%	51.0
300	Heating	Heat Pump - 16 SEER (<5 Tons)	Biz - Prescriptive	Other	TOS	per ton	3,767	25%	926	0.09	0.21	15	$100	100%	10%	10%	1	0%	15%	88.0%	84.1%	84.1%	67.9
301	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Assembly	TOS	per ton	2,631	8%	222	0.09	0.05	15	$100	100%	10%	75%	2	13%	15%	88.0%	67.5%	83.6%	33.6
302	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Education	TOS	per ton	1,854	9%	160	0.09	0.04	15	$100	100%	10%	54%	2	22%	15%	88.0%	56.1%	77.5%	30.5
303	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Food Sales	TOS	per ton	2,552	11%	272	0.09	0.07	15	$100	100%	10%	73%	2	13%	15%	88.0%	74.3%	84.0%	36.3
304	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Food Service	TOS	per ton	2,475	12%	301	0.09	0.06	15	$100	100%	10%	70%	2	14%	15%	88.0%	77.0%	84.0%	37.6
305	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Health	TOS	per ton	2,988	12%	356	0.09	0.07	15	$100	100%	10%	64%	2	15%	15%	88.0%	78.7%	84.0%	40.4
306	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Lodging	TOS	per ton	2,954	12%	344	0.09	0.08	15	$100	100%	10%	66%	2	8%	15%	88.0%	78.3%	84.0%	39.9
307	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Retail	TOS	per ton	2,008	9%	183	0.09	0.04	15	$100	100%	10%	62%	2	10%	15%	88.0%	59.8%	80.3%	31.7
308	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Office	TOS	per ton	4,752	12%	552	0.09	0.12	15	$100	100%	10%	45%	2	13%	15%	88.0%	81.8%	84.0%	50.5
309	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Warehouse	TOS	per ton	1,595	5%	86	0.09	0.02	15	$100	100%	10%	29%	2	7%	15%	88.0%	34.9%	44.1%	26.7
310	Heating	Heat Pump - 15.0 IEER COP 3.6 (65,000-134,000 Btu/hr)	Biz - Prescriptive	Other	TOS	per ton	2,780	10%	291	0.09	0.07	15	$100	100%	10%	71%	2	11%	15%	88.0%	76.2%	84.0%	37.2
311	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Assembly	TOS	per ton	2,703	9%	242	0.10	0.06	15	$100	100%	10%	76%	3	12%	15%	88.0%	70.6%	84.0%	36.7
312	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Education	TOS	per ton	1,905	9%	175	0.10	0.05	15	$100	100%	10%	59%	3	22%	15%	88.0%	58.3%	79.3%	33.4
313	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Food Sales	TOS	per ton	2,621	11%	298	0.10	0.08	15	$100	100%	10%	70%	3	13%	15%	88.0%	76.8%	84.0%	39.7
314	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Food Service	TOS	per ton	2,541	13%	329	0.10	0.07	15	$100	100%	10%	67%	3	13%	15%	88.0%	77.9%	84.0%	41.1
315	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Health	TOS	per ton	3,067	13%	389	0.10	0.08	15	$100	100%	10%	61%	3	14%	15%	88.0%	79.4%	84.0%	44.2
316	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Lodging	TOS	per ton	3,033	12%	376	0.10	0.09	15	$100	100%	10%	62%	3	8%	15%	88.0%	79.1%	84.0%	43.6
317	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Retail	TOS	per ton	2,063	10%	200	0.10	0.04	15	$100	100%	10%	68%	3	10%	15%	88.0%	63.6%	81.9%	34.6
318	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Office	TOS	per ton	4,878	12%	603	0.10	0.13	15	$100	100%	10%	40%	3	13%	15%	88.0%	82.3%	84.0%	55.1
319	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Warehouse	TOS	per ton	1,641	6%	94	0.10	0.02	15	$100	100%	10%	32%	3	7%	15%	88.0%	37.9%	48.6%	29.2
320	Heating	Heat Pump - 14.5 IEER COP 3.5 (135,000-239,000 Btu/hr)	Biz - Prescriptive	Other	TOS	per ton	2,855	11%	318	0.10	0.07	15	$100	100%	10%	68%	3	11%	15%	88.0%	77.6%	84.0%	40.6
321	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Assembly	TOS	per ton	2,834	11%	318	0.14	0.07	15	$100	100%	10%	68%	4	12%	15%	88.0%	77.6%	84.0%	48.2
322	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Education	TOS	per ton	1,998	11%	229	0.14	0.06	15	$100	100%	10%	77%	4	22%	15%	88.0%	68.7%	84.0%	43.7
323	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Food Sales	TOS	per ton	2,760	14%	390	0.14	0.10	15	$100	100%	10%	61%	4	13%	15%	88.0%	79.4%	84.0%	52.0
324	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Food Service	TOS	per ton	2,683	16%	432	0.14	0.09	15	$100	100%	10%	57%	4	13%	15%	88.0%	80.2%	84.0%	53.9
325	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Health	TOS	per ton	3,237	16%	510	0.14	0.11	15	$100	100%	10%	49%	4	14%	15%	88.0%	81.3%	84.0%	57.9
326	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Lodging	TOS	per ton	3,200	15%	493	0.14	0.12	15	$100	100%	10%	51%	4	8%	15%	88.0%	81.1%	84.0%	57.1
327	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Retail	TOS	per ton	2,166	12%	263	0.14	0.06	15	$100	100%	10%	74%	4	10%	15%	88.0%	73.2%	84.0%	45.4
328	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Office	TOS	per ton	5,146	15%	791	0.14	0.17	15	$100	100%	10%	21%	4	13%	15%	88.0%	83.5%	84.0%	72.3
329	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Warehouse	TOS	per ton	1,710	7%	123	0.14	0.03	15	$100	100%	10%	42%	4	7%	15%	88.0%	48.4%	61.4%	38.3
330	Heating	Heat Pump - 12 IEER 3.4 COP (>239,000 Btu/hr)	Biz - Prescriptive	Other	TOS	per ton	3,006	14%	417	0.14	0.10	15	$100	100%	10%	58%	4	11%	15%	88.0%	79.9%	84.0%	53.3
331	Heating	Geothermal HP - 20 EER < 135kbtu	Biz - Custom	Assembly	TOS	per ton	3,703	47%	1,753	0.18	0.40	25	$8,338	3%	3%	10%	5	3%	15%	30.3%	30.3%	30.3%	7.7
332	Heating	Geothermal HP - 20 EER < 135kbtu	Biz - Custom	Education	TOS	per ton	2,604	47%	1,231	0.18	0.32	25	$8,338	2%	2%	10%	5	4%	15%	30.3%	30.3%	30.3%	8.7
333	Heating	Geothermal HP - 20 EER < 135kbtu	Biz - Custom	Food Sales	TOS	per ton	3,498	47%	1,628	0.18	0.43	25	$8,338	3%	3%	10%	5	6%	15%	30.3%	30.3%	30.3%	7.9
334	Heating	Geothermal HP - 20 EER < 135kbtu	Biz - Custom	Food Service	TOS	per ton	3,331	46%	1,532	0.18	0.32	25	$8,338	3%	3%	10%	5	9%	15%	30.3%	30.3%	30.3%	8.0
335	Heating	Geothermal HP - 20 EER < 135kbtu	Biz - Custom	Health	TOS	per ton	4,033	46%	1,858	0.18	0.39	25	$8,338	3%	3%	10%	5	0%	15%	30.3%	30.3%	30.3%	7.5
336	Heating	Geothermal HP - 20 EER < 135kbtu	Biz - Custom	Lodging	TOS	per ton	4,002	46%	1,848	0.18	0.43	25	$8,338	3%	3%	10%	5	6%	15%	30.3%	30.3%	30.3%	7.5
337	Heating	Geothermal HP - 20 EER < 135kbtu	Biz - Custom	Retail	TOS	per ton	2,803	47%	1,320	0.18	0.29	25	$8,338	2%	2%	10%	5	5%	15%	30.3%	30.3%	30.3%	8.5
338	Heating	Geothermal HP - 20 EER < 135kbtu	Biz - Custom	Office	TOS	per ton	6,439	46%	2,974	0.18	0.65	25	$8,338	5%	5%	16%	5	3%	15%	30.3%	30.3%	30.3%	6.7
339	Heating	Geothermal HP - 20 EER < 135kbtu	Biz - Custom	Warehouse	TOS	per ton	2,326	48%	1,125	0.18	0.27	25	$8,338	2%	2%	10%	5	0%	15%	30.3%	30.3%	30.3%	9.0
340	Heating	Geothermal HP - 20 EER < 135kbtu	Biz - Custom	Other	TOS	per ton	3,820	47%	1,781	0.18	0.41	25	$8,338	3%	3%	10%	5	0%	15%	30.3%	30.3%	30.3%	7.6
341	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Prescriptive	Assembly	TOS	per ton	2,035	41%	835	0.03	0.19	15	$84	100%	100%	10%	6	0%	15%	88.0%	88.0%	84.4%	5.0
342	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Prescriptive	Education	TOS	per ton	4,918	55%	2,724	0.03	0.71	15	$84	100%	100%	10%	6	0%	15%	88.0%	88.0%	86.9%	14.7
343	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Prescriptive	Food Sales	TOS	per ton	6,318	52%	3,291	0.03	0.87	15	$84	100%	100%	10%	6	10%	15%	88.0%	88.0%	87.1%	17.6
344	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Prescriptive	Food Service	TOS	per ton	5,807	49%	2,866	0.03	0.59	15	$84	100%	100%	10%	6	0%	15%	88.0%	88.0%	86.9%	15.3
345	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Prescriptive	Health	TOS	per ton	7,073	50%	3,525	0.03	0.73	15	$84	100%	100%	10%	6	0%	15%	88.0%	88.0%	87.1%	18.7
346	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Prescriptive	Lodging	TOS	per ton	7,066	50%	3,559	0.03	0.84	15	$84	100%	100%	10%	6	15%	15%	88.0%	88.0%	87.2%	18.9
347	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Prescriptive	Retail	TOS	per ton	5,238	55%	2,861	0.03	0.63	15	$84	100%	100%	10%	6	10%	15%	88.0%	88.0%	86.9%	15.3
348	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Prescriptive	Office	TOS	per ton	11,374	50%	5,733	0.03	1.26	15	$84	100%	100%	10%	6	10%	15%	88.0%	88.0%	87.5%	29.9
349	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Prescriptive	Warehouse	TOS	per ton	4,680	60%	2,799	0.03	0.68	15	$84	100%	100%	10%	6	0%	15%	88.0%	88.0%	86.9%	15.0
350	Heating	PTHP - 7,000 to 15,000 Btuh	Biz - Prescriptive	Other	TOS	per ton	6,932	52%	3,636	0.03	0.83	15	$84	100%	100%	10%	6	0%	15%	88.0%	88.0%	87.2%	19.3
351	Heating	High Speed Overhead Doors	0	Assembly	TOS	per garage door	50,000	1%	500	0.07	0.12	20	$201	100%	0%	75%	7	100%	2%	66.0%	50.9%	63.0%	2.0
352	Heating	High Speed Overhead Doors	0	Education	TOS	per garage door	50,000	1%	500	0.08	0.13	20	$201	100%	0%	75%	7	100%	2%	66.0%	50.9%	63.0%	2.0
353	Heating	High Speed Overhead Doors	0	Food Sales	TOS	per garage door	50,000	1%	500	0.11	0.13	20	$201	100%	0%	75%	7	100%	2%	66.0%	50.9%	63.0%	2.0
354	Heating	High Speed Overhead Doors	0	Food Service	TOS	per garage door	50,000	1%	500	0.08	0.10	20	$201	100%	0%	75%	7	100%	2%	66.0%	50.9%	63.0%	2.0
355	Heating	High Speed Overhead Doors	0	Health	TOS	per garage door	50,000	1%	500	0.05	0.10	20	$201	100%	0%	75%	7	100%	2%	66.0%	50.9%	63.0%	2.0
356	Heating	High Speed Overhead Doors	0	Lodging	TOS	per garage door	50,000	1%	500	0.05	0.12	20	$201	100%	0%	75%	7	100%	2%	66.0%	50.9%	63.0%	2.0

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
357	Heating	High Speed Overhead Doors	0	Retail	TOS	per garage door	50,000	1%	500	0.08	0.11	20	$201	100%	0%	75%	7	100%	2%	66.0%	50.9%	63.0%	2.0
358	Heating	High Speed Overhead Doors	0	Office	TOS	per garage door	50,000	1%	500	0.06	0.11	20	$201	100%	0%	75%	7	100%	2%	66.0%	50.9%	63.0%	2.0
359	Heating	High Speed Overhead Doors	0	Warehouse	TOS	per garage door	50,000	1%	500	0.08	0.12	20	$201	100%	0%	75%	7	100%	2%	66.0%	50.9%	63.0%	2.0
360	Heating	High Speed Overhead Doors	0	Other	TOS	per garage door	50,000	1%	500	0.07	0.11	20	$201	100%	0%	75%	7	100%	2%	66.0%	50.9%	63.0%	2.0
361	Ventilation	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Assembly	TOS	per HP	1,503	28%	417	0.19	0.06	15	$198	100%	30%	71%	1	35%	64%	88.0%	74.1%	82.7%	11.1
362	Ventilation	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Education	TOS	per HP	2,296	28%	637	0.19	0.05	15	$198	100%	30%	68%	1	45%	77%	88.0%	81.6%	84.0%	12.9
363	Ventilation	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Food Sales	TOS	per HP	3,823	28%	1,060	0.19	0.24	15	$198	100%	30%	47%	1	0%	20%	88.0%	82.9%	84.0%	16.7
364	Ventilation	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Food Service	TOS	per HP	1,611	28%	447	0.19	0.05	15	$198	100%	30%	76%	1	0%	11%	88.0%	76.1%	83.8%	11.4
365	Ventilation	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Health	TOS	per HP	4,349	28%	1,206	0.19	0.06	15	$198	100%	30%	39%	1	43%	72%	88.0%	83.5%	84.0%	17.6
366	Ventilation	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Lodging	TOS	per HP	3,628	28%	1,006	0.19	0.12	15	$198	100%	30%	49%	1	47%	10%	88.0%	82.7%	84.0%	16.0
367	Ventilation	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Retail	TOS	per HP	1,675	28%	465	0.19	0.13	15	$198	100%	30%	77%	1	26%	8%	88.0%	77.1%	84.0%	11.6
368	Ventilation	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Office	TOS	per HP	3,090	28%	857	0.19	0.06	15	$198	100%	30%	57%	1	32%	13%	88.0%	81.9%	84.0%	14.8
369	Ventilation	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Warehouse	TOS	per HP	538	28%	149	0.19	0.01	15	$198	100%	30%	26%	1	0%	26%	88.0%	40.7%	40.7%	8.9
370	Ventilation	Pump and Fan Variable Frequency Drive Controls (Pumps)	Biz - Prescriptive	Other	TOS	per HP	2,088	28%	579	0.19	0.08	15	$198	100%	30%	71%	1	43%	33%	88.0%	79.1%	84.0%	12.5
371	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Assembly	RET	per 5 HP motor	7,655	29%	4,516	0.80	0.55	15	$2,250	100%	13%	68%	2	65%	64%	88.0%	71.2%	81.9%	13.9
372	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Education	RET	per 5 HP motor	7,655	29%	4,516	0.81	0.62	15	$2,250	100%	13%	68%	2	55%	77%	88.0%	81.6%	81.9%	13.9
373	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Food Sales	RET	per 5 HP motor	16,266	29%	9,596	1.40	1.35	15	$2,250	100%	13%	57%	2	100%	20%	88.0%	80.4%	84.0%	27.1
374	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Food Service	RET	per 5 HP motor	13,903	29%	8,202	1.24	1.07	15	$2,250	100%	13%	64%	2	100%	11%	88.0%	79.2%	84.0%	23.5
375	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Health	RET	per 5 HP motor	11,036	29%	6,510	0.84	0.73	15	$2,250	100%	13%	71%	2	57%	72%	88.0%	77.6%	84.0%	17.5
376	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Lodging	RET	per 5 HP motor	10,560	29%	6,229	1.21	0.64	15	$2,250	100%	13%	72%	2	53%	10%	88.0%	75.8%	84.0%	19.9
377	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Retail	RET	per 5 HP motor	13,400	29%	7,905	1.45	0.94	15	$2,250	100%	13%	65%	2	74%	8%	88.0%	78.9%	84.0%	24.7
378	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Office	RET	per 5 HP motor	6,786	29%	4,003	0.61	0.45	15	$2,250	100%	13%	60%	2	68%	13%	88.0%	60.2%	79.7%	11.5
379	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Warehouse	RET	per 5 HP motor	13,008	29%	7,674	1.20	0.92	15	$2,250	100%	13%	66%	2	100%	26%	88.0%	78.6%	84.0%	22.3
380	Ventilation	Pump and Fan Variable Frequency Drive Controls (Fans)	Biz - Prescriptive	Other	RET	per 5 HP motor	11,883	29%	7,010	1.21	0.84	15	$2,250	100%	13%	69%	2	57%	33%	88.0%	77.8%	84.0%	21.2
381	Ventilation	Switch Reluctance Motors	Biz - Custom	Assembly	TOS	per 10HP	48,244	31%	14,763	2.15	2.16	15	$528	100%	100%	10%	2	35%	1%	66.0%	66.0%	65.0%	6.1
382	Ventilation	Switch Reluctance Motors	Biz - Custom	Education	TOS	per 10HP	26,808	31%	8,203	1.83	0.70	15	$528	100%	100%	10%	2	45%	1%	66.0%	66.0%	64.3%	7.3
383	Ventilation	Switch Reluctance Motors	Biz - Custom	Food Sales	TOS	per 10HP	56,966	31%	17,432	0.00	3.97	15	$528	100%	100%	10%	2	0%	1%	66.0%	66.0%	65.2%	3.7
384	Ventilation	Switch Reluctance Motors	Biz - Custom	Food Service	TOS	per 10HP	48,691	31%	14,899	3.17	1.61	15	$528	100%	100%	10%	2	0%	1%	66.0%	66.0%	65.0%	7.2
385	Ventilation	Switch Reluctance Motors	Biz - Custom	Health	TOS	per 10HP	38,649	31%	11,826	2.36	0.59	15	$528	100%	100%	10%	2	43%	1%	66.0%	66.0%	64.8%	6.9
386	Ventilation	Switch Reluctance Motors	Biz - Custom	Lodging	TOS	per 10HP	36,982	31%	11,316	1.34	1.30	15	$528	100%	100%	10%	2	47%	1%	66.0%	66.0%	64.7%	5.6
387	Ventilation	Switch Reluctance Motors	Biz - Custom	Retail	TOS	per 10HP	46,930	31%	14,361	0.39	3.98	15	$528	100%	100%	10%	2	26%	1%	66.0%	66.0%	65.0%	4.1
388	Ventilation	Switch Reluctance Motors	Biz - Custom	Office	TOS	per 10HP	23,765	31%	7,272	1.24	0.55	15	$528	100%	100%	10%	2	32%	1%	66.0%	66.0%	64.0%	6.4
389	Ventilation	Switch Reluctance Motors	Biz - Custom	Warehouse	TOS	per 10HP	45,557	31%	13,940	2.45	1.32	15	$528	100%	100%	10%	2	0%	1%	66.0%	66.0%	65.0%	6.5
390	Ventilation	Switch Reluctance Motors	Biz - Custom	Other	TOS	per 10HP	41,616	31%	12,734	1.91	1.68	15	$528	100%	100%	10%	2	43%	1%	66.0%	66.0%	64.9%	6.1
391	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Assembly	TOS	per 5 HP motor	24,122	3%	748	0.09	0.09	15	$137	100%	76%	45%	3	65%	10%	66.0%	64.7%	63.0%	5.7
392	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Education	TOS	per 5 HP motor	13,404	3%	416	0.09	0.06	15	$137	100%	43%	70%	3	55%	10%	66.0%	60.7%	63.0%	7.4
393	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Food Sales	TOS	per 5 HP motor	28,483	3%	883	0.09	0.12	15	$137	100%	90%	35%	3	100%	10%	66.0%	65.6%	63.0%	5.4
394	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Food Service	TOS	per 5 HP motor	24,345	3%	755	0.09	0.10	15	$137	100%	77%	45%	3	100%	10%	66.0%	64.8%	63.0%	5.7
395	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Health	TOS	per 5 HP motor	19,324	3%	599	0.09	0.07	15	$137	100%	61%	56%	3	57%	10%	66.0%	63.3%	63.0%	6.2
396	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Lodging	TOS	per 5 HP motor	18,491	3%	573	0.09	0.06	15	$137	100%	59%	58%	3	53%	10%	66.0%	63.0%	63.0%	6.4
397	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Retail	TOS	per 5 HP motor	23,465	3%	727	0.09	0.09	15	$137	100%	74%	47%	3	74%	10%	66.0%	64.6%	63.0%	5.8
398	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Office	TOS	per 5 HP motor	11,883	3%	368	0.09	0.04	15	$137	100%	38%	73%	3	68%	10%	66.0%	59.5%	63.0%	7.9
399	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Warehouse	TOS	per 5 HP motor	22,778	3%	706	0.09	0.08	15	$137	100%	72%	48%	3	100%	10%	66.0%	64.4%	63.0%	5.8
400	Ventilation	Cogged V-Belt (Synchronous)	Biz - Custom	Other	TOS	per 5 HP motor	20,808	3%	645	0.09	0.08	15	$137	100%	66%	53%	3	57%	10%	66.0%	63.8%	63.0%	6.1
401	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Assembly	RET	per 1000 sq ft	1,920	3%	398	0.06	0.05	10	$236	100%	24%	43%	3	100%	10%	66.0%	47.5%	55.4%	4.6
402	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Education	RET	per 1000 sq ft	1,920	3%	377	0.08	0.04	10	$236	100%	22%	41%	3	100%	10%	66.0%	45.2%	53.1%	5.3
403	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Food Sales	RET	per 1000 sq ft	0	2%	450	0.07	0.05	10	$236	100%	27%	49%	3	100%	10%	66.0%	52.1%	58.6%	4.5
404	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Food Service	RET	per 1000 sq ft	2,550	1%	626	0.13	0.07	10	$236	100%	37%	68%	3	100%	10%	66.0%	59.4%	62.5%	5.2
405	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Health	RET	per 1000 sq ft	305	3%	554	0.09	0.05	10	$236	100%	33%	60%	3	100%	10%	66.0%	58.1%	61.2%	4.5
406	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Lodging	RET	per 1000 sq ft	2,045	3%	937	0.13	0.12	10	$236	100%	56%	60%	3	100%	10%	66.0%	62.7%	63.0%	4.4
407	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Retail	RET	per 1000 sq ft	1,663	3%	339	0.07	0.04	10	$236	100%	20%	37%	3	100%	10%	66.0%	42.4%	48.5%	5.3
408	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Office	RET	per 1000 sq ft	1,313	2%	280	0.04	0.03	10	$236	50%	17%	31%	3	100%	10%	49.6%	37.3%	41.3%	4.5
409	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Warehouse	RET	per 1000 sq ft	0	3%	518	0.08	0.06	10	$236	100%	31%	57%	3	100%	10%	66.0%	56.7%	60.4%	4.5
410	WholeBldg_HVAC	Demand Control Ventilation	Biz - Custom	Other	RET	per 1000 sq ft	1,925	2%	398	0.06	0.05	10	$236	100%	24%	43%	3	100%	10%	66.0%	47.5%	55.4%	4.6
411	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Assembly	RET	per sq ft	7	25%	2	0.00	0.00	15	$15	2%	2%	10%	4	100%	1%	18.8%	18.8%	18.8%	6.3
412	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Education	RET	per sq ft	7	25%	2	0.00	0.00	15	$15	2%	2%	10%	4	100%	1%	18.8%	18.8%	18.8%	7.2
413	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Food Sales	RET	per sq ft	7	25%	2	0.00	0.00	15	$15	2%	2%	10%	4	100%	1%	18.8%	18.8%	18.8%	6.2
414	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Food Service	RET	per sq ft	7	25%	2	0.00	0.00	15	$15	2%	2%	10%	4	100%	1%	18.8%	18.8%	18.8%	7.1
415	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Health	RET	per sq ft	7	25%	2	0.00	0.00	15	$15	2%	2%	10%	4	100%	1%	18.8%	18.8%	18.8%	6.2
416	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Lodging	RET	per sq ft	7	25%	2	0.00	0.00	15	$15	2%	2%	10%	4	100%	1%	18.8%	18.8%	18.8%	6.0
417	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Retail	RET	per sq ft	7	25%	2	0.00	0.00	15	$15	2%	2%	10%	4	100%	1%	18.8%	18.8%	18.8%	7.3
418	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Office	RET	per sq ft	7	25%	2	0.00	0.00	15	$15	2%	2%	10%	4	100%	1%	18.8%	18.8%	18.8%	6.1
419	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Warehouse	RET	per sq ft	7	25%	2	0.00	0.00	15	$15	2%	2%	10%	4	100%	1%	18.8%	18.8%	18.8%	6.1
420	WholeBldg_HVAC	High Efficiency DOAS	Biz - Custom	Other	RET	per sq ft	7	25%	2	0.00	0.00	15	$15	2%	2%	10%	4	100%	1%	18.8%	18.8%	18.8%	6.3
421	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Assembly	RET	per kWh	13	8%	1	0.00	0.00	15	$0	100%	35%	75%	1	42%	10%	66.0%	58.8%	63.0%	6.3
422	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Education	RET	per kWh	13	8%	1	0.00	0.00	15	$0	100%	35%	75%	1	55%	10%	66.0%	58.8%	63.0%	7.2
423	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Food Sales	RET	per kWh	13	8%	1	0.00	0.00	15	$0	100%	35%	75%	1	38%	10%	66.0%	58.8%	63.0%	6.2
424	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Food Service	RET	per kWh	13	8%	1	0.00	0.00	15	$0	100%	35%	75%	1	42%	10%	66.0%	58.8%	63.0%	7.1
425	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Health	RET	per kWh	13	8%	1	0.00	0.00	15	$0	100%	35%	75%	1	57%	10%	66.0%	58.8%	63.0%	6.2
426	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Lodging	RET	per kWh	13	8%	1	0.00	0.00	15	$0	100%	35%	75%	1	27%	10%	66.0%	58.8%	63.0%	6.0
427	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Retail	RET	per kWh	13	8%	1	0.00	0.00	15	$0	100%	35%	75%	1	33%	10%	66.0%	58.8%	63.0%	7.3

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
428	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Office	RET	per kWh	13	8%	1	0.00	0.00	15	$0	100%	35%	75%	1	55%	10%	66.0%	58.8%	63.0%	6.1
429	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Warehouse	RET	per kWh	13	8%	1	0.00	0.00	15	$0	100%	35%	75%	1	62%	10%	66.0%	58.8%	63.0%	6.1
430	WholeBldg_HVAC	HVAC - Energy Management System	Biz - Custom	Other	RET	per kWh	13	8%	1	0.00	0.00	15	$0	100%	35%	75%	1	57%	10%	66.0%	58.8%	63.0%	6.2
431	WholeBldg_HVAC	GREM Controls	Biz - Custom	Assembly	RET	er HVAC controll	0	0%	0	0.00	0.00	15	$0	100%	0%	100%	2	0%	20%	66.0%	66.0%	66.0%	2.0
432	WholeBldg_HVAC	GREM Controls	Biz - Custom	Education	RET	er HVAC controll	0	0%	0	0.00	0.00	15	$0	100%	0%	100%	2	0%	20%	66.0%	66.0%	66.0%	2.0
433	WholeBldg_HVAC	GREM Controls	Biz - Custom	Food Sales	RET	er HVAC controll	0	0%	0	0.00	0.00	15	$0	100%	0%	100%	2	0%	20%	66.0%	66.0%	66.0%	2.0
434	WholeBldg_HVAC	GREM Controls	Biz - Custom	Food Service	RET	er HVAC controll	0	0%	0	0.00	0.00	15	$0	100%	0%	100%	2	0%	20%	66.0%	66.0%	66.0%	2.0
435	WholeBldg_HVAC	GREM Controls	Biz - Custom	Health	RET	er HVAC controll	0	0%	0	0.00	0.00	15	$0	100%	0%	100%	2	0%	20%	66.0%	66.0%	66.0%	2.0
436	WholeBldg_HVAC	GREM Controls	Biz - Custom	Lodging	RET	er HVAC controll	4,853	19%	936	0.13	0.12	15	$260	100%	50%	64%	2	75%	20%	66.0%	62.0%	63.0%	6.0
437	WholeBldg_HVAC	GREM Controls	Biz - Custom	Retail	RET	er HVAC controll	0	0%	0	0.00	0.00	15	$0	100%	0%	100%	2	0%	20%	66.0%	66.0%	66.0%	2.0
438	WholeBldg_HVAC	GREM Controls	Biz - Custom	Office	RET	er HVAC controll	0	0%	0	0.00	0.00	15	$0	100%	0%	100%	2	0%	20%	66.0%	66.0%	66.0%	2.0
439	WholeBldg_HVAC	GREM Controls	Biz - Custom	Warehouse	RET	er HVAC controll	0	0%	0	0.00	0.00	15	$0	100%	0%	100%	2	0%	20%	66.0%	66.0%	66.0%	2.0
440	WholeBldg_HVAC	GREM Controls	Biz - Custom	Other	RET	er HVAC controll	0	0%	0	0.00	0.00	15	$0	100%	0%	100%	2	0%	20%	66.0%	66.0%	66.0%	2.0
441	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - Custom	Assembly	RET	per kWh	13	8%	1	0.00	0.00	5	$0	100%	100%	17%	6	100%	15%	66.0%	66.0%	63.0%	3.1
442	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - Custom	Education	RET	per kWh	13	8%	1	0.00	0.00	5	$0	100%	100%	17%	6	100%	15%	66.0%	66.0%	63.0%	3.5
443	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - Custom	Food Sales	RET	per kWh	13	8%	1	0.00	0.00	5	$0	100%	100%	17%	6	100%	15%	66.0%	66.0%	63.0%	3.0
444	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - Custom	Food Service	RET	per kWh	13	8%	1	0.00	0.00	5	$0	100%	100%	17%	6	100%	15%	66.0%	66.0%	63.0%	3.4
445	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - Custom	Health	RET	per kWh	13	8%	1	0.00	0.00	5	$0	100%	100%	17%	6	100%	15%	66.0%	66.0%	63.0%	3.0
446	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - Custom	Lodging	RET	per kWh	13	8%	1	0.00	0.00	5	$0	100%	100%	17%	6	100%	15%	66.0%	66.0%	63.0%	2.9
447	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - Custom	Retail	RET	per kWh	13	8%	1	0.00	0.00	5	$0	100%	100%	17%	6	100%	15%	66.0%	66.0%	63.0%	3.5
448	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - Custom	Office	RET	per kWh	13	8%	1	0.00	0.00	5	$0	100%	100%	17%	6	100%	15%	66.0%	66.0%	63.0%	3.0
449	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - Custom	Warehouse	RET	per kWh	13	8%	1	0.00	0.00	5	$0	100%	100%	17%	6	100%	15%	66.0%	66.0%	63.0%	3.0
450	WholeBldg_HVAC	Retro-commissioning_Bld Optimization	Biz - Custom	Other	RET	per kWh	13	8%	1	0.00	0.00	5	$0	100%	100%	17%	6	100%	15%	66.0%	66.0%	63.0%	3.1
451	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Assembly	RET	per linear ft	556	2%	11	0.00	0.00	10	$8	75%	20%	36%	5	100%	25%	60.9%	41.5%	46.8%	4.6
452	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Education	RET	per linear ft	699	2%	14	0.00	0.00	10	$8	100%	25%	45%	5	100%	25%	66.0%	48.9%	56.8%	5.3
453	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Food Sales	RET	per linear ft	970	2%	19	0.00	0.00	10	$8	100%	34%	62%	5	100%	25%	66.0%	58.5%	61.6%	4.5
454	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Food Service	RET	per linear ft	308	2%	6	0.00	0.00	10	$8	50%	11%	20%	5	100%	25%	47.5%	40.0%	40.0%	5.2
455	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Health	RET	per linear ft	916	2%	18	0.00	0.00	10	$8	100%	32%	59%	5	100%	25%	66.0%	57.8%	60.9%	4.5
456	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Lodging	RET	per linear ft	1,021	2%	20	0.00	0.00	10	$8	100%	36%	66%	5	100%	25%	66.0%	59.0%	62.1%	4.4
457	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Retail	RET	per linear ft	889	2%	18	0.00	0.00	10	$8	100%	31%	57%	5	100%	25%	66.0%	57.1%	60.6%	5.3
458	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Office	RET	per linear ft	696	2%	14	0.00	0.00	10	$8	100%	24%	45%	5	100%	25%	66.0%	48.6%	56.6%	4.5
459	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Warehouse	RET	per linear ft	765	2%	15	0.00	0.00	10	$8	100%	27%	49%	5	100%	25%	66.0%	52.2%	58.7%	4.5
460	WholeBldg_HVAC	Commercial Weatherstripping	Biz - Custom	Other	RET	per linear ft	674	2%	13	0.00	0.00	10	$8	100%	24%	43%	5	100%	25%	66.0%	47.4%	55.3%	4.6
461	Hot Water	Heat Pump Water Heater	Biz - Prescriptive	Assembly	TOS	per 100 gal cap	10,591	73%	7,766	1.11	1.55	15	$1,797	100%	28%	57%	1	100%	0%	88.0%	81.7%	84.0%	13.2
462	Hot Water	Heat Pump Water Heater	Biz - Prescriptive	Education	TOS	per 100 gal cap	17,641	73%	12,936	1.85	2.58	15	$1,797	100%	28%	28%	1	100%	9%	88.0%	84.0%	84.0%	21.9
463	Hot Water	Heat Pump Water Heater	Biz - Prescriptive	Food Sales	TOS	per 100 gal cap	16,398	73%	12,025	1.72	1.87	15	$1,797	100%	28%	33%	1	100%	0%	88.0%	83.7%	84.0%	20.3
464	Hot Water	Heat Pump Water Heater	Biz - Prescriptive	Food Service	TOS	per 100 gal cap	19,318	73%	14,166	2.03	2.20	15	$1,797	100%	28%	21%	1	100%	17%	88.0%	84.3%	84.0%	23.9
465	Hot Water	Heat Pump Water Heater	Biz - Prescriptive	Health	TOS	per 100 gal cap	24,473	73%	17,947	2.57	1.96	15	$1,797	100%	28%	10%	1	100%	25%	88.0%	85.1%	84.4%	30.1
466	Hot Water	Heat Pump Water Heater	Biz - Prescriptive	Lodging	TOS	per 100 gal cap	22,206	73%	16,284	2.33	3.15	15	$1,797	100%	28%	10%	1	100%	23%	88.0%	84.8%	84.0%	27.6
467	Hot Water	Heat Pump Water Heater	Biz - Prescriptive	Retail	TOS	per 100 gal cap	16,398	73%	12,025	1.72	1.05	15	$1,797	100%	28%	33%	1	100%	9%	88.0%	83.7%	84.0%	20.1
468	Hot Water	Heat Pump Water Heater	Biz - Prescriptive	Office	TOS	per 100 gal cap	15,870	73%	11,638	1.67	1.81	15	$1,797	100%	28%	35%	1	100%	9%	88.0%	83.6%	84.0%	19.6
469	Hot Water	Heat Pump Water Heater	Biz - Prescriptive	Warehouse	TOS	per 100 gal cap	10,591	73%	7,766	1.11	1.20	15	$1,797	100%	28%	57%	1	100%	0%	88.0%	81.7%	84.0%	13.1
470	Hot Water	Heat Pump Water Heater	Biz - Prescriptive	Other	TOS	per 100 gal cap	17,237	73%	12,640	1.81	1.96	15	$1,797	100%	28%	30%	1	100%	14%	88.0%	83.9%	84.0%	21.3
471	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Assembly	RET	per unit	502	25%	128	0.04	0.03	10	$8	100%	100%	10%	2	15%	85%	89.5%	88.0%	88.0%	14.6
472	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Education	RET	per unit	602	25%	153	0.06	0.03	10	$8	100%	100%	10%	2	15%	85%	89.5%	88.0%	88.0%	19.9
473	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Food Sales	RET	per unit	366	25%	93	0.01	0.01	10	$8	100%	100%	10%	2	15%	85%	89.5%	88.0%	88.0%	7.2
474	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Food Service	RET	per unit	1,273	16%	209	0.03	0.03	10	$8	100%	100%	10%	2	15%	85%	89.5%	88.0%	88.0%	15.5
475	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Health	RET	per unit	1,649	25%	420	0.05	0.05	10	$14	100%	100%	10%	2	15%	85%	89.5%	88.0%	88.0%	16.3
476	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Lodging	RET	per unit	156	25%	40	0.00	0.01	10	$8	100%	69%	50%	2	15%	85%	89.5%	88.0%	88.0%	3.2
477	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Retail	RET	per unit	367	25%	94	0.01	0.01	10	$8	100%	100%	10%	2	15%	85%	89.5%	88.0%	88.0%	7.2
478	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Office	RET	per unit	544	25%	139	0.04	0.02	10	$8	100%	100%	10%	2	15%	85%	89.5%	88.0%	88.0%	15.4
479	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Warehouse	RET	per unit	251	25%	64	0.02	0.01	10	$8	100%	100%	20%	2	15%	85%	89.5%	88.0%	88.0%	7.4
480	Hot Water	Low Flow Faucet Aerator	Biz - Custom	Other	RET	per unit	502	25%	128	0.04	0.02	10	$8	100%	100%	10%	2	15%	85%	89.5%	88.0%	88.0%	14.5
481	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Prescriptive	Assembly	RET	per unit	18,059	54%	9,789	0.00	1.95	5	$54	100%	9%	10%	3	15%	72%	88.0%	87.8%	87.8%	431.9
482	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Prescriptive	Education	RET	per unit	18,059	54%	9,789	0.00	1.95	5	$54	100%	9%	10%	3	15%	72%	88.0%	87.8%	87.8%	431.9
483	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Prescriptive	Food Sales	RET	per unit	18,059	54%	9,789	0.00	1.52	5	$54	100%	9%	10%	3	20%	72%	88.0%	87.8%	87.8%	428.8
484	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Prescriptive	Food Service	RET	per unit	18,059	54%	9,789	0.00	1.52	5	$54	100%	9%	10%	3	20%	72%	88.0%	87.8%	87.8%	428.8
485	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Prescriptive	Health	RET	per unit	18,059	54%	9,789	0.00	1.07	5	$54	100%	9%	10%	3	20%	72%	88.0%	87.8%	87.8%	425.7
486	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Prescriptive	Lodging	RET	per unit	18,059	54%	9,789	0.00	1.89	5	$54	100%	9%	10%	3	15%	72%	88.0%	87.8%	87.8%	431.5
487	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Prescriptive	Retail	RET	per unit	18,059	54%	9,789	0.00	0.85	5	$54	100%	9%	10%	3	15%	72%	88.0%	87.8%	87.8%	424.2
488	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Prescriptive	Office	RET	per unit	18,059	54%	9,789	0.00	1.52	5	$54	100%	9%	10%	3	15%	72%	88.0%	87.8%	87.8%	428.8
489	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Prescriptive	Warehouse	RET	per unit	18,059	54%	9,789	0.00	1.52	5	$54	100%	9%	10%	3	15%	72%	88.0%	87.8%	87.8%	428.8
490	Hot Water	Pre-Rinse Spray Valves - DI	Biz - Prescriptive	Other	RET	per unit	18,059	54%	9,789	0.00	1.52	5	$54	100%	9%	10%	3	15%	72%	88.0%	87.8%	87.8%	428.8
491	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Assembly	RET	per unit	996	76%	755	0.09	0.09	10	$97	100%	41%	22%	1	13%	60%	95.0%	89.7%	88.0%	10.7
492	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Education	RET	per unit	996	76%	755	0.09	0.09	10	$97	100%	41%	22%	1	13%	60%	95.0%	89.7%	88.0%	10.7
493	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Food Sales	RET	per unit	996	76%	755	0.09	0.10	10	$97	100%	41%	22%	1	13%	60%	95.0%	89.7%	88.0%	10.7
494	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Food Service	RET	per unit	996	76%	755	0.09	0.09	10	$97	100%	41%	22%	1	13%	60%	95.0%	89.7%	88.0%	10.7
495	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Health	RET	per unit	996	76%	755	0.09	0.09	10	$97	100%	41%	22%	1	13%	60%	95.0%	89.7%	88.0%	10.7
496	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Lodging	RET	per unit	996	76%	755	0.09	0.09	10	$97	100%	41%	22%	1	13%	60%	95.0%	89.7%	88.0%	10.7
497	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Retail	RET	per unit	996	76%	755	0.09	0.09	10	$97	100%	41%	22%	1	13%	60%	95.0%	89.7%	88.0%	10.7
498	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Office	RET	per unit	996	76%	755	0.09	0.09	10	$97	100%	41%	22%	1	13%	60%	95.0%	89.7%	88.0%	10.7

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
499	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Warehouse	RET	per unit	996	76%	755	0.09	0.09	10	$97	100%	41%	22%	1	13%	60%	95.0%	89.7%	88.0%	10.7
500	Lighting_Ext	Ext LED Replacing 100W MH (24/7)	Biz - Prescriptive	Other	RET	per unit	996	76%	755	0.09	0.09	10	$97	100%	41%	22%	1	13%	60%	95.0%	89.7%	88.0%	10.7
501	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Assembly	RET	per unit	1,744	71%	1,239	0.14	0.15	10	$124	100%	32%	10%	2	13%	60%	95.0%	90.3%	88.7%	17.5
502	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Education	RET	per unit	1,744	71%	1,239	0.14	0.15	10	$124	100%	32%	10%	2	13%	60%	95.0%	90.3%	88.7%	17.5
503	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Food Sales	RET	per unit	1,744	71%	1,239	0.14	0.16	10	$124	100%	32%	10%	2	13%	60%	95.0%	90.3%	88.7%	17.6
504	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Food Service	RET	per unit	1,744	71%	1,239	0.14	0.15	10	$124	100%	32%	10%	2	13%	60%	95.0%	90.3%	88.7%	17.5
505	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Health	RET	per unit	1,744	71%	1,239	0.14	0.15	10	$124	100%	32%	10%	2	13%	60%	95.0%	90.3%	88.7%	17.5
506	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Lodging	RET	per unit	1,744	71%	1,239	0.14	0.14	10	$124	100%	32%	10%	2	13%	60%	95.0%	90.3%	88.7%	17.5
507	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Retail	RET	per unit	1,744	71%	1,239	0.14	0.15	10	$124	100%	32%	10%	2	13%	60%	95.0%	90.3%	88.7%	17.5
508	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Office	RET	per unit	1,744	71%	1,239	0.14	0.15	10	$124	100%	32%	10%	2	13%	60%	95.0%	90.3%	88.7%	17.5
509	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Warehouse	RET	per unit	1,744	71%	1,239	0.14	0.15	10	$124	100%	32%	10%	2	13%	60%	95.0%	90.3%	88.7%	17.5
510	Lighting_Ext	Ext LED Replacing 175W MH (24/7)	Biz - Prescriptive	Other	RET	per unit	1,744	71%	1,239	0.14	0.15	10	$124	100%	32%	10%	2	13%	60%	95.0%	90.3%	88.7%	17.5
511	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Assembly	RET	per unit	2,490	67%	1,659	0.19	0.19	10	$134	100%	37%	10%	3	13%	60%	95.0%	91.4%	89.9%	18.8
512	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Education	RET	per unit	2,490	67%	1,659	0.19	0.19	10	$134	100%	37%	10%	3	13%	60%	95.0%	91.4%	89.9%	18.8
513	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Food Sales	RET	per unit	2,490	67%	1,659	0.19	0.21	10	$134	100%	37%	10%	3	13%	60%	95.0%	91.4%	89.9%	18.8
514	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Food Service	RET	per unit	2,490	67%	1,659	0.19	0.20	10	$134	100%	37%	10%	3	13%	60%	95.0%	91.4%	89.9%	18.8
515	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Health	RET	per unit	2,490	67%	1,659	0.19	0.20	10	$134	100%	37%	10%	3	13%	60%	95.0%	91.4%	89.9%	18.8
516	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Lodging	RET	per unit	2,490	67%	1,659	0.19	0.19	10	$134	100%	37%	10%	3	13%	60%	95.0%	91.4%	89.9%	18.8
517	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Retail	RET	per unit	2,490	67%	1,659	0.19	0.20	10	$134	100%	37%	10%	3	13%	60%	95.0%	91.4%	89.9%	18.8
518	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Office	RET	per unit	2,490	67%	1,659	0.19	0.19	10	$134	100%	37%	10%	3	13%	60%	95.0%	91.4%	89.9%	18.8
519	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Warehouse	RET	per unit	2,490	67%	1,659	0.19	0.20	10	$134	100%	37%	10%	3	13%	60%	95.0%	91.4%	89.9%	18.8
520	Lighting_Ext	Ext LED Replacing 250W MH (24/7)	Biz - Prescriptive	Other	RET	per unit	2,490	67%	1,659	0.19	0.19	10	$134	100%	37%	10%	3	13%	60%	95.0%	91.4%	89.9%	18.8
521	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Assembly	RET	per unit	3,984	65%	2,570	0.29	0.30	10	$196	100%	51%	10%	4	13%	60%	95.0%	92.4%	90.2%	14.6
522	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Education	RET	per unit	3,984	65%	2,570	0.29	0.30	10	$196	100%	51%	10%	4	13%	60%	95.0%	92.4%	90.2%	14.6
523	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Food Sales	RET	per unit	3,984	65%	2,570	0.29	0.33	10	$196	100%	51%	10%	4	13%	60%	95.0%	92.4%	90.2%	14.6
524	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Food Service	RET	per unit	3,984	65%	2,570	0.29	0.30	10	$196	100%	51%	10%	4	13%	60%	95.0%	92.4%	90.2%	14.6
525	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Health	RET	per unit	3,984	65%	2,570	0.29	0.30	10	$196	100%	51%	10%	4	13%	60%	95.0%	92.4%	90.2%	14.6
526	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Lodging	RET	per unit	3,984	65%	2,570	0.29	0.30	10	$196	100%	51%	10%	4	13%	60%	95.0%	92.4%	90.2%	14.6
527	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Retail	RET	per unit	3,984	65%	2,570	0.29	0.30	10	$196	100%	51%	10%	4	13%	60%	95.0%	92.4%	90.2%	14.6
528	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Office	RET	per unit	3,984	65%	2,570	0.29	0.30	10	$196	100%	51%	10%	4	13%	60%	95.0%	92.4%	90.2%	14.6
529	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Warehouse	RET	per unit	3,984	65%	2,570	0.29	0.30	10	$196	100%	51%	10%	4	13%	60%	95.0%	92.4%	90.2%	14.6
530	Lighting_Ext	Ext LED Replacing 400W MH (24/7)	Biz - Prescriptive	Other	RET	per unit	3,984	65%	2,570	0.29	0.30	10	$196	100%	51%	10%	4	13%	60%	95.0%	92.4%	90.2%	14.6
531	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Assembly	RET	per unit	9,467	70%	6,666	0.76	0.78	10	$319	100%	50%	10%	5	13%	60%	95.0%	93.3%	92.0%	23.6
532	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Education	RET	per unit	9,467	70%	6,666	0.76	0.78	10	$319	100%	50%	10%	5	13%	60%	95.0%	93.3%	92.0%	23.6
533	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Food Sales	RET	per unit	9,467	70%	6,666	0.76	0.84	10	$319	100%	50%	10%	5	13%	60%	95.0%	93.3%	92.0%	23.6
534	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Food Service	RET	per unit	9,467	70%	6,666	0.76	0.79	10	$319	100%	50%	10%	5	13%	60%	95.0%	93.3%	92.0%	23.6
535	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Health	RET	per unit	9,467	70%	6,666	0.76	0.79	10	$319	100%	50%	10%	5	13%	60%	95.0%	93.3%	92.0%	23.6
536	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Lodging	RET	per unit	9,467	70%	6,666	0.76	0.78	10	$319	100%	50%	10%	5	13%	60%	95.0%	93.3%	92.0%	23.6
537	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Retail	RET	per unit	9,467	70%	6,666	0.76	0.78	10	$319	100%	50%	10%	5	13%	60%	95.0%	93.3%	92.0%	23.6
538	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Office	RET	per unit	9,467	70%	6,666	0.76	0.78	10	$319	100%	50%	10%	5	13%	60%	95.0%	93.3%	92.0%	23.6
539	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Warehouse	RET	per unit	9,467	70%	6,666	0.76	0.78	10	$319	100%	50%	10%	5	13%	60%	95.0%	93.3%	92.0%	23.6
540	Lighting_Ext	Ext LED Replacing 1000W MH (24/7)	Biz - Prescriptive	Other	RET	per unit	9,467	70%	6,666	0.76	0.78	10	$319	100%	50%	10%	5	13%	60%	95.0%	93.3%	92.0%	23.6
541	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Assembly	RET	per unit	489	76%	370	0.00	0.04	16	$97	100%	41%	62%	6	7%	60%	95.0%	83.4%	88.0%	4.9
542	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Education	RET	per unit	489	76%	370	0.00	0.04	16	$97	100%	41%	62%	6	7%	60%	95.0%	83.4%	88.0%	4.9
543	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Food Sales	RET	per unit	489	76%	370	0.00	0.05	16	$97	100%	41%	62%	6	7%	60%	95.0%	83.4%	88.0%	4.9
544	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Food Service	RET	per unit	489	76%	370	0.00	0.04	16	$97	100%	41%	62%	6	7%	60%	95.0%	83.4%	88.0%	4.9
545	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Health	RET	per unit	489	76%	370	0.00	0.04	16	$97	100%	41%	62%	6	7%	60%	95.0%	83.4%	88.0%	4.9
546	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Lodging	RET	per unit	489	76%	370	0.00	0.04	16	$97	100%	41%	62%	6	7%	60%	95.0%	83.4%	88.0%	4.9
547	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Retail	RET	per unit	489	76%	370	0.00	0.04	16	$97	100%	41%	62%	6	7%	60%	95.0%	83.4%	88.0%	4.9
548	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Office	RET	per unit	489	76%	370	0.00	0.04	16	$97	100%	41%	62%	6	7%	60%	95.0%	83.4%	88.0%	4.9
549	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Warehouse	RET	per unit	489	76%	370	0.00	0.04	16	$97	100%	41%	62%	6	7%	60%	95.0%	83.4%	88.0%	4.9
550	Lighting_Ext	Ext LED Replacing 100W MH (D2D)	Biz - Prescriptive	Other	RET	per unit	489	76%	370	0.00	0.04	16	$97	100%	41%	62%	6	7%	60%	95.0%	83.4%	88.0%	4.9
551	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Assembly	RET	per unit	856	71%	608	0.00	0.07	16	$124	100%	32%	51%	7	7%	60%	95.0%	84.8%	88.0%	8.0
552	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Education	RET	per unit	856	71%	608	0.00	0.07	16	$124	100%	32%	51%	7	7%	60%	95.0%	84.8%	88.0%	8.0
553	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Food Sales	RET	per unit	856	71%	608	0.00	0.08	16	$124	100%	32%	51%	7	7%	60%	95.0%	84.8%	88.0%	8.0
554	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Food Service	RET	per unit	856	71%	608	0.00	0.07	16	$124	100%	32%	51%	7	7%	60%	95.0%	84.8%	88.0%	8.0
555	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Health	RET	per unit	856	71%	608	0.00	0.07	16	$124	100%	32%	51%	7	7%	60%	95.0%	84.8%	88.0%	8.0
556	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Lodging	RET	per unit	856	71%	608	0.00	0.07	16	$124	100%	32%	51%	7	7%	60%	95.0%	84.8%	88.0%	8.0
557	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Retail	RET	per unit	856	71%	608	0.00	0.07	16	$124	100%	32%	51%	7	7%	60%	95.0%	84.8%	88.0%	8.0
558	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Office	RET	per unit	856	71%	608	0.00	0.07	16	$124	100%	32%	51%	7	7%	60%	95.0%	84.8%	88.0%	8.0
559	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Warehouse	RET	per unit	856	71%	608	0.00	0.07	16	$124	100%	32%	51%	7	7%	60%	95.0%	84.8%	88.0%	8.0
560	Lighting_Ext	Ext LED Replacing 175W MH (D2D)	Biz - Prescriptive	Other	RET	per unit	856	71%	608	0.00	0.07	16	$124	100%	32%	51%	7	7%	60%	95.0%	84.8%	88.0%	8.0
561	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Assembly	RET	per unit	1,222	67%	814	0.00	0.10	16	$134	100%	37%	39%	8	7%	60%	95.0%	87.7%	88.0%	8.6
562	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Education	RET	per unit	1,222	67%	814	0.00	0.10	16	$134	100%	37%	39%	8	7%	60%	95.0%	87.7%	88.0%	8.6
563	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Food Sales	RET	per unit	1,222	67%	814	0.00	0.10	16	$134	100%	37%	39%	8	7%	60%	95.0%	87.7%	88.0%	8.6
564	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Food Service	RET	per unit	1,222	67%	814	0.00	0.10	16	$134	100%	37%	39%	8	7%	60%	95.0%	87.7%	88.0%	8.6
565	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Health	RET	per unit	1,222	67%	814	0.00	0.10	16	$134	100%	37%	39%	8	7%	60%	95.0%	87.7%	88.0%	8.6
566	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Lodging	RET	per unit	1,222	67%	814	0.00	0.09	16	$134	100%	37%	39%	8	7%	60%	95.0%	87.7%	88.0%	8.6
567	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Retail	RET	per unit	1,222	67%	814	0.00	0.10	16	$134	100%	37%	39%	8	7%	60%	95.0%	87.7%	88.0%	8.6
568	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Office	RET	per unit	1,222	67%	814	0.00	0.10	16	$134	100%	37%	39%	8	7%	60%	95.0%	87.7%	88.0%	8.6
569	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Warehouse	RET	per unit	1,222	67%	814	0.00	0.10	16	$134	100%	37%	39%	8	7%	60%	95.0%	87.7%	88.0%	8.6

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
570	Lighting_Ext	Ext LED Replacing 250W MH (D2D)	Biz - Prescriptive	Other	RET	per unit	1,222	67%	814	0.00	0.10	16	$134	100%	37%	39%	8	7%	60%	95.0%	87.7%	88.0%	8.6
571	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Assembly	RET	per unit	1,956	65%	1,262	0.00	0.15	16	$196	100%	51%	36%	9	7%	60%	95.0%	89.7%	88.0%	6.6
572	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Education	RET	per unit	1,956	65%	1,262	0.00	0.15	16	$196	100%	51%	36%	9	7%	60%	95.0%	89.7%	88.0%	6.6
573	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Food Sales	RET	per unit	1,956	65%	1,262	0.00	0.16	16	$196	100%	51%	36%	9	7%	60%	95.0%	89.7%	88.0%	6.6
574	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Food Service	RET	per unit	1,956	65%	1,262	0.00	0.15	16	$196	100%	51%	36%	9	7%	60%	95.0%	89.7%	88.0%	6.6
575	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Health	RET	per unit	1,956	65%	1,262	0.00	0.15	16	$196	100%	51%	36%	9	7%	60%	95.0%	89.7%	88.0%	6.6
576	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Lodging	RET	per unit	1,956	65%	1,262	0.00	0.15	16	$196	100%	51%	36%	9	7%	60%	95.0%	89.7%	88.0%	6.6
577	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Retail	RET	per unit	1,956	65%	1,262	0.00	0.15	16	$196	100%	51%	36%	9	7%	60%	95.0%	89.7%	88.0%	6.6
578	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Office	RET	per unit	1,956	65%	1,262	0.00	0.15	16	$196	100%	51%	36%	9	7%	60%	95.0%	89.7%	88.0%	6.6
579	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Warehouse	RET	per unit	1,956	65%	1,262	0.00	0.15	16	$196	100%	51%	36%	9	7%	60%	95.0%	89.7%	88.0%	6.6
580	Lighting_Ext	Ext LED Replacing 400W MH (D2D)	Biz - Prescriptive	Other	RET	per unit	1,956	65%	1,262	0.00	0.15	16	$196	100%	51%	36%	9	7%	60%	95.0%	89.7%	88.0%	6.6
581	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Assembly	RET	per unit	4,647	70%	3,272	0.00	0.38	16	$319	100%	50%	10%	10	7%	60%	95.0%	91.6%	88.9%	10.7
582	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Education	RET	per unit	4,647	70%	3,272	0.00	0.38	16	$319	100%	50%	10%	10	7%	60%	95.0%	91.6%	88.9%	10.7
583	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Food Sales	RET	per unit	4,647	70%	3,272	0.00	0.41	16	$319	100%	50%	10%	10	7%	60%	95.0%	91.6%	88.9%	10.8
584	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Food Service	RET	per unit	4,647	70%	3,272	0.00	0.39	16	$319	100%	50%	10%	10	7%	60%	95.0%	91.6%	88.9%	10.7
585	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Health	RET	per unit	4,647	70%	3,272	0.00	0.39	16	$319	100%	50%	10%	10	7%	60%	95.0%	91.6%	88.9%	10.7
586	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Lodging	RET	per unit	4,647	70%	3,272	0.00	0.38	16	$319	100%	50%	10%	10	7%	60%	95.0%	91.6%	88.9%	10.7
587	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Retail	RET	per unit	4,647	70%	3,272	0.00	0.38	16	$319	100%	50%	10%	10	7%	60%	95.0%	91.6%	88.9%	10.7
588	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Office	RET	per unit	4,647	70%	3,272	0.00	0.38	16	$319	100%	50%	10%	10	7%	60%	95.0%	91.6%	88.9%	10.7
589	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Warehouse	RET	per unit	4,647	70%	3,272	0.00	0.39	16	$319	100%	50%	10%	10	7%	60%	95.0%	91.6%	88.9%	10.7
590	Lighting_Ext	Ext LED Replacing 1000W MH (D2D)	Biz - Prescriptive	Other	RET	per unit	4,647	70%	3,272	0.00	0.38	16	$319	100%	50%	10%	10	7%	60%	95.0%	91.6%	88.9%	10.7
591	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Assembly	RET	per unit	126	74%	93	0.02	0.01	15	$59	100%	8%	54%	1	19%	60%	95.0%	68.0%	71.5%	19.7
592	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Education	RET	per unit	127	74%	94	0.03	0.01	15	$59	100%	8%	54%	1	11%	60%	95.0%	68.0%	71.9%	22.3
593	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Food Sales	RET	per unit	220	74%	162	0.03	0.02	12	$59	100%	8%	73%	1	8%	60%	95.0%	68.0%	88.0%	25.2
594	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Food Service	RET	per unit	230	74%	170	0.03	0.02	12	$59	100%	8%	71%	1	5%	60%	95.0%	68.8%	88.0%	27.1
595	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Health	RET	per unit	251	74%	185	0.02	0.02	12	$59	100%	8%	69%	1	16%	60%	95.0%	71.7%	88.0%	24.7
596	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Lodging	RET	per unit	178	74%	131	0.02	0.02	15	$59	100%	8%	75%	1	15%	60%	95.0%	68.0%	87.1%	24.2
597	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Retail	RET	per unit	171	74%	126	0.03	0.02	15	$59	100%	8%	72%	1	4%	60%	95.0%	68.0%	85.5%	25.9
598	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Office	RET	per unit	126	74%	93	0.02	0.01	15	$59	100%	8%	53%	1	4%	60%	95.0%	68.0%	71.2%	19.6
599	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Warehouse	RET	per unit	122	74%	90	0.03	0.01	15	$59	100%	8%	52%	1	2%	60%	95.0%	68.0%	69.3%	22.6
600	Lighting_Int	LED Interior Direction (Track lighting / Wall-Wash Fixture)	Biz - Prescriptive	Other	RET	per unit	140	74%	103	0.03	0.01	15	$59	100%	8%	59%	1	7%	60%	95.0%	68.0%	76.6%	22.2
601	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Assembly	RET	per unit	91	51%	47	0.01	0.01	10	$15	100%	33%	69%	2	46%	60%	95.0%	78.4%	88.0%	7.2
602	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Education	RET	per unit	92	51%	47	0.01	0.01	10	$15	100%	33%	68%	2	69%	60%	95.0%	78.5%	88.0%	8.2
603	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Food Sales	RET	per unit	159	51%	82	0.01	0.01	10	$15	100%	33%	46%	2	53%	60%	95.0%	86.1%	88.0%	11.0
604	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Food Service	RET	per unit	166	51%	85	0.02	0.01	10	$15	100%	33%	43%	2	64%	60%	95.0%	86.6%	88.0%	11.8
605	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Health	RET	per unit	181	51%	93	0.01	0.01	10	$15	100%	33%	38%	2	43%	60%	95.0%	87.4%	88.0%	10.8
606	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Lodging	RET	per unit	128	51%	66	0.01	0.01	10	$15	100%	33%	56%	2	44%	60%	95.0%	83.6%	88.0%	8.9
607	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Retail	RET	per unit	123	51%	63	0.01	0.01	10	$15	100%	33%	58%	2	63%	60%	95.0%	83.1%	88.0%	9.6
608	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Office	RET	per unit	91	51%	47	0.01	0.00	10	$15	100%	33%	69%	2	55%	60%	95.0%	78.3%	88.0%	7.2
609	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Warehouse	RET	per unit	88	51%	45	0.01	0.00	10	$15	100%	33%	70%	2	37%	60%	95.0%	77.8%	88.0%	8.3
610	Lighting_Int	LED Linear Replacement Lamps (Replacing T8)	Biz - Prescriptive	Other	RET	per unit	101	51%	52	0.01	0.01	10	$15	100%	33%	65%	2	62%	60%	95.0%	80.1%	88.0%	8.2
611	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Assembly	RET	per unit	94	34%	32	0.01	0.00	15	$22	100%	23%	49%	2	46%	60%	95.0%	68.0%	68.0%	6.8
612	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Education	RET	per unit	95	34%	32	0.01	0.00	15	$22	100%	23%	50%	2	69%	60%	95.0%	68.0%	68.0%	7.7
613	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Food Sales	RET	per unit	164	34%	56	0.01	0.01	12	$22	100%	23%	74%	2	53%	60%	95.0%	70.4%	87.8%	8.7
614	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Food Service	RET	per unit	172	34%	58	0.01	0.01	12	$22	100%	23%	73%	2	64%	60%	95.0%	71.7%	88.0%	9.3
615	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Health	RET	per unit	187	34%	64	0.01	0.01	12	$22	100%	23%	71%	2	43%	60%	95.0%	73.8%	88.0%	8.5
616	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Lodging	RET	per unit	133	34%	45	0.01	0.01	15	$22	100%	23%	70%	2	44%	60%	95.0%	68.0%	83.9%	8.3
617	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Retail	RET	per unit	127	34%	43	0.01	0.01	15	$22	100%	23%	67%	2	63%	60%	95.0%	68.0%	82.2%	8.9
618	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Office	RET	per unit	94	34%	32	0.01	0.00	15	$22	100%	23%	49%	2	55%	60%	95.0%	68.0%	68.0%	6.7
619	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Warehouse	RET	per unit	91	34%	31	0.01	0.00	15	$22	100%	23%	48%	2	37%	60%	95.0%	68.0%	68.0%	7.8
620	Lighting_Int	LED Troffers (Replacing 1-Lamp T8)	Biz - Prescriptive	Other	RET	per unit	104	34%	35	0.01	0.00	15	$22	100%	23%	55%	2	62%	60%	95.0%	68.0%	72.5%	7.6
621	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Assembly	RET	per unit	184	51%	95	0.02	0.01	15	$61	100%	16%	53%	2	46%	60%	95.0%	68.0%	70.4%	10.0
622	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Education	RET	per unit	186	51%	96	0.03	0.01	15	$61	100%	16%	53%	2	69%	60%	95.0%	68.0%	71.1%	11.3
623	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Food Sales	RET	per unit	321	51%	165	0.03	0.02	12	$61	100%	16%	73%	2	53%	60%	95.0%	69.9%	88.0%	12.8
624	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Food Service	RET	per unit	336	51%	173	0.03	0.02	12	$61	100%	16%	72%	2	64%	60%	95.0%	71.4%	88.0%	13.8
625	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Health	RET	per unit	366	51%	188	0.02	0.02	12	$61	100%	16%	69%	2	43%	60%	95.0%	73.5%	88.0%	12.6
626	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Lodging	RET	per unit	260	51%	133	0.02	0.02	15	$61	100%	16%	74%	2	44%	60%	95.0%	68.0%	86.5%	12.3
627	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Retail	RET	per unit	249	51%	128	0.03	0.02	15	$61	100%	16%	71%	2	63%	60%	95.0%	68.0%	84.9%	13.2
628	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Office	RET	per unit	183	51%	94	0.02	0.01	15	$61	100%	16%	52%	2	55%	60%	95.0%	68.0%	70.0%	10.0
629	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Warehouse	RET	per unit	179	51%	92	0.03	0.01	15	$61	100%	16%	51%	2	37%	60%	95.0%	68.0%	68.0%	11.5
630	Lighting_Int	LED Troffers (Replacing 2-Lamp T8)	Biz - Prescriptive	Other	RET	per unit	204	51%	105	0.03	0.01	15	$61	100%	16%	58%	2	62%	60%	95.0%	68.0%	75.9%	11.3
631	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Assembly	RET	per unit	273	54%	148	0.03	0.02	15	$76	100%	20%	66%	2	46%	60%	95.0%	68.0%	81.6%	10.4
632	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Education	RET	per unit	275	54%	149	0.04	0.02	15	$76	100%	20%	66%	2	69%	60%	95.0%	68.0%	81.9%	11.8
633	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Food Sales	RET	per unit	475	54%	257	0.05	0.03	12	$76	100%	20%	66%	2	53%	60%	95.0%	76.3%	88.0%	13.3
634	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Food Service	RET	per unit	498	54%	269	0.05	0.04	12	$76	100%	20%	65%	2	64%	60%	95.0%	77.2%	88.0%	14.3
635	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Health	RET	per unit	543	54%	294	0.04	0.03	12	$76	100%	20%	61%	2	43%	60%	95.0%	78.8%	88.0%	13.1
636	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Lodging	RET	per unit	385	54%	208	0.04	0.02	15	$76	100%	20%	73%	2	44%	60%	95.0%	71.6%	88.0%	12.8
637	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Retail	RET	per unit	370	54%	200	0.04	0.03	15	$76	100%	20%	74%	2	63%	60%	95.0%	70.4%	88.0%	13.7
638	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Office	RET	per unit	272	54%	147	0.03	0.02	15	$76	100%	20%	66%	2	55%	60%	95.0%	68.0%	81.4%	10.4
639	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Warehouse	RET	per unit	265	54%	143	0.05	0.02	15	$76	100%	20%	64%	2	37%	60%	95.0%	68.0%	80.2%	11.9
640	Lighting_Int	LED Troffers (Replacing 3-Lamp T8)	Biz - Prescriptive	Other	RET	per unit	302	54%	163	0.04	0.02	15	$76	100%	20%	73%	2	62%	60%	95.0%	68.0%	85.8%	11.7

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
641	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Assembly	RET	per unit	364	54%	198	0.05	0.03	15	$104	100%	19%	64%	2	46%	60%	95.0%	68.0%	80.6%	10.4
642	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Education	RET	per unit	367	54%	199	0.06	0.02	15	$104	100%	19%	65%	2	69%	60%	95.0%	68.0%	81.0%	11.8
643	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Food Sales	RET	per unit	634	54%	344	0.06	0.04	12	$104	100%	19%	67%	2	53%	60%	95.0%	75.7%	88.0%	13.4
644	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Food Service	RET	per unit	664	54%	360	0.07	0.05	12	$104	100%	19%	65%	2	64%	60%	95.0%	76.7%	88.0%	14.4
645	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Health	RET	per unit	724	54%	393	0.05	0.04	12	$104	100%	19%	62%	2	43%	60%	95.0%	78.3%	88.0%	13.1
646	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Lodging	RET	per unit	513	54%	278	0.05	0.03	15	$104	100%	19%	73%	2	44%	60%	95.0%	70.8%	88.0%	12.8
647	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Retail	RET	per unit	493	54%	267	0.06	0.04	15	$104	100%	19%	74%	2	63%	60%	95.0%	69.3%	88.0%	13.7
648	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Office	RET	per unit	362	54%	197	0.05	0.02	15	$104	100%	19%	64%	2	55%	60%	95.0%	68.0%	80.4%	10.4
649	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Warehouse	RET	per unit	353	54%	191	0.06	0.02	15	$104	100%	19%	62%	2	37%	60%	95.0%	68.0%	79.2%	12.0
650	Lighting_Int	LED Troffers (Replacing 4-Lamp T8)	Biz - Prescriptive	Other	RET	per unit	403	54%	219	0.05	0.03	15	$104	100%	19%	71%	2	62%	60%	95.0%	68.0%	84.9%	11.8
651	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Assembly	RET	per unit	184	50%	92	0.02	0.01	15	$47	100%	11%	67%	2	46%	60%	95.0%	68.0%	82.4%	19.5
652	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Education	RET	per unit	185	50%	93	0.03	0.01	15	$47	100%	11%	68%	2	69%	60%	95.0%	68.0%	82.8%	22.2
653	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Food Sales	RET	per unit	320	50%	161	0.03	0.02	12	$47	100%	11%	66%	2	53%	60%	95.0%	74.5%	88.0%	25.1
654	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Food Service	RET	per unit	335	50%	169	0.03	0.02	12	$47	100%	11%	64%	2	64%	60%	95.0%	75.5%	88.0%	26.9
655	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Health	RET	per unit	365	50%	184	0.02	0.02	12	$47	100%	11%	61%	2	43%	60%	95.0%	77.2%	88.0%	24.5
656	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Lodging	RET	per unit	259	50%	130	0.02	0.02	15	$47	100%	11%	72%	2	44%	60%	95.0%	68.6%	88.0%	24.0
657	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Retail	RET	per unit	249	50%	125	0.03	0.02	15	$47	100%	11%	73%	2	63%	60%	95.0%	68.0%	88.0%	25.7
658	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Office	RET	per unit	183	50%	92	0.02	0.01	15	$47	100%	11%	67%	2	55%	60%	95.0%	68.0%	82.2%	19.4
659	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Warehouse	RET	per unit	178	50%	90	0.03	0.01	15	$47	100%	11%	65%	2	37%	60%	95.0%	68.0%	81.1%	22.4
660	Lighting_Int	LED Linear Ambient Fixture (<6000 lumens, replacing T8)	Biz - Prescriptive	Other	RET	per unit	203	50%	102	0.02	0.01	15	$47	100%	11%	74%	2	62%	60%	95.0%	68.0%	86.6%	22.1
661	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Assembly	RET	per unit	485	53%	258	0.06	0.03	15	$152	100%	3%	58%	2	46%	60%	95.0%	68.0%	75.2%	54.4
662	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Education	RET	per unit	489	53%	260	0.08	0.03	15	$152	100%	3%	58%	2	69%	60%	95.0%	68.0%	75.6%	61.8
663	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Food Sales	RET	per unit	844	53%	449	0.08	0.05	12	$152	100%	3%	70%	2	53%	60%	95.0%	68.0%	88.0%	69.9
664	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Food Service	RET	per unit	884	53%	470	0.09	0.06	12	$152	100%	3%	69%	2	64%	60%	95.0%	69.5%	88.0%	74.9
665	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Health	RET	per unit	964	53%	513	0.06	0.05	12	$152	100%	3%	66%	2	43%	60%	95.0%	72.1%	88.0%	68.4
666	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Lodging	RET	per unit	683	53%	363	0.06	0.04	15	$152	100%	3%	76%	2	44%	60%	95.0%	68.0%	88.0%	66.9
667	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Retail	RET	per unit	656	53%	349	0.08	0.05	15	$152	100%	3%	77%	2	63%	60%	95.0%	68.0%	88.0%	71.7
668	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Office	RET	per unit	482	53%	256	0.06	0.03	15	$152	100%	3%	57%	2	55%	60%	95.0%	68.0%	75.0%	54.2
669	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Warehouse	RET	per unit	470	53%	250	0.08	0.03	15	$152	100%	3%	56%	2	37%	60%	95.0%	68.0%	73.6%	62.6
670	Lighting_Int	LED Linear Ambient Fixture (>6000 lumens, replacing T5HO)	Biz - Prescriptive	Other	RET	per unit	536	53%	285	0.07	0.04	15	$152	100%	3%	64%	2	62%	60%	95.0%	68.0%	80.0%	61.5
671	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Assembly	RET	per unit	508	67%	340	0.08	0.04	15	$43	100%	12%	21%	3	5%	60%	95.0%	87.0%	88.0%	71.8
672	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Education	RET	per unit	512	67%	343	0.10	0.04	15	$43	100%	12%	20%	3	8%	60%	95.0%	87.1%	88.0%	81.5
673	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Food Sales	RET	per unit	883	67%	592	0.11	0.07	12	$43	100%	12%	10%	3	6%	60%	95.0%	90.5%	90.4%	92.2
674	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Food Service	RET	per unit	926	67%	620	0.12	0.08	12	$43	100%	12%	10%	3	7%	60%	95.0%	90.7%	90.6%	98.9
675	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Health	RET	per unit	1,009	67%	676	0.08	0.07	12	$43	100%	12%	10%	3	5%	60%	95.0%	91.1%	91.0%	90.2
676	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Lodging	RET	per unit	715	67%	479	0.09	0.06	15	$43	100%	12%	10%	3	5%	60%	95.0%	89.5%	89.4%	88.3
677	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Retail	RET	per unit	687	67%	460	0.10	0.07	15	$43	100%	12%	10%	3	7%	60%	95.0%	89.2%	89.1%	94.6
678	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Office	RET	per unit	505	67%	338	0.08	0.04	15	$43	100%	12%	21%	3	6%	60%	95.0%	87.0%	88.0%	71.5
679	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Warehouse	RET	per unit	492	67%	330	0.10	0.04	15	$43	100%	12%	23%	3	4%	60%	95.0%	86.7%	88.0%	82.5
680	Lighting_Int	LED Low-Bay Fixture	Biz - Prescriptive	Other	RET	per unit	561	67%	376	0.09	0.05	15	$43	100%	12%	12%	3	7%	60%	95.0%	87.9%	88.0%	81.1
681	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Assembly	RET	per unit	950	57%	542	0.13	0.07	15	$48	100%	62%	10%	4	6%	60%	95.0%	92.7%	89.4%	19.1
682	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Education	RET	per unit	958	57%	546	0.16	0.07	15	$48	100%	62%	10%	4	6%	60%	95.0%	92.7%	89.5%	21.6
683	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Food Sales	RET	per unit	1,654	57%	943	0.17	0.11	12	$48	100%	62%	10%	4	23%	60%	95.0%	93.7%	91.8%	24.5
684	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Food Service	RET	per unit	1,734	57%	988	0.18	0.13	12	$48	100%	62%	10%	4	3%	60%	95.0%	93.7%	91.9%	26.3
685	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Health	RET	per unit	1,890	57%	1,077	0.13	0.11	12	$48	100%	62%	10%	4	7%	60%	95.0%	93.8%	92.2%	24.0
686	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Lodging	RET	per unit	1,339	57%	764	0.14	0.09	15	$48	100%	62%	10%	4	0%	60%	95.0%	93.3%	91.0%	23.4
687	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Retail	RET	per unit	1,286	57%	733	0.16	0.11	15	$48	100%	62%	10%	4	14%	60%	95.0%	93.3%	90.9%	25.1
688	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Office	RET	per unit	946	57%	539	0.13	0.06	15	$48	100%	62%	10%	4	19%	60%	95.0%	92.7%	89.4%	19.0
689	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Warehouse	RET	per unit	921	57%	525	0.17	0.06	15	$48	100%	62%	10%	4	38%	60%	95.0%	92.6%	89.2%	21.9
690	Lighting_Int	LED High-Bay Fixture (Replacing T8 High Bay)	Biz - Prescriptive	Other	RET	per unit	1,051	57%	600	0.15	0.07	15	$48	100%	62%	10%	4	5%	60%	95.0%	92.9%	89.9%	21.5
691	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Assembly	RET	per unit	3,815	72%	2,758	0.65	0.35	15	$188	100%	85%	10%	5	17%	50%	95.0%	94.3%	90.7%	18.2
692	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Education	RET	per unit	3,847	72%	2,781	0.81	0.34	15	$188	100%	85%	10%	5	2%	50%	95.0%	94.3%	90.7%	20.7
693	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Food Sales	RET	per unit	6,639	72%	4,801	0.85	0.57	12	$188	100%	85%	10%	5	9%	50%	95.0%	94.6%	92.5%	23.4
694	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Food Service	RET	per unit	6,958	72%	5,031	0.94	0.66	12	$188	100%	85%	10%	5	1%	50%	95.0%	94.6%	92.6%	25.1
695	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Health	RET	per unit	7,584	72%	5,484	0.67	0.56	12	$188	100%	85%	10%	5	1%	50%	95.0%	94.6%	92.8%	22.9
696	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Lodging	RET	per unit	5,375	72%	3,886	0.69	0.45	15	$188	100%	85%	10%	5	1%	50%	95.0%	94.5%	92.0%	22.4
697	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Retail	RET	per unit	5,163	72%	3,733	0.83	0.54	15	$188	100%	85%	10%	5	8%	50%	95.0%	94.5%	91.8%	24.0
698	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Office	RET	per unit	3,795	72%	2,744	0.65	0.29	15	$188	100%	85%	10%	5	11%	50%	95.0%	94.3%	90.7%	18.1
699	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Warehouse	RET	per unit	3,698	72%	2,674	0.85	0.29	15	$188	100%	85%	10%	5	19%	50%	95.0%	94.3%	90.6%	20.9
700	Lighting_Int	LED High-Bay Fixture (Replacing Metal Halide)	Biz - Prescriptive	Other	RET	per unit	4,220	72%	3,051	0.74	0.38	15	$188	100%	85%	10%	5	4%	50%	95.0%	94.4%	91.1%	20.6
701	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Assembly	RET	per unit	66	71%	47	0.01	0.01	5	$33	92%	92%	21%	8	1%	85%	91.3%	91.3%	88.0%	0.6
702	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Education	RET	per unit	66	71%	47	0.01	0.01	5	$33	92%	92%	21%	8	1%	85%	91.3%	91.3%	88.0%	0.6
703	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Food Sales	RET	per unit	63	71%	45	0.01	0.01	5	$33	92%	92%	20%	8	1%	85%	91.1%	91.1%	88.0%	0.5
704	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Food Service	RET	per unit	65	71%	46	0.01	0.01	5	$33	92%	92%	21%	8	1%	85%	91.2%	91.2%	88.0%	0.5
705	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Health	RET	per unit	69	71%	49	0.01	0.01	5	$33	92%	92%	22%	8	1%	85%	91.4%	91.4%	88.0%	0.6
706	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Lodging	RET	per unit	66	71%	47	0.01	0.01	5	$33	92%	92%	21%	8	1%	85%	91.3%	91.3%	88.0%	0.5
707	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Retail	RET	per unit	66	71%	47	0.01	0.01	5	$33	92%	92%	21%	8	1%	85%	91.3%	91.3%	88.0%	0.5
708	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Office	RET	per unit	67	71%	48	0.01	0.01	5	$33	92%	92%	22%	8	1%	85%	91.3%	91.3%	88.0%	0.6
709	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Warehouse	RET	per unit	61	71%	44	0.01	0.00	5	$33	92%	92%	20%	8	1%	85%	91.0%	91.0%	88.0%	0.5
710	Lighting_Int	LED Exit Sign	Biz - Prescriptive	Other	RET	per unit	65	71%	46	0.01	0.01	5	$33	92%	92%	21%	8	1%	85%	91.2%	91.2%	88.0%	0.5
711	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Assembly	RET	per unit	81	100%	81	0.02	0.01	11	$19	100%	27%	56%	6	46%	0%	88.0%	81.7%	84.0%	13.5

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
712	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Education	RET	per unit	82	100%	82	0.02	0.01	11	$19	100%	27%	56%	6	69%	0%	88.0%	81.7%	84.0%	15.3
713	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Food Sales	RET	per unit	141	100%	141	0.03	0.02	11	$19	100%	27%	24%	6	53%	0%	88.0%	84.2%	84.0%	20.6
714	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Food Service	RET	per unit	148	100%	148	0.03	0.02	11	$19	100%	27%	20%	6	64%	0%	88.0%	84.4%	84.0%	22.1
715	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Health	RET	per unit	161	100%	161	0.02	0.02	11	$19	100%	27%	13%	6	43%	0%	88.0%	84.7%	84.0%	20.1
716	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Lodging	RET	per unit	114	100%	114	0.02	0.01	11	$19	100%	27%	38%	6	44%	0%	88.0%	83.4%	84.0%	16.6
717	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Retail	RET	per unit	110	100%	110	0.02	0.02	11	$19	100%	27%	41%	6	63%	0%	88.0%	83.2%	84.0%	17.8
718	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Office	RET	per unit	81	100%	81	0.02	0.01	11	$19	100%	27%	56%	6	55%	0%	88.0%	81.6%	84.0%	13.5
719	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Warehouse	RET	per unit	79	100%	79	0.02	0.01	11	$19	100%	27%	57%	6	37%	0%	88.0%	81.5%	84.0%	15.5
720	Lighting_Int	Fluorescent Delamping	Biz - Prescriptive	Other	RET	per unit	90	100%	90	0.02	0.01	11	$19	100%	27%	51%	6	62%	0%	88.0%	82.2%	84.0%	15.3
721	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Assembly	RET	per control/fixtur	422	30%	126	0.02	0.02	15	$65	100%	46%	66%	7	90%	15%	88.0%	77.7%	81.3%	3.8
722	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Education	RET	per control/fixtur	425	30%	128	0.03	0.02	15	$65	100%	46%	66%	7	90%	15%	88.0%	77.8%	81.4%	4.4
723	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Food Sales	RET	per control/fixtur	734	30%	220	0.03	0.03	15	$65	100%	46%	66%	7	90%	15%	88.0%	81.9%	84.0%	6.2
724	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Food Service	RET	per control/fixtur	769	30%	231	0.04	0.03	15	$65	100%	46%	65%	7	90%	15%	88.0%	82.1%	84.0%	6.7
725	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Health	RET	per control/fixtur	838	30%	251	0.02	0.03	15	$65	100%	46%	62%	7	90%	15%	88.0%	82.6%	84.0%	6.0
726	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Lodging	RET	per control/fixtur	594	30%	178	0.02	0.02	15	$65	100%	46%	73%	7	90%	15%	88.0%	80.5%	84.0%	4.9
727	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Retail	RET	per control/fixtur	571	30%	171	0.03	0.02	15	$65	100%	46%	74%	7	90%	15%	88.0%	80.3%	84.0%	5.3
728	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Office	RET	per control/fixtur	419	30%	126	0.02	0.01	15	$65	100%	46%	65%	7	90%	15%	88.0%	77.7%	81.2%	3.8
729	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Warehouse	RET	per control/fixtur	409	30%	123	0.03	0.01	15	$65	100%	46%	64%	7	90%	15%	88.0%	77.4%	80.7%	4.6
730	Lighting_Int	Lighting Occupancy Sensor	Biz - Prescriptive	Other	RET	per control/fixtur	466	30%	140	0.03	0.02	15	$65	100%	46%	73%	7	90%	15%	88.0%	78.6%	83.0%	4.4
731	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Assembly	RET	per control/fixtur	540	28%	151	0.03	0.02	15	$58	100%	52%	74%	7	90%	15%	88.0%	81.1%	84.0%	4.6
732	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Education	RET	per control/fixtur	544	28%	152	0.03	0.02	15	$58	100%	52%	73%	7	90%	15%	88.0%	81.2%	84.0%	5.2
733	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Food Sales	RET	per control/fixtur	940	28%	263	0.04	0.03	15	$58	100%	52%	54%	7	90%	15%	88.0%	83.8%	84.0%	7.4
734	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Food Service	RET	per control/fixtur	985	28%	276	0.04	0.04	15	$58	100%	52%	52%	7	90%	15%	88.0%	84.0%	84.0%	8.1
735	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Health	RET	per control/fixtur	1,073	28%	301	0.03	0.03	15	$58	100%	52%	48%	7	90%	15%	88.0%	84.3%	84.0%	7.2
736	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Lodging	RET	per control/fixtur	761	28%	213	0.03	0.02	15	$58	100%	52%	63%	7	90%	15%	88.0%	83.0%	84.0%	5.9
737	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Retail	RET	per control/fixtur	731	28%	205	0.04	0.03	15	$58	100%	52%	64%	7	90%	15%	88.0%	82.8%	84.0%	6.4
738	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Office	RET	per control/fixtur	537	28%	150	0.03	0.02	15	$58	100%	52%	74%	7	90%	15%	88.0%	81.1%	84.0%	4.6
739	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Warehouse	RET	per control/fixtur	523	28%	147	0.04	0.02	15	$58	100%	52%	75%	7	90%	15%	88.0%	80.9%	84.0%	5.5
740	Lighting_Int	Lighting Daylight Sensor	Biz - Prescriptive	Other	RET	per control/fixtur	597	28%	167	0.03	0.02	15	$58	100%	52%	71%	7	90%	15%	88.0%	81.7%	84.0%	5.3
741	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Assembly	RET	per control	241	38%	92	0.02	0.01	15	$75	100%	40%	41%	7	90%	15%	88.0%	59.8%	60.8%	2.8
742	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Education	RET	per control	243	38%	92	0.02	0.01	15	$75	100%	40%	42%	7	90%	15%	88.0%	60.1%	61.4%	3.2
743	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Food Sales	RET	per control	419	38%	159	0.02	0.02	15	$75	100%	40%	72%	7	90%	15%	88.0%	77.6%	82.9%	4.5
744	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Food Service	RET	per control	439	38%	167	0.03	0.02	15	$75	100%	40%	76%	7	90%	15%	88.0%	78.1%	83.6%	4.9
745	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Health	RET	per control	479	38%	182	0.02	0.02	15	$75	100%	40%	76%	7	90%	15%	88.0%	78.8%	84.0%	4.4
746	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Lodging	RET	per control	339	38%	129	0.02	0.01	15	$75	100%	40%	58%	7	90%	15%	88.0%	72.6%	79.0%	3.5
747	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Retail	RET	per control	326	38%	124	0.02	0.02	15	$75	100%	40%	56%	7	90%	15%	88.0%	71.3%	78.2%	3.8
748	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Office	RET	per control	240	38%	91	0.02	0.01	15	$75	100%	40%	41%	7	90%	15%	88.0%	59.5%	60.4%	2.8
749	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Warehouse	RET	per control	233	38%	89	0.02	0.01	15	$75	100%	40%	40%	7	90%	15%	88.0%	58.7%	58.7%	3.3
750	Lighting_Int	Dual Occupancy / Daylight Sensor	Biz - Prescriptive	Other	RET	per control	266	38%	101	0.02	0.01	15	$75	100%	40%	46%	7	90%	15%	88.0%	64.0%	67.9%	3.2
751	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Assembly	RET	per control	241	61%	147	0.03	0.02	15	$56	100%	40%	74%	7	90%	15%	88.0%	79.5%	84.0%	5.9
752	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Education	RET	per control	338	61%	206	0.03	0.02	15	$56	100%	40%	63%	7	90%	15%	88.0%	81.8%	84.0%	8.1
753	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Food Sales	RET	per control	419	61%	256	0.04	0.03	15	$56	100%	40%	54%	7	90%	15%	88.0%	82.9%	84.0%	9.6
754	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Food Service	RET	per control	439	61%	268	0.04	0.03	15	$56	100%	40%	52%	7	90%	15%	88.0%	83.1%	84.0%	10.4
755	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Health	RET	per control	479	61%	292	0.03	0.03	15	$56	100%	40%	48%	7	90%	15%	88.0%	83.5%	84.0%	9.3
756	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Lodging	RET	per control	339	61%	207	0.03	0.02	15	$56	100%	40%	63%	7	90%	15%	88.0%	81.8%	84.0%	7.6
757	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Retail	RET	per control	552	61%	337	0.04	0.05	15	$56	100%	40%	40%	7	90%	15%	88.0%	84.0%	84.0%	11.3
758	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Office	RET	per control	363	61%	221	0.03	0.02	15	$56	100%	40%	61%	7	90%	15%	88.0%	82.2%	84.0%	7.6
759	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Warehouse	RET	per control	381	61%	232	0.04	0.03	15	$56	100%	40%	58%	7	90%	15%	88.0%	82.5%	84.0%	9.1
760	Lighting_Int	Luminaire-Level Lighting Controls	Biz - Prescriptive	Other	RET	per control	266	61%	163	0.03	0.02	15	$56	100%	40%	71%	7	90%	15%	88.0%	80.3%	84.0%	6.9
761	Lighting_Int	Networked Lighting Control	Biz - Prescriptive	Assembly	RET	Wh saved per sq	2	35%	1	0.00	0.00	15	$0	100%	73%	57%	7	90%	15%	88.0%	81.9%	78.6%	2.1
762	Lighting_Int	Networked Lighting Control	Biz - Prescriptive	Education	RET	Wh saved per sq	3	35%	1	0.00	0.00	15	$1	100%	53%	58%	7	90%	15%	88.0%	77.8%	78.8%	2.8
763	Lighting_Int	Networked Lighting Control	Biz - Prescriptive	Food Sales	RET	Wh saved per sq	3	35%	1	0.00	0.00	15	$1	100%	42%	57%	7	90%	15%	88.0%	73.3%	78.7%	3.4
764	Lighting_Int	Networked Lighting Control	Biz - Prescriptive	Food Service	RET	Wh saved per sq	4	35%	1	0.00	0.00	15	$1	100%	41%	58%	7	90%	15%	88.0%	72.5%	78.8%	3.7
765	Lighting_Int	Networked Lighting Control	Biz - Prescriptive	Health	RET	Wh saved per sq	4	35%	1	0.00	0.00	15	$1	100%	37%	57%	7	90%	15%	88.0%	70.6%	78.7%	3.3
766	Lighting_Int	Networked Lighting Control	Biz - Prescriptive	Lodging	RET	Wh saved per sq	3	35%	1	0.00	0.00	15	$1	100%	53%	58%	7	90%	15%	88.0%	77.8%	78.9%	2.7
767	Lighting_Int	Networked Lighting Control	Biz - Prescriptive	Retail	RET	Wh saved per sq	5	35%	2	0.00	0.00	15	$1	100%	32%	58%	7	90%	15%	88.0%	68.2%	78.8%	4.0
768	Lighting_Int	Networked Lighting Control	Biz - Prescriptive	Office	RET	Wh saved per sq	3	35%	1	0.00	0.00	15	$1	100%	49%	58%	7	90%	15%	88.0%	77.1%	78.8%	2.7
769	Lighting_Int	Networked Lighting Control	Biz - Prescriptive	Warehouse	RET	Wh saved per sq	3	35%	1	0.00	0.00	15	$1	100%	47%	58%	7	90%	15%	88.0%	76.0%	78.9%	3.2
770	Lighting_Int	Networked Lighting Control	Biz - Prescriptive	Other	RET	Wh saved per sq	2	35%	1	0.00	0.00	15	$0	100%	67%	58%	7	90%	15%	88.0%	80.6%	78.7%	2.4
771	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Assembly	RET	per unit	385	61%	237	0.00	0.03	5	$233	9%	9%	15%	1	0%	2%	40.6%	40.6%	43.5%	2.6
772	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Education	RET	per unit	385	61%	237	0.00	0.03	5	$233	9%	9%	15%	1	0%	2%	40.6%	40.6%	43.5%	2.6
773	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Food Sales	RET	per unit	385	61%	237	0.00	0.03	5	$233	9%	9%	15%	1	0%	2%	40.6%	40.6%	43.5%	2.6
774	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Food Service	RET	per unit	385	61%	237	0.00	0.03	5	$233	9%	9%	15%	1	0%	2%	40.6%	40.6%	43.5%	2.6
775	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Health	RET	per unit	385	61%	237	0.00	0.03	5	$233	9%	9%	15%	1	1%	2%	40.6%	40.6%	43.5%	2.6
776	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Lodging	RET	per unit	385	61%	237	0.00	0.03	5	$233	9%	9%	15%	1	0%	2%	40.6%	40.6%	43.5%	2.6
777	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Retail	RET	per unit	385	61%	237	0.00	0.03	5	$233	9%	9%	15%	1	1%	2%	40.6%	40.6%	43.5%	2.6
778	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Office	RET	per unit	385	61%	237	0.00	0.03	5	$233	9%	9%	15%	1	0%	2%	40.6%	40.6%	43.5%	2.6
779	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Warehouse	RET	per unit	385	61%	237	0.00	0.03	5	$233	9%	9%	15%	1	1%	2%	40.6%	40.6%	43.5%	2.6
780	Misc	Non-Refrigerated Vending Machine Controls	Biz - Prescriptive	Other	RET	per unit	385	61%	237	0.00	0.03	5	$233	9%	9%	15%	1	0%	2%	40.6%	40.6%	43.5%	2.6
781	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Prescriptive	Assembly	TOS	per hood CFM	8,846	50%	4,423	0.55	0.53	20	$1,192	100%	3%	63%	2	10%	20%	88.0%	78.3%	84.0%	144.7
782	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Prescriptive	Education	TOS	per hood CFM	8,846	50%	4,423	0.55	0.50	20	$1,192	100%	3%	63%	2	7%	20%	88.0%	78.3%	84.0%	144.6

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
783	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Prescriptive	Food Sales	TOS	per hood CFM	8,846	50%	4,423	0.55	0.56	20	$1,192	100%	3%	63%	2	1%	20%	88.0%	78.3%	84.0%	144.8
784	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Prescriptive	Food Service	TOS	per hood CFM	8,846	50%	4,423	0.55	0.53	20	$1,192	100%	3%	63%	2	2%	20%	88.0%	78.3%	84.0%	144.7
785	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Prescriptive	Health	TOS	per hood CFM	8,846	50%	4,423	0.55	0.50	20	$1,192	100%	3%	63%	2	2%	20%	88.0%	78.3%	84.0%	144.6
786	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Prescriptive	Lodging	TOS	per hood CFM	8,846	50%	4,423	0.55	0.57	20	$1,192	100%	3%	63%	2	5%	20%	88.0%	78.3%	84.0%	144.8
787	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Prescriptive	Retail	TOS	per hood CFM	8,846	50%	4,423	0.55	0.51	20	$1,192	100%	3%	63%	2	0%	20%	88.0%	78.3%	84.0%	144.6
788	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Prescriptive	Office	TOS	per hood CFM	8,846	50%	4,423	0.55	0.51	20	$1,192	100%	3%	63%	2	5%	20%	88.0%	78.3%	84.0%	144.6
789	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Prescriptive	Warehouse	TOS	per hood CFM	8,846	50%	4,423	0.55	0.48	20	$1,192	100%	3%	63%	2	0%	20%	88.0%	78.3%	84.0%	144.5
790	Misc	Kitchen Exhaust Hood Demand Ventilation Control System	Biz - Prescriptive	Other	TOS	per hood CFM	8,846	50%	4,423	0.55	0.52	20	$1,192	100%	3%	63%	2	0%	20%	88.0%	78.3%	84.0%	144.6
791	Misc	High Efficiency Hand Dryers	Biz - Custom	Assembly	TOS	per unit	2,093	83%	1,737	0.10	0.21	10	$483	100%	50%	64%	3	1%	50%	66.0%	62.0%	63.0%	3.3
792	Misc	High Efficiency Hand Dryers	Biz - Custom	Education	TOS	per unit	2,093	83%	1,737	0.16	0.20	10	$483	100%	50%	64%	3	1%	50%	66.0%	62.0%	63.0%	3.7
793	Misc	High Efficiency Hand Dryers	Biz - Custom	Food Sales	TOS	per unit	3,819	83%	3,170	0.28	0.40	10	$483	100%	92%	34%	3	1%	50%	66.0%	65.6%	63.0%	3.7
794	Misc	High Efficiency Hand Dryers	Biz - Custom	Food Service	TOS	per unit	1,909	83%	1,585	0.09	0.19	10	$483	100%	46%	67%	3	1%	50%	66.0%	61.3%	63.0%	3.3
795	Misc	High Efficiency Hand Dryers	Biz - Custom	Health	TOS	per unit	1,909	83%	1,585	0.10	0.18	10	$483	100%	46%	67%	3	1%	50%	66.0%	61.3%	63.0%	3.4
796	Misc	High Efficiency Hand Dryers	Biz - Custom	Lodging	TOS	per unit	262	83%	217	0.04	0.03	10	$483	6%	6%	12%	3	1%	50%	59.0%	59.0%	59.0%	4.8
797	Misc	High Efficiency Hand Dryers	Biz - Custom	Retail	TOS	per unit	1,909	83%	1,585	0.09	0.18	10	$483	100%	46%	67%	3	1%	50%	66.0%	61.3%	63.0%	3.3
798	Misc	High Efficiency Hand Dryers	Biz - Custom	Office	TOS	per unit	262	83%	217	0.04	0.02	10	$483	6%	6%	12%	3	1%	50%	59.0%	59.0%	59.0%	4.8
799	Misc	High Efficiency Hand Dryers	Biz - Custom	Warehouse	TOS	per unit	262	83%	217	0.04	0.02	10	$483	6%	6%	12%	3	1%	50%	59.0%	59.0%	59.0%	4.8
800	Misc	High Efficiency Hand Dryers	Biz - Custom	Other	TOS	per unit	262	83%	217	0.10	0.03	10	$483	50%	6%	12%	3	1%	50%	62.5%	59.0%	59.0%	8.1
801	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Assembly	RET	per unit	3,125	4%	114	0.02	0.01	15	$59	100%	27%	66%	4	0%	0%	66.0%	52.6%	61.0%	6.4
802	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Education	RET	per unit	3,125	4%	114	0.02	0.01	15	$59	100%	27%	66%	4	0%	0%	66.0%	52.6%	61.0%	6.4
803	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Food Sales	RET	per unit	3,125	4%	114	0.02	0.01	15	$59	100%	27%	66%	4	0%	0%	66.0%	52.6%	61.0%	6.4
804	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Food Service	RET	per unit	3,125	4%	114	0.02	0.01	15	$59	100%	27%	66%	4	0%	0%	66.0%	52.6%	61.0%	6.4
805	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Health	RET	per unit	3,125	4%	114	0.02	0.01	15	$59	100%	27%	66%	4	0%	0%	66.0%	52.6%	61.0%	6.4
806	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Lodging	RET	per unit	3,125	4%	114	0.02	0.01	15	$59	100%	27%	66%	4	0%	0%	66.0%	52.6%	61.0%	6.4
807	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Retail	RET	per unit	3,125	4%	114	0.02	0.01	15	$59	100%	27%	66%	4	0%	0%	66.0%	52.6%	61.0%	6.4
808	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Office	RET	per unit	3,125	4%	114	0.02	0.01	15	$59	100%	27%	66%	4	0%	0%	66.0%	52.6%	61.0%	6.4
809	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Warehouse	RET	per unit	3,125	4%	114	0.02	0.01	15	$59	100%	27%	66%	4	0%	0%	66.0%	52.6%	61.0%	6.4
810	Misc	ENERGY STAR Uninterrupted Power Supply	Biz - Custom	Other	RET	per unit	3,125	4%	114	0.02	0.01	15	$59	100%	27%	66%	4	0%	0%	66.0%	52.6%	61.0%	6.4
811	Misc	Miscellaneous Custom	Biz - Custom	Assembly	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	5	89%	10%	66.0%	58.8%	61.9%	4.4
812	Misc	Miscellaneous Custom	Biz - Custom	Education	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	5	92%	10%	66.0%	58.8%	61.9%	3.8
813	Misc	Miscellaneous Custom	Biz - Custom	Food Sales	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	5	98%	10%	66.0%	58.8%	61.9%	5.1
814	Misc	Miscellaneous Custom	Biz - Custom	Food Service	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	5	97%	10%	66.0%	58.8%	61.9%	5.1
815	Misc	Miscellaneous Custom	Biz - Custom	Health	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	5	96%	10%	66.0%	58.8%	61.9%	4.1
816	Misc	Miscellaneous Custom	Biz - Custom	Lodging	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	5	94%	10%	66.0%	58.8%	61.9%	4.0
817	Misc	Miscellaneous Custom	Biz - Custom	Retail	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	5	98%	10%	66.0%	58.8%	61.9%	4.6
818	Misc	Miscellaneous Custom	Biz - Custom	Office	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	5	94%	10%	66.0%	58.8%	61.9%	4.0
819	Misc	Miscellaneous Custom	Biz - Custom	Warehouse	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	5	98%	10%	66.0%	58.8%	61.9%	4.3
820	Misc	Miscellaneous Custom	Biz - Custom	Other	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	5	99%	10%	66.0%	58.8%	61.9%	4.3
821	Plug_Office	Advanced Power Strip – Tier 1 Commercial Use	Biz - Prescriptive	Assembly	RET	per unit	188	61%	115	0.00	0.01	7	$10	100%	80%	10%	2	18%	15%	88.0%	87.3%	84.9%	4.1
822	Plug_Office	Advanced Power Strip – Tier 1 Commercial Use	Biz - Prescriptive	Education	RET	per unit	188	61%	115	0.00	0.01	7	$10	100%	80%	10%	2	23%	15%	88.0%	87.3%	84.9%	4.1
823	Plug_Office	Advanced Power Strip – Tier 1 Commercial Use	Biz - Prescriptive	Food Sales	RET	per unit	188	61%	115	0.00	0.01	7	$10	100%	80%	10%	2	21%	15%	88.0%	87.3%	84.9%	4.1
824	Plug_Office	Advanced Power Strip – Tier 1 Commercial Use	Biz - Prescriptive	Food Service	RET	per unit	188	61%	115	0.00	0.01	7	$10	100%	80%	10%	2	12%	15%	88.0%	87.3%	84.9%	4.1
825	Plug_Office	Advanced Power Strip – Tier 1 Commercial Use	Biz - Prescriptive	Health	RET	per unit	188	61%	115	0.00	0.01	7	$10	100%	80%	10%	2	16%	15%	88.0%	87.3%	84.9%	4.1
826	Plug_Office	Advanced Power Strip – Tier 1 Commercial Use	Biz - Prescriptive	Lodging	RET	per unit	188	61%	115	0.00	0.01	7	$10	100%	80%	10%	2	5%	15%	88.0%	87.3%	84.9%	4.1
827	Plug_Office	Advanced Power Strip – Tier 1 Commercial Use	Biz - Prescriptive	Retail	RET	per unit	188	61%	115	0.00	0.01	7	$10	100%	80%	10%	2	21%	15%	88.0%	87.3%	84.9%	4.1
828	Plug_Office	Advanced Power Strip – Tier 1 Commercial Use	Biz - Prescriptive	Office	RET	per unit	188	61%	115	0.00	0.01	7	$10	100%	80%	10%	2	26%	15%	88.0%	87.3%	84.9%	4.1
829	Plug_Office	Advanced Power Strip – Tier 1 Commercial Use	Biz - Prescriptive	Warehouse	RET	per unit	188	61%	115	0.00	0.01	7	$10	100%	80%	10%	2	25%	15%	88.0%	87.3%	84.9%	4.1
830	Plug_Office	Advanced Power Strip – Tier 1 Commercial Use	Biz - Prescriptive	Other	RET	per unit	188	61%	115	0.00	0.01	7	$10	100%	80%	10%	2	17%	15%	88.0%	87.3%	84.9%	4.1
831	Plug_Office	Smart Socket	Biz - Custom	Assembly	RET	per unit	80	61%	48	0.00	0.01	7	$9	100%	75%	46%	2	18%	15%	66.0%	64.6%	63.0%	2.0
832	Plug_Office	Smart Socket	Biz - Custom	Education	RET	per unit	80	61%	48	0.00	0.01	7	$9	100%	75%	46%	2	23%	15%	66.0%	64.6%	63.0%	2.0
833	Plug_Office	Smart Socket	Biz - Custom	Food Sales	RET	per unit	80	61%	48	0.00	0.01	7	$9	100%	75%	46%	2	21%	15%	66.0%	64.6%	63.0%	2.0
834	Plug_Office	Smart Socket	Biz - Custom	Food Service	RET	per unit	80	61%	48	0.00	0.01	7	$9	100%	75%	46%	2	12%	15%	66.0%	64.6%	63.0%	2.0
835	Plug_Office	Smart Socket	Biz - Custom	Health	RET	per unit	80	61%	48	0.00	0.01	7	$9	100%	75%	46%	2	16%	15%	66.0%	64.6%	63.0%	2.0
836	Plug_Office	Smart Socket	Biz - Custom	Lodging	RET	per unit	80	61%	48	0.00	0.01	7	$9	100%	75%	46%	2	5%	15%	66.0%	64.6%	63.0%	2.0
837	Plug_Office	Smart Socket	Biz - Custom	Retail	RET	per unit	80	61%	48	0.00	0.01	7	$9	100%	75%	46%	2	21%	15%	66.0%	64.6%	63.0%	2.0
838	Plug_Office	Smart Socket	Biz - Custom	Office	RET	per unit	80	61%	48	0.00	0.01	7	$9	100%	75%	46%	2	26%	15%	66.0%	64.6%	63.0%	2.0
839	Plug_Office	Smart Socket	Biz - Custom	Warehouse	RET	per unit	80	61%	48	0.00	0.01	7	$9	100%	75%	46%	2	25%	15%	66.0%	64.6%	63.0%	2.0
840	Plug_Office	Smart Socket	Biz - Custom	Other	RET	per unit	80	61%	48	0.00	0.01	7	$9	100%	75%	46%	2	17%	15%	66.0%	64.6%	63.0%	2.0
841	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Assembly	TOS	per unit	418	26%	110	0.02	0.01	6	$0	100%	100%	100%	1	16%	95%	96.5%	96.0%	96.0%	2.9
842	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Education	TOS	per unit	418	26%	110	0.01	0.01	6	$0	100%	100%	100%	1	9%	95%	96.5%	96.0%	96.0%	2.5
843	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Food Sales	TOS	per unit	418	26%	110	0.02	0.01	6	$0	100%	100%	100%	1	12%	95%	96.5%	96.0%	96.0%	3.4
844	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Food Service	TOS	per unit	418	26%	110	0.02	0.01	6	$0	100%	100%	100%	1	24%	95%	96.5%	96.0%	96.0%	3.4
845	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Health	TOS	per unit	418	26%	110	0.01	0.01	6	$0	100%	100%	100%	1	19%	95%	96.5%	96.0%	96.0%	2.8
846	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Lodging	TOS	per unit	418	26%	110	0.01	0.01	6	$0	100%	100%	100%	1	33%	95%	96.5%	96.0%	96.0%	2.7
847	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Retail	TOS	per unit	418	26%	110	0.02	0.01	6	$0	100%	100%	100%	1	12%	95%	96.5%	96.0%	96.0%	3.1
848	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Office	TOS	per unit	418	26%	110	0.01	0.01	6	$0	100%	100%	100%	1	6%	95%	96.5%	96.0%	96.0%	2.7
849	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Warehouse	TOS	per unit	418	26%	110	0.01	0.01	6	$0	100%	100%	100%	1	6%	95%	96.5%	96.0%	96.0%	2.9
850	Plug_Office	Energy Star Printer/Copier/Fax	Biz - Custom	Other	TOS	per unit	418	26%	110	0.01	0.01	6	$0	100%	100%	100%	1	18%	95%	96.5%	96.0%	96.0%	2.9
851	Plug_Office	Energy Star Server	Biz - Custom	Assembly	TOS	per server	2,167	30%	650	0.09	0.08	9	$301	100%	30%	51%	3	21%	25%	66.0%	56.2%	59.7%	4.0
852	Plug_Office	Energy Star Server	Biz - Custom	Education	TOS	per server	2,167	30%	650	0.06	0.07	9	$301	100%	30%	51%	3	27%	25%	66.0%	56.2%	59.7%	3.5
853	Plug_Office	Energy Star Server	Biz - Custom	Food Sales	TOS	per server	2,167	30%	650	0.13	0.08	9	$301	100%	30%	51%	3	24%	25%	66.0%	56.2%	59.7%	4.7

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
854	Plug_Office	Energy Star Server	Biz - Custom	Food Service	TOS	per server	2,167	30%	650	0.13	0.08	9	$301	100%	30%	51%	3	14%	25%	66.0%	56.2%	59.7%	4.7
855	Plug_Office	Energy Star Server	Biz - Custom	Health	TOS	per server	2,167	30%	650	0.08	0.07	9	$301	100%	30%	51%	3	18%	25%	66.0%	56.2%	59.7%	3.8
856	Plug_Office	Energy Star Server	Biz - Custom	Lodging	TOS	per server	2,167	30%	650	0.07	0.08	9	$301	100%	30%	51%	3	6%	25%	66.0%	56.2%	59.7%	3.7
857	Plug_Office	Energy Star Server	Biz - Custom	Retail	TOS	per server	2,167	30%	650	0.10	0.07	9	$301	100%	30%	51%	3	24%	25%	66.0%	56.2%	59.7%	4.3
858	Plug_Office	Energy Star Server	Biz - Custom	Office	TOS	per server	2,167	30%	650	0.07	0.07	9	$301	100%	30%	51%	3	30%	25%	66.0%	56.2%	59.7%	3.7
859	Plug_Office	Energy Star Server	Biz - Custom	Warehouse	TOS	per server	2,167	30%	650	0.09	0.07	9	$301	100%	30%	51%	3	30%	25%	66.0%	56.2%	59.7%	4.0
860	Plug_Office	Energy Star Server	Biz - Custom	Other	TOS	per server	2,167	30%	650	0.09	0.08	9	$301	100%	30%	51%	3	20%	25%	66.0%	56.2%	59.7%	3.9
861	Plug_Office	Server Virtualization	Biz - Custom	Assembly	RET	per server	2,167	14%	301	0.04	0.04	9	$27	100%	100%	10%	3	21%	25%	66.0%	66.0%	63.6%	6.3
862	Plug_Office	Server Virtualization	Biz - Custom	Education	RET	per server	2,167	14%	301	0.03	0.03	9	$27	100%	100%	10%	3	27%	25%	66.0%	66.0%	63.6%	5.4
863	Plug_Office	Server Virtualization	Biz - Custom	Food Sales	RET	per server	2,167	14%	301	0.06	0.04	9	$27	100%	100%	10%	3	24%	25%	66.0%	66.0%	63.6%	7.4
864	Plug_Office	Server Virtualization	Biz - Custom	Food Service	RET	per server	2,167	14%	301	0.06	0.04	9	$27	100%	100%	10%	3	14%	25%	66.0%	66.0%	63.6%	7.3
865	Plug_Office	Server Virtualization	Biz - Custom	Health	RET	per server	2,167	14%	301	0.04	0.03	9	$27	100%	100%	10%	3	18%	25%	66.0%	66.0%	63.6%	6.0
866	Plug_Office	Server Virtualization	Biz - Custom	Lodging	RET	per server	2,167	14%	301	0.03	0.04	9	$27	100%	100%	10%	3	6%	25%	66.0%	66.0%	63.6%	5.7
867	Plug_Office	Server Virtualization	Biz - Custom	Retail	RET	per server	2,167	14%	301	0.05	0.03	9	$27	100%	100%	10%	3	24%	25%	66.0%	66.0%	63.6%	6.6
868	Plug_Office	Server Virtualization	Biz - Custom	Office	RET	per server	2,167	14%	301	0.03	0.03	9	$27	100%	100%	10%	3	30%	25%	66.0%	66.0%	63.6%	5.7
869	Plug_Office	Server Virtualization	Biz - Custom	Warehouse	RET	per server	2,167	14%	301	0.04	0.03	9	$27	100%	100%	10%	3	30%	25%	66.0%	66.0%	63.6%	6.2
870	Plug_Office	Server Virtualization	Biz - Custom	Other	RET	per server	2,167	14%	301	0.04	0.04	9	$27	100%	100%	10%	3	20%	25%	66.0%	66.0%	63.6%	6.2
871	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Assembly	RET	per unit	86,783	18%	15,778	2.20	1.88	15	$480	100%	100%	10%	4	21%	25%	66.0%	66.0%	65.2%	27.3
872	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Education	RET	per unit	86,783	18%	15,778	1.42	1.78	15	$480	100%	100%	10%	4	27%	25%	66.0%	66.0%	65.2%	23.5
873	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Food Sales	RET	per unit	86,783	18%	15,778	3.20	1.99	15	$480	100%	100%	10%	4	24%	25%	66.0%	66.0%	65.2%	32.3
874	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Food Service	RET	per unit	86,783	18%	15,778	3.15	1.88	15	$480	100%	100%	10%	4	14%	25%	66.0%	66.0%	65.2%	32.0
875	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Health	RET	per unit	86,783	18%	15,778	1.92	1.78	15	$480	100%	100%	10%	4	18%	25%	66.0%	66.0%	65.2%	25.9
876	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Lodging	RET	per unit	86,783	18%	15,778	1.70	2.04	15	$480	100%	100%	10%	4	6%	25%	66.0%	66.0%	65.2%	24.9
877	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Retail	RET	per unit	86,783	18%	15,778	2.53	1.82	15	$480	100%	100%	10%	4	24%	25%	66.0%	66.0%	65.2%	29.0
878	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Office	RET	per unit	86,783	18%	15,778	1.72	1.80	15	$480	100%	100%	10%	4	30%	25%	66.0%	66.0%	65.2%	24.9
879	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Warehouse	RET	per unit	86,783	18%	15,778	2.15	1.71	15	$480	100%	100%	10%	4	30%	25%	66.0%	66.0%	65.2%	27.0
880	Plug_Office	Electrically Commutated Plug Fans in data centers	Biz - Custom	Other	RET	per unit	86,783	18%	15,778	2.11	1.86	15	$480	100%	100%	10%	4	20%	25%	66.0%	66.0%	65.2%	26.9
881	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Assembly	TOS	per ton	9,272	28%	2,596	0.30	0.31	15	$750	100%	48%	65%	5	21%	25%	66.0%	61.7%	63.0%	5.5
882	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Education	TOS	per ton	9,272	28%	2,596	0.30	0.29	15	$750	100%	48%	65%	5	27%	25%	66.0%	61.7%	63.0%	5.5
883	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Food Sales	TOS	per ton	9,272	28%	2,596	0.30	0.33	15	$750	100%	48%	65%	5	24%	25%	66.0%	61.7%	63.0%	5.5
884	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Food Service	TOS	per ton	9,272	28%	2,596	0.30	0.31	15	$750	100%	48%	65%	5	14%	25%	66.0%	61.7%	63.0%	5.5
885	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Health	TOS	per ton	9,272	28%	2,596	0.30	0.29	15	$750	100%	48%	65%	5	18%	25%	66.0%	61.7%	63.0%	5.5
886	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Lodging	TOS	per ton	9,272	28%	2,596	0.30	0.34	15	$750	100%	48%	65%	5	6%	25%	66.0%	61.7%	63.0%	5.5
887	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Retail	TOS	per ton	9,272	28%	2,596	0.30	0.30	15	$750	100%	48%	65%	5	24%	25%	66.0%	61.7%	63.0%	5.5
888	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Office	TOS	per ton	9,272	28%	2,596	0.30	0.30	15	$750	100%	48%	65%	5	30%	25%	66.0%	61.7%	63.0%	5.5
889	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Warehouse	TOS	per ton	9,272	28%	2,596	0.30	0.28	15	$750	100%	48%	65%	5	30%	25%	66.0%	61.7%	63.0%	5.5
890	Plug_Office	High Efficiency CRAC unit	Biz - Custom	Other	TOS	per ton	9,272	28%	2,596	0.30	0.31	15	$750	100%	48%	65%	5	20%	25%	66.0%	61.7%	63.0%	5.5
891	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Assembly	RET	mbtu/hr	764	47%	358	0.05	0.04	15	$82	100%	61%	56%	5	21%	25%	66.0%	63.3%	63.0%	5.9
892	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Education	RET	mbtu/hr	764	47%	358	0.03	0.04	15	$82	100%	61%	56%	5	27%	25%	66.0%	63.3%	63.0%	5.1
893	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Food Sales	RET	mbtu/hr	764	47%	358	0.07	0.05	15	$82	100%	61%	56%	5	24%	25%	66.0%	63.3%	63.0%	7.0
894	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Food Service	RET	mbtu/hr	764	47%	358	0.07	0.04	15	$82	100%	61%	56%	5	14%	25%	66.0%	63.3%	63.0%	7.0
895	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Health	RET	mbtu/hr	764	47%	358	0.04	0.04	15	$82	100%	61%	56%	5	18%	25%	66.0%	63.3%	63.0%	5.6
896	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Lodging	RET	mbtu/hr	764	47%	358	0.04	0.05	15	$82	100%	61%	56%	5	6%	25%	66.0%	63.3%	63.0%	5.4
897	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Retail	RET	mbtu/hr	764	47%	358	0.06	0.04	15	$82	100%	61%	56%	5	24%	25%	66.0%	63.3%	63.0%	6.3
898	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Office	RET	mbtu/hr	764	47%	358	0.04	0.04	15	$82	100%	61%	56%	5	30%	25%	66.0%	63.3%	63.0%	5.4
899	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Warehouse	RET	mbtu/hr	764	47%	358	0.05	0.04	15	$82	100%	61%	56%	5	30%	25%	66.0%	63.3%	63.0%	5.9
900	Plug_Office	Computer Room Air Conditioner Economizer	Biz - Custom	Other	RET	mbtu/hr	764	47%	358	0.05	0.04	15	$82	100%	61%	56%	5	20%	25%	66.0%	63.3%	63.0%	5.8
901	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Assembly	RET	er DC w/ H/C aisl	13	8%	1	0.00	0.00	10	$0	100%	61%	57%	7	21%	25%	66.0%	63.3%	63.0%	4.4
902	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Education	RET	er DC w/ H/C aisl	13	8%	1	0.00	0.00	10	$0	100%	61%	57%	7	27%	25%	66.0%	63.3%	63.0%	3.8
903	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Food Sales	RET	er DC w/ H/C aisl	13	8%	1	0.00	0.00	10	$0	100%	61%	57%	7	24%	25%	66.0%	63.3%	63.0%	5.1
904	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Food Service	RET	er DC w/ H/C aisl	13	8%	1	0.00	0.00	10	$0	100%	61%	57%	7	14%	25%	66.0%	63.3%	63.0%	5.1
905	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Health	RET	er DC w/ H/C aisl	13	8%	1	0.00	0.00	10	$0	100%	61%	57%	7	18%	25%	66.0%	63.3%	63.0%	4.1
906	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Lodging	RET	er DC w/ H/C aisl	13	8%	1	0.00	0.00	10	$0	100%	61%	57%	7	6%	25%	66.0%	63.3%	63.0%	4.0
907	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Retail	RET	er DC w/ H/C aisl	13	8%	1	0.00	0.00	10	$0	100%	61%	57%	7	24%	25%	66.0%	63.3%	63.0%	4.6
908	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Office	RET	er DC w/ H/C aisl	13	8%	1	0.00	0.00	10	$0	100%	61%	57%	7	30%	25%	66.0%	63.3%	63.0%	4.0
909	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Warehouse	RET	er DC w/ H/C aisl	13	8%	1	0.00	0.00	10	$0	100%	61%	57%	7	30%	25%	66.0%	63.3%	63.0%	4.3
910	Plug_Office	Data Center Hot/Cold Aisle Configuration	Biz - Custom	Other	RET	er DC w/ H/C aisl	13	8%	1	0.00	0.00	10	$0	100%	61%	57%	7	20%	25%	66.0%	63.3%	63.0%	4.3
911	Refrigeration	Strip Curtains, Cooler	Biz - Prescriptive	Assembly	RET	per ln sq/ft	0	0%	0	0.00	0.00	4	$10	98%	98%	100%	1	0%	25%	88.0%	88.0%	88.0%	0.0
912	Refrigeration	Strip Curtains, Cooler	Biz - Prescriptive	Education	RET	per ln sq/ft	0	0%	0	0.00	0.00	4	$10	98%	98%	100%	1	13%	25%	88.0%	88.0%	88.0%	0.0
913	Refrigeration	Strip Curtains, Cooler	Biz - Prescriptive	Food Sales	RET	per ln sq/ft	536	15%	80	0.01	0.01	4	$10	100%	98%	21%	1	19%	25%	88.0%	87.9%	84.0%	2.2
914	Refrigeration	Strip Curtains, Cooler	Biz - Prescriptive	Food Service	RET	per ln sq/ft	96	15%	14	0.00	0.00	4	$10	98%	98%	17%	1	7%	25%	87.4%	87.4%	54.8%	0.4
915	Refrigeration	Strip Curtains, Cooler	Biz - Prescriptive	Health	RET	per ln sq/ft	0	0%	0	0.00	0.00	4	$10	98%	98%	100%	1	9%	25%	88.0%	88.0%	88.0%	0.0
916	Refrigeration	Strip Curtains, Cooler	Biz - Prescriptive	Lodging	RET	per ln sq/ft	0	0%	0	0.00	0.00	4	$10	98%	98%	100%	1	12%	25%	88.0%	88.0%	88.0%	0.0
917	Refrigeration	Strip Curtains, Cooler	Biz - Prescriptive	Retail	RET	per ln sq/ft	0	0%	0	0.00	0.00	4	$10	98%	98%	100%	1	13%	25%	88.0%	88.0%	88.0%	0.0
918	Refrigeration	Strip Curtains, Cooler	Biz - Prescriptive	Office	RET	per ln sq/ft	0	0%	0	0.00	0.00	4	$10	98%	98%	100%	1	36%	25%	88.0%	88.0%	88.0%	0.0
919	Refrigeration	Strip Curtains, Cooler	Biz - Prescriptive	Warehouse	RET	per ln sq/ft	689	15%	103	0.01	0.01	4	$10	100%	98%	10%	1	40%	25%	88.0%	87.9%	84.4%	2.8
920	Refrigeration	Strip Curtains, Cooler	Biz - Prescriptive	Other	RET	per ln sq/ft	100	15%	15	0.00	0.00	4	$10	98%	98%	18%	1	10%	25%	87.4%	87.4%	56.1%	0.4
921	Refrigeration	Automated Door Closer for Refrigerator	Biz - Custom	Assembly	RET	per building	1,259,893	0%	2,399	0.62	0.27	8	$502	100%	67%	52%	1	0%	27%	66.0%	63.9%	63.0%	4.9
922	Refrigeration	Automated Door Closer for Refrigerator	Biz - Custom	Education	RET	per building	1,259,893	0%	2,399	0.62	0.27	8	$502	100%	67%	52%	1	13%	58%	70.6%	66.4%	66.4%	4.9
923	Refrigeration	Automated Door Closer for Refrigerator	Biz - Custom	Food Sales	RET	per building	1,259,893	0%	2,399	0.62	0.28	8	$502	100%	67%	52%	1	19%	32%	66.0%	63.9%	63.0%	4.9
924	Refrigeration	Automated Door Closer for Refrigerator	Biz - Custom	Food Service	RET	per building	1,259,893	0%	2,399	0.62	0.26	8	$502	100%	67%	52%	1	7%	54%	67.8%	63.9%	63.2%	4.9

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
925	Refrigeration	Automated Door Closer for Refrigerator	Biz - Custom	Health	RET	per building	1,259,893	0%	2,399	0.62	0.27	8	$502	100%	67%	52%	1	9%	27%	66.0%	63.9%	63.0%	4.9
926	Refrigeration	Automated Door Closer for Refrigerator	Biz - Custom	Lodging	RET	per building	1,259,893	0%	2,399	0.62	0.27	8	$502	100%	67%	52%	1	12%	27%	66.0%	63.9%	63.0%	4.9
927	Refrigeration	Automated Door Closer for Refrigerator	Biz - Custom	Retail	RET	per building	1,259,893	0%	2,399	0.62	0.27	8	$502	100%	67%	52%	1	13%	27%	66.0%	63.9%	63.0%	4.9
928	Refrigeration	Automated Door Closer for Refrigerator	Biz - Custom	Office	RET	per building	1,259,893	0%	2,399	0.62	0.27	8	$502	100%	67%	52%	1	36%	27%	66.0%	63.9%	63.0%	4.9
929	Refrigeration	Automated Door Closer for Refrigerator	Biz - Custom	Warehouse	RET	per building	1,259,893	0%	2,399	0.62	0.27	8	$502	100%	67%	52%	1	40%	27%	66.0%	63.9%	63.0%	4.9
930	Refrigeration	Automated Door Closer for Refrigerator	Biz - Custom	Other	RET	per building	1,259,893	0%	2,399	0.62	0.27	8	$502	100%	67%	52%	1	10%	27%	66.0%	63.9%	63.0%	4.9
931	Refrigeration	Strip Curtains, Freezer	Biz - Prescriptive	Assembly	RET	per ln sq/ft	0	0%	0	0.00	0.00	4	$10	98%	98%	100%	2	0%	25%	88.0%	88.0%	88.0%	0.0
932	Refrigeration	Strip Curtains, Freezer	Biz - Prescriptive	Education	RET	per ln sq/ft	0	0%	0	0.00	0.00	4	$10	98%	98%	100%	2	7%	25%	88.0%	88.0%	88.0%	0.0
933	Refrigeration	Strip Curtains, Freezer	Biz - Prescriptive	Food Sales	RET	per ln sq/ft	1,473	15%	221	0.03	0.03	4	$10	100%	98%	10%	2	10%	25%	88.0%	88.0%	86.3%	6.0
934	Refrigeration	Strip Curtains, Freezer	Biz - Prescriptive	Food Service	RET	per ln sq/ft	489	15%	73	0.01	0.01	4	$10	100%	98%	28%	2	4%	25%	88.0%	87.9%	84.0%	2.0
935	Refrigeration	Strip Curtains, Freezer	Biz - Prescriptive	Health	RET	per ln sq/ft	0	0%	0	0.00	0.00	4	$10	98%	98%	100%	2	5%	25%	88.0%	88.0%	88.0%	0.0
936	Refrigeration	Strip Curtains, Freezer	Biz - Prescriptive	Lodging	RET	per ln sq/ft	0	0%	0	0.00	0.00	4	$10	98%	98%	100%	2	6%	25%	88.0%	88.0%	88.0%	0.0
937	Refrigeration	Strip Curtains, Freezer	Biz - Prescriptive	Retail	RET	per ln sq/ft	0	0%	0	0.00	0.00	4	$10	98%	98%	100%	2	7%	25%	88.0%	88.0%	88.0%	0.0
938	Refrigeration	Strip Curtains, Freezer	Biz - Prescriptive	Office	RET	per ln sq/ft	0	0%	0	0.00	0.00	4	$10	98%	98%	100%	2	19%	25%	88.0%	88.0%	88.0%	0.0
939	Refrigeration	Strip Curtains, Freezer	Biz - Prescriptive	Warehouse	RET	per ln sq/ft	0	0%	0	0.00	0.00	4	$10	98%	98%	100%	2	21%	25%	88.0%	88.0%	88.0%	0.0
940	Refrigeration	Strip Curtains, Freezer	Biz - Prescriptive	Other	RET	per ln sq/ft	144	15%	22	0.00	0.00	4	$10	98%	98%	26%	2	5%	25%	87.6%	87.6%	72.3%	0.6
941	Refrigeration	Automated Door Closer for Freezer	Biz - Custom	Assembly	RET	per building	1,259,893	1%	6,949	1.30	0.77	8	$502	100%	100%	10%	2	0%	27%	66.0%	66.0%	64.0%	8.0
942	Refrigeration	Automated Door Closer for Freezer	Biz - Custom	Education	RET	per building	1,259,893	1%	6,949	1.30	0.78	8	$502	100%	100%	10%	2	7%	58%	70.6%	66.4%	66.4%	8.0
943	Refrigeration	Automated Door Closer for Freezer	Biz - Custom	Food Sales	RET	per building	1,259,893	1%	6,949	1.30	0.82	8	$502	100%	100%	10%	2	10%	32%	66.0%	66.0%	64.0%	8.0
944	Refrigeration	Automated Door Closer for Freezer	Biz - Custom	Food Service	RET	per building	1,259,893	1%	6,949	1.30	0.75	8	$502	100%	100%	10%	2	4%	54%	67.8%	66.0%	64.0%	8.0
945	Refrigeration	Automated Door Closer for Freezer	Biz - Custom	Health	RET	per building	1,259,893	1%	6,949	1.30	0.79	8	$502	100%	100%	10%	2	5%	27%	66.0%	66.0%	64.0%	8.0
946	Refrigeration	Automated Door Closer for Freezer	Biz - Custom	Lodging	RET	per building	1,259,893	1%	6,949	1.30	0.77	8	$502	100%	100%	10%	2	6%	27%	66.0%	66.0%	64.0%	8.0
947	Refrigeration	Automated Door Closer for Freezer	Biz - Custom	Retail	RET	per building	1,259,893	1%	6,949	1.30	0.77	8	$502	100%	100%	10%	2	7%	27%	66.0%	66.0%	64.0%	8.0
948	Refrigeration	Automated Door Closer for Freezer	Biz - Custom	Office	RET	per building	1,259,893	1%	6,949	1.30	0.77	8	$502	100%	100%	10%	2	19%	27%	66.0%	66.0%	64.0%	8.0
949	Refrigeration	Automated Door Closer for Freezer	Biz - Custom	Warehouse	RET	per building	1,259,893	1%	6,949	1.30	0.77	8	$502	100%	100%	10%	2	21%	27%	66.0%	66.0%	64.0%	8.0
950	Refrigeration	Automated Door Closer for Freezer	Biz - Custom	Other	RET	per building	1,259,893	1%	6,949	1.30	0.77	8	$502	100%	100%	10%	2	5%	27%	66.0%	66.0%	64.0%	8.0
951	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Assembly	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	3	0%	34%	88.0%	80.7%	84.0%	30.5
952	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Education	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	3	10%	34%	88.0%	80.7%	84.0%	30.5
953	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Food Sales	RET	per motor	2,884	55%	1,586	0.18	0.19	15	$347	100%	12%	54%	3	14%	34%	88.0%	80.7%	84.0%	30.6
954	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Food Service	RET	per motor	2,884	55%	1,586	0.18	0.17	15	$347	100%	12%	54%	3	6%	34%	88.0%	80.7%	84.0%	30.5
955	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Health	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	3	7%	34%	88.0%	80.7%	84.0%	30.6
956	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Lodging	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	3	9%	34%	88.0%	80.7%	84.0%	30.5
957	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Retail	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	3	10%	34%	88.0%	80.7%	84.0%	30.5
958	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Office	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	3	27%	34%	88.0%	80.7%	84.0%	30.5
959	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Warehouse	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	3	30%	34%	88.0%	80.7%	84.0%	30.5
960	Refrigeration	Electronically Commutated (EC) Walk-In Evaporator Fan Motor	Biz - Prescriptive	Other	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	3	8%	34%	88.0%	80.7%	84.0%	30.5
961	Refrigeration	Q-Sync Motor for Walk-In Evaporator Fan Motor	Biz - Custom	Assembly	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	3	0%	2%	66.0%	64.5%	63.0%	12.5
962	Refrigeration	Q-Sync Motor for Walk-In Evaporator Fan Motor	Biz - Custom	Education	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	3	10%	2%	66.0%	64.5%	63.0%	12.5
963	Refrigeration	Q-Sync Motor for Walk-In Evaporator Fan Motor	Biz - Custom	Food Sales	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	3	14%	2%	66.0%	64.5%	63.0%	12.5
964	Refrigeration	Q-Sync Motor for Walk-In Evaporator Fan Motor	Biz - Custom	Food Service	RET	per motor	2,091	24%	505	0.40	0.05	10	$96	100%	74%	47%	3	6%	2%	66.0%	64.5%	63.0%	12.5
965	Refrigeration	Q-Sync Motor for Walk-In Evaporator Fan Motor	Biz - Custom	Health	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	3	7%	2%	66.0%	64.5%	63.0%	12.5
966	Refrigeration	Q-Sync Motor for Walk-In Evaporator Fan Motor	Biz - Custom	Lodging	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	3	9%	2%	66.0%	64.5%	63.0%	12.5
967	Refrigeration	Q-Sync Motor for Walk-In Evaporator Fan Motor	Biz - Custom	Retail	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	3	10%	2%	66.0%	64.5%	63.0%	12.5
968	Refrigeration	Q-Sync Motor for Walk-In Evaporator Fan Motor	Biz - Custom	Office	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	3	27%	2%	66.0%	64.5%	63.0%	12.5
969	Refrigeration	Q-Sync Motor for Walk-In Evaporator Fan Motor	Biz - Custom	Warehouse	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	3	30%	2%	66.0%	64.5%	63.0%	12.5
970	Refrigeration	Q-Sync Motor for Walk-In Evaporator Fan Motor	Biz - Custom	Other	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	3	8%	2%	66.0%	64.5%	63.0%	12.5
971	Refrigeration	Evaporator Fan Motor Controls	Biz - Custom	Assembly	RET	per motor	1,298	23%	293	0.03	0.03	13	$162	100%	25%	56%	4	0%	34%	66.0%	50.2%	59.3%	4.9
972	Refrigeration	Evaporator Fan Motor Controls	Biz - Custom	Education	RET	per motor	1,298	23%	293	0.03	0.03	13	$162	100%	25%	56%	4	10%	34%	66.0%	50.2%	59.3%	4.9
973	Refrigeration	Evaporator Fan Motor Controls	Biz - Custom	Food Sales	RET	per motor	1,298	23%	293	0.03	0.03	13	$162	100%	25%	56%	4	14%	34%	66.0%	50.2%	59.3%	4.9
974	Refrigeration	Evaporator Fan Motor Controls	Biz - Custom	Food Service	RET	per motor	1,298	23%	293	0.03	0.03	13	$162	100%	25%	56%	4	6%	34%	66.0%	50.2%	59.3%	4.9
975	Refrigeration	Evaporator Fan Motor Controls	Biz - Custom	Health	RET	per motor	1,298	23%	293	0.03	0.03	13	$162	100%	25%	56%	4	7%	34%	66.0%	50.2%	59.3%	4.9
976	Refrigeration	Evaporator Fan Motor Controls	Biz - Custom	Lodging	RET	per motor	1,298	23%	293	0.03	0.03	13	$162	100%	25%	56%	4	9%	34%	66.0%	50.2%	59.3%	4.9
977	Refrigeration	Evaporator Fan Motor Controls	Biz - Custom	Retail	RET	per motor	1,298	23%	293	0.03	0.03	13	$162	100%	25%	56%	4	10%	34%	66.0%	50.2%	59.3%	4.9
978	Refrigeration	Evaporator Fan Motor Controls	Biz - Custom	Office	RET	per motor	1,298	23%	293	0.03	0.03	13	$162	100%	25%	56%	4	27%	34%	66.0%	50.2%	59.3%	4.9
979	Refrigeration	Evaporator Fan Motor Controls	Biz - Custom	Warehouse	RET	per motor	1,298	23%	293	0.03	0.03	13	$162	100%	25%	56%	4	30%	34%	66.0%	50.2%	59.3%	4.9
980	Refrigeration	Evaporator Fan Motor Controls	Biz - Custom	Other	RET	per motor	1,298	23%	293	0.03	0.03	13	$162	100%	25%	56%	4	8%	34%	66.0%	50.2%	59.3%	4.9
981	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Assembly	RET	per HP	1,228	25%	307	0.00	0.03	15	$431	10%	10%	24%	6	0%	20%	37.8%	36.0%	36.0%	3.6
982	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Education	RET	per HP	1,228	25%	307	0.00	0.03	15	$431	10%	10%	24%	6	10%	20%	37.8%	36.0%	36.0%	3.6
983	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Food Sales	RET	per HP	1,228	25%	307	0.00	0.04	15	$431	10%	10%	24%	6	14%	20%	37.8%	36.0%	36.0%	3.6
984	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Food Service	RET	per HP	1,228	25%	307	0.00	0.03	15	$431	10%	10%	24%	6	6%	20%	37.8%	36.0%	36.0%	3.6
985	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Health	RET	per HP	1,228	25%	307	0.00	0.04	15	$431	10%	10%	24%	6	7%	20%	37.8%	36.0%	36.0%	3.6
986	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Lodging	RET	per HP	1,228	25%	307	0.00	0.03	15	$431	10%	10%	24%	6	9%	20%	37.8%	36.0%	36.0%	3.6
987	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Retail	RET	per HP	1,228	25%	307	0.00	0.03	15	$431	10%	10%	24%	6	10%	20%	37.8%	36.0%	36.0%	3.6
988	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Office	RET	per HP	1,228	25%	307	0.00	0.03	15	$431	10%	10%	24%	6	27%	20%	37.8%	36.0%	36.0%	3.6
989	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Warehouse	RET	per HP	1,228	25%	307	0.00	0.03	15	$431	10%	10%	24%	6	30%	20%	37.8%	36.0%	36.0%	3.6
990	Refrigeration	Floating Head Pressure Controls	Biz - Custom	Other	RET	per HP	1,228	25%	307	0.00	0.03	15	$431	10%	10%	24%	6	8%	20%	37.8%	36.0%	36.0%	3.6
991	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Assembly	RET	per door	752	45%	338	0.02	0.04	10	$80	100%	94%	57%	7	2%	25%	88.0%	87.5%	84.0%	2.1
992	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Education	RET	per door	752	45%	338	0.02	0.04	10	$80	100%	94%	57%	7	2%	25%	88.0%	87.5%	84.0%	2.1
993	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Food Sales	RET	per door	752	45%	338	0.02	0.04	10	$80	100%	94%	57%	7	14%	25%	88.0%	87.5%	84.0%	2.1
994	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Food Service	RET	per door	752	45%	338	0.02	0.04	10	$80	100%	94%	57%	7	7%	25%	88.0%	87.5%	84.0%	2.1
995	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Health	RET	per door	752	45%	338	0.02	0.04	10	$80	100%	94%	57%	7	4%	25%	88.0%	87.5%	84.0%	2.1

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
996	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Lodging	RET	per door	752	45%	338	0.02	0.04	10	$80	100%	94%	57%	2	2%	25%	88.0%	87.5%	84.0%	2.1
997	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Retail	RET	per door	752	45%	338	0.02	0.04	10	$80	100%	94%	57%	7	23%	25%	88.0%	87.5%	84.0%	2.1
998	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Office	RET	per door	752	45%	338	0.02	0.04	10	$80	100%	94%	57%	7	5%	25%	88.0%	87.5%	84.0%	2.1
999	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Warehouse	RET	per door	752	45%	338	0.02	0.04	10	$80	100%	94%	57%	7	3%	25%	88.0%	87.5%	84.0%	2.1
1000	Refrigeration	Door Heater Controls for Cooler	Biz - Prescriptive	Other	RET	per door	752	45%	338	0.02	0.04	10	$80	100%	94%	57%	7	9%	25%	88.0%	87.5%	84.0%	2.1
1001	Refrigeration	Zero Energy Doors for Refrigerated Cases	Biz - Custom	Assembly	RET	per door	682	100%	682	0.05	0.08	12	$735	50%	13%	27%	7	2%	25%	47.5%	40.0%	40.0%	4.1
1002	Refrigeration	Zero Energy Doors for Refrigerated Cases	Biz - Custom	Education	RET	per door	682	100%	682	0.05	0.08	12	$735	50%	13%	27%	7	2%	25%	47.5%	40.0%	40.0%	4.1
1003	Refrigeration	Zero Energy Doors for Refrigerated Cases	Biz - Custom	Food Sales	RET	per door	682	100%	682	0.05	0.08	12	$735	50%	13%	27%	7	14%	25%	47.5%	40.0%	40.0%	4.1
1004	Refrigeration	Zero Energy Doors for Refrigerated Cases	Biz - Custom	Food Service	RET	per door	682	100%	682	0.05	0.07	12	$735	50%	13%	27%	7	7%	25%	47.5%	40.0%	40.0%	4.1
1005	Refrigeration	Zero Energy Doors for Refrigerated Cases	Biz - Custom	Health	RET	per door	682	100%	682	0.05	0.08	12	$735	50%	13%	27%	7	4%	25%	47.5%	40.0%	40.0%	4.1
1006	Refrigeration	Zero Energy Doors for Refrigerated Cases	Biz - Custom	Lodging	RET	per door	682	100%	682	0.05	0.08	12	$735	50%	13%	27%	7	2%	25%	47.5%	40.0%	40.0%	4.1
1007	Refrigeration	Zero Energy Doors for Refrigerated Cases	Biz - Custom	Retail	RET	per door	682	100%	682	0.05	0.08	12	$735	50%	13%	27%	7	23%	25%	47.5%	40.0%	40.0%	4.1
1008	Refrigeration	Zero Energy Doors for Refrigerated Cases	Biz - Custom	Office	RET	per door	682	100%	682	0.05	0.08	12	$735	50%	13%	27%	7	5%	25%	47.5%	40.0%	40.0%	4.1
1009	Refrigeration	Zero Energy Doors for Refrigerated Cases	Biz - Custom	Warehouse	RET	per door	682	100%	682	0.05	0.08	12	$735	50%	13%	27%	7	3%	25%	47.5%	40.0%	40.0%	4.1
1010	Refrigeration	Zero Energy Doors for Refrigerated Cases	Biz - Custom	Other	RET	per door	682	100%	682	0.05	0.08	12	$735	50%	13%	27%	7	9%	25%	47.5%	40.0%	40.0%	4.1
1011	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Custom	Assembly	RET	per linear ft	1,558	50%	779	0.11	0.09	15	$390	100%	28%	68%	8	0%	25%	66.0%	53.7%	61.4%	6.0
1012	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Custom	Education	RET	per linear ft	1,558	50%	779	0.11	0.09	15	$390	100%	28%	68%	8	0%	25%	66.0%	53.7%	61.4%	6.0
1013	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Custom	Food Sales	RET	per linear ft	1,558	50%	779	0.09	0.09	15	$390	100%	28%	68%	8	3%	25%	66.0%	53.7%	61.4%	5.6
1014	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Custom	Food Service	RET	per linear ft	1,558	50%	779	0.11	0.08	15	$390	100%	28%	68%	8	0%	25%	66.0%	53.7%	61.4%	6.0
1015	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Custom	Health	RET	per linear ft	1,558	50%	779	0.12	0.09	15	$390	100%	28%	68%	8	0%	25%	66.0%	53.7%	61.4%	6.2
1016	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Custom	Lodging	RET	per linear ft	1,558	50%	779	0.11	0.09	15	$390	100%	28%	68%	8	0%	25%	66.0%	53.7%	61.4%	5.9
1017	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Custom	Retail	RET	per linear ft	1,558	50%	779	0.11	0.09	15	$390	100%	28%	68%	8	0%	25%	66.0%	53.7%	61.4%	6.0
1018	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Custom	Office	RET	per linear ft	1,558	50%	779	0.11	0.09	15	$390	100%	28%	68%	8	1%	25%	66.0%	53.7%	61.4%	6.0
1019	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Custom	Warehouse	RET	per linear ft	1,558	50%	779	0.11	0.09	15	$390	100%	28%	68%	8	0%	25%	66.0%	53.7%	61.4%	6.0
1020	Refrigeration	Display Case Door Retrofit, Medium Temp	Biz - Custom	Other	RET	per linear ft	1,558	50%	779	0.11	0.09	15	$390	100%	28%	68%	8	1%	25%	66.0%	53.7%	61.4%	6.0
1021	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Assembly	RET	per unit	45,880	10%	4,588	0.65	0.51	10	$312	100%	100%	10%	8	0%	27%	66.0%	66.0%	64.2%	9.0
1022	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Education	RET	per unit	45,880	10%	4,588	0.67	0.52	10	$312	100%	100%	10%	8	0%	58%	70.6%	66.4%	66.4%	9.1
1023	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Food Sales	RET	per unit	45,880	10%	4,588	0.56	0.54	10	$312	100%	100%	10%	8	3%	32%	66.0%	66.0%	64.2%	8.5
1024	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Food Service	RET	per unit	45,880	10%	4,588	0.65	0.50	10	$312	100%	100%	10%	8	0%	54%	67.8%	66.0%	64.2%	9.0
1025	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Health	RET	per unit	45,880	10%	4,588	0.71	0.52	10	$312	100%	100%	10%	8	0%	27%	66.0%	66.0%	64.2%	9.3
1026	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Lodging	RET	per unit	45,880	10%	4,588	0.63	0.51	10	$312	100%	100%	10%	8	0%	27%	66.0%	66.0%	64.2%	8.9
1027	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Retail	RET	per unit	45,880	10%	4,588	0.65	0.51	10	$312	100%	100%	10%	8	0%	27%	66.0%	66.0%	64.2%	9.0
1028	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Office	RET	per unit	45,880	10%	4,588	0.65	0.51	10	$312	100%	100%	10%	8	1%	27%	66.0%	66.0%	64.2%	9.0
1029	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Warehouse	RET	per unit	45,880	10%	4,588	0.65	0.51	10	$312	100%	100%	10%	8	0%	27%	66.0%	66.0%	64.2%	9.0
1030	Refrigeration	Aerofoils for Open Display Cases	Biz - Custom	Other	RET	per unit	45,880	10%	4,588	0.65	0.51	10	$312	100%	100%	10%	8	1%	27%	66.0%	66.0%	64.2%	9.0
1031	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Assembly	RET	per sq ft	1,511	9%	136	0.00	0.02	5	$42	50%	24%	48%	8	0%	55%	82.1%	79.3%	81.8%	3.0
1032	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Education	RET	per sq ft	1,511	9%	136	0.00	0.02	5	$42	50%	24%	48%	8	0%	55%	82.1%	79.3%	81.8%	3.0
1033	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Food Sales	RET	per sq ft	1,511	9%	136	0.00	0.02	5	$42	50%	24%	48%	8	3%	55%	82.1%	79.3%	81.8%	3.0
1034	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Food Service	RET	per sq ft	1,511	9%	136	0.00	0.01	5	$42	50%	24%	48%	8	0%	55%	82.1%	79.3%	81.8%	3.0
1035	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Health	RET	per sq ft	1,511	9%	136	0.00	0.02	5	$42	50%	24%	48%	8	0%	55%	82.1%	79.3%	81.8%	3.0
1036	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Lodging	RET	per sq ft	1,511	9%	136	0.00	0.02	5	$42	50%	24%	48%	8	0%	55%	82.1%	79.3%	81.8%	3.0
1037	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Retail	RET	per sq ft	1,511	9%	136	0.00	0.02	5	$42	50%	24%	48%	8	0%	55%	82.1%	79.3%	81.8%	3.0
1038	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Office	RET	per sq ft	1,511	9%	136	0.00	0.02	5	$42	50%	24%	48%	8	1%	55%	82.1%	79.3%	81.8%	3.0
1039	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Warehouse	RET	per sq ft	1,511	9%	136	0.00	0.02	5	$42	50%	24%	48%	8	0%	55%	82.1%	79.3%	81.8%	3.0
1040	Refrigeration	Night Covers for Coolers	Biz - Prescriptive	Other	RET	per sq ft	1,511	9%	136	0.00	0.02	5	$42	50%	24%	48%	8	1%	55%	82.1%	79.3%	81.8%	3.0
1041	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Assembly	RET	per door	3,024	45%	1,361	0.07	0.15	10	$80	100%	94%	10%	9	3%	25%	88.0%	87.9%	85.9%	8.3
1042	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Education	RET	per door	3,024	45%	1,361	0.07	0.15	10	$80	100%	94%	10%	9	0%	25%	88.0%	87.9%	85.9%	8.3
1043	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Food Sales	RET	per door	3,024	45%	1,361	0.07	0.16	10	$80	100%	94%	10%	9	31%	25%	88.0%	87.9%	85.9%	8.3
1044	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Food Service	RET	per door	3,024	45%	1,361	0.07	0.15	10	$80	100%	94%	10%	9	9%	25%	88.0%	87.9%	85.9%	8.3
1045	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Health	RET	per door	3,024	45%	1,361	0.07	0.16	10	$80	100%	94%	10%	9	1%	25%	88.0%	87.9%	85.9%	8.3
1046	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Lodging	RET	per door	3,024	45%	1,361	0.07	0.15	10	$80	100%	94%	10%	9	1%	25%	88.0%	87.9%	85.9%	8.3
1047	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Retail	RET	per door	3,024	45%	1,361	0.07	0.15	10	$80	100%	94%	10%	9	23%	25%	88.0%	87.9%	85.9%	8.3
1048	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Office	RET	per door	3,024	45%	1,361	0.07	0.15	10	$80	100%	94%	10%	9	7%	25%	88.0%	87.9%	85.9%	8.3
1049	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Warehouse	RET	per door	3,024	45%	1,361	0.07	0.15	10	$80	100%	94%	10%	9	0%	25%	88.0%	87.9%	85.9%	8.3
1050	Refrigeration	Door Heater Controls for Freezer	Biz - Prescriptive	Other	RET	per door	3,024	45%	1,361	0.07	0.15	10	$80	100%	94%	10%	9	16%	25%	88.0%	87.9%	85.9%	8.3
1051	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Assembly	RET	per sq ft	2,349	9%	211	0.00	0.02	5	$42	100%	24%	50%	10	0%	55%	88.0%	82.2%	84.0%	4.6
1052	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Education	RET	per sq ft	2,349	9%	211	0.00	0.02	5	$42	100%	24%	50%	10	0%	55%	88.0%	82.2%	84.0%	4.6
1053	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Food Sales	RET	per sq ft	2,349	9%	211	0.00	0.02	5	$42	100%	24%	50%	10	4%	55%	88.0%	82.2%	84.0%	4.6
1054	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Food Service	RET	per sq ft	2,349	9%	211	0.00	0.02	5	$42	100%	24%	50%	10	0%	55%	88.0%	82.2%	84.0%	4.6
1055	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Health	RET	per sq ft	2,349	9%	211	0.00	0.02	5	$42	100%	24%	50%	10	0%	55%	88.0%	82.2%	84.0%	4.6
1056	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Lodging	RET	per sq ft	2,349	9%	211	0.00	0.02	5	$42	100%	24%	50%	10	0%	55%	88.0%	82.2%	84.0%	4.6
1057	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Retail	RET	per sq ft	2,349	9%	211	0.00	0.02	5	$42	100%	24%	50%	10	0%	55%	88.0%	82.2%	84.0%	4.6
1058	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Office	RET	per sq ft	2,349	9%	211	0.00	0.02	5	$42	100%	24%	50%	10	0%	55%	88.0%	82.2%	84.0%	4.6
1059	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Warehouse	RET	per sq ft	2,349	9%	211	0.00	0.02	5	$42	100%	24%	50%	10	0%	55%	88.0%	82.2%	84.0%	4.6
1060	Refrigeration	Night Covers for Freezers	Biz - Prescriptive	Other	RET	per sq ft	2,349	9%	211	0.00	0.02	5	$42	100%	24%	50%	10	1%	55%	88.0%	82.2%	84.0%	4.6
1061	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Assembly	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	11	2%	34%	88.0%	80.7%	84.0%	30.5
1062	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Education	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	11	1%	34%	88.0%	80.7%	84.0%	30.5
1063	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Food Sales	RET	per motor	2,884	55%	1,586	0.18	0.19	15	$347	100%	12%	54%	11	26%	34%	88.0%	80.7%	84.0%	30.6
1064	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Food Service	RET	per motor	2,884	55%	1,586	0.18	0.17	15	$347	100%	12%	54%	11	8%	34%	88.0%	80.7%	84.0%	30.5
1065	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Health	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	11	3%	34%	88.0%	80.7%	84.0%	30.6
1066	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Lodging	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	11	1%	34%	88.0%	80.7%	84.0%	30.5

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
1067	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Retail	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	11	23%	34%	88.0%	80.7%	84.0%	30.5
1068	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Office	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	11	6%	34%	88.0%	80.7%	84.0%	30.5
1069	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Warehouse	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	11	1%	34%	88.0%	80.7%	84.0%	30.5
1070	Refrigeration	Electronically Commutated (EC) Reach-In Evaporator Fan Motor	Biz - Prescriptive	Other	RET	per motor	2,884	55%	1,586	0.18	0.18	15	$347	100%	12%	54%	11	14%	34%	88.0%	80.7%	84.0%	30.5
1071	Refrigeration	Q-Sync Motor for Reach-In Evaporator Fan Motor	Biz - Custom	Assembly	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	11	2%	2%	66.0%	64.5%	63.0%	12.5
1072	Refrigeration	Q-Sync Motor for Reach-In Evaporator Fan Motor	Biz - Custom	Education	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	11	1%	2%	66.0%	64.5%	63.0%	12.5
1073	Refrigeration	Q-Sync Motor for Reach-In Evaporator Fan Motor	Biz - Custom	Food Sales	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	11	26%	2%	66.0%	64.5%	63.0%	12.5
1074	Refrigeration	Q-Sync Motor for Reach-In Evaporator Fan Motor	Biz - Custom	Food Service	RET	per motor	2,091	24%	505	0.40	0.05	10	$96	100%	74%	47%	11	8%	2%	66.0%	64.5%	63.0%	12.5
1075	Refrigeration	Q-Sync Motor for Reach-In Evaporator Fan Motor	Biz - Custom	Health	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	11	3%	2%	66.0%	64.5%	63.0%	12.5
1076	Refrigeration	Q-Sync Motor for Reach-In Evaporator Fan Motor	Biz - Custom	Lodging	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	11	1%	2%	66.0%	64.5%	63.0%	12.5
1077	Refrigeration	Q-Sync Motor for Reach-In Evaporator Fan Motor	Biz - Custom	Retail	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	11	23%	2%	66.0%	64.5%	63.0%	12.5
1078	Refrigeration	Q-Sync Motor for Reach-In Evaporator Fan Motor	Biz - Custom	Office	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	11	6%	2%	66.0%	64.5%	63.0%	12.5
1079	Refrigeration	Q-Sync Motor for Reach-In Evaporator Fan Motor	Biz - Custom	Warehouse	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	11	1%	2%	66.0%	64.5%	63.0%	12.5
1080	Refrigeration	Q-Sync Motor for Reach-In Evaporator Fan Motor	Biz - Custom	Other	RET	per motor	2,091	24%	505	0.40	0.06	10	$96	100%	74%	47%	11	14%	2%	66.0%	64.5%	63.0%	12.5
1081	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Assembly	TOS	per linear ft	115	74%	84	0.01	0.01	9	$11	100%	50%	23%	12	1%	35%	88.0%	85.4%	84.0%	9.4
1082	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Education	TOS	per linear ft	115	74%	84	0.01	0.01	9	$11	100%	50%	23%	12	1%	35%	88.0%	85.4%	84.0%	9.4
1083	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Food Sales	TOS	per linear ft	115	74%	84	0.01	0.01	9	$11	100%	50%	23%	12	13%	35%	88.0%	85.4%	84.0%	9.4
1084	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Food Service	TOS	per linear ft	115	74%	84	0.01	0.01	9	$11	100%	50%	23%	12	4%	35%	88.0%	85.4%	84.0%	9.4
1085	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Health	TOS	per linear ft	115	74%	84	0.01	0.01	9	$11	100%	50%	23%	12	1%	35%	88.0%	85.4%	84.0%	9.4
1086	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Lodging	TOS	per linear ft	115	74%	84	0.01	0.01	9	$11	100%	50%	23%	12	1%	35%	88.0%	85.4%	84.0%	9.4
1087	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Retail	TOS	per linear ft	115	74%	84	0.01	0.01	9	$11	100%	50%	23%	12	11%	35%	88.0%	85.4%	84.0%	9.4
1088	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Office	TOS	per linear ft	115	74%	84	0.01	0.01	9	$11	100%	50%	23%	12	3%	35%	88.0%	85.4%	84.0%	9.4
1089	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Warehouse	TOS	per linear ft	115	74%	84	0.01	0.01	9	$11	100%	50%	23%	12	1%	35%	88.0%	85.4%	84.0%	9.4
1090	Refrigeration	LED Refrigerated Display Case Lighting Average 6W/LF	Biz - Prescriptive	Other	TOS	per linear ft	115	74%	84	0.01	0.01	9	$11	100%	50%	23%	12	7%	35%	88.0%	85.4%	84.0%	9.4
1091	Refrigeration	Solid/Glass ENERGY STAR Refrigerator	Biz - Prescriptive	Assembly	TOS	per unit	953	32%	301	0.03	0.03	12	$123	100%	49%	72%	13	71%	55%	88.0%	80.2%	83.5%	3.2
1092	Refrigeration	Solid/Glass ENERGY STAR Refrigerator	Biz - Prescriptive	Education	TOS	per unit	953	32%	301	0.03	0.03	12	$123	100%	49%	72%	13	47%	55%	88.0%	80.2%	83.5%	3.2
1093	Refrigeration	Solid/Glass ENERGY STAR Refrigerator	Biz - Prescriptive	Food Sales	TOS	per unit	953	32%	301	0.03	0.04	12	$123	100%	49%	72%	13	9%	55%	88.0%	80.2%	83.5%	3.2
1094	Refrigeration	Solid/Glass ENERGY STAR Refrigerator	Biz - Prescriptive	Food Service	TOS	per unit	953	32%	301	0.03	0.03	12	$123	100%	49%	72%	13	54%	55%	88.0%	80.2%	83.5%	3.2
1095	Refrigeration	Solid/Glass ENERGY STAR Refrigerator	Biz - Prescriptive	Health	TOS	per unit	953	32%	301	0.03	0.03	12	$123	100%	49%	72%	13	58%	55%	88.0%	80.2%	83.5%	3.2
1096	Refrigeration	Solid/Glass ENERGY STAR Refrigerator	Biz - Prescriptive	Lodging	TOS	per unit	953	32%	301	0.03	0.03	12	$123	100%	49%	72%	13	48%	55%	88.0%	80.2%	83.5%	3.2
1097	Refrigeration	Solid/Glass ENERGY STAR Refrigerator	Biz - Prescriptive	Retail	TOS	per unit	953	32%	301	0.03	0.03	12	$123	100%	49%	72%	13	21%	55%	88.0%	80.2%	83.5%	3.2
1098	Refrigeration	Solid/Glass ENERGY STAR Refrigerator	Biz - Prescriptive	Office	TOS	per unit	953	32%	301	0.03	0.03	12	$123	100%	49%	72%	13	14%	55%	88.0%	80.2%	83.5%	3.2
1099	Refrigeration	Solid/Glass ENERGY STAR Refrigerator	Biz - Prescriptive	Warehouse	TOS	per unit	953	32%	301	0.03	0.03	12	$123	100%	49%	72%	13	17%	55%	88.0%	80.2%	83.5%	3.2
1100	Refrigeration	Solid/Glass ENERGY STAR Refrigerator	Biz - Prescriptive	Other	TOS	per unit	953	32%	301	0.03	0.03	12	$123	100%	49%	72%	13	38%	55%	88.0%	80.2%	83.5%	3.2
1101	Refrigeration	Solid/Glass ENERGY STAR Freezer	Biz - Prescriptive	Assembly	TOS	per unit	2,654	20%	526	0.06	0.06	12	$57	100%	100%	10%	14	19%	2%	88.0%	88.0%	84.1%	3.4
1102	Refrigeration	Solid/Glass ENERGY STAR Freezer	Biz - Prescriptive	Education	TOS	per unit	2,654	20%	526	0.06	0.06	12	$57	100%	100%	10%	14	25%	2%	88.0%	88.0%	84.1%	3.4
1103	Refrigeration	Solid/Glass ENERGY STAR Freezer	Biz - Prescriptive	Food Sales	TOS	per unit	2,654	20%	526	0.06	0.06	12	$57	100%	100%	10%	14	4%	2%	88.0%	88.0%	84.1%	3.4
1104	Refrigeration	Solid/Glass ENERGY STAR Freezer	Biz - Prescriptive	Food Service	TOS	per unit	2,654	20%	526	0.06	0.06	12	$57	100%	100%	10%	14	13%	2%	88.0%	88.0%	84.1%	3.3
1105	Refrigeration	Solid/Glass ENERGY STAR Freezer	Biz - Prescriptive	Health	TOS	per unit	2,654	20%	526	0.06	0.06	12	$57	100%	100%	10%	14	17%	2%	88.0%	88.0%	84.1%	3.4
1106	Refrigeration	Solid/Glass ENERGY STAR Freezer	Biz - Prescriptive	Lodging	TOS	per unit	2,654	20%	526	0.06	0.06	12	$57	100%	100%	10%	14	24%	2%	88.0%	88.0%	84.1%	3.4
1107	Refrigeration	Solid/Glass ENERGY STAR Freezer	Biz - Prescriptive	Retail	TOS	per unit	2,654	20%	526	0.06	0.06	12	$57	100%	100%	10%	14	8%	2%	88.0%	88.0%	84.1%	3.4
1108	Refrigeration	Solid/Glass ENERGY STAR Freezer	Biz - Prescriptive	Office	TOS	per unit	2,654	20%	526	0.06	0.06	12	$57	100%	100%	10%	14	13%	2%	88.0%	88.0%	84.1%	3.4
1109	Refrigeration	Solid/Glass ENERGY STAR Freezer	Biz - Prescriptive	Warehouse	TOS	per unit	2,654	20%	526	0.06	0.06	12	$57	100%	100%	10%	14	14%	2%	88.0%	88.0%	84.1%	3.4
1110	Refrigeration	Solid/Glass ENERGY STAR Freezer	Biz - Prescriptive	Other	TOS	per unit	2,654	20%	526	0.06	0.06	12	$57	100%	100%	10%	14	13%	2%	88.0%	88.0%	84.1%	3.4
1111	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Assembly	TOS	per unit	5,551	8%	440	0.08	0.05	9	$222	100%	68%	47%	15	4%	5%	88.0%	81.8%	78.2%	1.9
1112	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Education	TOS	per unit	5,551	8%	440	0.08	0.05	9	$222	100%	68%	47%	15	3%	5%	88.0%	81.8%	78.2%	1.9
1113	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Food Sales	TOS	per unit	5,551	8%	440	0.08	0.05	9	$222	100%	68%	47%	15	0%	5%	88.0%	81.8%	78.2%	1.9
1114	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Food Service	TOS	per unit	5,551	8%	440	0.08	0.05	9	$222	100%	68%	47%	15	3%	5%	88.0%	81.8%	78.2%	1.9
1115	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Health	TOS	per unit	5,551	8%	440	0.08	0.05	9	$222	100%	68%	47%	15	3%	5%	88.0%	81.8%	78.2%	1.9
1116	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Lodging	TOS	per unit	5,551	8%	440	0.08	0.05	9	$222	100%	68%	47%	15	5%	5%	88.0%	81.8%	78.2%	1.9
1117	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Retail	TOS	per unit	5,551	8%	440	0.08	0.05	9	$222	100%	68%	47%	15	1%	5%	88.0%	81.8%	78.2%	1.9
1118	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Office	TOS	per unit	5,551	8%	440	0.08	0.05	9	$222	100%	68%	47%	15	5%	5%	88.0%	81.8%	78.2%	1.9
1119	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Warehouse	TOS	per unit	5,551	8%	440	0.08	0.05	9	$222	100%	68%	47%	15	28%	5%	88.0%	81.8%	78.2%	1.9
1120	Refrigeration	Commercial Ice Marker	Biz - Prescriptive	Other	TOS	per unit	5,551	8%	440	0.08	0.05	9	$222	100%	68%	47%	15	4%	5%	88.0%	81.8%	78.2%	1.9
1121	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Assembly	TOS	per unit	1,278	12%	153	0.00	0.02	14	$500	4%	4%	10%	16	2%	21%	34.9%	34.9%	34.9%	3.4
1122	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Education	TOS	per unit	1,278	12%	153	0.00	0.02	14	$500	4%	4%	10%	16	3%	21%	34.9%	34.9%	34.9%	3.4
1123	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Food Sales	TOS	per unit	1,278	12%	153	0.00	0.02	14	$500	4%	4%	10%	16	0%	21%	34.9%	34.9%	34.9%	3.4
1124	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Food Service	TOS	per unit	1,278	12%	153	0.00	0.02	14	$500	4%	4%	10%	16	0%	21%	34.9%	34.9%	34.9%	3.4
1125	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Health	TOS	per unit	1,278	12%	153	0.00	0.02	14	$500	4%	4%	10%	16	3%	21%	34.9%	34.9%	34.9%	3.4
1126	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Lodging	TOS	per unit	1,278	12%	153	0.00	0.02	14	$500	4%	4%	10%	16	5%	21%	34.9%	34.9%	34.9%	3.4
1127	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Retail	TOS	per unit	1,278	12%	153	0.00	0.02	14	$500	4%	4%	10%	16	4%	21%	34.9%	34.9%	34.9%	3.4
1128	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Office	TOS	per unit	1,278	12%	153	0.00	0.02	14	$500	4%	4%	10%	16	10%	21%	34.9%	34.9%	34.9%	3.4
1129	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Warehouse	TOS	per unit	1,278	12%	153	0.00	0.02	14	$500	4%	4%	10%	16	9%	21%	34.9%	34.9%	34.9%	3.4
1130	Refrigeration	ESTAR Refrigerated Vending Machine	Biz - Custom	Other	TOS	per unit	1,278	12%	153	0.00	0.02	14	$500	4%	4%	10%	16	5%	21%	34.9%	34.9%	34.9%	3.4
1131	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Assembly	RET	per unit	1,478	25%	370	0.00	0.04	5	$245	14%	14%	22%	16	2%	31%	55.9%	55.9%	58.3%	2.3
1132	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Education	RET	per unit	1,478	26%	381	0.00	0.04	5	$245	14%	14%	23%	16	3%	31%	56.6%	56.6%	59.4%	2.4
1133	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Food Sales	RET	per unit	1,478	20%	301	0.00	0.04	5	$245	14%	14%	18%	16	0%	31%	51.7%	49.9%	51.3%	1.9
1134	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Food Service	RET	per unit	1,478	21%	304	0.00	0.03	5	$245	14%	14%	18%	16	0%	31%	51.7%	50.2%	51.7%	1.9
1135	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Health	RET	per unit	1,478	16%	236	0.00	0.03	5	$245	14%	14%	14%	16	3%	31%	51.7%	44.8%	44.8%	1.5
1136	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Lodging	RET	per unit	1,478	19%	283	0.00	0.03	5	$245	14%	14%	17%	16	5%	31%	51.7%	47.9%	49.0%	1.8
1137	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Retail	RET	per unit	1,478	24%	347	0.00	0.04	5	$245	14%	14%	21%	16	4%	31%	54.2%	54.2%	56.3%	2.2

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
1138	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Office	RET	per unit	1,478	25%	374	0.00	0.04	5	$245	14%	14%	22%	16	10%	31%	56.2%	56.2%	58.6%	2.3
1139	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Warehouse	RET	per unit	1,478	26%	378	0.00	0.04	5	$245	14%	14%	23%	16	9%	31%	56.4%	56.4%	59.0%	2.3
1140	Refrigeration	Refrigerated Vending Machine Controls	Biz - Prescriptive	Other	RET	per unit	1,478	25%	370	0.00	0.04	5	$245	14%	14%	22%	16	5%	31%	55.9%	55.9%	58.3%	2.3
1141	Refrigeration	Refrigeration - Custom	Biz - Custom	Assembly	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	17	4%	25%	66.0%	58.8%	61.9%	4.4
1142	Refrigeration	Refrigeration - Custom	Biz - Custom	Education	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	17	22%	25%	66.0%	58.8%	61.9%	4.4
1143	Refrigeration	Refrigeration - Custom	Biz - Custom	Food Sales	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	17	81%	25%	66.0%	58.8%	61.9%	4.1
1144	Refrigeration	Refrigeration - Custom	Biz - Custom	Food Service	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	17	27%	25%	66.0%	58.8%	61.9%	4.4
1145	Refrigeration	Refrigeration - Custom	Biz - Custom	Health	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	17	19%	25%	66.0%	58.8%	61.9%	4.5
1146	Refrigeration	Refrigeration - Custom	Biz - Custom	Lodging	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	17	21%	25%	66.0%	58.8%	61.9%	4.3
1147	Refrigeration	Refrigeration - Custom	Biz - Custom	Retail	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	17	65%	25%	66.0%	58.8%	61.9%	4.4
1148	Refrigeration	Refrigeration - Custom	Biz - Custom	Office	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	17	67%	25%	66.0%	58.8%	61.9%	4.4
1149	Refrigeration	Refrigeration - Custom	Biz - Custom	Warehouse	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	17	63%	25%	66.0%	58.8%	61.9%	4.4
1150	Refrigeration	Refrigeration - Custom	Biz - Custom	Other	RET	per kWh	7	15%	1	0.00	0.00	10	$0	100%	35%	64%	17	43%	25%	66.0%	58.8%	61.9%	4.4
1151	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - Custom	Assembly	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	17	4%	15%	66.0%	63.6%	63.0%	2.5
1152	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - Custom	Education	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	17	22%	15%	66.0%	63.6%	63.0%	2.5
1153	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - Custom	Food Sales	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	17	81%	15%	66.0%	63.6%	63.0%	2.4
1154	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - Custom	Food Service	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	17	27%	15%	66.0%	63.6%	63.0%	2.5
1155	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - Custom	Health	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	17	19%	15%	66.0%	63.6%	63.0%	2.6
1156	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - Custom	Lodging	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	17	21%	15%	66.0%	63.6%	63.0%	2.5
1157	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - Custom	Retail	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	17	65%	15%	66.0%	63.6%	63.0%	2.5
1158	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - Custom	Office	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	17	67%	15%	66.0%	63.6%	63.0%	2.5
1159	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - Custom	Warehouse	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	17	63%	15%	66.0%	63.6%	63.0%	2.5
1160	Refrigeration	Retro-commissioning_Refrigerator Optimization	Biz - Custom	Other	RET	per kWh	5	21%	1	0.00	0.00	5	$0	100%	64%	55%	17	43%	15%	66.0%	63.6%	63.0%	2.5
1161	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Assembly	RET	per kVA	990	1%	6	0.00	0.00	30	$6	100%	12%	43%	2	100%	20%	66.0%	36.0%	39.1%	9.9
1162	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Education	RET	per kVA	990	1%	6	0.00	0.00	30	$6	100%	12%	43%	2	100%	20%	66.0%	36.0%	39.1%	11.4
1163	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Food Sales	RET	per kVA	990	1%	6	0.00	0.00	30	$6	100%	12%	43%	2	100%	20%	66.0%	36.0%	39.1%	9.8
1164	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Food Service	RET	per kVA	990	1%	6	0.00	0.00	30	$6	100%	12%	43%	2	100%	20%	66.0%	36.0%	39.1%	11.2
1165	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Health	RET	per kVA	990	1%	6	0.00	0.00	30	$6	100%	12%	43%	2	100%	20%	66.0%	36.0%	39.1%	9.8
1166	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Lodging	RET	per kVA	990	1%	6	0.00	0.00	30	$6	100%	12%	43%	2	100%	20%	66.0%	36.0%	39.1%	9.4
1167	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Retail	RET	per kVA	990	1%	6	0.00	0.00	30	$6	100%	12%	43%	2	100%	20%	66.0%	36.0%	39.1%	11.5
1168	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Office	RET	per kVA	990	1%	6	0.00	0.00	30	$6	100%	12%	43%	2	100%	20%	66.0%	36.0%	39.1%	9.6
1169	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Warehouse	RET	per kVA	990	1%	6	0.00	0.00	30	$6	100%	12%	43%	2	100%	20%	66.0%	36.0%	39.1%	9.7
1170	WholeBldg	Power Distribution Equipment Upgrades (Transformers)	Biz - Custom	Other	RET	per kVA	990	1%	6	0.00	0.00	30	$6	100%	12%	43%	2	100%	20%	66.0%	36.0%	39.1%	9.9
1171	WholeBldg	WholeBlg - Com RET	Biz - Custom	Assembly	RET	per kWh	7	15%	1	0.00	0.00	15	$0	100%	35%	75%	1	80%	0%	66.0%	58.8%	63.0%	6.3
1172	WholeBldg	WholeBlg - Com RET	Biz - Custom	Education	RET	per kWh	7	15%	1	0.00	0.00	15	$0	100%	35%	75%	1	80%	0%	66.0%	58.8%	63.0%	7.2
1173	WholeBldg	WholeBlg - Com RET	Biz - Custom	Food Sales	RET	per kWh	7	15%	1	0.00	0.00	15	$0	100%	35%	75%	1	80%	0%	66.0%	58.8%	63.0%	6.2
1174	WholeBldg	WholeBlg - Com RET	Biz - Custom	Food Service	RET	per kWh	7	15%	1	0.00	0.00	15	$0	100%	35%	75%	1	80%	0%	66.0%	58.8%	63.0%	7.1
1175	WholeBldg	WholeBlg - Com RET	Biz - Custom	Health	RET	per kWh	7	15%	1	0.00	0.00	15	$0	100%	35%	75%	1	80%	0%	66.0%	58.8%	63.0%	6.2
1176	WholeBldg	WholeBlg - Com RET	Biz - Custom	Lodging	RET	per kWh	7	15%	1	0.00	0.00	15	$0	100%	35%	75%	1	80%	0%	66.0%	58.8%	63.0%	6.0
1177	WholeBldg	WholeBlg - Com RET	Biz - Custom	Retail	RET	per kWh	7	15%	1	0.00	0.00	15	$0	100%	35%	75%	1	80%	0%	66.0%	58.8%	63.0%	7.3
1178	WholeBldg	WholeBlg - Com RET	Biz - Custom	Office	RET	per kWh	7	15%	1	0.00	0.00	15	$0	100%	35%	75%	1	80%	0%	66.0%	58.8%	63.0%	6.1
1179	WholeBldg	WholeBlg - Com RET	Biz - Custom	Warehouse	RET	per kWh	7	15%	1	0.00	0.00	15	$0	100%	35%	75%	1	80%	0%	66.0%	58.8%	63.0%	6.1
1180	WholeBldg	WholeBlg - Com RET	Biz - Custom	Other	RET	per kWh	7	15%	1	0.00	0.00	15	$0	100%	35%	75%	1	80%	0%	66.0%	58.8%	63.0%	6.2
1181	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Assembly	NEW	per kWh	4	25%	1	0.00	0.00	15	$0	100%	35%	75%	1	100%	60%	72.0%	68.0%	68.0%	6.3
1182	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Education	NEW	per kWh	4	25%	1	0.00	0.00	15	$0	100%	35%	75%	1	100%	60%	72.0%	68.0%	68.0%	7.2
1183	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Food Sales	NEW	per kWh	4	25%	1	0.00	0.00	15	$0	100%	35%	75%	1	100%	60%	72.0%	68.0%	68.0%	6.2
1184	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Food Service	NEW	per kWh	4	25%	1	0.00	0.00	15	$0	100%	35%	75%	1	100%	60%	72.0%	68.0%	68.0%	7.1
1185	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Health	NEW	per kWh	4	25%	1	0.00	0.00	15	$0	100%	35%	75%	1	100%	60%	72.0%	68.0%	68.0%	6.2
1186	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Lodging	NEW	per kWh	4	25%	1	0.00	0.00	15	$0	100%	35%	75%	1	100%	60%	72.0%	68.0%	68.0%	6.0
1187	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Retail	NEW	per kWh	4	25%	1	0.00	0.00	15	$0	100%	35%	75%	1	100%	60%	72.0%	68.0%	68.0%	7.3
1188	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Office	NEW	per kWh	4	25%	1	0.00	0.00	15	$0	100%	35%	75%	1	100%	60%	72.0%	68.0%	68.0%	6.1
1189	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Warehouse	NEW	per kWh	4	25%	1	0.00	0.00	15	$0	100%	35%	75%	1	100%	60%	72.0%	68.0%	68.0%	6.1
1190	WholeBldg_NC	WholeBlg - Com NC	Biz - Custom	Other	NEW	per kWh	4	25%	1	0.00	0.00	15	$0	100%	35%	75%	1	100%	60%	72.0%	68.0%	68.0%	6.2
1191	WholeBldg	COM Competitions	Biz - Custom	Assembly	RET	per kWh	0	0%	1	0.00	0.00	2	$0	100%	100%	10%	3	100%	0%	66.0%	66.0%	64.9%	4.1
1192	WholeBldg	COM Competitions	Biz - Custom	Education	RET	per kWh	0	0%	1	0.00	0.00	2	$0	100%	100%	10%	3	100%	0%	66.0%	66.0%	64.9%	4.7
1193	WholeBldg	COM Competitions	Biz - Custom	Food Sales	RET	per kWh	0	0%	1	0.00	0.00	2	$0	100%	100%	10%	3	100%	0%	66.0%	66.0%	64.9%	4.1
1194	WholeBldg	COM Competitions	Biz - Custom	Food Service	RET	per kWh	53	2%	1	0.00	0.00	2	$0	100%	100%	10%	3	100%	0%	66.0%	66.0%	64.9%	4.6
1195	WholeBldg	COM Competitions	Biz - Custom	Health	RET	per kWh	0	0%	1	0.00	0.00	2	$0	100%	100%	10%	3	100%	0%	66.0%	66.0%	64.9%	4.1
1196	WholeBldg	COM Competitions	Biz - Custom	Lodging	RET	per kWh	53	2%	1	0.00	0.00	2	$0	100%	100%	10%	3	100%	0%	66.0%	66.0%	64.9%	4.0
1197	WholeBldg	COM Competitions	Biz - Custom	Retail	RET	per kWh	53	2%	1	0.00	0.00	2	$0	100%	100%	10%	3	100%	0%	66.0%	66.0%	64.9%	4.7
1198	WholeBldg	COM Competitions	Biz - Custom	Office	RET	per kWh	53	2%	1	0.00	0.00	2	$0	100%	100%	10%	3	100%	0%	66.0%	66.0%	64.9%	4.0
1199	WholeBldg	COM Competitions	Biz - Custom	Warehouse	RET	per kWh	0	0%	1	0.00	0.00	2	$0	100%	100%	10%	3	100%	0%	66.0%	66.0%	64.9%	4.0
1200	WholeBldg	COM Competitions	Biz - Custom	Other	RET	per kWh	0	0%	1	0.00	0.00	2	$0	100%	100%	10%	3	100%	0%	66.0%	66.0%	64.9%	4.1
1201	WholeBldg	Business Energy Reports	Biz - Custom	Assembly	RET	per kWh	0	0%	1	0.00	0.00	2	$0	75%	70%	32%	3	100%	0%	64.5%	64.2%	62.1%	1.2
1202	WholeBldg	Business Energy Reports	Biz - Custom	Education	RET	per kWh	0	0%	1	0.00	0.00	2	$0	75%	70%	32%	3	100%	0%	64.5%	64.2%	62.1%	1.3
1203	WholeBldg	Business Energy Reports	Biz - Custom	Food Sales	RET	per kWh	0	0%	1	0.00	0.00	2	$0	75%	70%	32%	3	100%	0%	64.5%	64.2%	62.1%	1.2
1204	WholeBldg	Business Energy Reports	Biz - Custom	Food Service	RET	per kWh	0	0%	1	0.00	0.00	2	$0	75%	70%	32%	3	100%	0%	64.5%	64.2%	62.1%	1.3
1205	WholeBldg	Business Energy Reports	Biz - Custom	Health	RET	per kWh	0	0%	1	0.00	0.00	2	$0	75%	70%	32%	3	100%	0%	64.5%	64.2%	62.1%	1.2
1206	WholeBldg	Business Energy Reports	Biz - Custom	Lodging	RET	per kWh	313	0%	1	0.00	0.00	2	$0	75%	70%	32%	3	100%	0%	64.5%	64.2%	62.1%	1.1
1207	WholeBldg	Business Energy Reports	Biz - Custom	Retail	RET	per kWh	313	0%	1	0.00	0.00	2	$0	75%	70%	32%	3	100%	0%	64.5%	64.2%	62.1%	1.4
1208	WholeBldg	Business Energy Reports	Biz - Custom	Office	RET	per kWh	0	0%	1	0.00	0.00	2	$0	75%	70%	32%	3	100%	0%	64.5%	64.2%	62.1%	1.2

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
1209	WholeBldg	Business Energy Reports	Biz - Custom	Warehouse	RET	per kWh	0	0%	1	0.00	0.00	2	$0	75%	70%	32%	3	100%	0%	64.5%	64.2%	62.1%	1.2
1210	WholeBldg	Business Energy Reports	Biz - Custom	Other	RET	per kWh	313	0%	1	0.00	0.00	2	$0	75%	70%	32%	3	100%	0%	64.5%	64.2%	62.1%	1.2
1211	WholeBldg	Building Benchmarking	Biz - Custom	Assembly	RET	per kWh	0	0%	1	0.00	0.00	2	$0	75%	64%	29%	3	100%	0%	64.4%	63.6%	61.5%	1.2
1212	WholeBldg	Building Benchmarking	Biz - Custom	Education	RET	per kWh	83	1%	1	0.00	0.00	2	$0	75%	64%	29%	3	100%	0%	64.4%	63.6%	61.5%	1.3
1213	WholeBldg	Building Benchmarking	Biz - Custom	Food Sales	RET	per kWh	0	0%	1	0.00	0.00	2	$0	64%	64%	29%	3	100%	0%	63.6%	63.6%	61.5%	1.2
1214	WholeBldg	Building Benchmarking	Biz - Custom	Food Service	RET	per kWh	0	0%	1	0.00	0.00	2	$0	75%	64%	29%	3	100%	0%	64.4%	63.6%	61.5%	1.3
1215	WholeBldg	Building Benchmarking	Biz - Custom	Health	RET	per kWh	114	1%	1	0.00	0.00	2	$0	64%	64%	29%	3	100%	0%	63.6%	63.6%	61.5%	1.2
1216	WholeBldg	Building Benchmarking	Biz - Custom	Lodging	RET	per kWh	263	0%	1	0.00	0.00	2	$0	64%	64%	29%	3	100%	0%	63.6%	63.6%	61.5%	1.1
1217	WholeBldg	Building Benchmarking	Biz - Custom	Retail	RET	per kWh	97	1%	1	0.00	0.00	2	$0	75%	64%	29%	3	100%	0%	64.4%	63.6%	61.5%	1.4
1218	WholeBldg	Building Benchmarking	Biz - Custom	Office	RET	per kWh	114	1%	1	0.00	0.00	2	$0	64%	64%	29%	3	100%	0%	63.6%	63.6%	61.5%	1.2
1219	WholeBldg	Building Benchmarking	Biz - Custom	Warehouse	RET	per kWh	0	0%	1	0.00	0.00	2	$0	64%	64%	29%	3	100%	0%	63.6%	63.6%	61.5%	1.2
1220	WholeBldg	Building Benchmarking	Biz - Custom	Other	RET	per kWh	0	0%	1	0.00	0.00	2	$0	64%	64%	29%	3	100%	0%	63.6%	63.6%	61.5%	1.2
1221	WholeBldg	Strategic Energy Management	Biz - Custom	Assembly	RET	per kWh	0	0%	1	0.00	0.00	5	$0	100%	52%	55%	3	100%	0%	66.0%	62.2%	62.4%	2.6
1222	WholeBldg	Strategic Energy Management	Biz - Custom	Education	RET	per kWh	33	3%	1	0.00	0.00	5	$0	100%	52%	55%	3	100%	0%	66.0%	62.2%	62.4%	3.0
1223	WholeBldg	Strategic Energy Management	Biz - Custom	Food Sales	RET	per kWh	0	0%	1	0.00	0.00	5	$0	100%	52%	55%	3	100%	0%	66.0%	62.2%	62.4%	2.6
1224	WholeBldg	Strategic Energy Management	Biz - Custom	Food Service	RET	per kWh	0	0%	1	0.00	0.00	5	$0	100%	52%	55%	3	100%	0%	66.0%	62.2%	62.4%	3.0
1225	WholeBldg	Strategic Energy Management	Biz - Custom	Health	RET	per kWh	33	3%	1	0.00	0.00	5	$0	100%	52%	55%	3	100%	0%	66.0%	62.2%	62.4%	2.6
1226	WholeBldg	Strategic Energy Management	Biz - Custom	Lodging	RET	per kWh	0	0%	1	0.00	0.00	5	$0	100%	52%	55%	3	100%	0%	66.0%	62.2%	62.4%	2.5
1227	WholeBldg	Strategic Energy Management	Biz - Custom	Retail	RET	per kWh	0	0%	1	0.00	0.00	5	$0	100%	52%	55%	3	100%	0%	66.0%	62.2%	62.4%	3.0
1228	WholeBldg	Strategic Energy Management	Biz - Custom	Office	RET	per kWh	33	3%	1	0.00	0.00	5	$0	100%	52%	55%	3	100%	0%	66.0%	62.2%	62.4%	2.6
1229	WholeBldg	Strategic Energy Management	Biz - Custom	Warehouse	RET	per kWh	0	0%	1	0.00	0.00	5	$0	100%	52%	55%	3	100%	0%	66.0%	62.2%	62.4%	2.6
1230	WholeBldg	Strategic Energy Management	Biz - Custom	Other	RET	per kWh	0	0%	1	0.00	0.00	5	$0	100%	52%	55%	3	100%	0%	66.0%	62.2%	62.4%	2.6
1231	WholeBldg	BEIMS	Biz - Custom	Assembly	RET	per kWh	0	0%	1	0.00	0.00	2	$0	32%	32%	15%	3	100%	2%	44.3%	44.3%	52.6%	1.2
1232	WholeBldg	BEIMS	Biz - Custom	Education	RET	per kWh	43	2%	1	0.00	0.00	2	$0	32%	32%	15%	3	100%	2%	44.3%	44.3%	52.6%	1.3
1233	WholeBldg	BEIMS	Biz - Custom	Food Sales	RET	per kWh	20	5%	1	0.00	0.00	2	$0	32%	32%	15%	3	100%	2%	44.3%	44.3%	52.6%	1.2
1234	WholeBldg	BEIMS	Biz - Custom	Food Service	RET	per kWh	20	5%	1	0.00	0.00	2	$0	32%	32%	15%	3	100%	2%	44.3%	44.3%	52.6%	1.3
1235	WholeBldg	BEIMS	Biz - Custom	Health	RET	per kWh	50	2%	1	0.00	0.00	2	$0	32%	32%	15%	3	100%	2%	44.3%	44.3%	52.6%	1.2
1236	WholeBldg	BEIMS	Biz - Custom	Lodging	RET	per kWh	20	5%	1	0.00	0.00	2	$0	32%	32%	15%	3	100%	2%	44.3%	44.3%	52.6%	1.1
1237	WholeBldg	BEIMS	Biz - Custom	Retail	RET	per kWh	20	5%	1	0.00	0.00	2	$0	32%	32%	15%	3	100%	2%	44.3%	44.3%	52.6%	1.4
1238	WholeBldg	BEIMS	Biz - Custom	Office	RET	per kWh	29	4%	1	0.00	0.00	2	$0	32%	32%	15%	3	100%	2%	44.3%	44.3%	52.6%	1.2
1239	WholeBldg	BEIMS	Biz - Custom	Warehouse	RET	per kWh	0	0%	1	0.00	0.00	2	$0	32%	32%	15%	3	100%	2%	44.3%	44.3%	52.6%	1.2
1240	WholeBldg	BEIMS	Biz - Custom	Other	RET	per kWh	50	2%	1	0.00	0.00	2	$0	32%	32%	15%	3	100%	2%	44.3%	44.3%	52.6%	1.2
1241	WholeBldg	Building Operator Certification	Biz - Custom	Assembly	RET	per 1000 sq ft	0	0%	1	0.00	0.00	3	$0	75%	48%	32%	3	100%	2%	63.8%	61.7%	60.5%	1.7
1242	WholeBldg	Building Operator Certification	Biz - Custom	Education	RET	per 1000 sq ft	17,825	0%	45	0.01	0.00	3	$0	100%	100%	10%	3	100%	2%	66.0%	66.0%	65.8%	41.5
1243	WholeBldg	Building Operator Certification	Biz - Custom	Food Sales	RET	per 1000 sq ft	60,523	0%	151	0.02	0.02	3	$0	100%	100%	10%	3	100%	2%	66.0%	66.0%	65.9%	122.2
1244	WholeBldg	Building Operator Certification	Biz - Custom	Food Service	RET	per 1000 sq ft	49,444	0%	124	0.03	0.01	3	$0	100%	100%	10%	3	100%	2%	66.0%	66.0%	65.9%	113.3
1245	WholeBldg	Building Operator Certification	Biz - Custom	Health	RET	per 1000 sq ft	27,632	0%	69	0.01	0.01	3	$0	100%	100%	10%	3	100%	2%	66.0%	66.0%	65.9%	55.6
1246	WholeBldg	Building Operator Certification	Biz - Custom	Lodging	RET	per 1000 sq ft	14,600	0%	37	0.01	0.00	3	$0	100%	100%	10%	3	100%	2%	66.0%	66.0%	65.8%	28.5
1247	WholeBldg	Building Operator Certification	Biz - Custom	Retail	RET	per 1000 sq ft	18,200	0%	46	0.01	0.01	3	$0	100%	100%	10%	3	100%	2%	66.0%	66.0%	65.8%	42.7
1248	WholeBldg	Building Operator Certification	Biz - Custom	Office	RET	per 1000 sq ft	20,140	0%	50	0.01	0.01	3	$0	100%	100%	10%	3	100%	2%	66.0%	66.0%	65.8%	40.1
1249	WholeBldg	Building Operator Certification	Biz - Custom	Warehouse	RET	per 1000 sq ft	7,272	0%	18	0.00	0.00	3	$0	100%	100%	10%	3	100%	2%	66.0%	66.0%	65.6%	14.5
1250	WholeBldg	Building Operator Certification	Biz - Custom	Other	RET	per 1000 sq ft	13,644	0%	34	0.01	0.00	3	$0	100%	100%	10%	3	100%	2%	66.0%	66.0%	65.8%	27.8
1251	Cooking	Advanced Cooking	Biz - Custom	Assembly	RET	per kWh	250	0%	1	0.00	0.00	12	$14	1%	1%	10%	7	100%	2%	19.6%	19.6%	19.6%	6.5
1252	Cooking	Advanced Cooking	Biz - Custom	Education	RET	per kWh	250	0%	1	0.00	0.00	12	$14	1%	1%	10%	7	100%	2%	19.6%	19.6%	19.6%	3.1
1253	Cooking	Advanced Cooking	Biz - Custom	Food Sales	RET	per kWh	250	0%	1	0.00	0.00	12	$14	1%	1%	10%	7	100%	2%	19.6%	19.6%	19.6%	5.9
1254	Cooking	Advanced Cooking	Biz - Custom	Food Service	RET	per kWh	250	0%	1	0.00	0.00	12	$14	1%	1%	10%	7	100%	2%	19.6%	19.6%	19.6%	5.1
1255	Cooking	Advanced Cooking	Biz - Custom	Health	RET	per kWh	250	0%	1	0.00	0.00	12	$14	1%	1%	10%	7	100%	2%	19.6%	19.6%	19.6%	7.3
1256	Cooking	Advanced Cooking	Biz - Custom	Lodging	RET	per kWh	250	0%	1	0.00	0.00	12	$14	1%	1%	10%	7	100%	2%	19.6%	19.6%	19.6%	7.5
1257	Cooking	Advanced Cooking	Biz - Custom	Retail	RET	per kWh	250	0%	1	0.00	0.00	12	$14	1%	1%	10%	7	100%	2%	19.6%	19.6%	19.6%	6.5
1258	Cooking	Advanced Cooking	Biz - Custom	Office	RET	per kWh	250	0%	1	0.00	0.00	12	$14	1%	1%	10%	7	100%	2%	19.6%	19.6%	19.6%	6.5
1259	Cooking	Advanced Cooking	Biz - Custom	Warehouse	RET	per kWh	250	0%	1	0.00	0.00	12	$14	1%	1%	10%	7	100%	2%	19.6%	19.6%	19.6%	6.5
1260	Cooking	Advanced Cooking	Biz - Custom	Other	RET	per kWh	250	0%	1	0.00	0.00	12	$14	1%	1%	10%	7	100%	2%	19.6%	19.6%	19.6%	5.7
1261	Lighting_Int	Advanced Lighting	Biz - Custom	Assembly	RET	per kWh	2	42%	1	0.00	0.00	15	$2	6%	6%	15%	8	100%	2%	19.6%	19.6%	19.6%	5.7
1262	Lighting_Int	Advanced Lighting	Biz - Custom	Education	RET	per kWh	2	42%	1	0.00	0.00	15	$2	6%	6%	15%	8	100%	2%	19.6%	19.6%	19.6%	5.1
1263	Lighting_Int	Advanced Lighting	Biz - Custom	Food Sales	RET	per kWh	2	42%	1	0.00	0.00	15	$2	6%	6%	15%	8	100%	2%	19.6%	19.6%	19.6%	5.6
1264	Lighting_Int	Advanced Lighting	Biz - Custom	Food Service	RET	per kWh	2	42%	1	0.00	0.00	15	$2	6%	6%	15%	8	100%	2%	19.6%	19.6%	19.6%	6.2
1265	Lighting_Int	Advanced Lighting	Biz - Custom	Health	RET	per kWh	2	42%	1	0.00	0.00	15	$2	6%	6%	15%	8	100%	2%	19.6%	19.6%	19.6%	5.6
1266	Lighting_Int	Advanced Lighting	Biz - Custom	Lodging	RET	per kWh	2	42%	1	0.00	0.00	15	$2	6%	6%	15%	8	100%	2%	19.6%	19.6%	19.6%	5.0
1267	Lighting_Int	Advanced Lighting	Biz - Custom	Retail	RET	per kWh	2	42%	1	0.00	0.00	15	$2	6%	6%	15%	8	100%	2%	19.6%	19.6%	19.6%	6.5
1268	Lighting_Int	Advanced Lighting	Biz - Custom	Office	RET	per kWh	2	42%	1	0.00	0.00	15	$2	6%	6%	15%	8	100%	2%	19.6%	19.6%	19.6%	5.3
1269	Lighting_Int	Advanced Lighting	Biz - Custom	Warehouse	RET	per kWh	2	42%	1	0.00	0.00	15	$2	6%	6%	15%	8	100%	2%	19.6%	19.6%	19.6%	6.0
1270	Lighting_Int	Advanced Lighting	Biz - Custom	Other	RET	per kWh	2	42%	1	0.00	0.00	15	$2	6%	6%	15%	8	100%	2%	19.6%	19.6%	19.6%	5.6
1271	Plug_Office	Advanced IT	Biz - Custom	Assembly	RET	per kWh	5	20%	1	0.00	0.00	4	$0	100%	100%	10%	8	31%	2%	66.0%	66.0%	63.8%	3.6
1272	Plug_Office	Advanced IT	Biz - Custom	Education	RET	per kWh	5	20%	1	0.00	0.00	4	$0	100%	100%	10%	8	39%	2%	66.0%	66.0%	63.8%	3.1
1273	Plug_Office	Advanced IT	Biz - Custom	Food Sales	RET	per kWh	5	20%	1	0.00	0.00	4	$0	100%	100%	10%	8	35%	2%	66.0%	66.0%	63.8%	4.2
1274	Plug_Office	Advanced IT	Biz - Custom	Food Service	RET	per kWh	5	20%	1	0.00	0.00	4	$0	100%	100%	10%	8	20%	2%	66.0%	66.0%	63.8%	4.2
1275	Plug_Office	Advanced IT	Biz - Custom	Health	RET	per kWh	5	20%	1	0.00	0.00	4	$0	100%	100%	10%	8	26%	2%	66.0%	66.0%	63.8%	3.4
1276	Plug_Office	Advanced IT	Biz - Custom	Lodging	RET	per kWh	5	20%	1	0.00	0.00	4	$0	100%	100%	10%	8	9%	2%	66.0%	66.0%	63.8%	3.3
1277	Plug_Office	Advanced IT	Biz - Custom	Retail	RET	per kWh	5	20%	1	0.00	0.00	4	$0	100%	100%	10%	8	34%	2%	66.0%	66.0%	63.8%	3.8
1278	Plug_Office	Advanced IT	Biz - Custom	Office	RET	per kWh	5	20%	1	0.00	0.00	4	$0	100%	100%	10%	8	43%	2%	66.0%	66.0%	63.8%	3.3
1279	Plug_Office	Advanced IT	Biz - Custom	Warehouse	RET	per kWh	5	20%	1	0.00	0.00	4	$0	100%	100%	10%	8	42%	2%	66.0%	66.0%	63.8%	3.6

Appendix C: C&I Measure Assumptions

Measure #	End-Use	Measure Name	Program	Building Type	Replacement Type (TOS=Time of Sale)	Unit	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer kW	Per Unit Winter kW	EE EUL	Measure Cost	MAP Incentive (%)	RAP Incentive (%)	PP Incentive (%)	End Use Measure Group	Base Saturation	EE Saturation	MAP Adoption Rate	RAP Adoption Rate	PP Adoption Rate	UCT Score
1280	Plug_Office	Advanced IT	Biz - Custom	Other	RET	per kWh	5	20%	1	0.00	0.00	4	$0	100%	100%	10%	8	28%	2%	66.0%	66.0%	63.8%	3.6
1281	Ventilation	Advanced Motors	Biz - Custom	Assembly	RET	per kWh	8	12%	1	0.00	0.00	15	$0	100%	56%	60%	4	100%	2%	66.0%	62.7%	63.0%	6.1
1282	Ventilation	Advanced Motors	Biz - Custom	Education	RET	per kWh	8	12%	1	0.00	0.00	15	$0	100%	56%	60%	4	100%	2%	66.0%	62.7%	63.0%	7.3
1283	Ventilation	Advanced Motors	Biz - Custom	Food Sales	RET	per kWh	8	12%	1	0.00	0.00	15	$0	100%	56%	60%	4	100%	2%	66.0%	62.7%	63.0%	3.6
1284	Ventilation	Advanced Motors	Biz - Custom	Food Service	RET	per kWh	8	12%	1	0.00	0.00	15	$0	100%	56%	60%	4	100%	2%	66.0%	62.7%	63.0%	7.2
1285	Ventilation	Advanced Motors	Biz - Custom	Health	RET	per kWh	8	12%	1	0.00	0.00	15	$0	100%	56%	60%	4	100%	2%	66.0%	62.7%	63.0%	6.9
1286	Ventilation	Advanced Motors	Biz - Custom	Lodging	RET	per kWh	8	12%	1	0.00	0.00	15	$0	100%	56%	60%	4	100%	2%	66.0%	62.7%	63.0%	5.6
1287	Ventilation	Advanced Motors	Biz - Custom	Retail	RET	per kWh	8	12%	1	0.00	0.00	15	$0	100%	56%	60%	4	100%	2%	66.0%	62.7%	63.0%	4.1
1288	Ventilation	Advanced Motors	Biz - Custom	Office	RET	per kWh	8	12%	1	0.00	0.00	15	$0	100%	56%	60%	4	100%	2%	66.0%	62.7%	63.0%	6.4
1289	Ventilation	Advanced Motors	Biz - Custom	Warehouse	RET	per kWh	8	12%	1	0.00	0.00	15	$0	100%	56%	60%	4	100%	2%	66.0%	62.7%	63.0%	6.5
1290	Ventilation	Advanced Motors	Biz - Custom	Other	RET	per kWh	8	12%	1	0.00	0.00	15	$0	100%	56%	60%	4	100%	2%	66.0%	62.7%	63.0%	6.1
1291	Refrigeration	Advanced Refrigeration	Biz - Custom	Assembly	RET	per kWh	8	13%	1	0.00	0.00	20	$34	0%	0%	10%	18	4%	2%	19.6%	19.6%	19.6%	7.4
1292	Refrigeration	Advanced Refrigeration	Biz - Custom	Education	RET	per kWh	8	13%	1	0.00	0.00	20	$34	0%	0%	10%	18	22%	2%	19.6%	19.6%	19.6%	7.4
1293	Refrigeration	Advanced Refrigeration	Biz - Custom	Food Sales	RET	per kWh	8	13%	1	0.00	0.00	20	$34	0%	0%	10%	18	81%	2%	19.6%	19.6%	19.6%	6.9
1294	Refrigeration	Advanced Refrigeration	Biz - Custom	Food Service	RET	per kWh	8	13%	1	0.00	0.00	20	$34	0%	0%	10%	18	27%	2%	19.6%	19.6%	19.6%	7.4
1295	Refrigeration	Advanced Refrigeration	Biz - Custom	Health	RET	per kWh	8	13%	1	0.00	0.00	20	$34	0%	0%	10%	18	19%	2%	19.6%	19.6%	19.6%	7.6
1296	Refrigeration	Advanced Refrigeration	Biz - Custom	Lodging	RET	per kWh	8	13%	1	0.00	0.00	20	$34	0%	0%	10%	18	21%	2%	19.6%	19.6%	19.6%	7.3
1297	Refrigeration	Advanced Refrigeration	Biz - Custom	Retail	RET	per kWh	8	13%	1	0.00	0.00	20	$34	0%	0%	10%	18	65%	2%	19.6%	19.6%	19.6%	7.4
1298	Refrigeration	Advanced Refrigeration	Biz - Custom	Office	RET	per kWh	8	13%	1	0.00	0.00	20	$34	0%	0%	10%	18	67%	2%	19.6%	19.6%	19.6%	7.4
1299	Refrigeration	Advanced Refrigeration	Biz - Custom	Warehouse	RET	per kWh	8	13%	1	0.00	0.00	20	$34	0%	0%	10%	18	63%	2%	19.6%	19.6%	19.6%	7.4
1300	Refrigeration	Advanced Refrigeration	Biz - Custom	Other	RET	per kWh	8	13%	1	0.00	0.00	20	$34	0%	0%	10%	18	43%	2%	19.6%	19.6%	19.6%	7.4
1301	WholeBldg_HVAC	Advanced HVAC	Biz - Custom	Assembly	RET	per kWh	8	12%	1	0.00	0.00	15	$1	100%	28%	68%	7	100%	2%	66.0%	53.7%	61.4%	6.3
1302	WholeBldg_HVAC	Advanced HVAC	Biz - Custom	Education	RET	per kWh	8	12%	1	0.00	0.00	15	$1	100%	28%	68%	7	100%	2%	66.0%	53.7%	61.4%	7.2
1303	WholeBldg_HVAC	Advanced HVAC	Biz - Custom	Food Sales	RET	per kWh	8	12%	1	0.00	0.00	15	$1	100%	28%	68%	7	100%	2%	66.0%	53.7%	61.4%	6.2
1304	WholeBldg_HVAC	Advanced HVAC	Biz - Custom	Food Service	RET	per kWh	8	12%	1	0.00	0.00	15	$1	100%	28%	68%	7	100%	2%	66.0%	53.7%	61.4%	7.1
1305	WholeBldg_HVAC	Advanced HVAC	Biz - Custom	Health	RET	per kWh	8	12%	1	0.00	0.00	15	$1	100%	28%	68%	7	100%	2%	66.0%	53.7%	61.4%	6.2
1306	WholeBldg_HVAC	Advanced HVAC	Biz - Custom	Lodging	RET	per kWh	8	12%	1	0.00	0.00	15	$1	100%	28%	68%	7	100%	2%	66.0%	53.7%	61.4%	6.0
1307	WholeBldg_HVAC	Advanced HVAC	Biz - Custom	Retail	RET	per kWh	8	12%	1	0.00	0.00	15	$1	100%	28%	68%	7	100%	2%	66.0%	53.7%	61.4%	7.3
1308	WholeBldg_HVAC	Advanced HVAC	Biz - Custom	Office	RET	per kWh	8	12%	1	0.00	0.00	15	$1	100%	28%	68%	7	100%	2%	66.0%	53.7%	61.4%	6.1
1309	WholeBldg_HVAC	Advanced HVAC	Biz - Custom	Warehouse	RET	per kWh	8	12%	1	0.00	0.00	15	$1	100%	28%	68%	7	100%	2%	66.0%	53.7%	61.4%	6.1
1310	WholeBldg_HVAC	Advanced HVAC	Biz - Custom	Other	RET	per kWh	8	12%	1	0.00	0.00	15	$1	100%	28%	68%	7	100%	2%	66.0%	53.7%	61.4%	6.2
1311	Compressed Air	Efficient Air Compressor Equipment	Biz - Custom	Industrial	TOS	per kWh	9	11%	1	0.00	0.00	13	$0	100%	34%	76%	1	100%	25%	66.0%	58.6%	63.0%	5.6
1312	Compressed Air	Efficient Air Compressor Controls	Biz - Custom	Industrial	RET	per kWh	15	7%	1	0.00	0.00	3	$0	100%	100%	43%	2	100%	25%	66.0%	66.0%	63.9%	1.9
1313	HVAC	Efficient HVAC Equipment	Biz - Custom	Industrial	TOS	per kWh	8	13%	1	0.00	0.00	15	$0	100%	72%	64%	1	100%	25%	66.0%	64.4%	63.9%	5.6
1314	HVAC	Efficient HVAC O&M	Biz - Custom	Industrial	RET	per kWh	33	3%	1	0.00	0.00	3	$0	100%	100%	26%	2	100%	25%	66.0%	66.0%	63.9%	2.2
1315	Lighting_Int	Efficient Lighting Equipment	Biz - Prescriptive	Industrial	RET	per kWh	2	42%	1	0.00	0.00	15	$0	100%	81%	60%	1	100%	65%	88.0%	86.7%	85.2%	6.2
1316	Lighting_Int	Efficient Lighting O&M	Biz - Prescriptive	Industrial	RET	per kWh	33	3%	1	0.00	0.00	3	$0	100%	100%	10%	2	100%	30%	88.0%	88.0%	85.5%	3.4
1317	Motors	Efficient MachDr Equipment	Biz - Custom	Industrial	TOS	per kWh	8	12%	1	0.00	0.00	15	$0	100%	82%	59%	1	100%	25%	66.0%	65.1%	63.9%	3.6
1318	Motors	Efficient MachDr O&M	Biz - Custom	Industrial	RET	per kWh	33	3%	1	0.00	0.00	3	$0	100%	100%	27%	2	100%	25%	66.0%	66.0%	63.9%	1.5
1319	Process Heat	Efficient ProcHeat Equipment	Biz - Custom	Industrial	TOS	per kWh	33	3%	1	0.00	0.00	15	$0	100%	81%	60%	1	100%	25%	66.0%	65.0%	63.9%	6.3
1320	Process Heat	Efficient ProcHeat O&M	Biz - Custom	Industrial	RET	per kWh	33	3%	1	0.00	0.00	3	$0	100%	100%	10%	2	100%	25%	66.0%	66.0%	63.9%	3.1
1321	Process Refrig	Efficient ProcRefrig Equipment	Biz - Custom	Industrial	TOS	per kWh	6	16%	1	0.00	0.00	15	$0	100%	79%	61%	1	100%	25%	66.0%	64.9%	63.9%	5.7
1322	Process Refrig	Efficient ProcRefrig O&M	Biz - Custom	Industrial	RET	per kWh	33	3%	1	0.00	0.00	3	$0	100%	100%	34%	2	100%	25%	66.0%	66.0%	63.9%	2.1
1323	Process Other	Other Process Equip	Biz - Custom	Industrial	TOS	per kWh	4	26%	1	0.00	0.00	11	$0	100%	40%	79%	1	100%	25%	66.0%	60.2%	63.8%	5.3
1324	Process Other	Other Process O&M	Biz - Custom	Industrial	RET	per kWh	14	7%	1	0.00	0.00	11	$0	100%	46%	77%	2	100%	25%	66.0%	61.3%	63.9%	5.3
1325	WholeBldg	Power Distribution (Transformers)	Biz - Custom	Industrial	RET	per kWh	179	1%	1	0.00	0.00	30	$1	100%	12%	41%	1	100%	25%	66.0%	40.0%	40.0%	10.7
1326	WholeBldg	Strategic Energy Management	Biz - RCx	Industrial	RET	per kWh	33	3%	1	0.00	0.00	3	$0	100%	100%	20%	2	100%	25%	66.0%	66.0%	63.9%	2.9
1327	Water_WW	Water Supply & Wastewater treatment pumps and process efficiency	Biz - Custom	Industrial	RET	per kWh	5	19%	1	0.00	0.00	11	$0	75%	31%	61%	1	100%	25%	62.7%	57.1%	61.0%	2.9
1328	Lighting_Int	Advanced Lighting Controls	Biz - Custom	Industrial	RET	per kWh	2	42%	1	0.00	0.00	15	$2	50%	6%	15%	3	100%	25%	43.6%	38.5%	38.5%	9.8
1329	Compressed Air	Process Improvement - Air Compressor	Biz - Custom	Industrial	RET	per kWh	20	5%	1	0.00	0.00	15	$1	100%	28%	67%	3	100%	25%	66.0%	53.3%	61.2%	55.5
1330	Process Heat	Process Improvement - Heat	Biz - Custom	Industrial	RET	per kWh	20	5%	1	0.00	0.00	15	$0	100%	100%	24%	3	100%	25%	66.0%	66.0%	63.9%	84.9
1331	Process Other	Process Improvement - Other	Biz - Custom	Industrial	RET	per kWh	10	10%	1	0.00	0.00	10	$0	100%	64%	68%	3	100%	25%	66.0%	63.7%	63.9%	21.5
1332	Process Refrig	Process Improvement - Refrigeration and Cooling	Biz - Custom	Industrial	RET	per kWh	8	13%	1	0.00	0.00	10	$0	100%	52%	74%	3	100%	25%	66.0%	62.2%	63.9%	17.1
1333	Motors	Efficient Motor Pmp Equipment - Q1 Cost	Biz - Custom	Agriculture	TOS	per kWh	8	13%	1	0.00	0.00	15	$0	100%	100%	10%	1	100%	25%	66.0%	66.0%	65.8%	3.6
1334	Motors	Efficient Motor Pmp Equipment - Q2 Cost	Biz - Custom	Agriculture	TOS	per kWh	8	13%	1	0.00	0.00	15	$0	100%	100%	10%	1	100%	25%	66.0%	66.0%	65.5%	3.6
1335	Motors	Efficient Motor Pmp Equipment - Q3 Cost	Biz - Custom	Agriculture	TOS	per kWh	8	13%	1	0.00	0.00	15	$0	100%	100%	10%	1	100%	25%	66.0%	66.0%	64.7%	3.6
1336	Motors	Efficient Motor Pmp O&M	Biz - Custom	Agriculture	RET	per kWh	33	3%	1	0.00	0.00	15	$0	100%	100%	10%	2	100%	25%	66.0%	66.0%	63.4%	5.4
1337	Refrigeration	Efficient Refrigeration Equipment	Biz - Custom	Agriculture	TOS	per kWh	7	15%	1	0.00	0.00	15	$0	100%	79%	44%	1	100%	25%	66.0%	64.9%	63.0%	5.7
1338	Refrigeration	Refrigeration Equipment O&M	Biz - Custom	Agriculture	RET	per kWh	33	3%	1	0.00	0.00	3	$0	100%	100%	10%	2	100%	25%	66.0%	66.0%	63.1%	2.0
1339	Lighting_Int	Efficient Lighting	Biz - Prescriptive	Agriculture	TOS	per kWh	2	42%	1	0.00	0.00	15	$0	100%	80%	43%	1	100%	65%	88.0%	86.6%	84.0%	6.2
1340	Lighting_Int	Grow Lighting	Biz - Prescriptive	Agriculture	RET	per kWh	3	39%	1	0.00	0.00	15	$0	100%	52%	63%	2	100%	50%	88.0%	83.0%	84.0%	6.2
1341	Ventilation	Efficient Ventilation	Biz - Custom	Agriculture	TOS	per kWh	2	54%	1	0.00	0.00	10	$0	100%	44%	69%	1	100%	25%	66.0%	60.9%	63.0%	4.1
1342	WholeBldg	Efficient Dehumidification	Biz - Custom	Agriculture	TOS	per kWh	4	27%	1	0.00	0.00	10	$0	100%	74%	47%	1	100%	25%	66.0%	64.5%	63.0%	4.1
1343	WholeBldg	Efficient HVAC	Biz - Custom	Agriculture	TOS	per kWh	8	13%	1	0.00	0.00	15	$0	100%	74%	47%	1	100%	25%	66.0%	64.5%	63.0%	5.6

APPENDIX D. DEMAND RESPONSE DETAIL

DR Program Option	Assumption	Value	Source/Notes
DLC HVAC Switch	# of Control Units per Res Participant	1.123	CenterPoint 2024 evaluation
	Existing Participants - Res	18,258 currently; assumed to decrease to 9,258 by 2027	CenterPoint data response; decreasing by 3000 switches per year
	Participant Annual Incentive - Res	$15/participant (summer only)	CenterPoint data response
	Annual Number of Control Hours	60 hours	Assumes 15 events, 4 hours each (summer only)
	Per Participant Load Reduction - Summer - Res	0.214 kW	CenterPoint 2024 evaluation
	Per Participant Load Reduction - Winter - Res	N/A	N/A
	Control Equipment Useful Life	10 years	Freeman, Sullivan & Co Cost Effectiveness of CECONY Demand Response Programs 2013; PA Act 129 Order 2013
	Utility Per Unit Equipment/ Labor Cost - Res	N/A - not installing new switches	CenterPoint data response
	Participant Share of Equipment/Labor Cost	$0	N/A
	One Time Incentive Towards Cost of Equipment	$0	N/A
	O&M Res	$16,000 in 2028, decreases to 0 by 2031	Based on what CenterPoint is spending on O&M costs
	Vendor Service Fees Res	$65,000 in 2028, decreases to 0 by 2031	Based on what CenterPoint is spending on vendor costs
	Evaluation costs	$64,000 per switch program per year	Based on what CenterPoint is currently spending on evaluations
	Participation Rate MAP Res	Transitioning to thermostats via Smart Cycle program, about 3000/year.	CenterPoint

DR Program Option	Assumption	Value	Source/Notes
		Keeping remaining 20% of switches once rest of switches have transitioned, assuming those participants don't have sufficient internet for thermostats. Assumes remaining 10% of switches fail per year.	
	Participation Rate RAP Res	Transitioning to thermostats via Smart Cycle program, about 3000/year. Keeping remaining 20% of switches once rest of switches have transitioned, assuming those participants don't have sufficient internet for thermostats. Assumes remaining 10% of switches fail per year.	CenterPoint
	End Use Saturation Res	87% AC	CenterPoint Market Research - March 2025
DLC Thermostat	# of Control Units per Res Participant	1.123	CenterPoint 2024 evaluation
	Existing Participants Res - Smart Cycle	1,352 currently; assumed to increase to 10,352 by 2027	CenterPoint data response; increasing by 3000 per year
	Existing Participants Res - BYOT	7,308 currently; assumed to increase to 11,208 by 2027	CenterPoint data response; increasing by 1300 per year
	Participant Annual Incentive - Res	$67.5/year (currently summer only- $7.50/month)	CenterPoint data response
	Participant Annual Incentive - C&I	$67.5/year (currently summer only- $7.50/month)	CenterPoint data response
	Annual Number of Control Hours	100 hours	Assumes 25 events, 4 hours each (year round); summer only: 15 events; 4 hours each
	Per Participant Load Reduction - Summer - Res	0.95 kW	CenterPoint 2024 evaluation
	Per Participant Load Reduction - Winter - Res	1.371 kW	Average of studies: Puget Sound Energy 2022, BPA 2021, PGE 2021, NRECA 2021

DR Program Option	Assumption	Value	Source/Notes
	Per Participant Load Reduction - Summer - C&I	1.948 kW	Average of studies: Xcel Energy 2022, Puget Sound Energy 2022, CenterPoint 2021, Pacificorp 2019
	Per Participant Load Reduction - Winter - C&I	2.542 kW	Average of studies: Puget Sound Energy 2022, Pacificorp 2019
	Control Equipment Useful Life	11 years	Illinois TRM v13
	Utility Per Unit Equipment/ Labor Cost - Smart Cycle only	$445/new participant	CenterPoint data response (includes labor, shipping, and thermostat)
	Participant Share of Equipment/Labor Cost - BYOT only	$370	Assumes participant will pay the cost of the new thermostat minus the one-time rebate
	One Time Incentive Towards Cost of Equipment - BYOT only	$75	CenterPoint data response
	O&M/Vendor Service Fees per Customer Res	$36/participant-year	CenterPoint data response
	O&M/Vendor Service Fees per Customer C&I	$36/participant-year	CenterPoint data response
	Evaluation costs	$30,000 per thermostat program per year	Based on what CenterPoint is currently spending on evaluations
	Participation Rate MAP Res	45%	Xcel Energy 2022
	Participation Rate RAP Res	32%	Average of studies: Pacificorp 2023, BPA 2021 (using combined participation rates for AC switches & thermostats, since CNP's switches are transitioning to thermostats)
	Participation Rate MAP C&I	25%	Puget Sound Energy 2022
	Participation Rate RAP C&I	14%	Xcel Energy 2022, Pacificorp 2021
	End Use Saturation Res	87% AC; 39% Electric Space Heating	CenterPoint Market Research - March 2025
	End Use Saturation C&I	81.5% AC; 31.1% Electric Space Heating	CenterPoint 2021 data response for AC; CBECS midwest region for electric heating
DLC Water Heater Switch	# of Control Units per Participant	1.021	CenterPoint 2024 evaluation

DR Program Option	Assumption	Value	Source/Notes
	Existing Participants Res	5,520 currently; assumed to decrease to 4,485 by 2027	CenterPoint data response; decreasing to 0 by 2040
	Participant Annual Incentive - Res	$6/participant-year	CenterPoint data response
	Participant Annual Incentive - C&I	$6/participant-year	CenterPoint data response
	Annual Number of Control Hours	60 hours	Assumes 15 events, 4 hours each (summer only)
	Per Participant Load Reduction - Summer - Res	0.104 kW	CenterPoint 2024 evaluation
	Per Participant Load Reduction - Winter - Res	N/A	N/A
	Per Participant Load Reduction - Summer - C&I	1.5 kW	Pacificorp 2019
	Per Participant Load Reduction - Winter - C&I	N/A	N/A
	Control Equipment Useful Life	10 years	Freeman, Sullivan & Co Cost Effectiveness of CECONY Demand Response Programs 2013; PA Act 129 Order 2013
	Utility Per Unit Equipment/ Labor Cost	N/A - not installing new switches	CenterPoint data response
	Participant Share of Equipment/Labor Cost	$0	N/A
	One Time Incentive Towards Cost of Equipment	$0	N/A
	O&M Res	$11,000 in 2028, increases to $30,000 per year starting in 2031 (escalates by 3%)	Based on what CenterPoint is spending on O&M costs
	Vendor Service Fees Res	$43,000 in 2028, increases to $117,000 per year starting in 2031 (escalates by 3%)	Based on what CenterPoint is spending on vendor costs

DR Program Option	Assumption	Value	Source/Notes
	Participation Rate MAP Res	N/A - decreasing to 0	CenterPoint
	Participation Rate RAP Res	N/A - decreasing to 0	CenterPoint
	Participation Rate MAP C&I	N/A - decreasing to 0	CenterPoint
	Participation Rate RAP C&I	N/A - decreasing to 0	CenterPoint
	End Use Saturation Res	30%	CenterPoint Market Research - March 2025. Electric resistance WH.
	End Use Saturation C&I	40.1%	CenterPoint 2021 data response
DLC Grid Enabled Water Heater	# of Control Units per Participant	1.021	CenterPoint 2024 evaluation
	Existing Participants	0	
	Participant Annual Incentive - Res	$26/participant-year for year-round	Average of studies: Pacificorp 2023, Puget Sound Energy 2022, BPA 2021, Xcel Energy 2022, Florida Power and Light program
	Participant Annual Incentive - C&I	$30/participant-year for year-round participation	Pacificorp 2023
	Annual Number of Control Hours	100 hours	Assumes 25 events, 4 hours each (year round)
	Per Participant Load Reduction - Summer - Res	0.43 kW	CenterPoint 2024 evaluation
	Per Participant Load Reduction - Winter - Res	0.63 kW	Ratio of winter:summer load reduction from studies applied to CenterPoint's summer load reduction: NREL 2022, PGE 2016, BPA 2021, Minnesota 2013, Puget Sound 2022, CenterPoint 2023, Xcel Energy 2022, Pacificorp 2023
	Per Participant Load Reduction - Summer - C&I	1.5 kW	Pacificorp 2019
	Per Participant Load Reduction - Winter - C&I	1.5 kW	Pacificorp 2019
	Control Equipment Useful Life	10 years	Freeman, Sullivan & Co Cost Effectiveness of CECONY Demand Response Programs 2013; PA Act 129 Order 2013
	Utility Per Unit Equipment/ Labor Cost	$50	Cost of communication module. Average of studies: Pacificorp 2023, Puget Sound Energy 2022, BPA 2021

DR Program Option	Assumption	Value	Source/Notes
	Participant Share of Equipment/Labor Cost	$250	Assuming utility pays rebate for program participation. Costs for 50-gallon electric grid enabled water heaters range from $500-$800. Assumed $650 for mid-range WH.
	One Time Incentive Towards Cost of Equipment	$400	Xcel Energy 2022
	O&M/Vendor Service Fees per Customer Res	$16/participant-year	Average of studies: Pacificorp 2023, Puget Sound Energy 2022, BPA 2021
	O&M/Vendor Service Fees per Customer C&I	$16/participant-year	Average of studies: Pacificorp 2023, Puget Sound Energy 2022, BPA 2021
	Participation Rate MAP Res	50%	BPA 2021
	Participation Rate RAP Res	25%	Puget Sound Energy 2022, NREL 2022, BPA 2021, PGE 2016
	Participation Rate MAP C&I	50%	Assumes same as residential
	Participation Rate RAP C&I	25%	Pacificorp 2023
	End Use Saturation Res	30%	CenterPoint Market Research - March 2025
	End Use Saturation C&I	40.1%	CenterPoint 2021 data response
DLC EVs	# of Control Units per Participant	1	
	Existing Participants	0	
	Participant Annual Incentive - Res	$37/participant-year for year-round participation	Eversource 2021, Puget Sound Energy 2022, BPA 2021, Pacificorp 2023, Delaware Electric Coop program
	Annual Number of Control Hours	100 hours	Assumes 25 events, 4 hours each (year round)
	Per Participant Load Reduction - Summer - Res	0.304 kW	Average of studies: Eversource 2021, Puget Sound 2022, Pacificorp 2023, National Grid 2022, BPA 2021, NRECA 2020
	Per Participant Load Reduction - Winter - Res	0.295 kW	Average of studies: Eversource 2021, Pacificorp 2023
	Per Participant Load Reduction - Summer - C&I	0.02 kW	Xcel Energy 2022
	Per Participant Load Reduction - Winter - C&I	0.03 kW	Xcel Energy 2022

DR Program Option	Assumption	Value	Source/Notes
	Control Equipment Useful Life	10 years	US DOE, Costs Associated with Non-Residential EV Supply Equipment, 2015
	Utility Per Unit Equipment/ Labor Cost	0	N/A
	Participant Share of Equipment/Labor Cost	$845	Assumes installed cost of level 2 charger is $1000. Must have networked Level 2 charger to participate. NYSERDA 2022 white paper found that only 10% of residential EV chargers are already networked level 2 chargers. Remainder would need to be upgraded to participate.
	One Time Incentive Towards Cost of Equipment	$155/new participant	Eversource 2021, National Grid 2022, NRECA 2020, Delaware Electric Coop program
	O&M/Vendor Service Fees per Customer Res	$10/participant-year	Pacificorp 2023, Puget Sound Energy 2022, BPA 2021
	O&M/Vendor Service Fees per Customer C&I	$10/participant-year	Pacificorp 2023, Puget Sound Energy 2022, BPA 2021
	Participation Rate MAP Res	25%	Pacificorp 2019
	Participation Rate RAP Res	20%	BPA 2021
	Participation Rate MAP C&I	20%	Xcel Energy 2022
	Participation Rate RAP C&I	10%	GDS assumption of about 50% of MAP
TOU + CPP Rate	# of Control Units per Participant	1	
	Existing Participants	Targeting 500 customers to start pilot in 2025	CenterPoint data response
	Participant Annual Incentive	$0	N/A
	Annual Number of Control Hours	60 for CPP; 1564 for TOU	Assumes up to 15 events per year, 4 hours per event for CPP; TOU: 6 hrs/week day, year round (CenterPoint's existing rate - 1 to 7pm, weekdays)

DR Program Option	Assumption	Value	Source/Notes
	Per Participant Load Reduction - Summer - Res	12.8% for CPP; 8.6% for TOU	CPP: average of studies: Pacificorp 2023, Puget Sound Energy 2022, BPA 2021; TOU: average of studies: BPA 2021, Pacificorp 2023, PG&E 2023, Maryland Evaluation 2020, Dominion Energy 2022 Evaluation
	Per Participant Load Reduction - Winter - Res	7.7% for CPP; 3.6% for TOU	CPP: average of studies: Pacificorp 2023, Puget Sound Energy 2022, BPA 2021; TOU: average of studies: BPA 2021, Pacificorp 2023, PG&E 2023, Maryland Evaluation 2020, Dominion Energy 2022 Evaluation
	Per Participant Load Reduction - Summer - C&I	7.1% for CPP; 2.0% for TOU	CPP: average of studies: Pacificorp 2023, Puget Sound Energy 2022, BPA 2021; TOU: average of studies: Pacificorp 2023
	Per Participant Load Reduction - Winter - C&I	6.3% for CPP; 1.0% for TOU	CPP: average of studies: Pacificorp 2023, Puget Sound Energy 2022, BPA 2021; TOU: average of studies: Pacificorp 2023
	Control Equipment Useful Life	20 years	Useful life of smart meter. https://docs.cpuc.ca.gov/published/FINAL_DECISION/58362-07.htm#:~:text=The%20AMI%20system's%20useful%20life%20does%20not,is%20a%20reasonable%20forecast%20for%20the%20purposes
	Utility Per Unit Equipment/ Labor Cost	$0	No cost to join rate
	Participant Share of Equipment/Labor Cost	$0	No cost to join rate
	One Time Incentive Towards Cost of Equipment	$0	No cost to join rate
	O&M/Vendor Service Fees per Customer Res	$0	N/A, utility runs rate programs
	Participation Rate MAP Res	15%	Duke Energy 2020, OGE- Brattle Group 2023 Paper
	Participation Rate RAP Res	10%	Duke Energy 2020
	Participation Rate MAP C&I	15%	Assumed same as residential
	Participation Rate RAP C&I	10%	Assumed same as residential

DR Program Option	Assumption	Value	Source/Notes
Battery Storage	# of Control Units per Participant	1	
	Existing Participants	0	
	Participant Annual Incentive Res	$400/participant	Average of studies: Massachusetts Energy Storage Demand Reduction Evaluation 2024, Xcel Energy 2022, Pacificorp 2023
	Participant Annual Incentive Com	$1500/participant	Based on incentive per kW for residential programs, for 11.25 kW C&I battery
	Annual Number of Control Hours	180 hours	Eversource 2021, Massachusetts Energy Storage Demand Reduction Evaluation 2024
	Per Participant Load Reduction - Summer - Res	3 kW	Assumes utility could use 60% of 5kW residential battery
	Per Participant Load Reduction - Winter - Res	3 kW	Assumes utility could use 60% of 5kW residential battery
	Per Participant Load Reduction - Summer - C&I	11.25 kW	2017 SGIP Advanced Energy Storage Impact Evaluation. Peak demand reduction of 45% of rebated capacity for a 25 kW battery - Figure 4-36 of study.
	Per Participant Load Reduction - Winter - C&I	11.25 kW	2017 SGIP Advanced Energy Storage Impact Evaluation. Peak demand reduction of 45% of rebated capacity for a 25 kW battery - Figure 4-36 of study.
	Control Equipment Useful Life	10 years	Tesla Powerwall warranty
	Utility Per Unit Equipment/ Labor Cost	$0	Assume BYOB program
	Participant Share of Equipment/Labor Cost - Res	$0	Assume BYOB program
	Participant Share of Equipment/Labor Cost - C&I	$0	Assume BYOB program
	One Time Incentive Towards Cost of Equipment	$0	Assume BYOB program
	O&M/Vendor Service Fees per Customer Res	$77/kW starting in 2027; decreases to $58/kW in 2045	NREL 2024 cost forecast: https://atb.nrel.gov/electricity/2024/residential_battery_storage

DR Program Option	Assumption	Value	Source/Notes
	O&M/Vendor Service Fees per Customer C&I	$230.50/kW starting in 2027; decreases to $173/kW in 2045	NREL 2024 cost forecast: https://atb.nrel.gov/electricity/2024/residential_battery_storage
	Participation Rate MAP Res	60%	Pacificorp 2023
	Participation Rate RAP Res	50%	Xcel Energy 2022
	Participation Rate MAP C&I	60%	Assumes same as residential
	Participation Rate RAP C&I	50%	Assumes same as residential
	Saturation Res	8.63% of customers with solar	CenterPoint / Itron
	Saturation C&I	8% of customers with solar	LBL Tracking The Sun Report 2024
General Program Costs (unless otherwise noted)	Implementation	$150,000 per new program	BPA 2021, Puget Sound Energy 2022
	Admin	$72,750 per program	Assumes 50% of 1 full time staff's time
	Marketing	$50 per new participant for residential & small C&I customers; $200 per new participant for large C&I programs (ie for Curtailment & Capacity Bidding Programs)	BPA 2021, Puget Sound Energy 2022, Pacificorp 2019
	Evaluation costs for new programs	$30,000 per year	Based on what CenterPoint is currently spending on evaluations for thermostat programs