

ENTERGY NEW ORLEANS, INC.  
CITY OF NEW ORLEANS  
Docket No. UD-17-03

Response of: Entergy New Orleans, Inc.  
to the First Set of Data Requests  
of Requesting Party: Advisors to the Council  
of the City of New Orleans

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Question No.: Advisors 1-3

Part No.:

Addendum:

Question:

Please provide all workpapers and analysis in native electronic format with all formulas and data sources in tact (i.e. Excel) that were provided to ENO for each of the 2012 and 2015 DSM Potential Studies.

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Response:

See the attached.

Information responsive to this request has been designated as Highly Sensitive Protected Material (“HSPM”) under the terms of the provisions of the Official Protective Order adopted pursuant to Council Resolution R-07-432 relative to the disclosure of Protected Material and is being provided in accordance with the same.

See the HSPM attachments.

See also Supplement 1 of the 2015 ENO Integrated Resource Plan.



Entergy New Orleans, Inc.

# **Achievable Demand Side Management Potential Study**

Final Report

October 30, 2012

**Prepared for**

Entergy Services, Inc.

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## List of Acronyms & Abbreviations

ACEEE	American Council for an Energy-Efficient Economy
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
C&I	Commercial and Industrial sectors
CB ECS	U.S. Energy Information Administration Commercial Building Energy Consumption Survey
CFL	Compact Fluorescent Lamp
DOE	U.S. Department of Energy
DR	Demand Response
DSM	Demand Side Management
EBAU	Expanded Business As Usual
EE	Energy Efficiency
E EPM	ICF's Energy Efficiency Potential Model
EIA	U.S. Energy Information Administration
EISA	U.S. Energy Independence and Security Act of 2007
EM&V	Evaluation, Measurement and Verification
ENO	Entergy New Orleans, Inc.
EPRI	Electric Power Research Institute
ESI	Entergy Services, Inc.
FERC	Federal Energy Regulatory Commission
GCR	GCR & Associates
HPwES	Home Performance with ENERGY STAR
HVAC	Heating, Ventilation, and Air Conditioning
ICF	ICF International
IECC	International Energy Conservation Code
IRP	Integrated Resource Plan
KEMA	DNV KEMA, Inc.
LED	Light Emitting Diode
MECS	U.S. Energy Information Administration Manufacturing Energy Consumption Survey
Non-Res	Non-Residential sectors (commercial and industrial)
NTG	Net-to-Gross ratio
PAC	Program Administrator Cost test
PCT	Participant Cost Test
PV	Photovoltaic
REF	Reference case DSM potential
RASS	Residential Appliance Saturation Survey
Res	Residential sector
RIM	Ratepayer Impact Measure cost-effectiveness test
SEER	Seasonal Energy Efficiency Ratio
SPO	Entergy System, Inc.'s System Planning and Operations group
TRC	Total Resource Cost Test
TVA	Tennessee Valley Authority

# 1. Executive Summary

## 1.1. Purpose and Objectives

This report summarizes the results of a demand side management (DSM) potential analysis (Study) conducted by ICF International for Entergy Services, Inc. (ESI). The purpose of the analysis was to develop high-level, long-run achievable DSM program potential estimates appropriate for inclusion in the Entergy Electric System's and Entergy Operating Companies' Integrated Resource Planning (IRP) analyses. Consistent with IRP requirements, this Potential Study includes forecasts covering a 20 year planning horizon (2012-2031). This document summarizes the Potential Study estimates for Entergy New Orleans, Inc. (ENO). ESI's System Planning and Operations group (SPO) primary requirements from the Potential Study were hourly load-shapes and cost projections representing three levels—low, reference, and high—of achievable DSM program savings from 2012 through 2031. These load-shapes and costs were the demand side inputs into the Entergy Electric System's and ENO's IRP analyses.

The long-run planning nature of the Potential Study means that results should not be applied directly to short-term DSM planning activities, including, but not limited to, program implementation plans or utility goal setting. Long-run program assumptions do not necessarily translate well for actual implementation in the short-term and may not reflect regulatory or other constraints. Program plans require a different level of attention to program design, costs, delivery mechanisms, measure mix, participation, regulatory guidelines, rate impacts, and other factors.

## 1.2. Types of Potential Estimated

For ENO's purposes it was necessary only to estimate **achievable program potential**, which is the level of net DSM savings estimated to be reasonably achievable through ENO-administered programs in the course of the planning horizon. Achievable program potential estimates are a function of baseline energy use, energy costs, current levels of efficiency measure market saturation, program incentive levels, program market barriers, as well the regulatory treatment of ENO's programs.

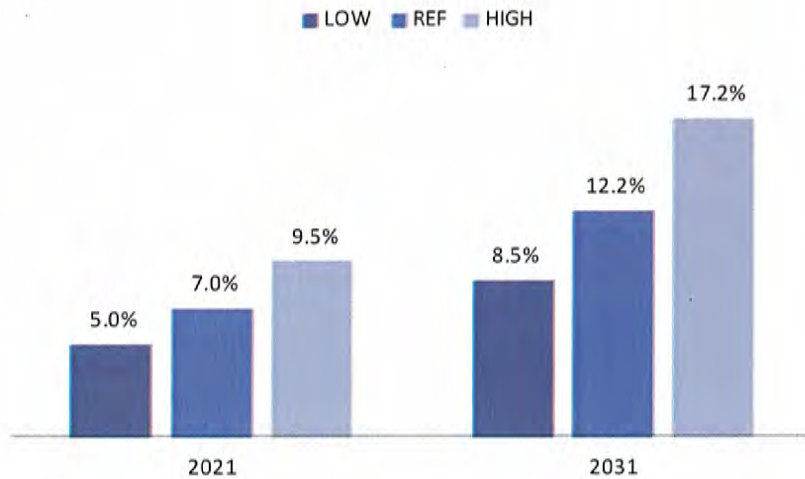
Technical and economic potential were not estimated. Technical potential is the estimated level of efficiency savings that could technically be achieved without consideration of economics, customer behavior, and other barriers. Technical potential assumes that customers adopt all of the most energy efficient measures regardless of cost or other market barriers. Economic potential is the cost-effective subset of technical potential. Economic potential assumes that all customers will purchase the most cost-effective measures available regardless of customer financial or other market barriers. Technical and economic potential estimates are theoretical and therefore not suitable for use in an IRP since they do not reflect the level of DSM that could actually be achieved through utility programs.

## 1.3. Summary of Estimates

The Potential Study shows that there is significant DSM potential in ENO's territory. In the reference case, ICF estimates ENO-administered programs could achieve cost-effective, cumulative net electric

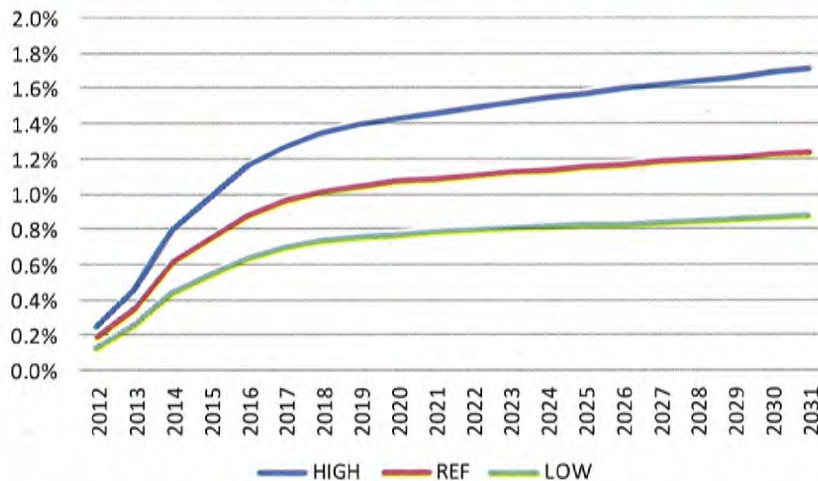
(MWh) savings equal to 7.0% of base sales over 10 years,<sup>1</sup> growing to 12.2% of base sales after 20 years (see Figure 1).<sup>2</sup>

Figure 1. Cumulative Net MWh Savings Estimates as % of Sales (10 and 20 Year Estimates)



This savings level would require a ramp-up to annual net MWh savings equal to 1.1% of previous year's sales in 2021,<sup>3</sup> and 1.3% in 2031,<sup>4</sup> in the reference case (see Figure 2). Annual program costs in the reference case are estimated to equal \$20.4 Million in 2021 and \$23.2<sup>5</sup> Million in 2031.

Figure 2. Annual Net Electric Savings Estimates as % of Previous Year's Sales



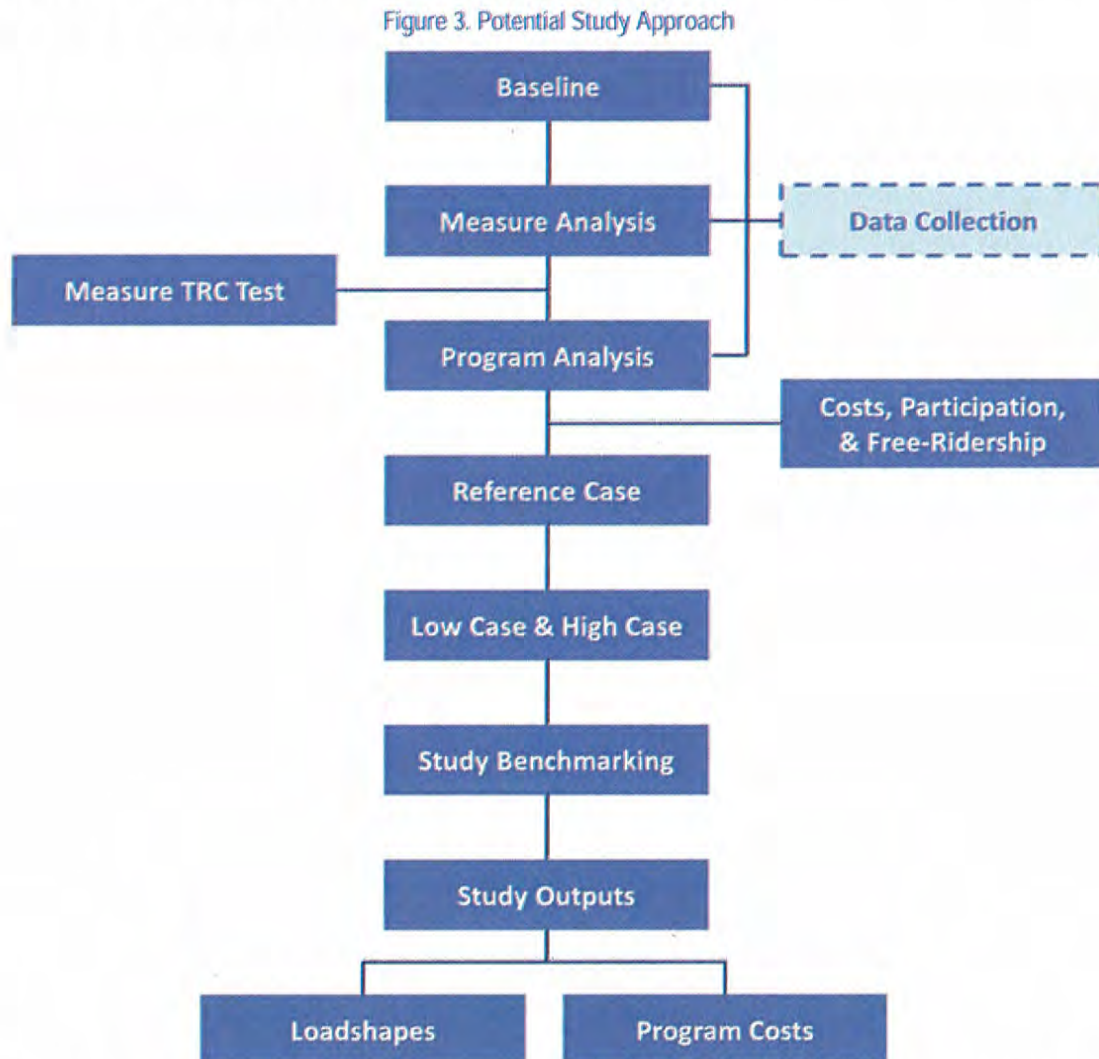
<sup>1</sup> 358.1 GWh  
<sup>2</sup> 638.0 GWh  
<sup>3</sup> 56.6 GWh  
<sup>4</sup> 65.2 GWh  
<sup>5</sup> In 2011 dollars.



These results assume ENO's programs are given acceptable regulatory treatment over the Potential Study's time horizon. Further detail, including results by scenario and program, is shown in the results section of this report.

## 1.4. Study Approach

This Potential Study's methodology is illustrated in Figure 3, and summarized below. Additional details can be found in Section 2, Analysis Approach.



A bottom-up analysis was conducted to estimate potential, beginning with a characterization of ENO's electric sales by customer sector and by energy end-use. A wide variety of DSM measures were examined, including those in the ENO deemed savings document, as described further below. Additional measures were examined to ensure the Potential Study sufficiently represented savings and costs for each end-use and sector. Each measure was examined for cost-effectiveness using the Total Resource

Cost test (TRC). With few exceptions, only cost-effective measures were included in the analysis. In all, 899 measures were examined and 438 were included.

Included measures were built in to DSM programs based on existing Energy Smart programs and other energy efficiency and demand response program designs.<sup>6</sup> Program participation was then estimated using ICF's Energy Efficiency Potential Model (EPPM).

Three achievable program potential scenarios were developed:

- A **reference case**, which represents the most likely trajectory of utility programs given ENO's existing programs and the best information available at the time of the Potential Study. Measure incentives in the reference case were calculated to bring down customer payback to two years, with a cap of 75% of incremental cost, and a minimum of 25% of incremental cost.
- A **high case**, which represents a world in which customers participate at higher than expected rates. This is modeled by increasing incentive levels to equal a one year customer payback, with a cap of 100% of incremental cost, and a minimum of 50% of incremental cost.
- A **low case**, which represents a world in which customers participate at lower than expected rates. This is modeled by decreasing incentive levels to equal a three year customer payback, with a cap of 50% of incremental cost, and a minimum of 10% of incremental cost.

In each case, currently adopted codes and standards were applied.

Finally, this Potential Study's estimates were compared to those of other recent DSM potential studies. Upon completion of the Potential Study, ICF provided program load-shapes (load impacts, or savings) and programs cost estimates to SPO for the IRP analyses.

## 1.5. Uncertainty

This Potential Study is a type of economic forecast, and all economic forecasts have forecast error, or uncertainty. The six main sources of forecast uncertainty in this Potential Study are:

1. Avoided cost projections (e.g., variation in the cost of energy);
2. Baseline building data (e.g., variation in actual building energy use);
3. Measure assumptions (e.g., variation in actual energy efficiency measure performance);
4. Program assumptions, including:
  - a. Costs (e.g., program incentive and implementation costs);
  - b. Free-ridership (the portion of program participants who would have installed the efficient equipment even in the absence of the program); and

<sup>6</sup> If a measure naturally "fit" into an existing program, it was modeled within that program. If a measure did not fit within an existing program, a new program was modeled. For example, a separate Multifamily program was modeled because ENO currently does not implement a program specifically targeting this sector, yet many multifamily-specific measures were included in the analysis.

- c. Participation (e.g., variance in actual market response to ENO's programs).
5. General economic uncertainty (e.g., level of new construction, unemployment rates, etc.); and
6. Un-adopted changes to building and technology codes and standards (e.g., new Federal minimum efficiency standards for lighting and appliances that could be adopted during the 20 year time horizon of the Potential Study).

Avoided cost projections were provided by SPO. As such ICF will not characterize the uncertainty associated with those estimates here. Rather, the impact of the avoided cost forecast error on DSM potential is discussed. If actual avoided costs are lower than projected, then the level of actual cost-effective DSM potential may also be lower than ICF's estimate; conversely, if actual avoided costs are higher than projected, then the level of actual DSM potential may be higher. This is because fewer measures and programs would be cost-effective if the energy they avoid is less expensive, and vice versa.

Current, or baseline building energy use, provides the foundation against which energy efficiency measure performance is evaluated. New Orleans-specific (Post-Katrina) residential building characteristics and energy use data were available through surveys commissioned by ENO.<sup>7</sup> Therefore, the residential baseline for this Potential Study is reasonably precise. Commercial baseline surveys for New Orleans, or Louisiana, were not available at the time of this Potential Study. ICF used U.S. Energy Information Administration data (EIA) for the West South Central region<sup>8</sup> to characterize New Orleans commercial building baselines. The baseline forecast error for the commercial sector, then, is the variance between the EIA data for the region and actual building performance in New Orleans; ICF has no means of estimating this variance. In summary, since the commercial baselines used in this Potential Study may be less precise than the residential baseline, and since commercial savings accounts for the majority of the savings estimated, the overall forecast error due to baseline uncertainty may be high.

Energy Smart deemed savings were the primary source of residential measure savings. ICF will not characterize the uncertainty associated with these values since they were produced by Frontier and Associates and approved by the New Orleans City Council. ICF does expect that Energy Smart deemed savings will become more precise over time with ongoing Evaluation, Measurement, and Verification (EM&V). Since deemed savings were not available for most commercial measures, ICF produced measures savings estimates through building simulations based on EIA data and New Orleans weather data, as well as through secondary research.

To the extent possible, the program assumptions used in this Potential Study reflect Energy Smart program planning assumptions and data. ICF expects actual program performance to vary from the estimates developed through this Potential Study. Experience has shown that historical program performance is not necessarily a good indicator of long-term program performance due to changes in codes and standards, unforeseen economic or policy shifts, and other factors. Program assumptions are discussed in detail in the body of this report.

<sup>7</sup> GCR & Associates, Inc., *New Orleans Energy Usage Baseline Results*, January 2009.

<sup>8</sup> Includes Arkansas, Louisiana, Oklahoma, and Texas.

The best available data at the time the Potential Study was conducted was used to develop the savings forecast. Actual program performance relative to this forecast could be used to reduce forecast error in future potential studies.

## **1.6. Stakeholder Input**

The New Orleans City Council previously defined a Stakeholder process for ENO's IRP that included a series of technical conferences and DSM working group meetings. ENO and ICF met regularly with the New Orleans City Council Advisors and a number of interested stakeholders to provide updates, respond to questions, and share data and assumptions. Stakeholders and Advisors had an opportunity to provide feedback on measure, program, and utility assumptions, as well as on the ICF approach to estimating participation. This feedback resulted in several improvements to the analysis, including a more comprehensive measure list and refinements to the use of load shapes within the IRP analysis.

## 2. Analysis Approach

The bottom-up approach to estimating DSM potential involved seven steps:

1. **Data collection.** Including ENO data, baseline customer and building data, measure data, and program data. This includes the development and sourcing of non-deemed measure savings estimates and characteristics.
2. **Baseline characterization.** Including electricity use by sector, building type, and end-use, as well as the ENO sales forecast. Potential estimates are assessed against these baselines.
3. **Measure analysis.** This involved measure cost-effectiveness testing and consideration of other criteria<sup>9</sup> for measure inclusion.
4. **Program analysis.** This involved grouping measures into programs, development of program costs and participation estimates, and calculation of reference case achievable potential estimates.
5. **Scenario analysis.** Included the development of high and low achievable potential estimates around the reference case.
6. **Benchmarking.** Included the comparison of estimates from this Potential Study to those from other relevant studies.

Each step is described in further detail below.

### 2.1. Data Collection

#### Utility Assumptions

SPO provided ICF with the utility data and forecasts that were needed to complete the analysis, including:

- **Avoided costs** (the forecasted costs of producing electricity, including energy, or kWh and demand, or kW). These values were used to estimate the economic benefits of DSM measures and programs.<sup>10</sup>
- **Retail rates** (the prices paid by ENO customers for electric and gas service). Retail rates were used in calculating incentive levels and participant payback.<sup>11</sup>
- **Company discount rate** (the weighted average cost of capital). This was used in calculating the present value of measure and program benefits and costs.
- **Sales forecast** (estimated MWh sales, by sector, for 2012-2031). The sales forecast was used to describe the base case and in calculating the magnitude of the potential estimates.

<sup>9</sup> Measures required by commission policy, such as solar measures.

<sup>10</sup> Average avoided costs were used by ICF in the analysis. Line losses were also provided by SPO.

<sup>11</sup> ENO 2011 retail rates were escalated at the same rate as avoided costs.

- **Customer counts** by sub-sector. These were used to determine the overall market size for each measure.
- **Advanced ("smart") meter deployment schedule.** This was used to estimate the market size for some demand response programs.

## Residential Assumptions

### Market Size and Energy Use

Estimating residential building savings potential requires an understanding of the size and nature of the residential market, how homes currently use energy, as well as knowledge of the prevailing building codes and standards.

As discussed above, SPO provided estimated customer counts and sales by sub-sector<sup>12</sup> for the period 2011-2031.

Home energy use was broken-down by end-use and heating/cooling type using ESI's Residential Appliance Saturation Survey (RASS) data from 2006, and a post-Katrina residential baseline survey completed by GCR & Associates in 2008.

As of 2007, Louisiana residential new construction standards comply with the 2006 International Energy Conservation Code (IECC 2006).

### Residential Measures

In all, 450 residential measures were evaluated and 204 were included.

Most residential measures evaluated in the Potential Study were derived from the ENO deemed savings, which were developed by Frontier & Associates and adopted by the New Orleans City Council in 2009<sup>13</sup>.

The remaining efficiency measure assumptions were developed by ICF, primarily through building simulations. Most demand response measure assumptions were derived from FERC's 2009 study of national demand response potential.<sup>14</sup>

IECC 2006 baselines were used to estimate savings for new construction and large retrofit measures not included in deemed savings.<sup>15</sup>

Note that residential measure assumptions underwent a comprehensive update during this Potential Study. This is because deemed savings were approved subsequent to the previous Potential Study (2008) and residential codes and standards were changed.

<sup>12</sup> Single family, duplex, multifamily, and mobile or manufactured home.

<sup>13</sup> New Orleans City Council Resolution R-09-483

<sup>14</sup> Federal Energy Regulatory Commission, *A National Assessment of Demand Response Potential*, Prepared by The Brattle Group, et al., June 2009.

<sup>15</sup> The exception is ENERGY STAR New Homes, Version 3, which requires a baseline of IECC 2012.

## Commercial Assumptions

### Market Size and Energy Use

Estimating commercial building energy savings potential requires an understanding of the size and nature of the commercial market, how commercial buildings currently use energy, as well as knowledge of the prevailing building codes and standards.

As discussed above, SPO provided estimated customer counts and sales by sub-sector for 2011–2031.

New Orleans or Louisiana commercial building baseline studies were not available at the time of this Potential Study. Therefore, consistent with standard practice, ICF used Commercial Building Energy Consumption Survey (CBECS) data from the U.S. Energy Information Administration (EIA) to breakdown commercial energy use by building type and end-use.

As of 2011, new commercial buildings in Louisiana must meet the standards set forth under ASHRAE 90.1-2007.

### Commercial Measures

In all, 367 commercial measures were evaluated and 165 were included.

Commercial measures in the ENO deemed savings were evaluated. For all other commercial measures, ICF developed the savings estimates primarily through building simulations, which incorporated EIA CBECS building data and New Orleans weather data; some commercial measure savings were sourced through secondary research. Most demand response measure assumptions were derived from FERC's 2009 study of national demand response potential.<sup>16</sup>

Although Louisiana commercial building codes currently comply with ASHRAE 90.1-2007, the U.S. Department of Energy (DOE) recently adopted more efficient commercial standards (ASHRAE 90.10-2010). Therefore, ICF used ASHRAE 90.10-2010 baselines when developing savings estimates for commercial new construction and retrofit measures not included in deemed savings. ICF believes this is appropriate given the long-run nature of the Potential Study.

Note that commercial measure assumptions underwent a comprehensive update during this Potential Study. This is because deemed savings were approved subsequent to the previous Potential Study (2008) and commercial codes and standards were changed.

## Industrial Assumptions

Industrial measure assumptions were not updated from ENO's 2008 Potential Study.<sup>17</sup> For the 2008 study ICF conducted an in-depth analysis of industrial energy use. Given the overall level of analysis for this Potential Study, there was insufficient new data on, or changes within, the sector to justify the time

<sup>16</sup> Federal Energy Regulatory Commission, *A National Assessment of Demand Response Potential*, Prepared by The Brattle Group, et al., June 2009.

<sup>17</sup> With the exception of lighting and HVAC measures.

and cost required to update the industrial measure assumptions. ICF recommends updating industrial measure assumptions in the next Potential Study. Current industrial customer counts and updated industrial sales forecasts were applied to this Potential Study. ICF's development of industrial measures for ENO's 2008 Potential Study is summarized below.

### Market Size and Energy Use

SPO provided ICF with industrial electricity use by Standard Industrial Code (SIC). Use within each SIC code was then broken-down by electric end-use using EIA Manufacturing Energy Consumption Survey (MECS) data, and other sources.<sup>18</sup>

### Industrial Measures

Developing the list of target industrial efficiency measures required a further breakdown of end-uses into specific industrial applications. Several other data sources were used to achieve this, including additional DOE studies and the California Industrial Potential Study prepared by KEMA in 2006.<sup>19</sup> Industrial measures are not included in deemed savings.

In all, 82 industrial measures were evaluated and 69 were included.

## 2.2. Baseline Characterization

### Baseline Electric Sales

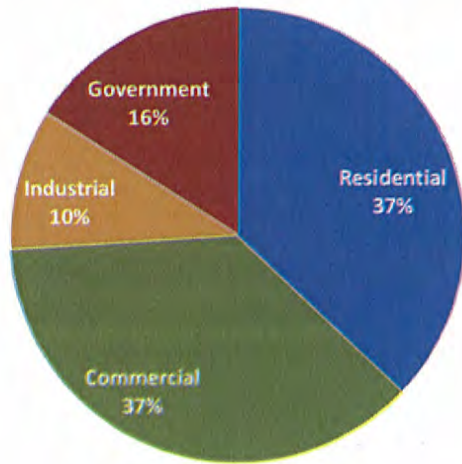
Figure 4 shows the distribution of ENO electricity sales by customer sector. About three-quarters of ENO's load is split evenly between residential and commercial customers. ENO's industrial load is significantly lower than the industrial load for the other Entergy Operating Companies, and a large majority of ENO's industrial customers are on the small commercial rate. Industrial sales are dominated by a handful of large manufacturers.

<sup>18</sup> U.S. Department of Energy, United States Industrial Motor Systems Market Opportunities Assessment, December 2002. U.S. Department of Energy, Assessment of the Market for Compressed Air Efficiency Services, June 2001. Harry L. Brown, et al, *Energy Analysis of 108 Industrial Processes*, prepared for U.S. Department of Energy, September 1985.

<sup>19</sup> *California Industrial Existing Construction Energy Efficiency Potential Study*, Prepared for Pacific Gas & Electric by KEMA, Inc. et al., May 2006.



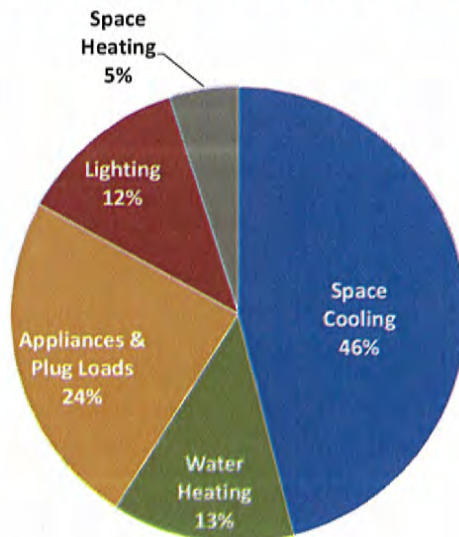
Figure 4. Distribution of Electric Sales by Customer Class (2010, Total = 5,069 MWh)



### Residential Electricity Use

Figure 5 shows how electricity is used in the average home. The portion of electricity used for cooling in New Orleans is over twice the national average, and is second only to Entergy Texas among the Entergy Operating Companies.

Figure 5. Distribution of Residential Electricity Use, by End Use  
(Average Annual Consumption per Home = 13,607 kWh)



The distribution of home-types in ENO's territory is shown in Figure 6.

Figure 6. Home Types in New Orleans

Total Residential Customers (2011)	144,537
Single Family & Duplex	87%
Multifamily	12%
Mobile	1%

The distribution of home cooling and heating types is shown below. Seventy percent of homes have a central air conditioner (AC). Nearly two out of five homes use electric resistance heat and about one of every six homes does not have any type of conventional cooling system.

Figure 7. Home Heating and Cooling Types

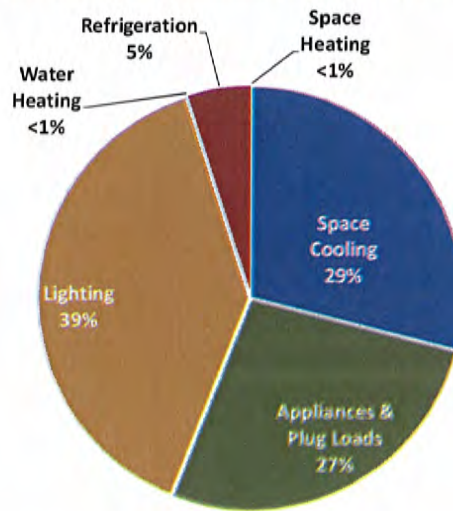
Home Cooling/Heating Type	% Homes
AC/Gas Heat	32%
Gas Heat (No AC)	17%
AC/Electric Resistance Heat	38%
Electric Cooling with Electric Heat Pump	4%

According to the U.S. Census Bureau, the homeownership rate in New Orleans is 49%, compared to 68% in Louisiana and 67% in the U.S. Median annual household income in New Orleans is \$37,468, compared to \$43,445 in Louisiana and \$51,914 nationwide.

## Commercial Electricity Use

Figure 8 shows how electricity is used in commercial buildings. Lighting accounts for the largest portion of electricity use, followed by HVAC (space heating and cooling), then appliances and plug loads. Refrigeration and water heating are less significant end uses.

Figure 8. Distribution of Commercial Electricity Use, by End Use



The distribution of commercial customers by building type is shown below. There are also 1,707 government customers in ENO's service territory.

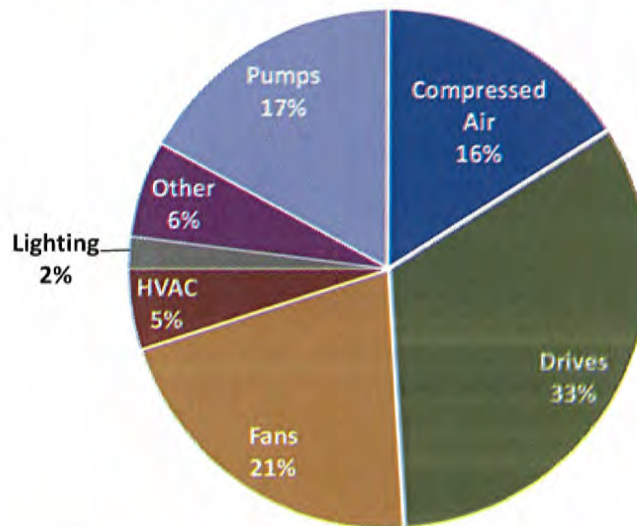
Figure 9. Commercial Building Types in ENO's Service Territory

Total Commercial Customers (2011)	14, 692
<b>Large Commercial</b>	
Hospital	0.1%
Large Hotel	0.2%
Large Office	0.7%
Supermarket	1.7%
Warehouse	13.0%
Primary School	6.3%
<b>Large Commercial Subtotal</b>	<b>22.0%</b>
<b>Small Commercial</b>	
Quick Service Restaurant	36.1%
Small Office	32.7%
Stand-Alone Retail	9.3%
<b>Small Commercial Subtotal</b>	<b>78.0%</b>

## Industrial Energy Use

Figure 10 shows how the industrial sector uses electricity. Based on ENO customer data, ICF characterized two types of industrial customers: small and large. Ninety-seven percent of industrial customers are small operations, such as machine shops, and are on the small electric service rate. The remaining 3% of industrial customer are very large manufacturing facilities; these facilities consume 94% of the electricity used within the industrial sector.

Figure 10. Distribution of Industrial Electricity Use, by End Use



## 2.3. Measure Analysis

Figure 11 shows the number and distribution of the types of measures analyzed. "New" measures are for new construction opportunities. "Retrofit" measures replace functioning existing equipment. "Replace-on-burnout" measures replace equipment that is no longer functioning. About half the measures analyzed are retrofit in nature.

Figure 11. Count and Distribution of Measure Types Analyzed

Sector	New Construction	Measure Type		Total
		Retrofit	Replace-on-Burnout	
Non-Residential Measures	57	324	68	449
% Sector Total	13%	72%	15%	100%
Residential Measures	160	131	159	450
% Sector Total	36%	29%	35%	100%
<b>Total</b>	<b>217</b>	<b>455</b>	<b>227</b>	<b>899</b>
% Total	24%	51%	25%	100%

Figure 12 shows the number and distribution of types of measures included in the final analysis. About half the measures analyzed, or considered, were used to estimate DSM potential. Of these final measures, over half were retrofit in nature. Cost-effectiveness was the main screening criteria for measure inclusion. This is discussed further below.

Figure 12. Count and Distribution of Measures Types Included

Sector	New Construction	Measure Type		Total
		Retrofit	Replace-on-Burnout	
Non-Residential Measures	29	169	36	234
<b>% Sector Total</b>	<b>12%</b>	<b>72%</b>	<b>15%</b>	<b>100%</b>
Residential Measures	41	71	92	204
<b>% Sector Total</b>	<b>20%</b>	<b>35%</b>	<b>45%</b>	<b>100%</b>
<b>Total</b>	<b>70</b>	<b>240</b>	<b>128</b>	<b>438</b>
<b>% Total</b>	<b>16%</b>	<b>55%</b>	<b>29%</b>	<b>100%</b>

All measures were analyzed for cost effectiveness using the measure Total Resource Cost (TRC) test.<sup>20</sup> Figure 13 shows that 90% of measures included passed the TRC test (indicated in cell B2). The remaining 10% that were included (indicated in cell A2) were not cost-effective. Cost-effectiveness was analyzed for each measure in a variety of building types. For example, residential wall insulation upgrades were cost-effective for three out of the four single family home types shown in Figure 7. ICF included wall insulation in the final analysis for the fourth home type since this would not make a significant difference to the cost-effectiveness of this measure across all home types and because it would be impractical to exclude in implementation. In most cases if a non-cost-effective measure was included, it was for this reason.

Figure 13. Measure Cost Effectiveness

Measure Included?	A		B		Total Measures
	Measure TRC $\geq 1$				
	No	Yes			
1 No	424	37			461
2 Yes	42	396			438
<b>Total</b>	<b>466</b>	<b>433</b>			<b>899</b>

<sup>20</sup> Measure TRC benefits include avoided energy and avoided capacity costs due to the measure. Measure TRC costs are measure incremental costs; these include the difference in equipment and labor costs between the efficient and baseline units.

Conversely, 9% of measures that passed the TRC were not included in the final analysis (shown in cell B1, above). In almost all these cases the measure was excluded because it was duplicative. For example, both two inch and three inch residential hot water heater wraps were analyzed. Upon further consideration, an assumption was made that three inch wraps would be used in all cases where it was feasible to install a wrap. That is, the three inch wrap "represented" hot water heater wrap measures in the analysis. Including two inch wraps, therefore, would be duplicative.

In a very limited number of cases a measure was excluded if it was eventually determined to not be applicable to New Orleans. Secondary refrigerator removal and recycling is an example—appliance saturation survey data from GCR & Associates<sup>21</sup> showed that a majority of customers replaced their refrigerators post-Katrina. Therefore, there are an insufficient number of older units to support a refrigerator recycling program.

A complete measure list is shown in the Appendix.

## Demand Response Measures

Figure 14 shows demand response (DR) measure types included by sector. These measure types represent common DR options offered by utilities. There is at least one DR option representing potential savings for each sector. These measure types were derived from the 2009 FERC study on national demand response potential. All DR measures are assumed to be "opt-in," meaning that customer participation would be voluntary. Detailed descriptions of each measure type are included in the Appendix. The cost of AMI infrastructure: meters, installation, IT costs and related O&M are not considered DSM program costs and are therefore not included in the costs screened in the Potential Study. Certain DR *measure* costs, however, were included in the Potential Study, such as the cost of programmable communicating thermostats for residential "Dynamic Pricing with Enabling Technology."

Figure 14. DR Measures Included by Sector

DR Measure Type	Residential	Small Commercial	Large Commercial	Industrial
Dynamic Pricing without Enabling Technology	✓	✓	✓	
Dynamic Pricing with Enabling Technology	✓	✓	✓	
Direct Load Control	✓			
Interruptible Rate			✓	✓

## 2.4. Treatment of Codes and Standards

Adopted codes and standards were incorporated into the Potential Study in the following manner:

- Prevailing state residential building codes (IECC 2006) were used as baselines for residential new construction and retrofit measures for which ICF developed the savings (non-deemed savings).

<sup>21</sup> GCR & Associates, Inc., *New Orleans Energy Usage Baseline Results*, January 2009.

- Recently updated federal minimum efficiency standards for commercial buildings (ASHRAE 90.10-2010) were used to determine baselines for commercial new construction and retrofit measures for which ICF developed the savings (non-deemed savings).
- Residential general service lighting baselines reflect the minimum efficiency standards and schedule set forth in the Energy Independence and Security Act of 2007 (EISA 2007) and by the U.S. Department of Energy (DOE).<sup>22</sup>
- Residential air conditioning and heat pump baselines reflect the minimum efficiency standards and schedule set forth in the Energy Independence and Security Act of 2007 (EISA 2007) and by the U.S. Department of Energy (DOE).<sup>23</sup>

## 2.5. Market size

Once the final measure list was developed, the next step in the analysis was estimating the market size for each measure. Market size is a function of the following variables:

- **Market applicability.** Measures target different sectors, sub-sectors, and building types. For example, there are different SEER 16 central residential air conditioning measures for the single family and multifamily subsectors, since savings vary by building type. Market applicability is the fraction of the customer sector applicable to a measure.
- **Technical feasibility.** This variable accounts for the fraction of cases within the applicable market where measure installation is technically feasible. In most cases, technical feasibility equals 100%.
- **Not-yet-adopted rate.** This variable accounts for estimates of current measure market saturation; that is, the fraction of the market where the measure is already installed. For retrofit and new construction measures, the not-yet-adopted rate is 100%. For replace-on-burnout measures, it equals one minus the current market saturation rate.
- **Annual replacement eligibility** is the fraction of the eligible market where the measure could be installed in a given year. For replace-on-burnout measures, it equals one divided by the measure's lifetime. For retrofit and new construction measures it equals 100%.

An illustrative example of a measure market size calculation is shown below. In this example, the total number of applicable units eligible for replacement in the market per year is 360 (row M). This is not the estimated number of units that an energy efficiency program would install; rather it represents the estimated number of eligible units that are technically in the market place. The process for estimating program participation is described in the next section of this report.

<sup>22</sup> Baselines were changed from "standard" incandescent bulbs to EISA compliant halogen bulbs in 2012, 2013, and 2014 (depending on the bulb type).

<sup>23</sup> Baselines were changed from SEER 13 to SEER 14 in 2015.

Figure 15. Illustrative Measure Market Size Calculation

Measure Characteristics & Applicability		Description/Value	Calculation
A	Applicable Sector	Residential	
B	Applicable Sub-Sector	Multifamily	
C	Measure Type	Replace-on-Burnout	
D	# of Measure Units per Application	1	
E	Measure Life (Years)	10	
F	Current Measure Market Saturation	10%	
G	Applicable Customer Sector Size, # of Customers(Residential)	100,000	
H	Applicable Customer Sub-Sector Size, # of Customers(Multifamily)	20,000	
I	Applicability Factor	20%	H ÷ G
J	Feasibility Factor	100%	
K	Not-Yet-Adopted Rate	90%	1 – F
L	Annual Replacement Eligibility	10%	1 ÷ E
M	Total Applicable Measure Units	360	H x I x J x K x L

## 2.6. Program Analysis

### Programs Modeled

The next stage of the Potential Study involved modeling an expected set of DSM programs that could deliver the included measures and provide energy and demand savings over the next 20 years. The list of programs modeled in the analysis represents current ENO Energy Smart programs, plus new programs, as shown in Figure 16. In all, 22 DSM programs were modeled, including:

- Eleven energy efficiency programs based on current Energy Smart program designs.
- Five additional energy efficiency programs. New energy efficiency programs were modeled based on the list of measures included in the analysis. If a measure naturally "fit" into an existing program, it was modeled within that program. If a measure did not fit within an existing program, a new program was modeled. For example, a separate Multifamily program was modeled because ENO currently does not implement a program specifically targeting this sector, yet many multifamily-specific measures were included in the analysis.
- Six demand response programs. Each of the demand response programs modeled was considered new for the purposes of the analysis.



Figure 16. Programs Modeled

Modeled Program Name	Relevant Sector(s)	Type	Energy Smart Program?	Notes
Large Commercial Energy Solutions	C&I	EE	Yes	
Small Commercial Energy Solutions	C&I	EE	Yes	
Commercial Solar PV	C&I	EE	Yes	Policy program, required by New Orleans City Council.
Energy Smart New Homes	Residential	EE	Yes	
ENERGY STAR Air Conditioning	Residential	EE	Yes	
Residential Lighting and Appliances	Residential	EE	Yes	The current Energy Smart residential lighting initiative is a direct install program. The program modeled for this study represents a retail-based lighting and appliances initiative.
AC Tune-Up	Residential	EE	Yes	
Residential Solar PV	Residential	EE	Yes	Policy program, required by New Orleans City Council.
Solar Water Heater Pilot	Residential	EE	Yes	Policy program, required by New Orleans City Council.
Low-Income Weatherization	Residential	EE	Yes	Policy program, required by New Orleans City Council.
Commercial Building Energy Management	Commercial	EE	No	
Commercial New Construction	Commercial	EE	No	
Industrial	Industrial	EE	No	Currently, the Energy Smart Large Energy Solutions program serves the industrial sector. A separate industrial program was modeled for the purposes of estimating participation and reporting study results.
Multifamily	Multifamily	EE	No	
Home Energy Use Benchmarking	Residential	EE	No	
Non-Enabled Dynamic Pricing (Non-Res)	Commercial	DR	No	
Enabled Dynamic Pricing (Non-Res)	Commercial	DR	No	
Interruptible Rate	Large Commercial and Industrial	DR	No	ENO currently offers an interruptible rate, but it is not considered a DSM "program."
Direct Load Control	Commercial	DR	No	
Enabled Dynamic Pricing (Res)	Commercial	DR	No	
Non-Enabled Dynamic Pricing (Res)	Commercial	DR	No	

## Program Assumptions

DSM programs are the vehicles that deliver DSM measure savings through incentives, marketing, education, and training. Program assumptions modeled in this Potential Study include program costs, participation, and net-to-gross (NTG) ratios.

### Program Costs

Program costs were estimated to reflect average annual costs over the long-run, which ICF expects will be lower than program costs today. This is because Louisiana is an immature market for DSM, and ENO has only been operating current programs for a little over one year. As programs grow and the market matures, program delivery costs are expected to decrease as a percentage of overall program cost.

Incentive and non-incentive program cost estimates were developed. Incentives are program payments to customers, contractors, retailers, or manufacturers that lower the cost of efficient products and services. Non-incentive costs include administration, marketing, education and training, and evaluation

costs. Individual non-incentive cost categories were not estimated for this Potential Study. Current ENO program costs, ICF program experience, and long-run program costs in other territories were considered in developing program costs for this Potential Study.

Although estimated program expenditures increase over twenty years, the level of spending for savings achieved does not change over the Potential Study. That is, the incentive and non-incentive program costs per kWh are the same<sup>24</sup> for every year of the Potential Study.

Cost estimates by program are shown in Figure 35, and in the Appendix.

## Participation

DSM programs recruit participants by providing monetary incentives (rebates), and through marketing, education, and training. Since this was a bottom-up analysis, participation was estimated for every measure for every year of the Potential Study. Participation was forecasted using ICF's Energy Efficiency Potential Model (EPPM). For some programs, participation was estimated as a function of the measure incentive level, and program market acceptance and growth rates. For other programs, participation was based on performance of similar programs in comparable jurisdictions and on ICF program experience. Demand response program participation was based on Entergy Operating Company and ICF program experience and on the FERC National Demand Response study.<sup>25</sup> These approaches are described below.

### *Participation Approach A*

This approach combines research on customers' financial decision making with research on the diffusion of innovative technologies in the marketplace.

One way that programs motivate customers to participate is by improving the financial attractiveness of the efficient option over the standard, or baseline option. Financial attractiveness in Approach A is a function of how much the incentive lowers the customer simple payback. Customer payback is the amount of time it takes for a customer to recover the costs of investing in the efficient unit instead of the standard unit. Customer payback equals the difference in cost between the efficient and standard units (commonly known as the incremental cost), divided by the utility bill savings due to the efficient unit.<sup>26</sup> Payback before the incentive is applied is calculated as:

$$\text{Pre-incentive Customer payback (Years)} = \frac{\text{Incremental cost}}{\text{Utility bill savings}}$$

And payback after the incentive is applied is calculated as:

$$\text{Post-incentive Customer payback (Years)} = \frac{(\text{Incremental cost} - \text{Incentive cost})}{\text{Utility bill savings}}$$

<sup>24</sup> In real dollar terms.

<sup>25</sup> Federal Energy Regulatory Commission, *A National Assessment of Demand Response Potential*, Prepared by The Brattle Group, et al., June 2009.

<sup>26</sup> Incremental costs include the difference in the cost of equipment, labor and operations, and maintenance.

In the reference case, measure incentives were calculated to bring down the customer payback to two years, with a cap of 75% of incremental cost, and a minimum incentive of 25% of incremental cost.<sup>27</sup> An incentive calculation for an illustrative measure is shown in Figure 17.

For this measure the pre-incentive payback is 6.3 years (row 10) and the post-incentive payback is two years (row 17). Not all incentives bring down the payback to two years. This happens when the maximum incentive is reached, when the pre-incentive payback is already less than two years, or when the incentive would need to be greater than the incremental cost to bring the payback down to two years.

Figure 17. Illustrative Measure Incentive Calculation

	Incentive Calculations	Value	Source/Calculation
1	Residential Retail Electricity Rate—kWh	\$ 0.09	Utility
2	Residential Retail Capacity Charge—kWh	\$ 0.00	Utility
3	Residential Retail Gas Rate—therm	\$ 0.95	Utility
4	Base Measure Life	15	Deemed Savings
5	Total Incremental Cost <sup>1</sup>	\$ 238.00	Deemed Savings
6	Annual kWh Savings	417.33	Deemed Savings
7	Annual kWh Summer-Peak Savings	0.12	Deemed Savings
8	Annual Gas Savings	0.00	Deemed Savings
9	Annual Bill Savings	\$ 37.91	Annual Energy Savings by Participant
10	Pre-incentive Payback (Years)	6.3	Total Incremental Cost/Annual Bill Savings
11	<b>Incentive Assumptions</b>		
12	Minimum Incentive Level	25%	Reference Case Assumption
13	Maximum Incentive Level	75%	Reference Case Assumption
14	Post-incentive Payback Target (Years)	2	Reference Case Assumption
15	Incentive as % of Incremental Cost	68%	MAX [MIN (Minimum Incentive Level, 1-Post-rebate Payback Target/Pre-rebate Payback)]
16	Incentive	\$ 162.18	Incentive as % of Incremental Cost x Total Incremental Cost
17	Post-incentive Payback	2	(Total Incremental Cost-Incentive) / Annual Bill Savings

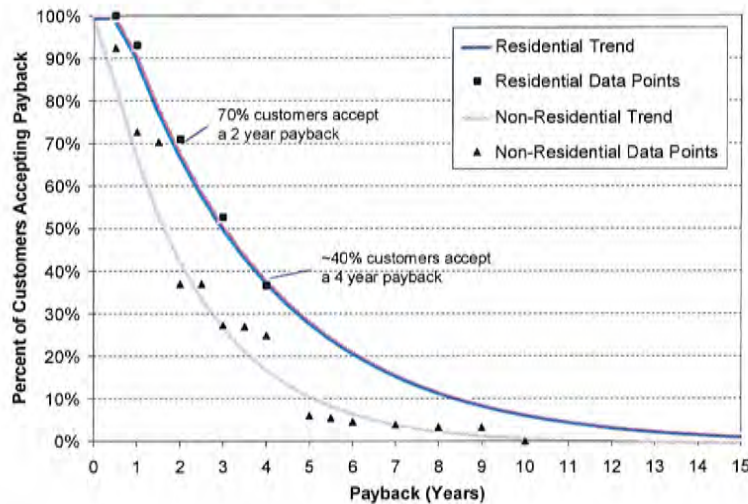
Incentives are used to calculate program costs and to forecast participation. ICF uses the post-incentive payback to estimate the fraction of customers that may choose the efficient unit over the standard unit. This is done using "payback acceptance curves," shown in Figure 18. These curves plot results from residential and non-residential customer surveys on payback acceptance.<sup>28</sup> The residential curve (in dark blue) shows that 68% of eligible residential customers stated they are willing to accept a two year measure payback. However, due to survey response bias, and from program experience, ICF knows that people tend to overstate their payback acceptance. In other words, when customers are making actual

<sup>27</sup> Incentive levels for other scenarios are shown in Section 2.7.

<sup>28</sup> Surveys were conducted prior to this study outside of Entergy's service territories.

decisions about installing equipment they are usually willing to accept much shorter payback levels than they stated they would in a survey.

Figure 18. Payback Acceptance Curves



Survey response bias as well as market barriers need to be accounted for in developing program participation estimates. Market barriers to participation include financial barriers, such as lack of access to capital; information barriers, such as lack of customer understanding about the benefits of efficient equipment; and, delivery barriers, such as contractor recruitment and participation. Response bias and market barriers are considered by ICF when developing assumptions about program growth.

In ICF's model, three program variables determine how a program grows:

1. A *program market acceptance rate* (row 2 in Figure 19) is used to estimate the maximum annual participation rate;<sup>29</sup>
2. A *ramp-up rate* (row 3 in Figure 19) is used to estimate first year participation; and
3. A *ramp-up shape* (row 4 in Figure 19) is used to estimate how quickly a program could reach the maximum annual participation rate.

The maximum annual market acceptance (participation rate)<sup>30</sup> is the product of the customer stated payback acceptance and the program market acceptance rate (row 8 in Figure 19):

$$\text{Maximum annual market acceptance rate} = \text{Customer stated payback acceptance} \times \text{Program Market Acceptance rate}$$

<sup>29</sup> That is, the program participation rate in the year the program reaches maturity.

<sup>30</sup> The highest estimated level of program market penetration in a given year.

And the first year participation rate is maximum annual market rate, divided by the ramp-up rate (row 9 in Figure 19). To summarize:

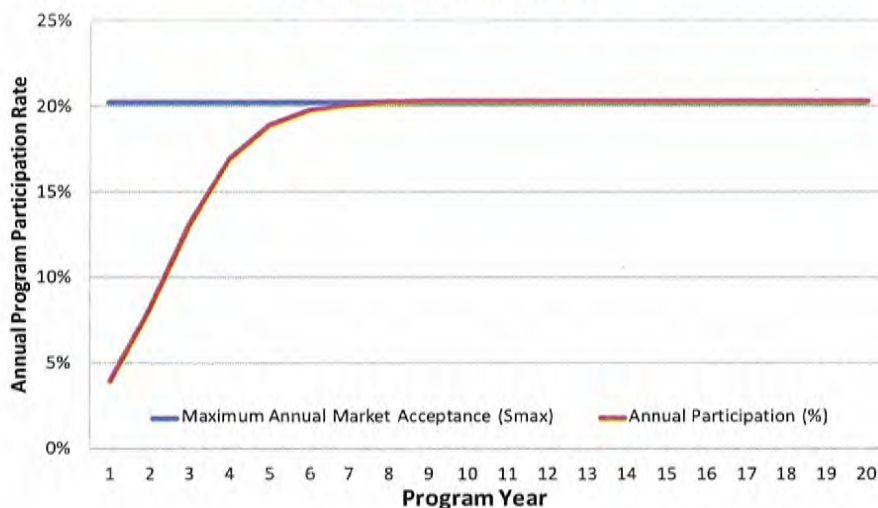
$$\text{First year participation rate} = \frac{\text{Maximum annual market acceptance rate}}{\text{Program ramp up rate}}$$

Figure 19. Illustrative Market Diffusion Assumptions

Program Assumptions	Value	Source/Calculation
1 Customer Stated Payback Acceptance	68%	Payback Acceptance Calculation
2 Program Market Acceptance Rate	30%	ICF Program Assumption
3 Ramp-up Rate	5	ICF Program Assumption
4 Ramp-up Shape	100%	ICF Program Assumption
5 Program Start Year	2012	
6 Study Period (years)	20	
7 First Year Participation Estimates		
8 Maximum Annual Market Acceptance ( $S_{max}$ )	20.4%	Program Market Rate Acceptance x Customer Stated Payback Acceptance
9 First Year Share of Installations ( $S_0$ )	4.1%	Maximum Annual Market Acceptance ( $S_{max}$ )/ Ramp-Up Rate

Figure 20 illustrates the outcome of Approach A. Program participation in the first year is 4%. The participation rate in each year grows until it reaches the maximum estimated level of 20%. This figure is an example of a "market diffusion" or "s-curve." This curve shape is also reflected in this Potential Study's results shown Figure 24.

Figure 20. Market Diffusion Curve



This approach to modeling DSM program participation is most applicable to programs where payback acceptance is important to customer decision-making and to programs where efficiency investments are typically small to medium in size. Participation approaches by program are shown in Figure 21.

Figure 21. Participation Approach, by Program

Modeled Program Name	Relevant Sector(s)	Type	Participation Approach
Large Commercial Energy Solutions	C&I	EE	A
Small Commercial Energy Solutions	C&I	EE	A
Commercial Solar PV	C&I	EE	A
Commercial Building Energy Management	Commercial	EE	A
Commercial New Construction	Commercial	EE	A
Industrial	Industrial	EE	A
Multifamily	Multifamily	EE	A
ENERGY STAR Air Conditioning	Residential	EE	A
Residential Lighting and Appliances	Residential	EE	A
AC Tune-Up	Residential	EE	A
Residential Solar PV	Residential	EE	A
Solar Water Heater Pilot	Residential	EE	A
Energy Smart New Homes	Residential	EE	B
Residential Energy Solutions	Residential	EE	B
Low-Income Weatherization	Residential	EE	B
Home Energy Use Benchmarking	Residential	EE	B
Non-Enabled Dynamic Pricing (Non-Res)	Commercial	DR	B
Enabled Dynamic Pricing (Non-Res)	Commercial	DR	B
Interruptible Rate	Large C&I	DR	B
Direct Load Control	Commercial	DR	B
Enabled Dynamic Pricing (Res)	Commercial	DR	B
Non- Enabled Dynamic Pricing (Res)	Commercial	DR	B

### Participation Approach B

Participation Approach A is not applicable to DSM programs where payback acceptance is less important to customer decision making. This is the case for residential new homes programs,<sup>31</sup> for example, where ENERGY STAR qualified home builders are the target market, not homebuyers. Nor does the payback acceptance survey data apply to customer decisions about participating in demand response programs.

For these types of programs, ICF used an alternative approach to forecast participation based on performance of similar programs in comparable jurisdictions and on ICF program experience. For example: the ENO Residential Energy Solutions program recently became a Home Performance with ENERGY STAR (HPwES) program; HPwES is sponsored by the U.S. Environmental Protection Agency. ICF implements 12 HPwES programs in other parts of the country. ICF was therefore able to use its program experience paired with Energy Smart program experience to develop annual participation estimates for the Potential Study.

<sup>31</sup> Energy Smart New Homes, for example.

If Approach A is more of an empirical modeling exercise requiring numerous calculations to arrive at final participation rate, then Approach B is more qualitative in the sense that annual program participation rates are manually input into ICF's model for each forecasted program year.

### *Demand Response Program Participation*

DR program participation was assumed to be voluntary, or "opt-in" in nature.

Participation in some DR options requires an advanced ("smart") meter. These options include dynamic pricing with enabling technology and dynamic pricing without enabling technology. Therefore, for these options, market penetration was based on ENO's projection of potential smart meter deployment at the time the assumptions for this Potential Study were developed. At that time ENO projected that, if required, full deployment could occur by 2017, although this schedule was and continues to be subject to high levels of uncertainty. These projections are shown in the Appendix. The cost of AMI infrastructure: meters, installation, IT costs and related O&M are not considered DSM program costs and are therefore not included in the costs screened in the Potential Study.

It is assumed that Interruptible tariff participants do not require additional equipment to participate.

Direct load control participation requires the utility to install a controlling device on the customer's AC or to install a "smart thermostat" inside the customer's home. Participation estimates were split evenly between these two options.

ICF based participation estimates on the Expanded Business as Usual (EBAU) case for Louisiana in the 2009 FERC study, taking into account ENO's assumptions for advanced meter deployment.

### **Net-to-Gross Ratios**

Program evaluators independently verify reported savings and conduct empirical studies and other activities to estimate actual energy savings during the period of performance. The ratio of evaluated savings to reported savings is called the program NTG ratio. Applying the NTG ratio to gross savings results in net savings. Net savings estimates are reflected in the load-shapes provided to SPO for this Potential Study.

For the purposes of this Potential Study, a program NTG ratio equals one minus the program free-ridership rate. The free-ridership rate is the percentage of program participants who would have installed the energy saving measure in the absence of the program. That is, free-riders receive program incentives and/or services for taking energy saving-actions that they would have performed even if the program did not exist. Program free-ridership estimates applied in this Potential Study range from 0% to 35%. Conversely, program NTG ratios range from 100% to 65%.

Individual program NTG ratios were estimated based on ICF program experience, and program evaluation results from other territories. NTG assumptions do not change by Potential Study scenario. NTG assumptions by program are shown in the Appendix.

## 2.7. Scenarios

Three achievable program potential scenarios were developed:

- A **reference case**, which represents the most likely trajectory of utility programs given ENO's existing programs and the best information available at the time of the Potential Study. Measure incentives in the reference case were calculated to bring down customer payback to two years, with a cap of 75% of incremental cost, and a minimum of 25% of incremental cost.
- A **high case**, which represents a world in which customers participate at higher than expected rates. This is modeled by increasing incentive levels to equal a one year customer payback, with a cap of 100% of incremental cost, and a minimum of 50% of incremental cost.
- A **low case**, which represents a world in which customers participate at lower than expected rates. This is modeled by decreasing incentive levels to equal a three year customer payback, with a cap of 50% of incremental cost, and a minimum of 10% of incremental cost.

Figure 22. Scenario Assumptions

Variable	Scenario		
	Low	Reference	High
Incentive Simple Payback Target (years)	3	2	1
Incentive Min. (% Incremental Cost)	10%	25%	50%
Incentive Max. (% Incremental Cost)	50%	75%	100%
Non-incentive Program Costs	(33% x Reference) + Reference	Reference	(-33% x Reference) + Reference



### 3. Savings Estimates

This section begins by explaining the difference between annual and cumulative savings estimates. Next, the savings estimates developed in this Potential Study are reviewed and benchmarked against those from comparable studies. Electric energy and demand savings estimates are provided.<sup>32</sup> Estimates are shown by sector and end-use. Program costs and cost-effectiveness estimates are also provided.

#### 3.1. Annual versus Cumulative Savings

Most DSM studies estimate annual and cumulative savings. The difference between annual and cumulative savings is illustrated in Figure 23, below.

Figure 23. Illustrative Annual and Cumulative Savings Calculations

		A	B	C	D
<b>Measure Characteristics</b>					
1	Annual Savings per Participant (kWh)	1			
2	Measure Life (years)	3			
<b>Program Year</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3	Participants	2	4	8	10
4	Total Annual Savings	2	4	8	10
5	Cumulative Savings	2	6	14	22

Annual savings are the savings due to participation within a given year. Annual savings do not include savings due to measures installed in previous years. Cumulative savings in a given year include the annual savings for that year plus savings due to participation in previous years, through the measure life.

Year one savings for the above measure are shown in the red cell (cell A4): this is the product of measure annual savings (cell A1) and the number of participants in year one (cell A3). Cumulative savings and annual savings are the same in year one. Cumulative savings in program year two is shown in the yellow cell (cell B5) and is the sum of year two annual and year one annual savings (cell A4 plus cell B4).

Savings accrue through the measure lifetime, in this case for three years (cell A2). Since the measure expires after three years, savings due to participation in year one expires after year three. This is illustrated by the cumulative savings value for program year four in the blue cell (cell D5), which is sum of the values in cells B4, C4 and D4.

Annual and cumulative savings estimates for this Potential Study are discussed below.

<sup>32</sup> Gas savings estimates are not reported, as they are incidental to the analysis. That is, only "electric" measures were included, although some electric measures, such as insulation, can also gain gas savings. Benefits due to gas savings were included in the cost-effectiveness calculations.

### 3.2. Annual Electric Savings Impact Estimates

ICF estimates that DSM programs operated by ENO could achieve net<sup>33</sup> annual electric savings equal to 1.1% of sales by 2021, and 1.3% of sales by 2031, in the reference case. This translates to 56.5 GWh in annual savings in 2021 and 65.2 GWh in 2031. 65.2 GWh is equivalent to the amount of electricity used by 4,800 homes<sup>34</sup> in New Orleans in a year.

The growth in savings estimates between 2021 and 2031 is due to projected growth in the number of ENO customers. The growth in the magnitude of the savings estimates (% values) over this period is due to the cumulative effect of deducting program savings estimates from the base sales forecast.

Note that these results assume acceptable regulatory treatment of DSM programs over twenty years.

Figure 24. Annual Net Electric Savings Estimates as % of Previous Year's Sales

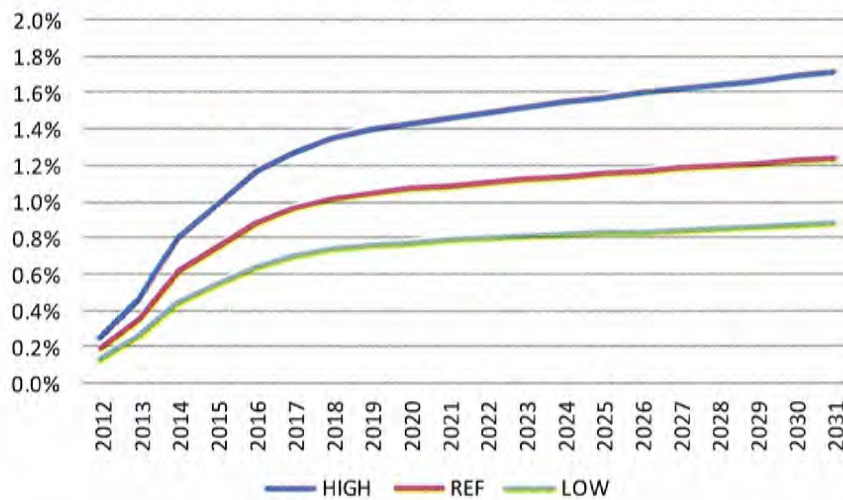


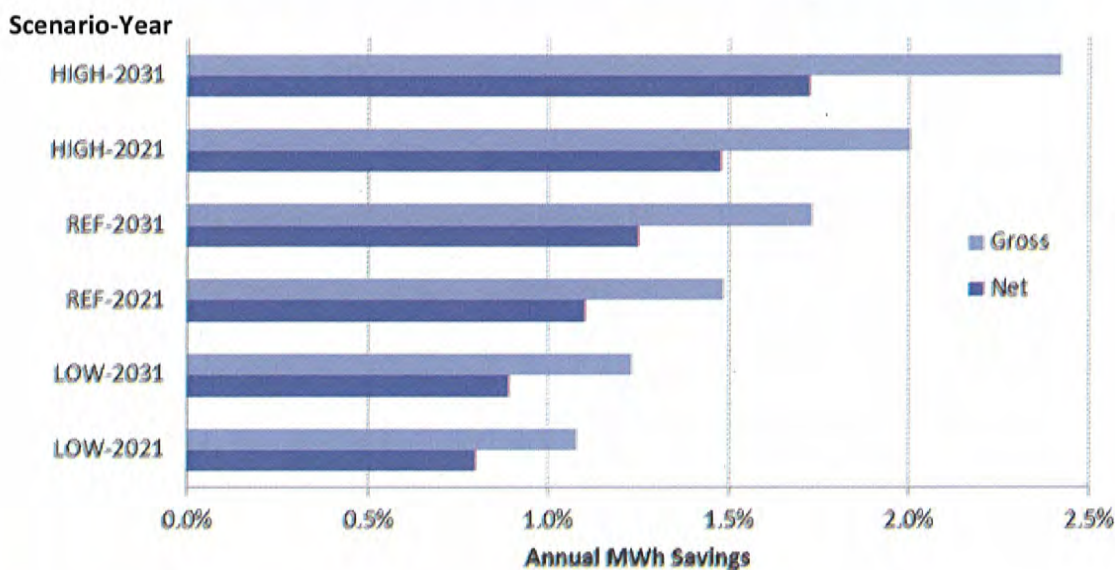
Figure 25 shows 10 and 20 year program savings estimates on both a net and a gross basis. Gross savings are what DSM program administrators track and report during the period of performance (typically a program year), and prior to program evaluation. As illustrated in Figure 25, net savings estimates are about 75% of gross savings estimates. Gross annual electric savings estimates reach nearly 1.5% of sales after 10 years in the reference case and 2.0% of sales in the high case.

ICF's NTG assumptions are shown in the Appendix.

<sup>33</sup> See Program Assumptions section for description of net versus gross savings.

<sup>34</sup> Based on average home electricity use today.

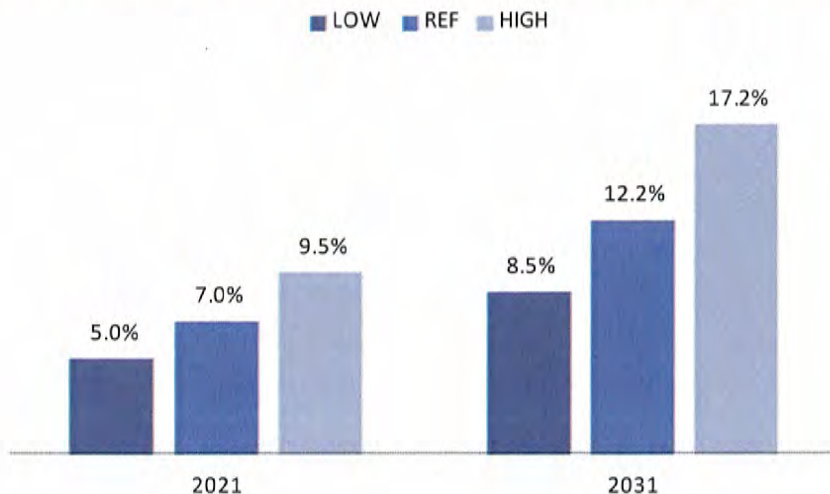
Figure 25. Net and Gross Annual Electric Savings as % of Sales (10 and 20 Year Estimates)



### 3.3. Cumulative Electric Savings Impact Estimates

Figure 26 shows estimated cumulative electric savings impacts. ICF estimates ENO's DSM programs could save about 7.0% of sales over 10 years and 12.2% of sales over 20 years in the reference case. This translates to 358.1 GWh in savings after 10 years and 638.0 GWh after 20 years.

Figure 26. Cumulative Net MWh Savings Estimates as % of Sales (10 and 20 Year Estimates)



## Study Benchmarking

This section compares savings estimates from this Potential Study to estimates from six other recent studies in the South. The estimates represent a mix of utility, state, and regional studies; a mix of utility, government, non-partisan, and advocate sponsors; and three different general study approaches: bottom-up, top-down, and meta study.

The estimates from the Potential Study are most comparable to those from the EPRI study on the Southern region, the KEMA Missouri statewide study, and the TVA study. These three studies used bottom-up approaches<sup>35</sup> similar to ICF's, although the scope of work and specific methodologies varies from study to study.

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<sup>35</sup> Bottom-up studies start with a baseline characterization and measure level assumptions that are built-up to develop overall savings estimates.

Figure 27. Estimates from Recent Southern Potential Studies<sup>36</sup>

Study	Primary Author	Study Commissioned or Sponsored by	Year Released	Methodology	Type of Achievable Potential	10 Year Savings Estimate	20 Year Savings Estimate
Energy New Orleans (this study)	ICF International	Energy Corp.	2012	Bottom-up	Achievable Low	5.0%	8.5%
					Achievable Reference	7.0%	12.2%
					Achievable High	9.5%	17.2%
Tennessee Valley Authority	Global Energy Partners	TVA	2011	Bottom-up	Achievable Low	5.1%	10.6%
					Achievable High	9.8%	19.8%
Missouri Statewide	KEMA	MO PSC	2011	Bottom-up	Three-Year Payback Achievable Net	3%	N/A
					One-Year Payback Achievable Net	7%	N/A
Missouri Statewide	ACEEE	ACEEE	2011	Top-down	Achievable Program	6.4%	N/A
Arkansas Statewide	ACEEE	ACEEE	2011	Bottom-Up	"Medium" Case Achievable	9.8% by 2025	
US National Study, Southern Region	Electric Power Research Institute	EPRI	2009	Bottom-up	Maximum Achievable	10.0%	11.1%
					Realistic Achievable	4.4%	8.1%
Review of Southern EE Studies	Georgia Tech	Georgia Tech	2009	Meta-study	Maximum Achievable	1.2% per year	
					Realistic Achievable	0.9% per year	

<sup>36</sup> 10 year and 20 year savings values are cumulative. Some studies did not develop 10 and 20 year savings estimates; rather estimates were developed that are one or two years shorter or longer in time frame. For the above table, approximations were made for the purposes of benchmarking. All studies shown are long-term in nature and therefore subject to high levels of uncertainty.

Estimates of achievable savings levels for ENO are higher than EPRI's estimates for the Southern region. Estimates from the Potential Study are similar to those produced for the Tennessee Valley Authority (TVA) in 2011. The TVA study did not include a reference case but the low and high case numbers are relatively close to this Potential Study's numbers, especially the ten year estimates.

Estimates from the Potential Study are higher than the Missouri statewide estimates produced by KEMA for the Missouri Public Service Commission. Like the TVA study, the Missouri study did not include a reference case. Instead, the Commission required two scenarios, one based on incentive levels buying down measure payback to one year and another that brings payback down to three years. In terms of approach, the one year payback scenario is similar to the ENO high case, and the three year scenario is similar to the ENO low case. In both cases the ten year ENO savings estimates are higher.

Note that each of the bottom-up studies was conducted for somewhat different purposes. The EPRI study aimed to provide objective guidance to policymakers around the country, whereas the TVA study was performed to provide TVA with information it could use to meet its aspirational goal to lead the southeast in energy efficiency. The Missouri study was performed by Commission mandate to assess long term potential in the state, and the purpose of the ENO Potential Study was to provide DSM inputs for an IRP analysis.

## Program Costs and Cost-Effectiveness

Program costs were estimated based on long-term expectations about incentive levels, and implementation and evaluation costs. Incentive and non-incentive program costs were estimated through the methods described in Section 2.6

Figure 28 shows total annual estimated total (portfolio) program costs for 2021 and 2031.

Figure 28. Annual Program Costs, \$Millions  
(10 and 20 Year Estimates)<sup>37</sup>

Scenario	2021	2031
Low	\$ 7.6	\$ 8.3
Reference	\$ 20.4	\$ 23.3
High	\$ 35.1	\$ 40.5

The modeled DSM portfolio is calculated to be cost effective with an overall Total Resource Cost (TRC) test ratio of 1.9,<sup>38</sup> and a Program Administrator Cost (PAC) test ratio of 2.5.<sup>39 40</sup> The TRC test reflects the

<sup>37</sup> Annual program cost estimates include program incentive (rebates paid to participating customers) and non-incentive costs (including administration, implementation, marketing and education, and evaluation measurement & verification costs). Estimates are in real 2011 dollars.

<sup>38</sup> TRC benefits include the cost of avoided energy and avoided capacity due to DSM programs. TRC costs include all the costs of operating DSM programs (incentive and non-incentive program costs) plus costs incurred by program participants (most often valued as the measure incremental costs minus the program incentive).

<sup>39</sup> Reference case estimates.

trade-offs to society of investing in DSM versus electricity generation. A TRC ratio of 1.9 means that for every dollar invested in DSM (by ENO and program participants), society could save a dollar and ninety cents in avoided energy supply costs.

The PAC test reflects the trade-offs to ENO of investing in DSM versus electricity generation. A PAC test result of 2.5 means that for every dollar invested by ENO in DSM, ratepayers could save two and a half dollars in avoided energy supply costs.

In the reference case, electric savings cost approximately \$0.05 per kWh, levelized. If only energy efficiency programs are included,<sup>41</sup> the levelized cost drops 20% to \$0.04 per kWh. ICF expects costs over the long-term will be lower than program costs today. This is because Louisiana is an immature market for DSM, and ENO has only been operating current programs for a little over one year. As programs grow and the market matures, program delivery costs are expected to decrease as a percentage of overall program cost.

Cost-effectiveness results for all four standard cost-effectiveness tests are shown, by program, in the Appendix.<sup>42</sup>

## Electric and Demand Savings Estimates

Figure 29 shows energy efficiency electric savings estimates in 2021 and 2031. In 20 years, cumulative savings due to DSM programs could save enough electricity to power 47,000 homes in New Orleans for a year. This equates to about a third of residential annual energy use.<sup>43 44</sup>

Figure 29. Net Annual and Cumulative MWh Savings  
(10 and 20 Year Estimates)

Annual MWh Savings	2021	2031
High	74,197	86,182
Reference	56,466	65,200
Low	41,590	48,003
Cumulative MWh Savings	2021	2031
High	477,414	860,012
Reference	358,128	637,974
Low	261,580	459,739

<sup>40</sup> PAC benefits include the cost of avoided energy and avoided capacity due to DSM programs. PAC costs include all the costs of operating DSM programs, except for costs incurred by program participants.

<sup>41</sup> Solar programs demand response programs excluded.

<sup>42</sup> Program benefit-cost tests were calculated using formulae in the California Standard Practice Manual for Economic Analysis of Demand Side Programs and Projects (available at: [http://www.energy.ca.gov/greenbuilding/documents/background/07-J\\_CPUC\\_STANDARD\\_PRACTICE\\_MANUAL.PDF](http://www.energy.ca.gov/greenbuilding/documents/background/07-J_CPUC_STANDARD_PRACTICE_MANUAL.PDF)).

<sup>43</sup> Based on average residential electricity consumption in 2011.

<sup>44</sup> Reference case estimate.

Figure 30 shows non-coincident peak electric demand savings estimates due to energy efficiency and demand response programs in 2021 and 2031. One megawatt (MW) is equivalent to the total peak electric demand of 400 homes in New Orleans. Therefore, in 20 years ENO DSM programs could offset the peak demand of 79,000 New Orleans residences.<sup>45 46</sup> This equates to about half of residential peak demand today.

**Figure 30. Annual and Cumulative MW Savings  
(10 and 20 Year Estimates)**

Annual MW Savings	2021	2031
High	27	29
Reference	20	22
Low	13	14
Cumulative MW Savings	2021	2031
High	168	271
Reference	125	200
Low	80	129

### Savings by sector and end use

Figure 31 shows the breakdown of long-term electric savings estimates in the reference case. Note that some savings labeled "commercial" also include government sector savings; this is because governmental customers are assumed to participate in commercial programs.<sup>47</sup> "Commercial" savings also includes industrial lighting and HVAC,<sup>48</sup> as those measures are currently delivered largely through the Company's "commercial" programs.<sup>49</sup>

<sup>45</sup> Based on residential peak demand today.

<sup>46</sup> Reference case estimate.

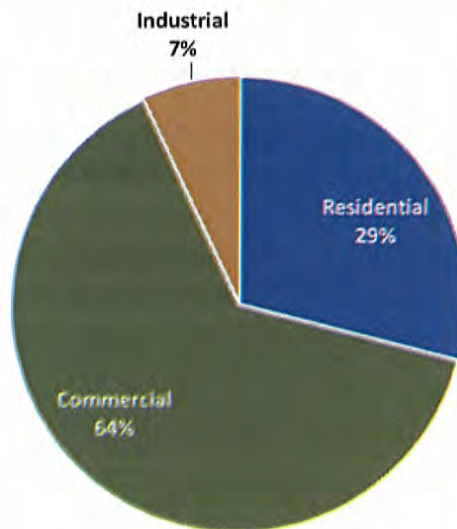
<sup>47</sup> Combined, the commercial and government sectors consume 53% of electricity in the territory.

<sup>48</sup> Combined, HVAC and lighting account for 7% of industrial electricity use.

<sup>49</sup> As discussed above, 97% of ENO's industrial customers are on the small electric rate.



Figure 31. Distribution of Cumulative Net Electric Savings, by Sector, 2031  
(Total = 638.0 GWh)

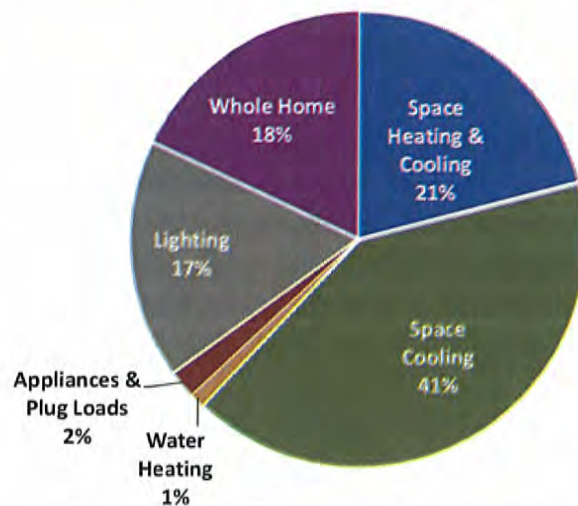


Estimated residential savings is proportionally less than residential electricity use (36% of total), but this is expected since residential efficiency opportunities tend to be smaller than non-residential options. The large portion of "commercial" savings is also expected given that it includes government savings and some industrial savings, and that commercial savings often account for a large portion of actual DSM portfolio savings.

### Residential

Figure 32 shows the estimated long-term distribution of residential electric savings. Measures that reduce heating and cooling loads constitute over 60% of savings. Whole home efficiency projects are estimated to save more than lighting. This is a significant departure from historical program performance in other jurisdictions; historically most residential programs achieved a large majority of their savings through CFLs. This departure is due in part to changes in lighting standards.

Figure 32. Distribution of Cumulative Residential Net Electric Savings, by End Use, 2031

(Total = 184.4 GWh)<sup>50</sup>

The estimated cumulative net residential peak capacity savings in 2031 due to energy efficiency programs is 50 MW. Estimated demand response savings is 27 MW. Total residential capacity savings equals 77 MW, or 7% of ENO's forecasted peak demand.<sup>51</sup>

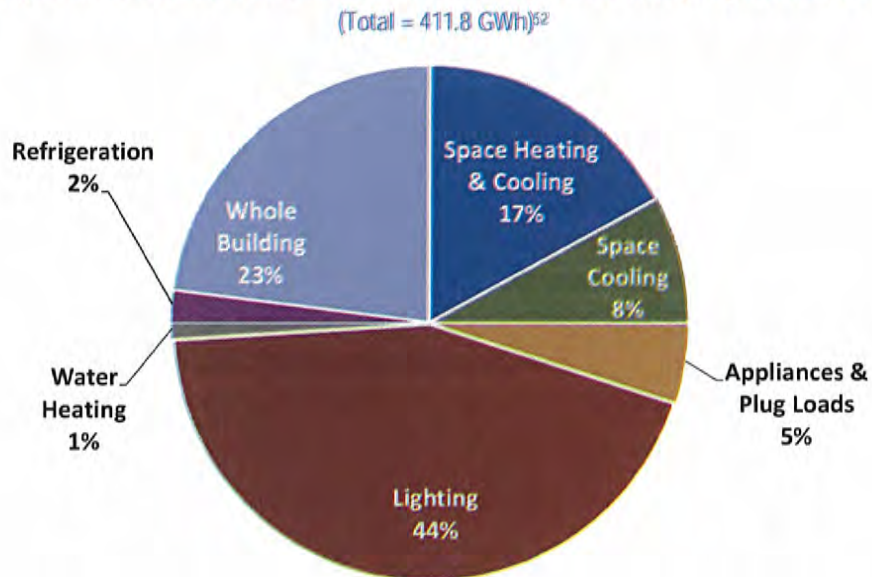
### Commercial

Figure 33 shows the estimated long-term distribution of commercial electric savings. Lighting measures represent the greatest savings opportunity primarily because lighting accounts for the greatest portion of commercial building electricity use. Whole building efficiency options represent the next largest savings opportunity. These include efficiency options such as retro-commissioning and advanced new buildings.

<sup>50</sup> Whole home measures include efficient new homes and home retrofit projects. Space heating and cooling measures include items such as furnaces, but also items such as insulation and infiltration reduction, which reduce both heating and cooling loads.

<sup>51</sup> Non-coincident peak demand for ENO's territory as a whole.

Figure 33. Distribution of Cumulative Commercial Net Electric Savings, by End Use, 2031



The estimated cumulative net non-residential<sup>53</sup> peak capacity savings in 2031 due to energy efficiency programs is 95 MW. Estimated demand response savings is 28 MW. Total non-residential capacity savings equals 123 MW, or 11% of ENO's forecasted peak demand.<sup>54</sup>

### Industrial

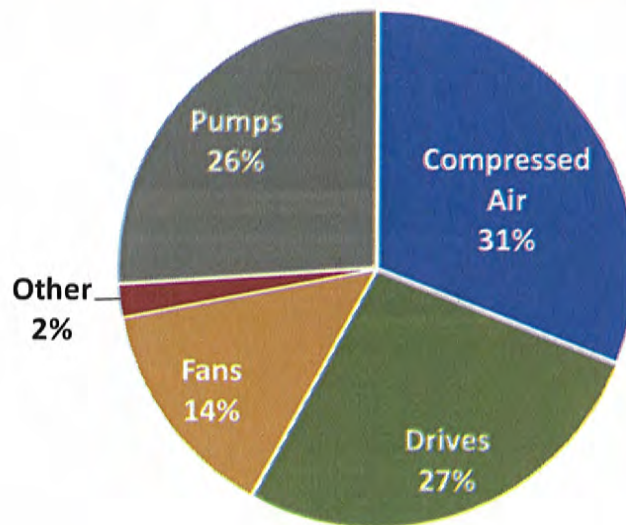
Figure 34 shows the estimated long-term distribution of industrial electric savings by end-use, excluding HVAC and lighting savings, which are covered under "commercial" programs. Over 80% of savings estimated potential would involve upgrades to compressed air, drive, and pump end-uses. "Other" end-uses include custom energy efficiency projects.

<sup>52</sup> Lighting and heating and cooling savings also reflect industrial savings for these end-uses. This is because measures for these end uses are delivered through ENO's "Commercial" programs.

<sup>53</sup> Separate industrial and large commercial DR savings estimates were not developed.

<sup>54</sup> Non-coincident peak demand for ENO's territory as a whole.

Figure 34. Distribution of Cumulative Industrial Net Electric Savings, by End Use,<sup>55</sup> 2031  
(Total = 41.8 GWh)



### Results by Program

Electric and demand savings estimates as well as annual program cost estimates and TRC estimates for the reference case are shown on the next page.

<sup>55</sup> Excluding lighting and HVAC, which are included in the commercial savings estimates.

Figure 35. Program Cost-Effectiveness, Net DSM Potential Estimates, and Cost<sup>56</sup> Estimates, by Program, 2021 and 2031

Sector	Program Name	TRC Test	2021 Annual Program Costs (\$Millions)	2031 Annual Program Costs (\$Millions)	2021 Net Cumulative MWh Savings	2031 Net Cumulative MWh Savings	2021 Net Cumulative MW Savings	2031 Net Cumulative MW Savings
Residential	Residential Lighting and Appliances	1.6	\$1.31	\$1.32	29,548	39,496	5.9	8.7
Residential	ENERGY STAR Air Conditioning	1.8	\$1.20	\$1.21	17,033	41,835	4.9	12.0
Residential	AC Tune-Up	1.2	\$0.84	\$0.84	10,193	10,226	3.7	3.8
Residential	Residential Energy Solutions	1.2	\$2.52	\$2.52	27,889	53,665	8.9	17.2
Residential	Low Income Weatherization	0.9	\$0.94	\$0.94	10,451	10,466	2.9	2.9
Residential	Energy Smart New Homes	1.2	\$0.01	\$0.01	195	423	0.1	0.2
Non-Residential	Small Commercial Energy Solutions	1.8	\$2.00	\$2.08	35,477	58,695	10.6	16.6
Non-Residential	Large Commercial Energy Solutions	2.1	\$5.02	\$6.62	144,462	270,863	28.5	53.5
Residential	Multifamily	1.5	\$0.93	\$0.93	13,277	24,198	2.1	4.4
Residential	Home Energy Use Benchmarking	1.3	\$0.26	\$0.26	3,349	3,354	0.8	0.8
Non-Residential	Commercial Building Energy Management	3.3	\$0.21	\$0.27	12,996	18,451	2.4	3.4
Non-Residential	Industrial	2.8	\$0.54	\$0.54	32,849	41,809	4.3	5.4
Non-Residential	Commercial New Construction	2.3	\$1.02	\$1.30	14,548	49,274	2.7	9.0
Non-Residential	Interruptible Rate	38.7	\$0.33	\$0.33	0	0	17.7	23.4
Non-Residential	Enabled Dynamic Pricing (Non-Res)	2.7	\$0.10	\$0.14	0	0	1.0	2.5
Non-Residential	Non-Enabled Dynamic Pricing (Non-Res)	5.0	\$0.04	\$0.05	0	0	0.7	1.6
Residential	Enabled Dynamic Pricing (Res)	2.7	\$0.26	\$0.26	0	0	3.6	5.4
Residential	Non-Enabled Dynamic Pricing (Res)	3.1	\$0.11	\$0.11	0	0	1.6	2.4
Residential	Direct Load Control	7.8	\$0.30	\$0.30	0	0	19.2	19.2
Residential	Solar Water Heater Pilot	0.4	\$0.01	\$0.01	107	241	0.0	0.0
Residential	Residential Solar PV	0.6	\$0.01	\$0.01	209	471	0.1	0.2
Non-Residential	Commercial Solar PV	0.4	\$2.42	\$3.20	5,545	14,507	2.9	7.5
	<b>Total Portfolio</b>	<b>1.9</b>	<b>\$20.38</b>	<b>\$23.25</b>	<b>358,128</b>	<b>637,974</b>	<b>124.8</b>	<b>200.4</b>

<sup>56</sup> Costs are real 2011 dollars.

## 4. Conclusion

This analysis shows that there is significant DSM potential in ENO's territory. In the reference case, ICF estimates ENO administered programs could achieve cost-effective, cumulative net electric (MWh) savings equal to 7.0% of base sales over 10 years. This Potential Study forecasts that DSM programs operated by ENO could achieve net<sup>57</sup> annual electric savings equal to 1.1% of sales by 2021, and 1.3% of sales by 2031. This translates to about 56.5 GWh in annual savings in 2021 and 65.2 GWh in 2031. 65.2 GWh is equivalent to the amount of electricity used by 4,800 homes<sup>58</sup> in New Orleans in a year.

The largest savings potential is in the commercial sector, particularly in lighting and whole-building measure retrofits in large commercial buildings. Significant residential savings opportunities also exist, especially for measures that reduce heating and cooling load. Partly due to adopted changes in general service lighting standards, the Potential Study estimates residential whole-building measures have greater savings potential than lighting measures, which is an important departure from historical program performance in most jurisdictions.

This Potential Study is a type of economic forecast, and all economic forecasts have forecast error, or uncertainty. ICF used the best data available at the time when conducting this Potential Study. Actual program performance relative to this forecast will be used to reduce forecast error in future potential studies.

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<sup>57</sup> See Program Assumptions section for description of net versus gross savings.

<sup>58</sup> Based on average home electricity use today.

## Appendices

Appendix A: Measure Characteristics and Assumptions

Appendix B: Program Savings and Cost Estimates, Cost-Effectiveness and NTG Ratios

Appendix C: Avoided Cost and Retail Rate Assumptions

Appendix D: Advanced Metering and Demand Response

# **Appendix A**

## **Measure Characteristics and Assumptions**



**Data Key**

Field	Description
Measure ID	Measure identification number
Weather Sensitive	Measure energy consumption affected by weather (WS="Weather Sensitive", NWS="Non-weather sensitive")
Sector	Applicable customer sector
Sub-Sector	Applicable customer sub-sector
End Use	Measure energy end-use
Technology Type	Measure technology/application type
Efficient Measure	Measure name
Efficient Measure Definition	Measure definition
Base Measure Definition	Baseline definition
Unit Name	Measure unit name
RET/NEW/ROB	Retrofit, new construction, or replace-on-burnout measure
Efficient Measure Life	Measure effective useful life (years)
Measure Incremental Cost	Measure incremental cost per unit (\$) - includes equipment and labor incremental costs.
Annual kWh Savings	kWh saved per measure unit per year
Annual kW Coincident Peak Savings	kW saved per measure unit per year
Annual Gas Savings	Therms saved per measure unit per year
Measure TRC	Measure TRC test estimate
Passed Measure Screening?	1=Passed measure screening and included in potential estimates 0=Measure analyzed but did not pass measure screening and was not included in potential estimates.
Total Sub-Sector Units	Total number of EAI customers in the measure's target sub-sector
Measure Units per Sub-Sector Unit	Number of measure units per application (e.g., 3 tons cooling per home)
Applicability	% of total sub-sector units to which the measure applies (e.g., 32% of all homes have an AC and gas heat, therefore the measure applicability for air conditioning measures for homes with AC/gas heat is 32%). Values are blank (not applicable) for measures that did not pass the measure screening.
Feasibility	% of total sub-sector units where it is technically feasible to install the measure. The feasibility factor is also used to distribute applicability across measures with the same application (e.g., SEER 14-18 air conditioners). Values are blank (not applicable) for measures that did not pass the measure screening.
Not Yet Adopted	For Replace-on-Burnout and New construction measures this equals 100%. For Retrofit measures, this equals one minus the measure market saturation rate. Values are blank (not applicable) for measures that did not pass the measure screening.
Annual Replacement Eligibility	For Replace-on-Burnout measures this equals one divided by the measure life. For Retrofit and New construction measures, this equals 100%. Values are blank (not applicable) for measures that did not pass the measure screening.
Total Applicable Measure Units	Number of measure units technically eligible for replacement in the marketplace in year one of the study. Values are blank (not applicable) for measures that did not pass the measure screening.
Program Name	Program in which measure was modeled (field is blank for measures that did not pass the measure screening).

**Source Descriptions**

CEE	Consortium for Energy Efficiency
DEER	California Database for Energy Efficient Resources
EAI	Entergy Arkansas
Ecos Consulting	Ecos Consulting
Energy RASS	2006 Entergy Residential Appliance Saturation Survey
ENERGY STAR	U.S. EPA ENERGY STAR Data
Entergy	Entergy Corporation
FERC	2009 FERC National Assessment of Demand Response Potential Study
Fisher Nickel	Fisher Nickel Food Service Technology Center
Frontier - 2009 ENO Deemed Savings	Frontier Associates - 2009 New Orleans Deemed Savings
Frontier - 2011 Arkansas Deemed Savings	Frontier Associates - 2011 Arkansas Deemed Savings
GCR	GCR and Associates - 2009 New Orleans Baseline Survey
ICF	ICF International
KEMA	2006 California Industrial Existing Construction Energy Efficiency Potential Study
Lawrence Berkeley Lab	Lawrence Berkeley National Laboratory
NBCIP	National Building Controls Information Program
RSMeans	RSMeans (Reed Construction Data)
U.S. EIA CBECs	U.S. Energy Information Administration Commercial Buildings Energy Consumption Survey

Residential Measures

Measure #	Sector	Sub-Sector	End Use	Technology Type	Efficient Measure	Efficient Measure Definition	Base Measure Definition
1	Residential	Residential	Clothes Washer	Gas WH	Energy Star Clothes Washer	MEF>2.0 and WF<6.0	MEF>1.26 and WF<9.5
2	Residential	Residential	Clothes Washer	Gas WH	Energy Star Clothes Washer	MEF>2.0 and WF<6.0	MEF>1.26 and WF<9.5
3	Residential	Residential	Clothes Washer	Electric WH	Energy Star Clothes Washer Elect Water Heating	MEF>2.0 and WF<6.0	MEF>1.26 and WF<9.5
4	Residential	Residential	Clothes Washer	Electric WH	Energy Star Clothes Washer Elect Water Heating	MEF>2.0 and WF<6.0	MEF>1.26 and WF<9.5
5	Residential	Residential	Dishwasher	Gas WH	Energy Star Dishwasher Gas Water Heating	SEER 14.5	SEER 13
6	Residential	Residential	Dishwasher	Electric WH	Energy Star Dishwasher Electric Water Heating	SEER 15	SEER 13
7	Residential	Residential	Electronics	All	Consumer Electronics - TVs	SEER 16	SEER 13
8	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Central AC Replacement	SEER 17	SEER 13
9	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Central AC Replacement	SEER 18	SEER 13
10	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Central AC Replacement	SEER 14.5	SEER 13
11	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Central AC Replacement	SEER 15	SEER 13
12	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Central AC Replacement	SEER 16	SEER 13
13	Residential	Single Family&Duplex	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	16.1 to 16.99 EER	SEER 13 ASHP
14	Residential	Single Family&Duplex	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	17 EER and above	SEER 13 ASHP
15	Residential	Single Family&Duplex	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	16.1 to 16.99 EER	SEER 13 ASHP
16	Residential	Single Family&Duplex	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	17 EER and above	SEER 13 ASHP
17	Residential	Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 14.5	SEER 13
18	Residential	Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 15	SEER 13
19	Residential	Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 16	SEER 13
20	Residential	Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 17	SEER 13
21	Residential	Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 18	SEER 13
22	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 14.5	SEER 13
23	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 15	SEER 13
24	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 16	SEER 13
25	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 17	SEER 13
26	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 18	SEER 13
27	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 14.5 Mini-Split AC	SEER 13 CAC System
28	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 15 Mini-Split AC	SEER 13 CAC System
29	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 16 Mini-Split AC	SEER 13 CAC System
30	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 17 Mini-Split AC	SEER 13 CAC System
31	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 18 Mini-Split AC	SEER 13 CAC System
32	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 14.5 Mini-Split AC	SEER 13 CAC System
33	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 15 Mini-Split AC	SEER 13 CAC System
34	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 16 Mini-Split AC	SEER 13 CAC System
35	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 17 Mini-Split AC	SEER 13 CAC System
36	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 18 Mini-Split AC	SEER 13 CAC System
37	Residential	Single Family&Duplex	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 14.5 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
38	Residential	Single Family&Duplex	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 15 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
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41	Residential	Single Family&Duplex	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 18 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
42	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Programmable Thermostat	Programmable Thermostat	Manual Thermostat
43	Residential	Single Family&Duplex	HVAC	Gas Heat (No AC)	Programmable Thermostat	Programmable Thermostat	Manual Thermostat
44	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Programmable Thermostat	Programmable Thermostat	Manual Thermostat
45	Residential	Single Family&Duplex	HVAC	Heat Pump	Programmable Thermostat	Programmable Thermostat	Manual Thermostat
46	Residential	Multifamily	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 14.5	SEER 13
47	Residential	Multifamily	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 15	SEER 13
48	Residential	Multifamily	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 16	SEER 13
49	Residential	Multifamily	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 17	SEER 13
50	Residential	Multifamily	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 18	SEER 13
51	Residential	Multifamily	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	16.1 to 16.99 EER	SEER 13 ASHP
52	Residential	Multifamily	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	17 EER and above	SEER 13 ASHP
53	Residential	Multifamily	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	16.1 to 16.99 EER	SEER 13 ASHP
54	Residential	Multifamily	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	17 EER and above	SEER 13 ASHP
55	Residential	Multifamily	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 14.5	SEER 13
56	Residential	Multifamily	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 15	SEER 13
57	Residential	Multifamily	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 16	SEER 13
58	Residential	Multifamily	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 17	SEER 13
59	Residential	Multifamily	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 18	SEER 13

Residential Measures

Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace on Burnout, or	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (THERMS)
1	Gas WH	Energy Star Clothes Washer	11	Installed Units	ROB	\$175.76	24.00	0.00	9.00
2	Gas WH	Energy Star Clothes Washer	11	Installed Units	ROB	\$175.76	97.00	0.01	6.10
3	Electric WH	Energy Star Clothes Washer Elect Water Heating	11	Installed Units	ROB	\$175.76	141.00	0.02	2.90
4	Electric WH	Energy Star Clothes Washer Elect Water Heating	11	Installed Units	ROB	\$175.76	224.00	0.03	0.00
5	Gas WH	Energy Star Dishwasher Gas Water Heating	11	Installed Units	ROB	\$259.00	33.00	0.00	1.90
6	Electric WH	Energy Star Dishwasher Electric Water Heating	11	Installed Units	ROB	\$259.00	74.00	0.01	0.00
7	All	Consumer Electronics - TVs	8	TV	ROB	\$40.00	140.00	0.00	0.00
8	AC/Gas Heat	Central AC Replacement	15	ton	ROB	\$119.00	323.33	0.10	0.00
9	AC/Gas Heat	Central AC Replacement	15	ton	ROB	\$238.00	417.33	0.12	0.00
10	AC/Gas Heat	Central AC Replacement	15	ton	ROB	\$357.00	486.33	0.16	0.00
11	AC/Gas Heat	Central AC Replacement	15	ton	ROB	\$476.00	667.67	0.21	0.00
12	AC/Gas Heat	Central AC Replacement	15	ton	ROB	\$596.00	712.00	0.21	0.00
13	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	ROB	\$4,824.72	1030.00	0.52	0.00
14	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	ROB	\$4,824.72	1114.00	0.50	0.00
15	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	ROB	\$4,824.72	218.00	0.06	0.00
16	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	ROB	\$4,824.72	322.00	0.15	0.00
17	Heat Pump	Heat Pump Replacement	15	tons	ROB	\$137.00	355.00	0.11	0.00
18	Heat Pump	Heat Pump Replacement	15	tons	ROB	\$274.00	452.00	0.13	0.00
19	Heat Pump	Heat Pump Replacement	15	tons	ROB	\$411.00	602.00	0.14	0.00
20	Heat Pump	Heat Pump Replacement	15	tons	ROB	\$548.00	645.00	0.16	0.00
21	Heat Pump	Heat Pump Replacement	15	tons	ROB	\$685.00	749.00	0.22	0.00
22	AC/Electric Resistance Heat	Central AC Replacement	15	ton	ROB	\$119.00	323.33	0.10	0.00
23	AC/Electric Resistance Heat	Central AC Replacement	15	ton	ROB	\$238.00	417.33	0.12	0.00
24	AC/Electric Resistance Heat	Central AC Replacement	15	ton	ROB	\$357.00	486.33	0.16	0.00
25	AC/Electric Resistance Heat	Central AC Replacement	15	ton	ROB	\$476.00	667.67	0.21	0.00
26	AC/Electric Resistance Heat	Central AC Replacement	15	ton	ROB	\$596.00	712.00	0.21	0.00
27	AC/Gas Heat	Mini-Split AC	15	ton	ROB	-\$218.28	796.27	0.24	0.00
28	AC/Gas Heat	Mini-Split AC	15	ton	ROB	-\$129.28	931.68	0.25	0.00
29	AC/Gas Heat	Mini-Split AC	15	ton	ROB	\$48.72	1054.72	0.29	0.00
30	AC/Gas Heat	Mini-Split AC	15	ton	ROB	\$226.72	121.51	0.32	0.00
31	AC/Gas Heat	Mini-Split AC	15	ton	ROB	\$404.72	1214.40	0.35	0.00
32	AC/Electric Resistance Heat	Mini-Split AC	15	ton	ROB	-\$218.28	796.27	0.24	0.00
33	AC/Electric Resistance Heat	Mini-Split AC	15	ton	ROB	-\$129.28	931.68	0.25	0.00
34	AC/Electric Resistance Heat	Mini-Split AC	15	ton	ROB	\$48.72	1054.72	0.29	0.00
35	AC/Electric Resistance Heat	Mini-Split AC	15	ton	ROB	\$226.72	121.51	0.32	0.00
36	AC/Electric Resistance Heat	Mini-Split AC	15	ton	ROB	\$404.72	1214.40	0.35	0.00
37	Heat Pump	Mini-Split Heat Pump	15	tons	ROB	\$743.72	997.53	0.22	0.00
38	Heat Pump	Mini-Split Heat Pump	15	tons	ROB	\$835.72	1065.32	0.24	0.00
39	Heat Pump	Mini-Split Heat Pump	15	tons	ROB	\$1,019.72	1187.98	0.27	0.00
40	Heat Pump	Mini-Split Heat Pump	15	tons	ROB	\$1,203.72	1296.12	0.30	0.00
41	Heat Pump	Mini-Split Heat Pump	15	tons	ROB	\$1,387.72	1392.15	0.32	0.00
42	AC/Gas Heat	Programmable Thermostat	15	per home	ROB	\$45.00	346.60	0.00	3.39
43	Gas Heat (No AC)	Programmable Thermostat	15	per home	ROB	\$45.00	0.00	0.00	3.39
44	AC/Electric Resistance Heat	Programmable Thermostat	15	per home	ROB	\$45.00	424.14	0.00	0.00
45	Heat Pump	Programmable Thermostat	15	per home	ROB	\$45.00	136.85	0.00	0.00
46	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$119.00	323.33	0.10	0.00
47	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$238.00	417.33	0.12	0.00
48	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$357.00	486.33	0.16	0.00
49	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$476.00	667.67	0.21	0.00
50	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$596.00	712.00	0.21	0.00
51	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	ROB	\$4,824.72	1030.00	0.52	0.00
52	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	ROB	\$4,824.72	1114.00	0.50	0.00
53	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	ROB	\$4,824.72	218.00	0.06	0.00
54	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	ROB	\$4,824.72	322.00	0.15	0.00
55	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	ROB	\$137.00	355.00	0.11	0.00
56	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	ROB	\$274.00	452.00	0.13	0.00
57	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	ROB	\$411.00	602.00	0.14	0.00
58	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	ROB	\$548.00	645.00	0.16	0.00
59	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	ROB	\$685.00	749.00	0.22	0.00

Measure #	Technology Type	Efficient Measure	Measure TRC	Passed Measure Screening?	Total Sub Sector Units	Measure Units per Sub-Sector Unit	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
1	Gas WH	Energy Star Clothes Washer	0.24	0	144,537	1						
2	Gas WH	Gas Water Heating	0.42	0	144,537	1						
3	Electric WH	Energy Star Clothes Washer	0.49	0	144,537	1						
4	Electric WH	Electric Water Heating	0.70	0	144,537	1						
5	Gas WH	Energy Star Dishwasher	0.09	0	144,537	1						
6	Electric WH	Energy Star Dishwasher	0.16	0	144,537	1						
7	All	Consumer Electronics - TVs	1.01	0	144,537	1	100%	25%	100%	13%	4517	Residential Lighting and Appliances
8	AC/Gas Heat	Central AC Replacement	2.64	1	126,326	3	32%	8%	100%	7%	649	ENERGY STAR Air Conditioning
9	AC/Gas Heat	Central AC Replacement	1.64	1	126,326	3	32%	18%	100%	7%	1460	ENERGY STAR Air Conditioning
10	AC/Gas Heat	Central AC Replacement	1.33	1	126,326	3	32%	28%	100%	7%	2271	ENERGY STAR Air Conditioning
11	AC/Gas Heat	Central AC Replacement	1.34	1	126,326	3	32%	18%	100%	7%	1460	ENERGY STAR Air Conditioning
12	AC/Gas Heat	Central AC Replacement	1.12	1	126,326	3	32%	18%	100%	7%	1460	ENERGY STAR Air Conditioning
13	Heat Pump	Ground Source Heat Pump w/desuperheater	0.34	0	126,326	3						
14	Heat Pump	Ground Source Heat Pump w/desuperheater	0.35	0	126,326	3						
15	Heat Pump	Ground Source Heat Pump w/desuperheater	0.05	0	126,326	3						
16	Heat Pump	Ground Source Heat Pump w/desuperheater	0.10	0	126,326	3						
17	Heat Pump	Heat Pump Replacement	2.44	1	126,326	3	4%	8%	100%	7%	76	ENERGY STAR Air Conditioning
18	Heat Pump	Heat Pump Replacement	1.54	1	126,326	3	4%	18%	100%	7%	171	ENERGY STAR Air Conditioning
19	Heat Pump	Heat Pump Replacement	1.21	1	126,326	3	4%	28%	100%	7%	265	ENERGY STAR Air Conditioning
20	Heat Pump	Heat Pump Replacement	1.01	1	126,326	3	4%	18%	100%	7%	171	ENERGY STAR Air Conditioning
21	Heat Pump	Heat Pump Replacement	1.01	1	126,326	3	4%	18%	100%	7%	171	ENERGY STAR Air Conditioning
22	AC/Electric Resistance Heat	Central AC Replacement	2.64	1	126,326	3	38%	8%	100%	7%	774	ENERGY STAR Air Conditioning
23	AC/Electric Resistance Heat	Central AC Replacement	1.64	1	126,326	3	38%	18%	100%	7%	1743	ENERGY STAR Air Conditioning
24	AC/Electric Resistance Heat	Central AC Replacement	1.33	1	126,326	3	38%	28%	100%	7%	2711	ENERGY STAR Air Conditioning
25	AC/Electric Resistance Heat	Central AC Replacement	1.34	1	126,326	3	38%	18%	100%	7%	1743	ENERGY STAR Air Conditioning
26	AC/Electric Resistance Heat	Central AC Replacement	1.12	1	126,326	3	38%	18%	100%	7%	1743	ENERGY STAR Air Conditioning
27	AC/Gas Heat	Mini-Split AC	-3.46	0	126,326	3						
28	AC/Gas Heat	Mini-Split AC	-6.47	0	126,326	3						
29	AC/Gas Heat	Mini-Split AC	19.46	1	126,326	3	32%	6%	100%	7%	507	ENERGY STAR Air Conditioning
30	AC/Gas Heat	Mini-Split AC	4.57	1	126,326	3	32%	3%	100%	7%	203	ENERGY STAR Air Conditioning
31	AC/Gas Heat	Mini-Split AC	2.77	1	126,326	3	32%	1%	100%	7%	101	ENERGY STAR Air Conditioning
32	AC/Electric Resistance Heat	Mini-Split AC	-3.46	0	126,326	3						
33	AC/Electric Resistance Heat	Mini-Split AC	-6.47	0	126,326	3						
34	AC/Electric Resistance Heat	Mini-Split AC	19.46	1	126,326	3	38%	6%	100%	7%	605	ENERGY STAR Air Conditioning
35	AC/Electric Resistance Heat	Mini-Split AC	4.57	1	126,326	3	38%	3%	100%	7%	242	ENERGY STAR Air Conditioning
36	AC/Electric Resistance Heat	Mini-Split AC	2.77	1	126,326	3	38%	1%	100%	7%	121	ENERGY STAR Air Conditioning
37	Heat Pump	Mini-Split Heat Pump	1.09	1	126,326	3	4%	1%	100%	7%	9	ENERGY STAR Air Conditioning
38	Heat Pump	Mini-Split Heat Pump	1.04	1	126,326	3	4%	2%	100%	7%	9	ENERGY STAR Air Conditioning
39	Heat Pump	Mini-Split Heat Pump	0.96	1	126,326	3	4%	3%	100%	7%	29	ENERGY STAR Air Conditioning
40	Heat Pump	Mini-Split Heat Pump	0.89	1	126,326	3	4%	2%	100%	7%	29	ENERGY STAR Air Conditioning
41	Heat Pump	Mini-Split Heat Pump	0.83	1	126,326	3	4%	2%	100%	7%	19	ENERGY STAR Air Conditioning
42	AC/Gas Heat	Programmable Thermostat	0.66	0	126,326	3	4%	2%	100%	7%	19	ENERGY STAR Air Conditioning
43	Gas Heat (No AC)	Programmable Thermostat	0.31	0	126,326	1						
44	AC/Electric Resistance Heat	Programmable Thermostat	0.71	0	126,326	1						
45	Heat Pump	Programmable Thermostat	0.52	0	126,326	1						
46	AC/Gas Heat	Central AC Replacement - Multifamily	2.64	1	17,344	2	21%	8%	100%	7%	28	Multifamily
47	AC/Gas Heat	Central AC Replacement - Multifamily	1.64	1	17,344	2	21%	18%	100%	7%	64	Multifamily
48	AC/Gas Heat	Central AC Replacement - Multifamily	1.33	1	17,344	2	21%	28%	100%	7%	100	Multifamily
49	AC/Gas Heat	Central AC Replacement - Multifamily	1.34	1	17,344	2	21%	18%	100%	7%	64	Multifamily
50	AC/Gas Heat	Central AC Replacement - Multifamily	1.12	1	17,344	2	21%	18%	100%	7%	64	Multifamily
51	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	0.34	0	17,344	2						
52	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	0.35	0	17,344	2						
53	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	0.05	0	17,344	2						
54	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	0.10	0	17,344	2						
55	Heat Pump	Heat Pump Replacement - Multifamily	2.44	1	17,344	2	6%	8%	100%	7%	8	Multifamily
56	Heat Pump	Heat Pump Replacement - Multifamily	1.54	1	17,344	2	6%	18%	100%	7%	19	Multifamily
57	Heat Pump	Heat Pump Replacement - Multifamily	1.21	1	17,344	2	6%	28%	100%	7%	29	Multifamily
58	Heat Pump	Heat Pump Replacement - Multifamily	1.01	1	17,344	2	6%	18%	100%	7%	19	Multifamily
59	Heat Pump	Heat Pump Replacement - Multifamily	1.01	1	17,344	2	6%	18%	100%	7%	19	Multifamily

Residential Measures

Residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
1	Gas WH	Energy Star Clothes Washer	Frontier - 2011 Arkansas Deemed Savings	DEER			
2	Gas WH	Energy Star Clothes Washer Gas Water Heating	Frontier - 2011 Arkansas Deemed Savings	DEER			
3	Electric WH	Energy Star Clothes Washer Electric Water Heating	Frontier - 2011 Arkansas Deemed Savings	DEER			
4	Electric WH	Energy Star Clothes Washer Elect Water Heating	Frontier - 2011 Arkansas Deemed Savings	DEER			
5	Gas WH	Energy Star Dishwasher Gas Water Heating	Frontier - 2011 Arkansas Deemed Savings	DEER			
6	Electric WH	Energy Star Dishwasher Electric Water Heating	Frontier - 2011 Arkansas Deemed Savings	DEER			
7	All	Consumer Electronics - TVs	ICF	ICF	ICF	ICF	ICF
8	AC/Gas Heat	Central AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
9	AC/Gas Heat	Central AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
10	AC/Gas Heat	Central AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
11	AC/Gas Heat	Central AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
12	AC/Gas Heat	Central AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
13	Heat Pump	Ground Source Heat Pump w/desuperheater	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
14	Heat Pump	Ground Source Heat Pump w/desuperheater	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
15	Heat Pump	Ground Source Heat Pump w/desuperheater	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
16	Heat Pump	Ground Source Heat Pump w/desuperheater	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
17	Heat Pump	Heat Pump Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
18	Heat Pump	Heat Pump Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
19	Heat Pump	Heat Pump Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
20	Heat Pump	Heat Pump Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
21	Heat Pump	Heat Pump Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
22	AC/Electric Resistance Heat	Central AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
23	AC/Electric Resistance Heat	Central AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
24	AC/Electric Resistance Heat	Central AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
25	AC/Electric Resistance Heat	Central AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
26	AC/Electric Resistance Heat	Central AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
27	AC/Gas Heat	Mini-Split AC	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
28	AC/Gas Heat	Mini-Split AC	ICF	ICF			
29	AC/Gas Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
30	AC/Gas Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
31	AC/Gas Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
32	AC/Gas Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
33	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
34	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
35	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
36	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
37	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
38	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
39	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
40	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
41	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
42	AC/Gas Heat	Programmable Thermostat	ICF	ICF	Energy RASS, GCR	ICF	ICF
43	Gas Heat (No AC)	Programmable Thermostat	ICF	ICF	Energy RASS, GCR	ICF	ICF
44	AC/Electric Resistance Heat	Programmable Thermostat	ICF	ICF	Energy RASS, GCR	ICF	ICF
45	Heat Pump	Programmable Thermostat	ICF	ICF	Energy RASS, GCR	ICF	ICF
46	AC/Gas Heat	Central AC Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
47	AC/Gas Heat	Central AC Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
48	AC/Gas Heat	Central AC Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
49	AC/Gas Heat	Central AC Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
50	AC/Gas Heat	Central AC Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
51	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
52	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
53	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
54	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
55	Heat Pump	Heat Pump Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
56	Heat Pump	Heat Pump Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
57	Heat Pump	Heat Pump Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
58	Heat Pump	Heat Pump Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
59	Heat Pump	Heat Pump Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF

Residential Measures

Measure #	Sub-Sector	End Use	Technology Type	Efficient Measure	Efficient Measure Definition	Base Measure Definition
60	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 14.5	SEER 13
61	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 15	SEER 13
62	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 16	SEER 13
63	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 17	SEER 13
64	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 18	SEER 13
65	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 14.5 Mini-Split AC	SEER 13 CAC System
66	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 15 Mini-Split AC	SEER 13 CAC System
67	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 16 Mini-Split AC	SEER 13 CAC System
68	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 17 Mini-Split AC	SEER 13 CAC System
69	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 18 Mini-Split AC	SEER 13 CAC System
70	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 14.5 Mini-Split AC	SEER 13 CAC System
71	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 15 Mini-Split AC	SEER 13 CAC System
72	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 16 Mini-Split AC	SEER 13 CAC System
73	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 17 Mini-Split AC	SEER 13 CAC System
74	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 18 Mini-Split AC	SEER 13 CAC System
75	Residential	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 14.5 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
76	Residential	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 15 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
77	Residential	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 16 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
78	Residential	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 17 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
79	Residential	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 18 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
80	Residential	HVAC	AC/Gas Heat	Central AC Replacement	SEER 16	SEER 14
81	Residential	HVAC	AC/Gas Heat	Central AC Replacement	SEER 17	SEER 14
82	Residential	HVAC	AC/Gas Heat	Central AC Replacement	SEER 18	SEER 14
83	Residential	HVAC	AC/Gas Heat	Central AC Replacement	SEER 15	SEER 14
84	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	16.1 to 16.99 EER	SEER 14 ASHP
85	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	17 EER and above	SEER 14 ASHP
86	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	16.1 to 16.99 EER	SEER 14 ASHP
87	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	17 EER and above	SEER 14 ASHP
88	Residential	HVAC	Heat Pump	Heat Pump Replacement	SEER 15	SEER 14
89	Residential	HVAC	Heat Pump	Heat Pump Replacement	SEER 16	SEER 14
90	Residential	HVAC	Heat Pump	Heat Pump Replacement	SEER 17	SEER 14
91	Residential	HVAC	Heat Pump	Heat Pump Replacement	SEER 18	SEER 14
92	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 15	SEER 14
93	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 16	SEER 14
94	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 17	SEER 14
95	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 18	SEER 14
96	Residential	HVAC	AC/Gas Heat	Mini-Split AC	SEER 15 Mini-Split AC	SEER 14 CAC System
97	Residential	HVAC	AC/Gas Heat	Mini-Split AC	SEER 16 Mini-Split AC	SEER 14 CAC System
98	Residential	HVAC	AC/Gas Heat	Mini-Split AC	SEER 17 Mini-Split AC	SEER 14 CAC System
99	Residential	HVAC	AC/Gas Heat	Mini-Split AC	SEER 18 Mini-Split AC	SEER 14 CAC System
100	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 15 Mini-Split AC	SEER 14 CAC System
101	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 16 Mini-Split AC	SEER 14 CAC System
102	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 17 Mini-Split AC	SEER 14 CAC System
103	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 18 Mini-Split AC	SEER 14 CAC System
104	Residential	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 15 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
105	Residential	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 16 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
106	Residential	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 17 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
107	Residential	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 18 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
108	Residential	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 15	SEER 14
109	Residential	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 16	SEER 14
110	Residential	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 17	SEER 14
111	Residential	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 18	SEER 14
112	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	16.1 to 16.99 EER	SEER 14 ASHP
113	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	17 EER and above	SEER 14 ASHP
114	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	16.1 to 16.99 EER	SEER 14 ASHP
115	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	17 EER and above	SEER 14 ASHP
116	Residential	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 15	SEER 14
117	Residential	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 16	SEER 14
118	Residential	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 17	SEER 14
119	Residential	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 18	SEER 14

Residential Measures

Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace on Burnout, or	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (THERMS)
60	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$119.00	323.33	0.10	0.00
61	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$238.00	417.33	0.12	0.00
62	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$357.00	486.33	0.16	0.00
63	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$476.00	667.67	0.21	0.00
64	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$596.00	712.00	0.21	0.00
65	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	ROB	-\$218.28	796.27	0.24	0.00
66	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	ROB	-\$129.28	931.68	0.25	0.00
67	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	ROB	\$48.72	1054.72	0.29	0.00
68	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	ROB	\$226.72	1121.51	0.32	0.00
69	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	ROB	\$404.72	1214.40	0.35	0.00
70	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	ROB	-\$218.28	796.27	0.24	0.00
71	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	ROB	-\$129.28	931.68	0.25	0.00
72	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	ROB	\$48.72	1054.72	0.29	0.00
73	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	ROB	\$226.72	1121.51	0.32	0.00
74	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	ROB	\$404.72	1214.40	0.35	0.00
75	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	ROB	\$743.72	997.53	0.22	0.00
76	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	ROB	\$835.72	1065.32	0.24	0.00
77	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	ROB	\$1,019.72	1187.98	0.27	0.00
78	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	ROB	\$1,203.72	1296.12	0.30	0.00
79	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	ROB	\$1,387.72	1392.15	0.32	0.00
80	AC/Gas Heat	Central AC Replacement	15	ton	ROB	\$119.00	201.78	0.05	0.00
81	AC/Gas Heat	Central AC Replacement	15	ton	ROB	\$238.00	270.78	0.09	0.00
82	AC/Gas Heat	Central AC Replacement	15	ton	ROB	\$357.00	452.11	0.14	0.00
83	AC/Gas Heat	Central AC Replacement	15	ton	ROB	\$477.00	496.44	0.14	0.00
84	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	ROB	\$4,687.72	779.33	0.45	0.00
85	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	ROB	\$4,687.72	863.33	0.43	0.00
86	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	ROB	\$4,687.72	0.00	0.00	0.00
87	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	ROB	\$4,687.72	71.33	0.08	0.00
88	Heat Pump	Heat Pump Replacement	15	tons	ROB	\$137.00	201.33	0.06	0.00
89	Heat Pump	Heat Pump Replacement	15	tons	ROB	\$274.00	351.33	0.07	0.00
90	Heat Pump	Heat Pump Replacement	15	tons	ROB	\$411.00	394.33	0.09	0.00
91	Heat Pump	Heat Pump Replacement	15	tons	ROB	\$548.00	498.33	0.15	0.00
92	AC/Electric Resistance Heat	Central AC Replacement	15	ton	ROB	\$119.00	201.78	0.05	0.00
93	AC/Electric Resistance Heat	Central AC Replacement	15	ton	ROB	\$238.00	270.78	0.09	0.00
94	AC/Electric Resistance Heat	Central AC Replacement	15	ton	ROB	\$357.00	452.11	0.14	0.00
95	AC/Electric Resistance Heat	Central AC Replacement	15	ton	ROB	\$477.00	496.44	0.14	0.00
96	AC/Gas Heat	Mini-Split AC	15	ton	ROB	-\$248.28	716.12	0.19	0.00
97	AC/Gas Heat	Mini-Split AC	15	ton	ROB	-\$70.28	839.17	0.22	0.00
98	AC/Gas Heat	Mini-Split AC	15	ton	ROB	\$107.72	905.96	0.26	0.00
99	AC/Gas Heat	Mini-Split AC	15	ton	ROB	\$285.72	998.84	0.28	0.00
100	AC/Electric Resistance Heat	Mini-Split AC	15	ton	ROB	-\$248.28	716.12	0.19	0.00
101	AC/Electric Resistance Heat	Mini-Split AC	15	ton	ROB	-\$70.28	839.17	0.22	0.00
102	AC/Electric Resistance Heat	Mini-Split AC	15	ton	ROB	\$107.72	905.96	0.26	0.00
103	AC/Electric Resistance Heat	Mini-Split AC	15	ton	ROB	\$285.72	998.84	0.28	0.00
104	Heat Pump	Mini-Split Heat Pump	15	tons	ROB	\$698.72	814.65	0.16	0.00
105	Heat Pump	Mini-Split Heat Pump	15	tons	ROB	\$882.72	937.32	0.20	0.00
106	Heat Pump	Mini-Split Heat Pump	15	tons	ROB	\$1,066.72	1045.45	0.22	0.00
107	Heat Pump	Mini-Split Heat Pump	15	tons	ROB	\$1,250.72	1141.48	0.25	0.00
108	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$119.00	201.78	0.05	0.00
109	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$238.00	270.78	0.09	0.00
110	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$357.00	452.11	0.14	0.00
111	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	ROB	\$477.00	496.44	0.14	0.00
112	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	ROB	\$4,687.72	779.33	0.45	0.00
113	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	ROB	\$4,687.72	863.33	0.43	0.00
114	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	ROB	\$4,687.72	0.00	0.00	0.00
115	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	ROB	\$4,687.72	71.33	0.08	0.00
116	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	ROB	\$137.00	201.33	0.06	0.00
117	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	ROB	\$274.00	351.33	0.07	0.00
118	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	ROB	\$411.00	394.33	0.09	0.00
119	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	ROB	\$548.00	498.33	0.15	0.00

Measure #	Technology Type	Efficient Measure	Measure TRC	Passed Measure Screening?	Total Sub Sector Units	Measure Units per Sub-Sector	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
60	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	2.64	1	17,344	2	21%	8%	100%	7%	28	Multifamily
61	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	1.64	1	17,344	2	21%	18%	100%	7%	64	Multifamily
62	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	1.33	1	17,344	2	21%	28%	100%	7%	100	Multifamily
63	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	1.34	1	17,344	2	21%	18%	100%	7%	64	Multifamily
64	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	1.12	1	17,344	2	21%	18%	100%	7%	64	Multifamily
65	AC/Gas Heat	Mini-Split AC - Multifamily	-3.46	0	17,344	2						
66	AC/Gas Heat	Mini-Split AC - Multifamily	-6.47	0	17,344	2						
67	AC/Gas Heat	Mini-Split AC - Multifamily	19.46	1	17,344	2	32%	4%	100%	7%	22	Multifamily
68	AC/Gas Heat	Mini-Split AC - Multifamily	4.57	1	17,344	2	32%	3%	100%	7%	17	Multifamily
69	AC/Gas Heat	Mini-Split AC - Multifamily	2.77	1	17,344	2	32%	3%	100%	7%	17	Multifamily
70	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	-3.46	0	17,344	2						
71	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	-6.47	0	17,344	2						
72	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	19.46	1	17,344	2	38%	4%	100%	7%	27	Multifamily
73	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	4.57	1	17,344	2	38%	3%	100%	7%	20	Multifamily
74	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	2.77	1	17,344	2	38%	3%	100%	7%	20	Multifamily
75	Heat Pump	Mini-Split Heat Pump - Multifamily	1.09	0	17,344	2						
76	Heat Pump	Mini-Split Heat Pump - Multifamily	1.04	0	17,344	2						
77	Heat Pump	Mini-Split Heat Pump - Multifamily	0.96	0	17,344	2						
78	Heat Pump	Mini-Split Heat Pump - Multifamily	0.89	0	17,344	2						
79	Heat Pump	Mini-Split Heat Pump - Multifamily	0.83	0	17,344	2						
80	AC/Gas Heat	Central AC Replacement	1.51	1	126,326	3	32%	20%	100%	7%	1622	ENERGY STAR Air Conditioning
81	AC/Gas Heat	Central AC Replacement	1.11	1	126,326	3	32%	40%	100%	7%	2297	ENERGY STAR Air Conditioning
82	AC/Gas Heat	Central AC Replacement	1.20	1	126,326	3	32%	15%	100%	7%	2297	ENERGY STAR Air Conditioning
83	AC/Gas Heat	Central AC Replacement	0.96	1	126,326	3	32%	15%	100%	7%	2297	ENERGY STAR Air Conditioning
84	Heat Pump	Ground Source Heat Pump w/desuperheater	0.29	0	126,326	3						
85	Heat Pump	Ground Source Heat Pump w/desuperheater	0.29	0	126,326	3						
86	Heat Pump	Ground Source Heat Pump w/desuperheater	0.00	0	126,326	3						
87	Heat Pump	Ground Source Heat Pump w/desuperheater	0.04	0	126,326	3	4%	20%	100%	7%	268	ENERGY STAR Air Conditioning
88	Heat Pump	Heat Pump Replacement	1.40	1	126,326	3	4%	40%	100%	7%	268	ENERGY STAR Air Conditioning
89	Heat Pump	Heat Pump Replacement	0.98	1	126,326	3						
90	Heat Pump	Heat Pump Replacement	0.79	1	126,326	3						
91	Heat Pump	Heat Pump Replacement	0.84	0	126,326	3						
92	AC/Electric Resistance Heat	Central AC Replacement	1.51	1	126,326	3	38%	20%	100%	7%	2741	ENERGY STAR Air Conditioning
93	AC/Electric Resistance Heat	Central AC Replacement	1.11	1	126,326	3	38%	40%	100%	7%	2741	ENERGY STAR Air Conditioning
94	AC/Electric Resistance Heat	Central AC Replacement	1.20	1	126,326	3	38%	15%	100%	7%	2741	ENERGY STAR Air Conditioning
95	AC/Electric Resistance Heat	Central AC Replacement	0.96	0	126,326	3						
96	AC/Gas Heat	Mini-Split AC	-2.53	0	126,326	3						
97	AC/Gas Heat	Mini-Split AC	-10.51	0	126,326	3						
98	AC/Gas Heat	Mini-Split AC	7.68	1	126,326	3	32%	2%	100%	7%	2297	ENERGY STAR Air Conditioning
99	AC/Gas Heat	Mini-Split AC	3.20	1	126,326	3	32%	1%	100%	7%	2297	ENERGY STAR Air Conditioning
100	AC/Electric Resistance Heat	Mini-Split AC	-2.53	0	126,326	3						
101	AC/Electric Resistance Heat	Mini-Split AC	-10.51	0	126,326	3						
102	AC/Electric Resistance Heat	Mini-Split AC	7.68	1	126,326	3	38%	2%	100%	7%	2741	ENERGY STAR Air Conditioning
103	AC/Electric Resistance Heat	Mini-Split AC	3.20	1	126,326	3	38%	1%	100%	7%	2741	ENERGY STAR Air Conditioning
104	Heat Pump	Mini-Split Heat Pump	0.92	0	126,326	3						
105	Heat Pump	Mini-Split Heat Pump	0.85	0	126,326	3						
106	Heat Pump	Mini-Split Heat Pump	0.79	0	126,326	3						
107	Heat Pump	Mini-Split Heat Pump	0.74	0	126,326	3						
108	AC/Gas Heat	Central AC Replacement - Multifamily	1.51	1	17,344	2	32%	3%	100%	7%	1148	Multifamily
109	AC/Gas Heat	Central AC Replacement - Multifamily	1.11	1	17,344	2	32%	5%	100%	7%	1148	Multifamily
110	AC/Gas Heat	Central AC Replacement - Multifamily	1.20	1	17,344	2	32%	2%	100%	7%	1148	Multifamily
111	AC/Gas Heat	Central AC Replacement - Multifamily	0.96	1	17,344	2	32%	1%	100%	7%	1148	Multifamily
112	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	0.29	0	17,344	2						
113	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	0.29	0	17,344	2						
114	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	0.00	0	17,344	2						
115	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	0.04	0	17,344	2						
116	Heat Pump	Heat Pump Replacement - Multifamily	1.40	1	17,344	2	4%	3%	100%	7%	134	Multifamily
117	Heat Pump	Heat Pump Replacement - Multifamily	0.98	1	17,344	2	4%	5%	100%	7%	134	Multifamily
118	Heat Pump	Heat Pump Replacement - Multifamily	0.79	0	17,344	2						
119	Heat Pump	Heat Pump Replacement - Multifamily	0.84	0	17,344	2						

Residential Measures



Residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
60	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
61	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
62	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
63	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
64	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
65	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
66	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
67	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
68	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
69	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
70	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
71	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
72	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
73	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
74	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
75	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
76	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
77	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
78	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
79	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
80	AC/Gas Heat	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
81	AC/Gas Heat	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
82	AC/Gas Heat	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
83	AC/Gas Heat	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
84	Heat Pump	Ground Source Heat Pump w/desuperheater	ICF	ICF	Energy RASS, GCR	ICF	ICF
85	Heat Pump	Ground Source Heat Pump w/desuperheater	ICF	ICF	Energy RASS, GCR	ICF	ICF
86	Heat Pump	Ground Source Heat Pump w/desuperheater	ICF	ICF	Energy RASS, GCR	ICF	ICF
87	Heat Pump	Ground Source Heat Pump w/desuperheater	ICF	ICF	Energy RASS, GCR	ICF	ICF
88	Heat Pump	Heat Pump Replacement	ICF	ICF	Energy RASS, GCR	ICF	ICF
89	Heat Pump	Heat Pump Replacement	ICF	ICF	Energy RASS, GCR	ICF	ICF
90	Heat Pump	Heat Pump Replacement	ICF	ICF	Energy RASS, GCR	ICF	ICF
91	Heat Pump	Heat Pump Replacement	ICF	ICF	Energy RASS, GCR	ICF	ICF
92	AC/Electric Resistance Heat	Central AC Replacement	ICF	ICF	Energy RASS, GCR	ICF	ICF
93	AC/Electric Resistance Heat	Central AC Replacement	ICF	ICF	Energy RASS, GCR	ICF	ICF
94	AC/Electric Resistance Heat	Central AC Replacement	ICF	ICF	Energy RASS, GCR	ICF	ICF
95	AC/Electric Resistance Heat	Central AC Replacement	ICF	ICF	Energy RASS, GCR	ICF	ICF
96	AC/Gas Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
97	AC/Gas Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
98	AC/Gas Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
99	AC/Gas Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
100	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
101	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
102	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
103	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF	Energy RASS, GCR	ICF	ICF
104	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
105	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
106	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
107	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
108	AC/Gas Heat	Central AC Replacement - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
109	AC/Gas Heat	Central AC Replacement - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
110	AC/Gas Heat	Central AC Replacement - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
111	AC/Gas Heat	Central AC Replacement - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
112	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
113	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
114	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
115	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
116	Heat Pump	Heat Pump Replacement - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
117	Heat Pump	Heat Pump Replacement - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
118	Heat Pump	Heat Pump Replacement - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
119	Heat Pump	Heat Pump Replacement - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF

Measure #	Sub-Sector	End Use	Technology Type	Efficient Measure	Efficient Measure Definition	Base Measure Definition
120	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 15	SEER 14
121	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 16	SEER 14
122	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 17	SEER 14
123	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 18	SEER 14
124	Residential	HVAC	AC/Gas Heat	Mini-Split AC - Multifamily	SEER 15 Mini-Split AC	SEER 14 CAC System
125	Residential	HVAC	AC/Gas Heat	Mini-Split AC - Multifamily	SEER 16 Mini-Split AC	SEER 14 CAC System
126	Residential	HVAC	AC/Gas Heat	Mini-Split AC - Multifamily	SEER 17 Mini-Split AC	SEER 14 CAC System
127	Residential	HVAC	AC/Gas Heat	Mini-Split AC - Multifamily	SEER 18 Mini-Split AC	SEER 14 CAC System
128	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	SEER 15 Mini-Split AC	SEER 14 CAC System
129	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	SEER 16 Mini-Split AC	SEER 14 CAC System
130	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	SEER 17 Mini-Split AC	SEER 14 CAC System
131	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	SEER 18 Mini-Split AC	SEER 14 CAC System
132	Residential	HVAC	Heat Pump	Mini-Split Heat Pump - Multifamily	SEER 15 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
133	Residential	HVAC	Heat Pump	Mini-Split Heat Pump - Multifamily	SEER 16 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
134	Residential	HVAC	Heat Pump	Mini-Split Heat Pump - Multifamily	SEER 17 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
135	Residential	HVAC	Heat Pump	Mini-Split Heat Pump - Multifamily	SEER 18 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
136	Residential	Lighting	All	Compact Fluorescent Lamps	11 watt	40 watt
137	Residential	Lighting	All	Compact Fluorescent Lamps	15 watt	60 watt
138	Residential	Lighting	All	Compact Fluorescent Lamps	23 watt	75 watt
139	Residential	Lighting	All	Compact Fluorescent Lamps	27 watt	100 watt
140	Residential	Lighting	All	Compact Fluorescent Lamps	11 watt	29 watt
141	Residential	Lighting	All	Compact Fluorescent Lamps	15 watt	43 watt
142	Residential	Lighting	All	Compact Fluorescent Lamps	23 watt	53 watt
143	Residential	Lighting	All	Compact Fluorescent Lamps	27 watt	72 watt
144	Residential	Lighting	All	LED Lighting	8 watt - Type A	40 watt
145	Residential	Lighting	All	LED Lighting	8 watt - Type A	29 watt
146	Residential	Lighting	All	LED Lighting	12 watt - Type A	60 watt
147	Residential	Lighting	All	LED Lighting	12 watt - Type A	43 watt
148	Residential	Refrigerator	All	Energy Star Refrigerator Replace on Burnout	20% better than DOE Standard	DOE Standards
149	Residential	Refrigerator	All	HE Refrigerator - CEE Tier 2	25% better than DOE Standard	DOE Standards
150	Residential	Water Heating	Electric WH	Water Heater Replacements	0.91 EF - 80 Gallon Tank	0.86 EF - 80 Gallon Tank
151	Residential	Water Heating	Electric WH	Water Heater Replacements	0.92 EF - 80 Gallon Tank	0.86 EF - 80 Gallon Tank
152	Residential	Water Heating	Electric WH	Water Heater Replacements	0.93 EF - 80 Gallon Tank	0.86 EF - 80 Gallon Tank
153	Residential	Water Heating	Electric WH	Water Heater Replacements	0.94 EF - 80 Gallon Tank	0.86 EF - 80 Gallon Tank
154	Residential	Water Heating	Electric WH	Water Heater Replacements	0.95 EF - 80 Gallon Tank	0.86 EF - 80 Gallon Tank
155	Residential	Water Heating	Electric WH	Water Heater Replacements	0.95 EF - 50 Gallon Tank	0.86 EF - 80 Gallon Tank
156	Residential	Water Heating	Electric WH	Water Heater Replacements	not available EF	0.93 EF - 30 Gallon Tank
157	Residential	Water Heating	Electric WH	Water Heater Replacements	0.99 EF - Tankless Water Heater	0.86 EF - 80 Gallon Tank
158	Residential	Water Heating	Electric WH	Water Heater Replacements	0.99 EF - Tankless Water Heater	0.90 EF - 50 Gallon Tank
159	Residential	Water Heating	Electric WH	Water Heater Replacements	0.99 EF - Tankless Water Heater	0.93 EF - 30 Gallon Tank
160	Residential	Electronics	All	Smart Strips		
161	Residential	HVAC	AC/Gas Heat	Central AC Tune-up		
162	Residential	HVAC	Gas Heat (No AC)	Window AC Replacement	EER 10.7, Less than 6,000 BTU/H	EER 9.7, Less than 6,000 BTU/H
163	Residential	HVAC	Gas Heat (No AC)	Window AC Replacement	EER 10.7, 6,000-7,999 BTU/H	EER 9.7, 6,000-7,999 BTU/H
164	Residential	HVAC	Gas Heat (No AC)	Window AC Replacement	EER 10.8, 8,000-13,999 BTU/H	EER 9.8, 8,000-13,999 BTU/H
165	Residential	HVAC	Gas Heat (No AC)	Window AC Replacement	EER 10.7, 14,000-19,999 BTU/H	EER 9.7, 14,000-19,999 BTU/H
166	Residential	HVAC	Gas Heat (No AC)	Window AC Replacement	EER 9.4, 20,000+BTU/H	EER 8.5, 20,000+BTU/H
167	Residential	HVAC	AC/Gas Heat	Duct Insulation	Attic to R-8	No Insulation
168	Residential	HVAC	AC/Gas Heat	Duct Insulation	Attic to R-5.6	No Insulation
169	Residential	HVAC	Gas Heat (No AC)	Duct Insulation	Attic to R-8	No Insulation
170	Residential	HVAC	Gas Heat (No AC)	Duct Insulation	Attic to R-5.6	No Insulation
171	Residential	HVAC	AC/Electric Resistance Heat	Duct Insulation	Attic to R-8	No Insulation
172	Residential	HVAC	AC/Electric Resistance Heat	Duct Insulation	Attic to R-5.6	No Insulation
173	Residential	HVAC	Heat Pump	Duct Insulation	Attic to R-8	No Insulation
174	Residential	HVAC	Heat Pump	Duct Insulation	Attic to R-5.6	No Insulation
175	Residential	HVAC	AC/Gas Heat	Duct Insulation	Crawl Space to R-8	No Insulation
176	Residential	HVAC	AC/Gas Heat	Duct Insulation	Crawl Space to R-5.6	No Insulation
177	Residential	HVAC	Gas Heat (No AC)	Duct Insulation	Crawl Space to R-8	No Insulation
178	Residential	HVAC	Gas Heat (No AC)	Duct Insulation	Crawl Space to R-5.6	No Insulation
179	Residential	HVAC	AC/Electric Resistance Heat	Duct Insulation	Crawl Space to R-8	No Insulation

Residential Measures

Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace on Burnout, or	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (THERMS)
120	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	15	ton	ROB	\$119.00	201.78	0.05	0.00
121	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	15	ton	ROB	\$238.00	270.78	0.09	0.00
122	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	15	ton	ROB	\$357.00	452.11	0.14	0.00
123	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	15	ton	ROB	\$477.00	496.44	0.14	0.00
124	AC/Gas Heat	Mini-Split AC - Multifamily	15	ton	ROB	-\$248.28	716.12	0.19	0.00
125	AC/Gas Heat	Mini-Split AC - Multifamily	15	ton	ROB	-\$70.28	839.17	0.22	0.00
126	AC/Gas Heat	Mini-Split AC - Multifamily	15	ton	ROB	\$107.72	905.96	0.26	0.00
127	AC/Gas Heat	Mini-Split AC - Multifamily	15	ton	ROB	\$285.72	998.84	0.28	0.00
128	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	15	ton	ROB	-\$248.28	716.12	0.19	0.00
129	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	15	ton	ROB	-\$70.28	839.17	0.22	0.00
130	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	15	ton	ROB	\$107.72	905.96	0.26	0.00
131	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	15	ton	ROB	\$285.72	998.84	0.28	0.00
132	Heat Pump	Mini-Split Heat Pump - Multifamily	15	tons	ROB	\$698.72	814.65	0.16	0.00
133	Heat Pump	Mini-Split Heat Pump - Multifamily	15	tons	ROB	\$882.72	937.32	0.20	0.00
134	Heat Pump	Mini-Split Heat Pump - Multifamily	15	tons	ROB	\$1,066.72	1,045.45	0.22	0.00
135	Heat Pump	Mini-Split Heat Pump - Multifamily	15	tons	ROB	\$1,250.72	1,141.48	0.25	0.00
136	All	Compact Fluorescent Lamps	6.3	lamp	ROB	\$2.25	24.13	0.00	0.00
137	All	Compact Fluorescent Lamps	6.3	lamp	ROB	\$2.25	37.45	0.00	0.00
138	All	Compact Fluorescent Lamps	6.3	lamp	ROB	\$2.25	43.27	0.00	0.00
139	All	Compact Fluorescent Lamps	6.3	lamp	ROB	\$2.25	60.75	0.01	0.00
140	All	Compact Fluorescent Lamps	6.3	lamp	ROB	\$1.50	14.98	0.00	0.00
141	All	Compact Fluorescent Lamps	6.3	lamp	ROB	\$1.50	23.30	0.00	0.00
142	All	Compact Fluorescent Lamps	6.3	lamp	ROB	\$1.50	24.97	0.00	0.00
143	All	Compact Fluorescent Lamps	6.3	lamp	ROB	\$1.50	37.45	0.00	0.00
144	All	LED Lighting	28	lamp	ROB	\$20.25	26.63	0.00	0.00
145	All	LED Lighting	28	lamp	ROB	\$19.50	17.48	0.00	0.00
146	All	LED Lighting	28	lamp	ROB	\$24.25	39.95	0.00	0.00
147	All	LED Lighting	28	lamp	ROB	\$23.50	25.80	0.00	0.00
148	All	LED Lighting	28	lamp	ROB	\$138.61	123.00	0.02	0.00
149	All	Energy Star Refrigerator Replace on Burnout	19	Installed Units	ROB	\$102.17	220.00	0.03	0.00
150	Electric WH	Water Heater Replacements	13	Installed Units	ROB	\$72.30	215.00	0.02	0.00
151	Electric WH	Water Heater Replacements	13	Installed Units	ROB	\$72.30	259.00	0.02	0.00
152	Electric WH	Water Heater Replacements	13	Installed Units	ROB	\$72.30	302.00	0.02	0.00
153	Electric WH	Water Heater Replacements	13	Installed Units	ROB	\$72.30	345.00	0.03	0.00
154	Electric WH	Water Heater Replacements	13	Installed Units	ROB	\$72.30	386.00	0.03	0.00
155	Electric WH	Water Heater Replacements	13	Installed Units	ROB	\$72.30	176.00	0.01	0.00
156	Electric WH	Water Heater Replacements	13	Installed Units	ROB	\$72.30	1.00	0.00	0.00
157	Electric WH	Water Heater Replacements	20	Installed Units	ROB	\$400.00	544.00	0.04	0.00
158	Electric WH	Water Heater Replacements	20	Installed Units	ROB	\$350.00	316.00	0.03	0.00
159	Electric WH	Water Heater Replacements	20	Installed Units	ROB	\$250.00	186.00	0.02	0.00
160	All	Smart Strips	8	Installed Units	RET	\$26.00	79.00	0.01	0.00
161	AC/Gas Heat	Central AC Tune-up	3	ton	RET	\$25.00	142.23	0.05	0.00
162	Gas Heat (No AC)	Window AC Replacement	13	per unit	RET	\$50.00	135.00	0.05	0.00
163	Gas Heat (No AC)	Window AC Replacement	13	per unit	RET	\$50.00	158.00	0.06	0.00
164	Gas Heat (No AC)	Window AC Replacement	13	per unit	RET	\$50.00	248.00	0.11	0.00
165	Gas Heat (No AC)	Window AC Replacement	13	per unit	RET	\$50.00	384.00	0.15	0.00
166	AC/Gas Heat	Window AC Replacement	13	per unit	RET	\$50.00	538.00	0.26	0.00
167	AC/Gas Heat	Duct Insulation	20	sq. ft	RET	\$4.60	0.12	0.00	0.03
168	AC/Gas Heat	Duct Insulation	20	sq. ft	RET	\$4.40	0.06	0.00	0.02
169	Gas Heat (No AC)	Duct Insulation	20	sq. ft	RET	\$4.60	0.00	0.00	0.03
170	Gas Heat (No AC)	Duct Insulation	20	sq. ft	RET	\$4.40	0.00	0.00	0.02
171	AC/Electric Resistance Heat	Duct Insulation	20	sq. ft	RET	\$4.60	0.86	0.00	0.00
172	AC/Electric Resistance Heat	Duct Insulation	20	sq. ft	RET	\$4.40	0.44	0.00	0.00
173	Heat Pump	Duct Insulation	20	sq. ft	RET	\$4.60	0.24	0.00	0.00
174	Heat Pump	Duct Insulation	20	sq. ft	RET	\$4.40	0.12	0.00	0.00
175	AC/Gas Heat	Duct Insulation	20	sq. ft	RET	\$4.60	0.09	0.00	0.03
176	AC/Gas Heat	Duct Insulation	20	sq. ft	RET	\$4.40	0.04	0.00	0.01
177	Gas Heat (No AC)	Duct Insulation	20	sq. ft	RET	\$4.60	0.00	0.00	0.03
178	Gas Heat (No AC)	Duct Insulation	20	sq. ft	RET	\$4.40	0.00	0.00	0.01
179	AC/Electric Resistance Heat	Duct Insulation	20	sq. ft	RET	\$4.60	0.88	0.00	0.00

Measure #	Technology Type	Efficient Measure	Measure TRC	Passed Measure Screening?	Total Sub-Sector Units	Measure Units per Sub-Sector	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
120	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	1.51	1	17,344	2	38%	3%	100%	7%	1371	Multifamily
121	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	1.11	1	17,344	2	38%	5%	100%	7%	1371	Multifamily
122	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	1.20	1	17,344	2	38%	2%	100%	7%	1371	Multifamily
123	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	0.96	1	17,344	2	38%	1%	100%	7%	1371	Multifamily
124	AC/Gas Heat	Mini-Split AC - Multifamily	-2.53	0	17,344	2						
125	AC/Gas Heat	Mini-Split AC - Multifamily	-10.51	0	17,344	2						
126	AC/Gas Heat	Mini-Split AC - Multifamily	7.68	1	17,344	2	32%	2%	100%	7%	1148	Multifamily
127	AC/Gas Heat	Mini-Split AC - Multifamily	3.20	1	17,344	2	32%	1%	100%	7%	1148	Multifamily
128	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	-2.53	0	17,344	2						
129	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	-10.51	0	17,344	2						
130	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	7.68	1	17,344	2	38%	2%	100%	7%	1371	Multifamily
131	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	3.20	1	17,344	2	38%	1%	100%	7%	1371	Multifamily
132	Heat Pump	Mini-Split Heat Pump - Multifamily	0.92	1	17,344	2						
133	Heat Pump	Mini-Split Heat Pump - Multifamily	0.85	0	17,344	2						
134	Heat Pump	Mini-Split Heat Pump - Multifamily	0.79	0	17,344	2						
135	Heat Pump	Mini-Split Heat Pump - Multifamily	0.74	0	17,344	2						
136	All	Compact Fluorescent Lamps	3.27	1	144,537	10	100%	90%	79%	16%	206462	Residential Lighting and Appliances
137	All	Compact Fluorescent Lamps	5.07	1	144,537	5	100%	90%	79%	16%	103241	Residential Lighting and Appliances
138	All	Compact Fluorescent Lamps	5.86	1	144,537	3	100%	100%	79%	16%	68827	Residential Lighting and Appliances
139	All	Compact Fluorescent Lamps	8.23	0	144,537	2						
140	All	Compact Fluorescent Lamps	3.61	1	144,537	10	100%	90%	100%	16%	206462	Residential Lighting and Appliances
141	All	Compact Fluorescent Lamps	4.73	1	144,537	5	100%	90%	100%	16%	103241	Residential Lighting and Appliances
142	All	Compact Fluorescent Lamps	5.07	1	144,537	3	100%	100%	100%	16%	68827	Residential Lighting and Appliances
143	All	Compact Fluorescent Lamps	7.61	1	144,537	2	100%	100%	100%	16%	45865	Residential Lighting and Appliances
144	All	LED Lighting	1.16	1	144,537	10	100%	25%	100%	4%	12905	Residential Lighting and Appliances
145	All	LED Lighting	0.79	1	144,537	10	100%	25%	100%	4%	12905	Residential Lighting and Appliances
146	All	LED Lighting	1.45	1	144,537	5	100%	25%	100%	4%	6453	Residential Lighting and Appliances
147	All	LED Lighting	0.97	0	144,537	5	100%	25%	100%	4%	6453	Residential Lighting and Appliances
148	All	Energy Star Refrigerator Replace on Burnout	0.70	0	144,537	1						
149	All	HE Refrigerator - CEE Tier 2	1.71	1	144,537	1	100%	3%	100%	5%	237	Residential Lighting and Appliances
150	Electric WH	Water Heater Replacements	1.60	1	144,537	1	42%	10%	100%	8%	468	Residential Energy Solutions
151	Electric WH	Water Heater Replacements	1.92	1	144,537	1	42%	20%	100%	8%	935	Residential Energy Solutions
152	Electric WH	Water Heater Replacements	2.23	1	144,537	1	42%	20%	100%	8%	935	Residential Energy Solutions
153	Electric WH	Water Heater Replacements	2.56	1	144,537	1	42%	20%	100%	8%	935	Residential Energy Solutions
154	Electric WH	Water Heater Replacements	2.86	1	144,537	1	42%	30%	100%	8%	1403	Residential Energy Solutions
155	Electric WH	Water Heater Replacements	1.31	0	144,537	1						
156	Electric WH	Water Heater Replacements	0.01	0	144,537	1						
157	Electric WH	Water Heater Replacements	0.96	0	144,537	1						
158	Electric WH	Water Heater Replacements	0.65	0	144,537	1						
159	Electric WH	Water Heater Replacements	0.53	0	144,537	1						
160	All	Smart Strips	1.21	1	144,537	1	100%	25%	99%	100%	35773	Residential Lighting and Appliances
161	AC/Gas Heat	Central AC Tune-up	1.64	1	126,326	3	32%	100%	99%	100%	120445	AC Tune-Up
162	Gas Heat (No AC)	Window AC Replacement	2.70	1	144,537	9	17%	4%	79%	100%	6011	Residential Lighting and Appliances
163	Gas Heat (No AC)	Window AC Replacement	3.02	1	144,537	6	17%	7%	79%	100%	8015	Residential Lighting and Appliances
164	Gas Heat (No AC)	Window AC Replacement	5.31	1	144,537	3	17%	11%	79%	100%	6011	Residential Lighting and Appliances
165	Gas Heat (No AC)	Window AC Replacement	7.39	1	144,537	2	17%	7%	79%	100%	2672	Residential Lighting and Appliances
166	Gas Heat (No AC)	Window AC Replacement	11.98	1	144,537	2	17%	7%	79%	100%	2004	Residential Lighting and Appliances
167	AC/Gas Heat	Duct Insulation	0.11	0	126,326	600						
168	AC/Gas Heat	Duct Insulation	0.06	0	126,326	600						
169	Gas Heat (No AC)	Duct Insulation	0.03	0	126,326	600						
170	Gas Heat (No AC)	Duct Insulation	0.02	0	126,326	600						
171	AC/Electric Resistance Heat	Duct Insulation	0.17	0	126,326	600						
172	AC/Electric Resistance Heat	Duct Insulation	0.09	0	126,326	600						
173	Heat Pump	Duct Insulation	0.10	0	126,326	600						
174	Heat Pump	Duct Insulation	0.05	0	126,326	600						
175	AC/Gas Heat	Duct Insulation	0.05	0	126,326	600						
176	AC/Gas Heat	Duct Insulation	0.02	0	126,326	600						
177	Gas Heat (No AC)	Duct Insulation	0.04	0	126,326	600						
178	Gas Heat (No AC)	Duct Insulation	0.01	0	126,326	600						
179	AC/Electric Resistance Heat	Duct Insulation	0.12	0	126,326	600						

Residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
120	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	ICF	DEER	Energy RASS, GCR	ICF	ICF
121	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	ICF	DEER	Energy RASS, GCR	ICF	ICF
122	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	ICF	DEER	Energy RASS, GCR	ICF	ICF
123	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	ICF	DEER	Energy RASS, GCR	ICF	ICF
124	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
125	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
126	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
127	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
128	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
129	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
130	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
131	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
132	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
133	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
134	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
135	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
136	All	Compact Fluorescent Lamps	Frontier - 2011 Arkansas Deemed Savings	DEER	ICF	ICF	ICF
137	All	Compact Fluorescent Lamps	Frontier - 2011 Arkansas Deemed Savings	DEER	ICF	ICF	ICF
138	All	Compact Fluorescent Lamps	Frontier - 2011 Arkansas Deemed Savings	DEER	ICF	ICF	ICF
139	All	Compact Fluorescent Lamps	Frontier - 2011 Arkansas Deemed Savings	DEER	ICF	ICF	ICF
140	All	Compact Fluorescent Lamps	Frontier - 2011 Arkansas Deemed Savings	DEER	ICF	ICF	ICF
141	All	Compact Fluorescent Lamps	Frontier - 2011 Arkansas Deemed Savings	DEER	ICF	ICF	ICF
142	All	Compact Fluorescent Lamps	Frontier - 2011 Arkansas Deemed Savings	DEER	ICF	ICF	ICF
143	All	LED Lighting	ICF	ICF	ICF	ICF	ICF
144	All	LED Lighting	ICF	ICF	ICF	ICF	ICF
145	All	LED Lighting	ICF	ICF	ICF	ICF	ICF
146	All	LED Lighting	ICF	ICF	ICF	ICF	ICF
147	All	LED Lighting	ICF	ICF	ICF	ICF	ICF
148	All	LED Lighting	ICF	ICF	ICF	ICF	ICF
149	All	Energy Star Refrigerator Replace on Burnout	Frontier - 2011 Arkansas Deemed Savings	DEER	ICF	ICF	ICF
150	Electric WH	HE Refrigerator - CEE Tier 2	CEE	ICF	ICF	ICF	ICF
151	Electric WH	Water Heater Replacements	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
152	Electric WH	Water Heater Replacements	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
153	Electric WH	Water Heater Replacements	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
154	Electric WH	Water Heater Replacements	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
155	Electric WH	Water Heater Replacements	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
156	Electric WH	Water Heater Replacements	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
157	Electric WH	Water Heater Replacements	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
158	Electric WH	Water Heater Replacements	Frontier - 2011 Arkansas Deemed Savings	ICF, RS-Means	ICF, RS-Means	ICF, RS-Means	ICF, RS-Means
159	Electric WH	Water Heater Replacements	Frontier - 2011 Arkansas Deemed Savings	ICF, RS-Means	ICF, RS-Means	ICF, RS-Means	ICF, RS-Means
160	All	Smart Strips	Ecos Consulting	ICF	ICF	ICF	ICF
161	AC/Gas Heat	Central AC Tune-up	ICF	DEER	Energy RASS, GCR	ICF	ICF
162	Gas Heat (No AC)	Window AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	GCR	ENERGY STAR
163	Gas Heat (No AC)	Window AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	GCR	ENERGY STAR
164	Gas Heat (No AC)	Window AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	GCR	ENERGY STAR
165	Gas Heat (No AC)	Window AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	GCR	ENERGY STAR
166	Gas Heat (No AC)	Window AC Replacement	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	GCR	ENERGY STAR
167	AC/Gas Heat	Duct Insulation	ICF	DEER	Energy RASS, GCR	GCR	ENERGY STAR
168	AC/Gas Heat	Duct Insulation	ICF	DEER	Energy RASS, GCR	GCR	ENERGY STAR
169	Gas Heat (No AC)	Duct Insulation	ICF	DEER	Energy RASS, GCR	GCR	ENERGY STAR
170	Gas Heat (No AC)	Duct Insulation	ICF	DEER	Energy RASS, GCR	GCR	ENERGY STAR
171	AC/Electric Resistance Heat	Duct Insulation	ICF	DEER	Energy RASS, GCR	GCR	ENERGY STAR
172	AC/Electric Resistance Heat	Duct Insulation	ICF	DEER	Energy RASS, GCR	GCR	ENERGY STAR
173	Heat Pump	Duct Insulation	ICF	DEER	Energy RASS, GCR	GCR	ENERGY STAR
174	Heat Pump	Duct Insulation	ICF	DEER	Energy RASS, GCR	GCR	ENERGY STAR
175	AC/Gas Heat	Duct Insulation	ICF	DEER	Energy RASS, GCR	GCR	ENERGY STAR
176	AC/Gas Heat	Duct Insulation	ICF	DEER	Energy RASS, GCR	GCR	ENERGY STAR
177	Gas Heat (No AC)	Duct Insulation	ICF	DEER	Energy RASS, GCR	GCR	ENERGY STAR
178	Gas Heat (No AC)	Duct Insulation	ICF	DEER	Energy RASS, GCR	GCR	ENERGY STAR
179	AC/Electric Resistance Heat	Duct Insulation	ICF	DEER	Energy RASS, GCR	GCR	ENERGY STAR

Measure #	Sector	Sub-Sector	End Use	Technology Type	Efficient Measure	Efficient Measure Definition	Base Measure Definition
180	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Duct Insulation	Crawl Space to R-5.6	No Insulation
181	Residential	Single Family&Duplex	HVAC	Heat Pump	Duct Insulation	Crawl Space to R-8	No Insulation
182	Residential	Single Family&Duplex	HVAC	Heat Pump	Duct Insulation	Crawl Space to R-5.6	No Insulation
183	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Attic Knee Wall Insulation	R-19	No Insulation
184	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Attic Knee Wall Insulation	R-30	No Insulation
185	Residential	Single Family&Duplex	HVAC	Gas Heat (No AC)	Attic Knee Wall Insulation	R-19	No Insulation
186	Residential	Single Family&Duplex	HVAC	Gas Heat (No AC)	Attic Knee Wall Insulation	R-30	No Insulation
187	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Attic Knee Wall Insulation	R-19	No Insulation
188	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Attic Knee Wall Insulation	R-30	No Insulation
189	Residential	Single Family&Duplex	HVAC	Heat Pump	Attic Knee Wall Insulation	R-19	No Insulation
190	Residential	Single Family&Duplex	HVAC	Heat Pump	Attic Knee Wall Insulation	R-30	No Insulation
191	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Ceiling Insulation	R-1 to R-4	No Insulation
192	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Ceiling Insulation	R-30	R-5-R-10
193	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Ceiling Insulation	R-30	R-9 to R-14
194	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Ceiling Insulation	R-30	R-15 to R-22
195	Residential	Single Family&Duplex	HVAC	Gas Heat (No AC)	Ceiling Insulation	R-30	R-9 to R-14
196	Residential	Single Family&Duplex	HVAC	Gas Heat (No AC)	Ceiling Insulation	R-30	R-1 to R-4
197	Residential	Single Family&Duplex	HVAC	Gas Heat (No AC)	Ceiling Insulation	R-30	R-5-R-10
198	Residential	Single Family&Duplex	HVAC	Gas Heat (No AC)	Ceiling Insulation	R-30	R-9 to R-14
199	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Ceiling Insulation	R-30	R-15 to R-22
200	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Ceiling Insulation	R-30	R-1 to R-4
201	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Ceiling Insulation	R-30	R-5-R-10
202	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Ceiling Insulation	R-30	R-9 to R-14
203	Residential	Single Family&Duplex	HVAC	Heat Pump	Ceiling Insulation	R-30	R-15 to R-22
204	Residential	Single Family&Duplex	HVAC	Heat Pump	Ceiling Insulation	R-30	R-1 to R-4
205	Residential	Single Family&Duplex	HVAC	Heat Pump	Ceiling Insulation	R-30	R-5-R-10
206	Residential	Single Family&Duplex	HVAC	Heat Pump	Ceiling Insulation	R-30	R-9 to R-14
207	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Wall Insulation	R-13	No Insulation
208	Residential	Single Family&Duplex	HVAC	Gas Heat (No AC)	Wall Insulation	R-13	No Insulation
209	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Wall Insulation	R-13	No Insulation
210	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Wall Insulation	R-13	No Insulation
211	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Floor Insulation	R-19	No Insulation
212	Residential	Single Family&Duplex	HVAC	Gas Heat (No AC)	Floor Insulation	R-19	No Insulation
213	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Floor Insulation	R-19	No Insulation
214	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Floor Insulation	R-19	No Insulation
215	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Radiant Barriers	Ceiling insulation <= R-19w/radiant barrier	Ceiling insulation <= R-19w/o radiant barrier
216	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Radiant Barriers	Ceiling insulation > R-19w/radiant barrier	Ceiling insulation > R-19w/o radiant barrier
217	Residential	Single Family&Duplex	HVAC	Gas Heat (No AC)	Radiant Barriers	Ceiling insulation <= R-19w/radiant barrier	Ceiling insulation <= R-19w/o radiant barrier
218	Residential	Single Family&Duplex	HVAC	Gas Heat (No AC)	Radiant Barriers	Ceiling insulation > R-19w/radiant barrier	Ceiling insulation > R-19w/o radiant barrier
219	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Radiant Barriers	Ceiling insulation <= R-19w/radiant barrier	Ceiling insulation <= R-19w/o radiant barrier
220	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Radiant Barriers	Ceiling insulation > R-19w/radiant barrier	Ceiling insulation > R-19w/o radiant barrier
221	Residential	Single Family&Duplex	HVAC	Heat Pump	Radiant Barriers	Ceiling insulation <= R-19w/radiant barrier	Ceiling insulation <= R-19w/o radiant barrier
222	Residential	Single Family&Duplex	HVAC	Heat Pump	Radiant Barriers	Ceiling insulation > R-19w/radiant barrier	Ceiling insulation > R-19w/o radiant barrier
223	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Energy Star Windows	U-0.35 and SHGC 0.3	single pane
224	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Energy Star Windows	U-0.35 and SHGC 0.3	double pane
225	Residential	Single Family&Duplex	HVAC	Gas Heat (No AC)	Energy Star Windows	U-0.35 and SHGC 0.3	single pane
226	Residential	Single Family&Duplex	HVAC	Gas Heat (No AC)	Energy Star Windows	U-0.35 and SHGC 0.3	double pane
227	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Energy Star Windows	U-0.35 and SHGC 0.3	single pane
228	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Energy Star Windows	U-0.35 and SHGC 0.3	double pane
229	Residential	Single Family&Duplex	HVAC	Heat Pump	Energy Star Windows	U-0.35 and SHGC 0.3	single pane
230	Residential	Single Family&Duplex	HVAC	Heat Pump	Energy Star Windows	U-0.35 and SHGC 0.3	double pane
231	Residential	Residential	HVAC	AC/Gas Heat	Window Film	Film SHGC < 0.5	single pane
232	Residential	Residential	HVAC	AC/Gas Heat	Window Film	Film SHGC < 0.5	double pane
233	Residential	Residential	HVAC	Gas Heat (No AC)	Window Film	Film SHGC < 0.5	single pane
234	Residential	Residential	HVAC	Gas Heat (No AC)	Window Film	Film SHGC < 0.5	double pane
235	Residential	Residential	HVAC	AC/Electric Resistance Heat	Window Film	Film SHGC < 0.5	single pane
236	Residential	Residential	HVAC	AC/Electric Resistance Heat	Window Film	Film SHGC < 0.5	double pane
237	Residential	Residential	HVAC	Heat Pump	Window Film	Film SHGC < 0.5	single pane
238	Residential	Residential	HVAC	Heat Pump	Window Film	Film SHGC < 0.5	double pane
239	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Air Infiltration	10% CFM50 Reduction	Original Infiltration Rate

Residential Measures

Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace on Burnout, or	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (THERMS)
180	AC/Electric Resistance Heat	Duct Insulation	20	sq. ft	RET	\$4.40	0.26	0.00	0.00
181	Heat Pump	Duct Insulation	20	sq. ft	RET	\$4.60	0.22	0.00	0.00
182	Heat Pump	Duct Insulation	20	sq. ft	RET	\$4.40	0.12	0.00	0.00
183	AC/Gas Heat	Attic Knee Wall Insulation	20	sq. ft	RET	\$0.51	1.02	0.00	0.02
184	AC/Gas Heat	Attic Knee Wall Insulation	20	sq. ft	RET	\$0.75	1.12	0.00	0.03
185	Gas Heat (No AC)	Attic Knee Wall Insulation	20	sq. ft	RET	\$0.51	0.04	0.00	0.02
186	Gas Heat (No AC)	Attic Knee Wall Insulation	20	sq. ft	RET	\$0.75	0.04	0.00	0.03
187	AC/Electric Resistance Heat	Attic Knee Wall Insulation	20	sq. ft	RET	\$0.51	1.58	0.00	0.00
188	AC/Electric Resistance Heat	Attic Knee Wall Insulation	20	sq. ft	RET	\$0.75	1.75	0.00	0.00
189	Heat Pump	Attic Knee Wall Insulation	20	sq. ft	RET	\$0.51	1.15	0.00	0.00
190	Heat Pump	Attic Knee Wall Insulation	20	sq. ft	RET	\$0.75	1.27	0.00	0.00
191	AC/Gas Heat	Ceiling Insulation	20	sq. ft	RET	\$1.19	1.47	0.00	0.06
192	AC/Gas Heat	Ceiling Insulation	20	sq. ft	RET	\$0.90	0.77	0.00	0.03
193	AC/Gas Heat	Ceiling Insulation	20	sq. ft	RET	\$0.90	0.42	0.00	0.02
194	AC/Gas Heat	Ceiling Insulation	20	sq. ft	RET	\$0.66	0.20	0.00	0.06
195	Gas Heat (No AC)	Ceiling Insulation	20	sq. ft	RET	\$1.19	0.06	0.00	0.03
196	Gas Heat (No AC)	Ceiling Insulation	20	sq. ft	RET	\$0.90	0.04	0.00	0.03
197	Gas Heat (No AC)	Ceiling Insulation	20	sq. ft	RET	\$0.90	0.02	0.00	0.02
198	Gas Heat (No AC)	Ceiling Insulation	20	sq. ft	RET	\$0.66	0.02	0.00	0.01
199	AC/Electric Resistance Heat	Ceiling Insulation	20	sq. ft	RET	\$1.19	2.74	0.00	0.00
200	AC/Electric Resistance Heat	Ceiling Insulation	20	sq. ft	RET	\$0.90	1.43	0.00	0.00
201	AC/Electric Resistance Heat	Ceiling Insulation	20	sq. ft	RET	\$0.90	0.79	0.00	0.00
202	AC/Electric Resistance Heat	Ceiling Insulation	20	sq. ft	RET	\$0.66	0.39	0.00	0.00
203	Heat Pump	Ceiling Insulation	20	sq. ft	RET	\$1.19	2.03	0.00	0.00
204	Heat Pump	Ceiling Insulation	20	sq. ft	RET	\$0.90	1.06	0.00	0.00
205	Heat Pump	Ceiling Insulation	20	sq. ft	RET	\$0.90	0.58	0.00	0.00
206	Heat Pump	Ceiling Insulation	20	sq. ft	RET	\$0.66	0.28	0.00	0.00
207	AC/Gas Heat	Wall Insulation	20	sq. ft	RET	\$0.94	0.77	0.00	0.09
208	Gas Heat (No AC)	Wall Insulation	20	sq. ft	RET	\$0.94	0.20	0.00	0.09
209	AC/Electric Resistance Heat	Wall Insulation	20	sq. ft	RET	\$0.94	2.94	0.00	0.00
210	Electric Cooling with Electric Heat Pu	Wall Insulation	20	sq. ft	RET	\$1.04	1.77	0.00	0.00
211	AC/Gas Heat	Floor Insulation	20	sq. ft	RET	\$0.94	0.12	0.00	0.06
212	Gas Heat (No AC)	Floor Insulation	20	sq. ft	RET	\$1.04	0.11	0.00	0.06
213	AC/Electric Resistance Heat	Floor Insulation	20	sq. ft	RET	\$1.04	1.56	0.00	0.00
214	Electric Cooling with Electric Heat Pu	Floor Insulation	20	sq. ft	RET	\$1.04	0.79	0.00	0.00
215	AC/Gas Heat	Radiant Barriers	25	sq. ft	RET	\$0.75	0.25	0.00	0.02
216	AC/Gas Heat	Radiant Barriers	25	sq. ft	RET	\$0.75	0.16	0.00	0.01
217	Gas Heat (No AC)	Radiant Barriers	25	sq. ft	RET	\$0.75	0.00	0.00	0.01
218	Gas Heat (No AC)	Radiant Barriers	25	sq. ft	RET	\$0.75	0.00	0.00	0.02
219	AC/Electric Resistance Heat	Radiant Barriers	25	sq. ft	RET	\$0.75	0.64	0.00	0.00
220	AC/Electric Resistance Heat	Radiant Barriers	25	sq. ft	RET	\$0.75	0.37	0.00	0.00
221	Heat Pump	Radiant Barriers	25	sq. ft	RET	\$0.75	0.47	0.00	0.00
222	Heat Pump	Radiant Barriers	25	sq. ft	RET	\$0.75	0.47	0.00	0.00
223	AC/Gas Heat	Energy Star Windows	20	sq. ft	RET	\$21.70	5.12	0.00	0.37
224	AC/Gas Heat	Energy Star Windows	20	sq. ft	RET	\$21.70	3.29	0.00	0.10
225	Gas Heat (No AC)	Energy Star Windows	20	sq. ft	RET	\$21.70	0.32	0.00	0.37
226	Gas Heat (No AC)	Energy Star Windows	20	sq. ft	RET	\$21.70	0.15	0.00	0.10
227	AC/Electric Resistance Heat	Energy Star Windows	20	sq. ft	RET	\$21.70	13.54	0.00	0.00
228	AC/Electric Resistance Heat	Energy Star Windows	20	sq. ft	RET	\$21.70	5.54	0.00	0.00
229	Heat Pump	Energy Star Windows	20	sq. ft	RET	\$21.70	9.20	0.00	0.00
230	Heat Pump	Energy Star Windows	20	sq. ft	RET	\$21.70	4.43	0.00	0.00
231	AC/Gas Heat	Window Film	10	sq. ft	RET	\$2.66	4.95	0.00	0.00
232	AC/Gas Heat	Window Film	10	sq. ft	RET	\$2.66	2.47	0.00	0.00
233	Gas Heat (No AC)	Window Film	10	sq. ft	RET	\$2.66	0.00	0.00	0.00
234	Gas Heat (No AC)	Window Film	10	sq. ft	RET	\$2.66	0.00	0.00	0.00
235	AC/Electric Resistance Heat	Window Film	10	sq. ft	RET	\$36.66	3.21	0.00	0.00
236	AC/Electric Resistance Heat	Window Film	10	sq. ft	RET	\$2.66	1.61	0.00	0.00
237	Heat Pump	Window Film	10	sq. ft	RET	\$2.66	4.01	0.00	0.00
238	Heat Pump	Window Film	10	sq. ft	RET	\$2.66	2.01	0.00	0.00
239	AC/Gas Heat	Air Infiltration	10	CFM50	RET	\$0.47	0.51	0.00	0.02

Measure #	Technology Type	Efficient Measure	Measure TRC	Passed Measure Screening?	Total Sub-Sector Units	Measure Units per Sub-Sector	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
180	AC/Electric Resistance Heat	Duct Insulation	0.04	0	126,326	600						
181	Heat Pump	Duct Insulation	0.04	0	126,326	600						
182	Heat Pump	Duct Insulation	0.02	0	126,326	600						
183	AC/Gas Heat	Attic Knee Wall Insulation	4.38	1	126,326	270	32%	25%	35%	100%	958083	Residential Energy Solutions
184	AC/Gas Heat	Attic Knee Wall Insulation	3.31	1	126,326	270	32%	25%	35%	100%	958083	Residential Energy Solutions
185	Gas Heat (No AC)	Attic Knee Wall Insulation	0.32	0	126,326	270						
186	Gas Heat (No AC)	Attic Knee Wall Insulation	0.24	0	126,326	270						
187	AC/Electric Resistance Heat	Attic Knee Wall Insulation	4.80	1	126,326	270	38%	25%	35%	100%	1143564	Residential Energy Solutions
188	AC/Electric Resistance Heat	Attic Knee Wall Insulation	3.62	1	126,326	270	38%	25%	35%	100%	1143564	Residential Energy Solutions
189	Heat Pump	Attic Knee Wall Insulation	4.29	1	126,326	270	4%	25%	35%	100%	111917	Residential Energy Solutions
190	Heat Pump	Attic Knee Wall Insulation	3.23	1	126,326	270	4%	25%	35%	100%	111917	Residential Energy Solutions
191	AC/Gas Heat	Ceiling Insulation	1.70	1	126,326	1736	32%	20%	95%	100%	13376257	Residential Energy Solutions
192	AC/Gas Heat	Ceiling Insulation	1.14	1	126,326	1736	32%	20%	95%	100%	13376257	Residential Energy Solutions
193	AC/Gas Heat	Ceiling Insulation	0.61	0	126,326	1736						
194	AC/Gas Heat	Ceiling Insulation	0.40	0	126,326	1736						
195	Gas Heat (No AC)	Ceiling Insulation	0.28	0	126,326	1736						
196	Gas Heat (No AC)	Ceiling Insulation	0.20	0	126,326	1736						
197	Gas Heat (No AC)	Ceiling Insulation	0.12	0	126,326	1736						
198	Gas Heat (No AC)	Ceiling Insulation	0.09	0	126,326	1736						
199	AC/Electric Resistance Heat	Ceiling Insulation	2.08	1	126,326	1736	38%	20%	95%	100%	15965846	Residential Energy Solutions
200	AC/Electric Resistance Heat	Ceiling Insulation	1.40	1	126,326	1736	38%	20%	95%	100%	15965846	Residential Energy Solutions
201	AC/Electric Resistance Heat	Ceiling Insulation	0.76	0	126,326	1736						
202	AC/Electric Resistance Heat	Ceiling Insulation	0.51	0	126,326	1736						
203	Heat Pump	Ceiling Insulation	1.76	1	126,326	1736	4%	20%	95%	100%	1562523	Residential Energy Solutions
204	Heat Pump	Ceiling Insulation	1.17	1	126,326	1736	4%	20%	95%	100%	1562523	Residential Energy Solutions
205	Heat Pump	Ceiling Insulation	0.62	0	126,326	1736						
206	Heat Pump	Ceiling Insulation	0.41	0	126,326	1736						
207	AC/Gas Heat	Wall Insulation	0.41	1	126,326	1400	32%	80%	40%	100%	16806153	Residential Energy Solutions
208	Gas Heat (No AC)	Wall Insulation	2.03	1	126,326	1400	17%	80%	40%	100%	18168091	Residential Energy Solutions
209	AC/Electric Resistance Heat	Wall Insulation	0.75	1	126,326	1400	38%	80%	40%	100%	9457984	Residential Energy Solutions
210	Electric Cooling with Electric Heat Pump	Wall Insulation	2.86	1	126,326	1400	38%	80%	40%	100%	21685359	Residential Energy Solutions
211	AC/Gas Heat	Floor Insulation	2.15	1	126,326	1400	4%	80%	40%	100%	2122273	Residential Energy Solutions
212	Gas Heat (No AC)	Floor Insulation	0.67	0	126,326	1736						
213	AC/Electric Resistance Heat	Floor Insulation	0.35	0	126,326	1736						
214	Electric Cooling with Electric Heat Pump	Floor Insulation	1.17	1	126,326	1736	38%	50%	40%	100%	16806153	Residential Energy Solutions
215	AC/Gas Heat	Radiant Barriers	0.75	0	126,326	1736						
216	AC/Gas Heat	Radiant Barriers	0.89	1	126,326	1736	32%	60%	65%	100%	27456527	Residential Energy Solutions
217	Gas Heat (No AC)	Radiant Barriers	0.67	0	126,326	1736						
218	Gas Heat (No AC)	Radiant Barriers	0.12	0	126,326	1736						
219	AC/Electric Resistance Heat	Radiant Barriers	0.07	0	126,326	1736						
220	AC/Electric Resistance Heat	Radiant Barriers	1.20	1	126,326	1736	38%	60%	65%	100%	32771999	Residential Energy Solutions
221	Heat Pump	Radiant Barriers	0.79	0	126,326	1736						
222	Heat Pump	Radiant Barriers	1.06	1	126,326	1736	4%	60%	65%	100%	3207284	Residential Energy Solutions
223	AC/Gas Heat	Energy Star Windows	0.72	0	126,326	1736						
224	AC/Gas Heat	Energy Star Windows	0.48	0	126,326	200						
225	Gas Heat (No AC)	Energy Star Windows	0.28	0	126,326	200						
226	Gas Heat (No AC)	Energy Star Windows	0.10	0	126,326	200						
227	AC/Electric Resistance Heat	Energy Star Windows	0.03	0	126,326	200						
228	AC/Electric Resistance Heat	Energy Star Windows	0.64	0	126,326	200						
229	Heat Pump	Energy Star Windows	0.31	0	126,326	200						
230	Heat Pump	Energy Star Windows	0.53	0	126,326	200						
231	AC/Gas Heat	Window Film	0.28	0	126,326	200						
232	AC/Gas Heat	Window Film	1.15	1	144,537	100	32%	100%	90%	100%	4176018	Residential Energy Solutions
233	Gas Heat (No AC)	Window Film	0.60	0	144,537	100						
234	Gas Heat (No AC)	Window Film	0.00	0	144,537	100						
235	AC/Electric Resistance Heat	Window Film	0.00	0	144,537	100						
236	AC/Electric Resistance Heat	Window Film	0.08	0	144,537	100						
237	Heat Pump	Window Film	0.52	0	144,537	100						
238	Heat Pump	Window Film	1.14	1	144,537	100	4%	100%	90%	100%	487814	Residential Energy Solutions
239	AC/Gas Heat	Air Infiltration	0.57	0	144,537	100						
239	AC/Gas Heat	Air Infiltration	1.80	1	126,326	174	32%	100%	70%	100%	4928095	Residential Energy Solutions



Residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
180	AC/Electric Resistance Heat	Duct Insulation	ICF	DEER			
181	Heat Pump	Duct Insulation	ICF	DEER			
182	Heat Pump	Duct Insulation	ICF	DEER			
183	AC/Gas Heat	Attic Knee Wall Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
184	AC/Gas Heat	Attic Knee Wall Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
185	Gas Heat (No AC)	Attic Knee Wall Insulation	ICF	DEER			
186	Gas Heat (No AC)	Attic Knee Wall Insulation	ICF	DEER			
187	AC/Electric Resistance Heat	Attic Knee Wall Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
188	AC/Electric Resistance Heat	Attic Knee Wall Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
189	Heat Pump	Attic Knee Wall Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
190	Heat Pump	Attic Knee Wall Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
191	AC/Gas Heat	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
192	AC/Gas Heat	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
193	AC/Gas Heat	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
194	AC/Gas Heat	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
195	Gas Heat (No AC)	Ceiling Insulation	ICF	DEER			
196	Gas Heat (No AC)	Ceiling Insulation	ICF	DEER			
197	Gas Heat (No AC)	Ceiling Insulation	ICF	DEER			
198	Gas Heat (No AC)	Ceiling Insulation	ICF	DEER			
199	AC/Electric Resistance Heat	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
200	AC/Electric Resistance Heat	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
201	AC/Electric Resistance Heat	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
202	AC/Electric Resistance Heat	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
203	Heat Pump	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
204	Heat Pump	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
205	Heat Pump	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
206	Heat Pump	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
207	AC/Gas Heat	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
208	Gas Heat (No AC)	Wall Insulation	ICF	DEER			
209	AC/Electric Resistance Heat	Wall Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
210	Electric Cooling with Electric Heat Pump	Wall Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
211	AC/Gas Heat	Floor Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
212	Gas Heat (No AC)	Floor Insulation	ICF	DEER			
213	AC/Electric Resistance Heat	Floor Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
214	Electric Cooling with Electric Heat Pump	Floor Insulation	ICF	DEER	Energy RASS, GCR	ICF	GCR
215	AC/Gas Heat	Radiant Barriers	ICF	DEER	Energy RASS, GCR	ICF	GCR
216	AC/Gas Heat	Radiant Barriers	ICF	DEER	Energy RASS, GCR	ICF	GCR
217	Gas Heat (No AC)	Radiant Barriers	ICF	DEER			
218	Gas Heat (No AC)	Radiant Barriers	ICF	DEER			
219	AC/Electric Resistance Heat	Radiant Barriers	ICF	DEER	Energy RASS, GCR	ICF	GCR
220	AC/Electric Resistance Heat	Radiant Barriers	ICF	DEER	Energy RASS, GCR	ICF	GCR
221	Heat Pump	Radiant Barriers	ICF	DEER	Energy RASS, GCR	ICF	GCR
222	Heat Pump	Radiant Barriers	ICF	DEER	Energy RASS, GCR	ICF	GCR
223	AC/Gas Heat	Radiant Barriers	ICF	DEER	Energy RASS, GCR	ICF	GCR
224	AC/Gas Heat	Radiant Barriers	ICF	DEER	Energy RASS, GCR	ICF	GCR
225	AC/Gas Heat	Radiant Barriers	ICF	DEER	Energy RASS, GCR	ICF	GCR
226	Gas Heat (No AC)	Radiant Barriers	ICF	DEER			
227	AC/Electric Resistance Heat	Radiant Barriers	ICF	DEER	Energy RASS, GCR	ICF	GCR
228	AC/Electric Resistance Heat	Radiant Barriers	ICF	DEER	Energy RASS, GCR	ICF	GCR
229	Heat Pump	Radiant Barriers	ICF	DEER	Energy RASS, GCR	ICF	GCR
230	Heat Pump	Radiant Barriers	ICF	DEER	Energy RASS, GCR	ICF	GCR
231	AC/Gas Heat	Energy Star Windows	ICF	DEER	Energy RASS, GCR	ICF	GCR
232	AC/Gas Heat	Energy Star Windows	ICF	DEER	Energy RASS, GCR	ICF	GCR
233	Gas Heat (No AC)	Energy Star Windows	ICF	DEER			
234	Gas Heat (No AC)	Energy Star Windows	ICF	DEER			
235	AC/Electric Resistance Heat	Energy Star Windows	ICF	DEER	Energy RASS, GCR	ICF	GCR
236	AC/Electric Resistance Heat	Energy Star Windows	ICF	DEER	Energy RASS, GCR	ICF	GCR
237	Heat Pump	Energy Star Windows	ICF	DEER	Energy RASS, GCR	ICF	GCR
238	Heat Pump	Energy Star Windows	ICF	DEER	Energy RASS, GCR	ICF	GCR
239	AC/Gas Heat	Window Film	ICF	DEER	Energy RASS, GCR	ICF	GCR
		Window Film	ICF	DEER	Energy RASS, GCR	ICF	GCR
		Window Film	ICF	DEER	Energy RASS, GCR	ICF	GCR
		Window Film	ICF	DEER	Energy RASS, GCR	ICF	GCR
		Window Film	ICF	DEER	Energy RASS, GCR	ICF	GCR
		Window Film	ICF	DEER	Energy RASS, GCR	ICF	GCR
		Window Film	ICF	DEER	Energy RASS, GCR	ICF	GCR
		Window Film	ICF	DEER	Energy RASS, GCR	ICF	GCR
		Window Film	ICF	DEER	Energy RASS, GCR	ICF	GCR
		Air Infiltration	ICF	DEER	Energy RASS, GCR	ICF	GCR

Measure #	Sub-Sector	End Use	Technology Type	Efficient Measure	Efficient Measure Definition	Base Measure Definition
240	Residential	HVAC	Gas Heat (No AC)	Air Infiltration	10% CFM50 Reduction	Original Infiltration Rate
241	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Air Infiltration	10% CFM50 Reduction	Original Infiltration Rate
242	Single Family&Duplex	HVAC	Heat Pump	Air Infiltration	10% CFM50 Reduction	Original Infiltration Rate
243	Residential	HVAC	AC/Gas Heat	Direct Load Control Switch		
244	Residential	HVAC	AC/Gas Heat	Direct Load Control Thermostat		
245	Residential	HVAC	AC/Gas Heat	Direct Load Control Thermostat		
246	Residential	HVAC	Heat Pump	Central AC Tune-up		
247	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Tune-up		
248	Residential	HVAC	AC/Gas Heat	Duct Efficiency	87.5% Distribution System Efficiency	75% Distribution System Efficiency
249	Residential	HVAC	Gas Heat (No AC)	Duct Efficiency	87.5% Distribution System Efficiency	75% Distribution System Efficiency
250	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Duct Efficiency	87.5% Distribution System Efficiency	75% Distribution System Efficiency
251	Single Family&Duplex	HVAC	Heat Pump	Duct Efficiency	87.5% Distribution System Efficiency	75% Distribution System Efficiency
252	Residential	HVAC	AC/Electric Resistance Heat	Direct Load Control Switch		
253	Residential	HVAC	AC/Electric Resistance Heat	Direct Load Control Thermostat		
254	Residential	HVAC	Heat Pump	Heat Pump Tune-up	Cooling savings only	
255	Residential	HVAC	AC/Gas Heat	Central AC Tune-up - Multifamily		
256	Residential	HVAC	AC/Electric Resistance Heat	Central AC Tune-up - Multifamily		
257	Residential	HVAC	Heat Pump	Heat Pump Tune-up - Multifamily		
258	Residential	HVAC	AC/Gas Heat	Ceiling Insulation	Cooling savings only	
259	Residential	HVAC	Gas Heat (No AC)	Ceiling Insulation	R-30	No insulation
260	Residential	HVAC	AC/Electric Resistance Heat	Ceiling Insulation	R-30	No insulation
261	Residential	HVAC	Heat Pump	Ceiling Insulation	R-30	No insulation
262	Residential	Lighting	All	Compact Fluorescent Fixtures	27 watt	72 watt
263	Residential	Lighting	All	Multifamily - Lighting		
264	Residential	Lighting	All	LED Fixture	15 watt	72 watt
265	Residential	Other	All	Benchmarking		
266	Residential	Other	AC/Gas Heat	Home Energy Solutions Tier 2 Audit		
267	Residential	Other	Gas Heat (No AC)	Home Energy Solutions Tier 2 Audit		
268	Residential	Other	AC/Electric Resistance Heat	Home Energy Solutions Tier 2 Audit		
269	Residential	Other	Heat Pump	Home Energy Solutions Tier 2 Audit		
270	Residential	Other	All	Weatherization		
271	Residential	Other	All	Home Energy Solutions Tier 1 Audit		
272	Residential	Other	All	Multifamily - QHEC		
273	Residential	Other	All	Secondary refrigerator or freezer removal		
274	Residential	Other	All	Enabled Dynamic Pricing (Res)	Enabled Pricing	
275	Residential	Other	All	Non-Enabled Dynamic Pricing (Res)	Non-Enabled Pricing	
276	Residential	Other	All	Solar PV (Res)	Solar PV	
277	Residential	Pool/SPA	All	High Efficiency Pool Pump & Timer	0	0
278	Residential	Refrigerator	All	Energy Star Refrigerator Multifamily Retrofit	20% better than DOE Standard	DOE Standards
279	Residential	Refrigerator	All	Energy Star Refrigerator Single Family Retrofit	20% better than DOE Standard	DOE Standards
280	Residential	Water Heating	Electric WH	Water Heater Jackets	2" WHJ	No insulation
281	Residential	Water Heating	Electric WH	Water Heater Jackets	2" WHJ	No insulation
282	Residential	Water Heating	Electric WH	Water Heater Jackets	2" WHJ	No insulation
283	Residential	Water Heating	Electric WH	Water Heater Jackets	3" WHJ	No insulation
284	Residential	Water Heating	Electric WH	Water Heater Jackets	3" WHJ	No insulation
285	Residential	Water Heating	Electric WH	Water Heater Jackets	3" WHJ	No insulation
286	Residential	Water Heating	Electric WH	Water Heater Pipe Insulation	3/4" Insulation	No insulation
287	Residential	Water Heating	Electric WH	Faucet Aerators	1.5 gpm bathroom, 2.2 gpm kitchen	2.5 gpm
288	Residential	Water Heating	Electric WH	Low Flow Shower Heads	1.5 gpm One Showerhead Replaced	2.5 gpm Two Showerheads per Household
289	Residential	Water Heating	Gas WH	Low Flow Shower Heads	1.5 gpm One Showerhead Replaced	2.5 gpm Two Showerheads per Household
290	Residential	Water Heating	Electric WH	Solar Hot Water	DHW 3.0 EF meeting SRCC OG-300 Standard: 80 galls	
291	Residential	HVAC	AC/Gas Heat	Central AC Replacement	SEER 14.5	SEER 13
292	Residential	HVAC	AC/Gas Heat	Central AC Replacement	SEER 15	SEER 13
293	Residential	HVAC	AC/Gas Heat	Central AC Replacement	SEER 16	SEER 13
294	Residential	HVAC	AC/Gas Heat	Central AC Replacement	SEER 17	SEER 13
295	Residential	HVAC	AC/Gas Heat	Central AC Replacement	SEER 18	SEER 13
296	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	16.1 to 16.99 EER	SEER 13 ASHP
297	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	17 EER and above	SEER 13 ASHP
298	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	16.1 to 16.99 EER	SEER 13 ASHP
299	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	17 EER and above	SEER 13 ASHP

Residential Measures

Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace on Burnout, or	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (THERMS)
240	Gas Heat (No AC)	Air Infiltration	10	CFM50	RET	\$0.47	0.02	0.00	0.02
241	AC/Electric Resistance Heat	Air Infiltration	10	CFM50	RET	\$0.47	0.98	0.00	0.00
242	Heat Pump	Air Infiltration	10	CFM50	RET	\$0.47	0.60	0.00	0.00
243	AC/Gas Heat	Direct Load Control Switch	5	home	RET	\$85.00	0.00	1.20	0.00
244	AC/Gas Heat	Direct Load Control Thermostat	5	home	RET	\$110.00	0.00	1.20	0.00
245	Heat Pump	Direct Load Control Switch	5	home	RET	\$85.00	0.00	1.20	0.00
246	Heat Pump	Direct Load Control Thermostat	5	home	RET	\$110.00	0.00	1.20	0.00
247	AC/Electric Resistance Heat	Central AC Tune-up	3	ton	RET	\$25.00	142.41	0.05	0.00
248	AC/Gas Heat	Duct Efficiency	15	sq. ft of conditioned area	RET	\$0.64	0.80	0.00	0.05
249	Gas Heat (No AC)	Duct Efficiency	15	sq. ft of conditioned area	RET	\$0.64	0.01	0.00	0.05
250	AC/Electric Resistance Heat	Duct Efficiency	15	sq. ft of conditioned area	RET	\$0.64	1.86	0.00	0.00
251	Heat Pump	Duct Efficiency	15	sq. ft of conditioned area	RET	\$0.64	1.19	0.00	0.00
252	AC/Electric Resistance Heat	Direct Load Control Switch	5	home	RET	\$85.00	0.00	1.20	0.00
253	AC/Electric Resistance Heat	Direct Load Control Thermostat	5	home	RET	\$110.00	0.00	1.20	0.00
254	Heat Pump	Heat Pump Tune-up	3	ton	RET	\$25.00	142.23	0.05	0.00
255	AC/Gas Heat	Central AC Tune-up - Multifamily	3	ton	RET	\$25.00	142.23	0.05	0.00
256	AC/Electric Resistance Heat	Central AC Tune-up - Multifamily	3	ton	RET	\$25.00	142.41	0.05	0.00
257	Heat Pump	Heat Pump Tune-up - Multifamily	3	ton	RET	\$25.00	142.23	0.05	0.00
258	AC/Gas Heat	Ceiling Insulation	20	sq. ft	RET	\$1.19	3.47	0.00	0.05
259	Gas Heat (No AC)	Ceiling Insulation	20	sq. ft	RET	\$1.19	0.00	0.00	0.05
260	AC/Electric Resistance Heat	Ceiling Insulation	20	sq. ft	RET	\$1.19	4.65	0.00	0.00
261	Heat Pump	Ceiling Insulation	20	sq. ft	RET	\$1.19	3.55	0.00	0.00
262	All	Compact Fluorescent Fixtures	20	fixture	RET	\$20.00	37.45	0.00	0.00
263	All	Multifamily - Lighting	6.3	fixture	RET	\$1,700.00	5000.00	0.50	0.00
264	All	LED Fixture	10	fixture	RET	\$60.00	47.44	0.01	0.00
265	All	Benchmarking	1	home	RET	\$12.00	269.57	0.06	2.03
266	AC/Gas Heat	Home Energy Solutions Tier 2 Audit	16	home	RET	\$4,108.00	2264.71	1.43	110.51
267	Gas Heat (No AC)	Home Energy Solutions Tier 2 Audit	16	home	RET	\$3,686.00	906.53	0.15	110.51
268	AC/Electric Resistance Heat	Home Energy Solutions Tier 2 Audit	16	home	RET	\$4,108.00	4790.21	1.45	0.00
269	Heat Pump	Home Energy Solutions Tier 2 Audit	16	home	RET	\$4,172.00	3076.46	1.45	0.00
270	All	Weatherization	10	home	RET	\$2,740.00	3891.27	1.09	47.87
271	All	Home Energy Solutions Tier 1 Audit	6.3	home	RET	\$150.00	416.70	0.05	10.90
272	All	Multifamily - OHEC	5	home	RET	\$150.00	416.70	0.05	10.90
273	All	Secondary refrigerator or freezer removal	10	customer	RET	\$150.00	1493.00	0.00	0.00
274	All	Enabled Dynamic Pricing (Res)	10	customer	RET	\$1.00	0.00	0.69	0.00
275	All	Non-Enabled Dynamic Pricing (Res)	10	customer	RET	\$1.00	0.00	0.31	0.00
276	All	Solar PV (Res)	20	customer	RET	\$12,000.00	4928.00	2.56	0.00
277	All	High Efficiency Pool Pump & Timer	10	per home	RET	\$714.00	1637.00	0.42	0.00
278	All	Energy Star Refrigerator Multifamily Retrofit	19	Installed Units	RET	\$800.00	713.00	0.10	0.00
279	All	Energy Star Refrigerator Single Family Retrofit	19	Installed Units	RET	\$1,000.00	743.00	0.10	0.00
280	Electric WH	Water Heater Jackets	13	Installed Units	RET	\$51.94	68.00	0.01	0.00
281	Electric WH	Water Heater Jackets	13	Installed Units	RET	\$51.94	76.00	0.01	0.00
282	Electric WH	Water Heater Jackets	13	Installed Units	RET	\$51.94	101.00	0.01	0.00
283	Electric WH	Water Heater Jackets	13	Installed Units	RET	\$53.50	94.00	0.01	0.00
284	Electric WH	Water Heater Jackets	13	Installed Units	RET	\$53.50	104.00	0.01	0.00
285	Electric WH	Water Heater Jackets	13	Installed Units	RET	\$53.50	139.00	0.01	0.00
286	Electric WH	Water Heater Pipe Insulation	13	Installed Units	RET	\$38.42	44.00	0.01	0.00
287	Electric WH	Faucet Aerators	10	Houses	RET	\$6.54	140.00	0.01	0.00
288	Electric WH	Low Flow Shower Heads	10	home	RET	\$29.22	104.63	0.01	0.00
289	Gas WH	Low Flow Shower Heads	10	home	RET	\$29.22	104.63	0.01	67.70
290	Electric WH	Solar Hot Water	20	ton	RET	\$6,299.00	2628.00	0.42	0.00
291	AC/Gas Heat	Central AC Replacement	15	ton	NEW	\$119.00	183.62	0.06	0.00
292	AC/Gas Heat	Central AC Replacement	15	ton	NEW	\$238.00	239.02	0.07	0.00
293	AC/Gas Heat	Central AC Replacement	15	ton	NEW	\$357.00	381.14	0.09	0.00
294	AC/Gas Heat	Central AC Replacement	15	ton	NEW	\$476.00	387.89	0.13	0.00
295	AC/Gas Heat	Central AC Replacement	15	ton	NEW	\$596.00	414.94	0.13	0.00
296	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	NEW	\$4,824.72	657.18	0.32	0.00
297	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	NEW	\$4,824.72	708.01	0.31	0.00
298	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	NEW	\$4,824.72	136.10	0.04	0.00
299	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	NEW	\$4,824.72	200.37	0.09	0.00

Measure #	Technology Type	Efficient Measure	Measure TRC	Passed Measure Screening?	Total Sub Sector Units	Measure Units per Sub-Sector	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
240	Gas Heat (No AC)	Air Infiltration	0.17	0	126,326	174	38%	100%	70%	100%	5882154	Residential Energy Solutions
241	AC/Electric Resistance Heat	Air Infiltration	2.01	1	126,326	174	4%	100%	70%	100%	575666	Residential Energy Solutions
242	Heat Pump	Air Infiltration	1.73	1	126,326	174	4%	100%	70%	100%	30933	Direct Load Control
243	AC/Gas Heat	Direct Load Control Switch	10.48	1	144,537	1	32%	67%	100%	100%	15467	Direct Load Control
244	AC/Gas Heat	Direct Load Control Thermostat	8.09	1	144,537	1	32%	33%	100%	100%	3613	Direct Load Control
245	Heat Pump	Direct Load Control Switch	10.48	1	144,537	1	4%	67%	100%	100%	1807	Direct Load Control
246	Heat Pump	Direct Load Control Thermostat	8.09	1	126,326	3	4%	100%	99%	100%	143762	AC Tune-Up
247	AC/Electric Resistance Heat	Central AC Tune-up	1.65	1	126,326	3	32%	100%	99%	100%	50160963	Residential Energy Solutions
248	AC/Gas Heat	Duct Efficiency	2.19	0	126,326	1736	38%	75%	95%	100%	59871921	Residential Energy Solutions
249	Gas Heat (No AC)	Duct Efficiency	0.30	0	126,326	1736	4%	75%	95%	100%	5859462	Residential Energy Solutions
250	AC/Electric Resistance Heat	Duct Efficiency	2.68	1	126,326	1736	4%	75%	95%	100%	35667	Direct Load Control
251	Heat Pump	Duct Efficiency	2.18	1	126,326	1736	38%	64%	100%	100%	11889	Direct Load Control
252	AC/Electric Resistance Heat	Direct Load Control Switch	10.48	1	144,537	1	38%	21%	100%	100%	14070	AC Tune-Up
253	AC/Electric Resistance Heat	Direct Load Control Thermostat	8.09	1	144,537	3	4%	100%	99%	100%	5280	Multifamily
254	Heat Pump	Heat Pump Tune-up	1.64	1	126,326	2	21%	100%	99%	100%	5280	Multifamily
255	AC/Gas Heat	Central AC Tune-up - Multifamily	1.64	1	17,344	2	21%	100%	99%	100%	386	Multifamily
256	AC/Electric Resistance Heat	Heat Pump Tune-up - Multifamily	1.65	1	17,344	2	6%	25%	99%	100%	7040135	Residential Energy Solutions
257	Heat Pump	Heat Pump Tune-up - Multifamily	1.64	1	17,344	2	6%	25%	99%	100%	386	Multifamily
258	AC/Gas Heat	Ceiling Insulation	3.10	0	126,326	1736	32%	10%	100%	100%	8403077	Residential Energy Solutions
259	AC/Gas Heat	Ceiling Insulation	0.21	0	126,326	1736	38%	10%	100%	100%	822381	Residential Energy Solutions
260	Gas Heat (No AC)	Ceiling Insulation	3.46	1	126,326	1736	4%	10%	100%	100%	123580	Residential Lighting and Appliances
261	AC/Electric Resistance Heat	Ceiling Insulation	2.93	1	126,326	1736	4%	10%	100%	100%	2061	Multifamily
262	Heat Pump	Ceiling Insulation	0.57	1	144,537	1	100%	90%	95%	100%	36134	Residential Lighting and Appliances
263	All	Compact Fluorescent Fixtures	1.36	1	17,344	1	100%	12%	100%	100%	144537	Home Energy Use Benchmarking
264	All	Multifamily - Lighting	0.70	1	144,537	1	100%	25%	100%	100%	20662	Residential Energy Solutions
265	All	LED Fixture	1.80	1	144,537	1	32%	51%	100%	100%	20662	Residential Energy Solutions
266	All	Benchmarking	1.79	0	144,537	1	100%	100%	100%	100%	24686	Residential Energy Solutions
267	AC/Gas Heat	Home Energy Solutions Tier 2 Audit	0.95	1	126,326	1	100%	100%	100%	100%	2416	Residential Energy Solutions
268	Gas Heat (No AC)	Home Energy Solutions Tier 2 Audit	0.31	0	126,326	1	38%	51%	100%	100%	125062	Low Income Weatherization
269	AC/Electric Resistance Heat	Home Energy Solutions Tier 2 Audit	1.15	1	126,326	1	4%	100%	99%	100%	126326	Residential Energy Solutions
270	Heat Pump	Home Energy Solutions Tier 2 Audit	0.92	1	126,326	1	100%	100%	100%	100%	17344	Multifamily
271	All	Weatherization	1.03	1	126,326	1	100%	100%	100%	100%	144537	Enabled Dynamic Pricing (Res)
272	All	Home Energy Solutions Tier 1 Audit	1.01	1	17,344	1	100%	100%	100%	100%	144537	Non-Enabled Dynamic Pricing (Res)
273	All	Multifamily - QHEC	1.79	0	144,537	1	100%	100%	100%	100%	62531	Residential Solar PV
274	All	Secondary refrigerator or freezer removal	4.25	1	144,537	1	100%	100%	99%	100%	2882	Residential Energy Solutions
275	All	Enabled Dynamic Pricing (Res)	381.44	1	144,537	1	100%	100%	99%	100%	13782	Residential Energy Solutions
276	All	Non-Enabled Dynamic Pricing (Res)	0.61	1	126,326	1	100%	50%	99%	100%	13782	Residential Energy Solutions
277	All	Solar PV (Res)	1.50	1	144,537	1	100%	2%	99%	100%	41346	Residential Energy Solutions
278	All	High Efficiency Pool Pump & Timer	0.70	1	144,537	1	42%	85%	80%	100%	1851	Residential Energy Solutions
279	All	Energy Star Refrigerator Multifamily Retrofit	0.59	0	144,537	1	42%	33%	79%	100%	12009	Residential Energy Solutions
280	All	Energy Star Refrigerator Single Family Retrofit	0.59	0	144,537	1	42%	25%	79%	100%	16538	Residential Energy Solutions
281	Electric WH	Water Heater Jackets	0.69	0	144,537	1	58%	25%	99%	100%	30098	Solar Water Heater Pilot
282	Electric WH	Water Heater Jackets	0.79	0	144,537	1	32%	50%	100%	100%	1	ENERGY STAR Air Conditioning
283	Electric WH	Water Heater Jackets	1.05	0	144,537	1	32%	8%	100%	100%	3	ENERGY STAR Air Conditioning
284	Electric WH	Water Heater Jackets	0.93	1	144,537	1	42%	28%	80%	100%	13782	Residential Energy Solutions
285	Electric WH	Water Heater Jackets	1.04	1	144,537	1	42%	28%	80%	100%	13782	Residential Energy Solutions
286	Electric WH	Water Heater Jackets	1.40	1	144,537	1	42%	28%	80%	100%	13782	Residential Energy Solutions
287	Electric WH	Water Heater Pipe Insulation	1.01	1	144,537	1	42%	85%	80%	100%	41346	Residential Energy Solutions
288	Electric WH	Faucet Aerators	9.54	1	144,537	1	42%	33%	79%	100%	1851	Residential Energy Solutions
289	Gas WH	Low Flow Shower Heads	1.68	1	144,537	1	42%	25%	79%	100%	12009	Residential Energy Solutions
290	Gas WH	Low Flow Shower Heads	8.89	1	144,537	1	42%	25%	79%	100%	16538	Residential Energy Solutions
291	Electric WH	Solar Hot Water	0.36	1	144,537	1	58%	25%	99%	100%	30098	Solar Water Heater Pilot
292	AC/Gas Heat	Central AC Replacement	1.53	1	18	3	32%	8%	100%	100%	1	ENERGY STAR Air Conditioning
293	AC/Gas Heat	Central AC Replacement	0.96	1	18	3	32%	18%	100%	100%	3	ENERGY STAR Air Conditioning
294	AC/Gas Heat	Central AC Replacement	0.79	0	18	3	0	18%	100%	100%	3	ENERGY STAR Air Conditioning
295	AC/Gas Heat	Central AC Replacement	0.80	0	18	3	0	18%	100%	100%	3	ENERGY STAR Air Conditioning
296	AC/Gas Heat	Central AC Replacement	0.67	0	18	3	0	18%	100%	100%	3	ENERGY STAR Air Conditioning
297	Heat Pump	Ground Source Heat Pump w/desuperheater	0.22	0	18	3	0	18%	100%	100%	3	ENERGY STAR Air Conditioning
298	Heat Pump	Ground Source Heat Pump w/desuperheater	0.22	0	18	3	0	18%	100%	100%	3	ENERGY STAR Air Conditioning
299	Heat Pump	Ground Source Heat Pump w/desuperheater	0.03	0	18	3	0	18%	100%	100%	3	ENERGY STAR Air Conditioning

Residential Measures

Residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
240	Gas Heat (No AC)	Air Infiltration	ICF	DEER	Energy RASS, GCR	ICF	Energy RASS
241	AC/Electric Resistance Heat	Air Infiltration	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	Energy RASS
242	Heat Pump	Air Infiltration	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
243	AC/Gas Heat	Direct Load Control Switch	ICF	ICF	Energy RASS, GCR	ICF	ICF
244	AC/Gas Heat	Direct Load Control Thermostat	ICF	ICF	Energy RASS, GCR	ICF	ICF
245	Heat Pump	Direct Load Control Switch	ICF	ICF	Energy RASS, GCR	ICF	ICF
246	Heat Pump	Direct Load Control Thermostat	ICF	ICF	Energy RASS, GCR	ICF	ICF
247	AC/Electric Resistance Heat	Central AC Tune-up	ICF	DEER	Energy RASS, GCR	ICF	ICF
248	AC/Gas Heat	Duct Efficiency	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
249	Gas Heat (No AC)	Duct Efficiency	ICF	DEER	Energy RASS, GCR	ICF	ICF
250	AC/Electric Resistance Heat	Duct Efficiency	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
251	Heat Pump	Duct Efficiency	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
252	AC/Electric Resistance Heat	Direct Load Control Switch	ICF	ICF	Energy RASS, GCR	ICF	ICF
253	AC/Electric Resistance Heat	Direct Load Control Thermostat	ICF	ICF	Energy RASS, GCR	ICF	ICF
254	Heat Pump	Heat Pump Tune-up	ICF	DEER	Energy RASS, GCR	ICF	ICF
255	AC/Gas Heat	Central AC Tune-up - MultiFamily	ICF	DEER	Energy RASS, GCR	ICF	ICF
256	AC/Electric Resistance Heat	Central AC Tune-up - MultiFamily	ICF	DEER	Energy RASS, GCR	ICF	ICF
257	Heat Pump	Heat Pump Tune-up - MultiFamily	ICF	DEER	Energy RASS, GCR	ICF	ICF
258	AC/Gas Heat	Ceiling Insulation	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
259	Gas Heat (No AC)	Ceiling Insulation	ICF	DEER	Energy RASS, GCR	ICF	ICF
260	AC/Electric Resistance Heat	Ceiling Insulation	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
261	Heat Pump	Ceiling Insulation	Frontier - 2009 ENO Deemed Savings	DEER	Energy RASS, GCR	ICF	ICF
262	All	Compact Fluorescent Fixtures	ICF	ICF	Energy	Energy	ICF
263	All	MultiFamily - Lighting	ICF	ICF	ICF	ICF	ICF
264	All	LED Fixture	ICF	ICF	ICF	ICF	ICF
265	All	Benchmarking	ICF	ICF	ICF	ICF	ICF
266	AC/Gas Heat	Home Energy Solutions Tier 2 Audit	ICF	ICF	Energy RASS, GCR	GCR	ICF
267	Gas Heat (No AC)	Home Energy Solutions Tier 2 Audit	ICF	ICF	Energy RASS, GCR	GCR	ICF
268	AC/Electric Resistance Heat	Home Energy Solutions Tier 2 Audit	ICF	ICF	Energy RASS, GCR	GCR	ICF
269	Heat Pump	Home Energy Solutions Tier 2 Audit	ICF	ICF	Energy RASS, GCR	GCR	ICF
270	All	Weatherization	Energy	Energy	ICF	ICF	ICF
271	All	Home Energy Solutions Tier 1 Audit	ICF	ICF	ICF	ICF	ICF
272	All	MultiFamily - QHEC	ICF	ICF	ICF	ICF	ICF
273	All	Secondary refrigerator or freezer removal	ICF	ICF	ICF	ICF	ICF
274	All	Enabled Dynamic Pricing (Res)	FERC	FERC	ICF	ICF	ICF
275	All	Non-Enabled Dynamic Pricing (Res)	FERC	FERC	ICF	ICF	ICF
276	All	Solar PV (Res)	Frontier - 2009 ENO Deemed Savings	ICF	ICF	ICF	GCR
277	All	High Efficiency Pool Pump & Timer	ICF	ICF	ICF	ICF	ICF
278	All	Energy Star Refrigerator MultiFamily Retrofit	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	GCR	Energy RASS
279	All	Energy Star Refrigerator Single Family Retrofit	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	GCR	Energy RASS
280	Electric WH	Water Heater Jackets	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	GCR	Energy RASS
281	Electric WH	Water Heater Jackets	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	GCR	Energy RASS
282	Electric WH	Water Heater Jackets	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	GCR	Energy RASS
283	Electric WH	Water Heater Jackets	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	GCR	Energy RASS
284	Electric WH	Water Heater Jackets	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	GCR	Energy RASS
285	Electric WH	Water Heater Jackets	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	GCR	Energy RASS
286	Electric WH	Water Heater Jackets	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	GCR	Energy RASS
287	Electric WH	Water Heater Pipe Insulation	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	GCR	Energy RASS
288	Electric WH	Faucet Aerators	Frontier - 2011 Arkansas Deemed Savings	DEER	Energy RASS, GCR	GCR	Energy RASS
289	Gas WH	Low Flow Shower Heads	ICF	DEER	Energy RASS, GCR	ICF	ICF
290	Electric WH	Low Flow Shower Heads	ICF	DEER	Energy RASS, GCR	ICF	ICF
291	AC/Gas Heat	Solar Hot Water	ICF	DEER	Energy RASS, GCR	ICF	ICF
292	AC/Gas Heat	Central AC Replacement	ICF	DEER	Energy RASS, GCR	ICF	ICF
293	AC/Gas Heat	Central AC Replacement	ICF	DEER	Energy RASS, GCR	ICF	ICF
294	AC/Gas Heat	Central AC Replacement	ICF	DEER	Energy RASS, GCR	ICF	ICF
295	AC/Gas Heat	Central AC Replacement	ICF	DEER	Energy RASS, GCR	ICF	ICF
296	Heat Pump	Central AC Replacement	ICF	DEER	Energy RASS, GCR	ICF	ICF
297	Heat Pump	Ground Source Heat Pump w/desuperheater	ICF	DEER	Energy RASS, GCR	ICF	ICF
298	Heat Pump	Ground Source Heat Pump w/desuperheater	ICF	DEER	Energy RASS, GCR	ICF	ICF
299	Heat Pump	Ground Source Heat Pump w/desuperheater	ICF	DEER	Energy RASS, GCR	ICF	GCR

Residential Measures

Measure #	Sector	Sub-Sector	End Use	Technology Type	Efficient Measure	Efficient Measure Definition	Base Measure Definition
300	Residential	Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 14.5	SEER 13
301	Residential	Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 15	SEER 13
302	Residential	Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 16	SEER 13
303	Residential	Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 17	SEER 13
304	Residential	Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 18	SEER 13
305	Residential	Residential	HVAC	Gas Heat (No AC)	Window AC Replacement	EER 10.7; Less than 6,000 BTU/H	EER 9.7; Less than 6,000 BTU/H
306	Residential	Residential	HVAC	Gas Heat (No AC)	Window AC Replacement	EER 10.7; 6,000-7,999 BTU/H	EER 9.7; 6,000-7,999 BTU/H
307	Residential	Residential	HVAC	Gas Heat (No AC)	Window AC Replacement	EER 10.8; 8,000-13,999 BTU/H	EER 9.8; 8,000-13,999 BTU/H
308	Residential	Residential	HVAC	Gas Heat (No AC)	Window AC Replacement	EER 10.7; 14,000-19,999 BTU/H	EER 9.7; 14,000-19,999 BTU/H
309	Residential	Residential	HVAC	Gas Heat (No AC)	Window AC Replacement	EER 9.4; 20,000+BTU/H	EER 8.5; 20,000+BTU/H
310	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Ceiling Insulation	R-38	Code compliant R-value - R30
311	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Ceiling Insulation	R-38	Code compliant R-value - R30
312	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Ceiling Insulation	R-38	Code compliant R-value - R30
313	Residential	Single Family&Duplex	HVAC	Heat Pump	Ceiling Insulation	R-38	Code compliant R-value - R30
314	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Wall Insulation	R13+R2 Sheathing	Code compliant R-value - R13
315	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Wall Insulation	R13+R2 Sheathing	Code compliant R-value - R13
316	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Wall Insulation	R13+R2 Sheathing	Code compliant R-value - R13
317	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Wall Insulation	R13+R2 Sheathing	Code compliant R-value - R13
318	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Radiant Barriers	Ceiling insulation > R-19w/radiant barrier	Code compliant R-value - R13
319	Residential	Single Family&Duplex	HVAC	AC/Gas Heat (No AC)	Radiant Barriers	Ceiling insulation > R-19w/radiant barrier	Ceiling insulation > R-19w/o radiant barrier
320	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Radiant Barriers	Ceiling insulation > R-19w/radiant barrier	Ceiling insulation > R-19w/o radiant barrier
321	Residential	Single Family&Duplex	HVAC	Heat Pump	Radiant Barriers	Ceiling insulation > R-19w/radiant barrier	Ceiling insulation > R-19w/o radiant barrier
322	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Radiant Barriers	U-0.35 and SHGC 0.3	Code compliant window assembly
323	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Energy Star Windows	U-0.35 and SHGC 0.3	Code compliant window assembly
324	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Energy Star Windows	U-0.35 and SHGC 0.3	Code compliant window assembly
325	Residential	Single Family&Duplex	HVAC	Heat Pump	Energy Star Windows	U-0.35 and SHGC 0.3	Code compliant window assembly
326	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Air Infiltration	10% CFM50 Reduction	Original Infiltration Rate
327	Residential	Single Family&Duplex	HVAC	AC/Gas Heat (No AC)	Air Infiltration	10% CFM50 Reduction	Original Infiltration Rate
328	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Air Infiltration	10% CFM50 Reduction	Original Infiltration Rate
329	Residential	Single Family&Duplex	HVAC	Heat Pump	Air Infiltration	SEER 14.5	SEER 13
330	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 15	SEER 13
331	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 16	SEER 13
332	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 17	SEER 13
333	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 18	SEER 13
334	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 18	SEER 13
335	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Duct Efficiency	87.5% Distribution System Efficiency	75% Distribution System Efficiency
336	Residential	Single Family&Duplex	HVAC	AC/Gas Heat (No AC)	Duct Efficiency	87.5% Distribution System Efficiency	75% Distribution System Efficiency
337	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Duct Efficiency	87.5% Distribution System Efficiency	75% Distribution System Efficiency
338	Residential	Single Family&Duplex	HVAC	Heat Pump	Duct Efficiency	87.5% Distribution System Efficiency	75% Distribution System Efficiency
339	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 14.5 Mini-Split AC	SEER 13 CAC System
340	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 15 Mini-Split AC	SEER 13 CAC System
341	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 16 Mini-Split AC	SEER 13 CAC System
342	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 17 Mini-Split AC	SEER 13 CAC System
343	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 18 Mini-Split AC	SEER 13 CAC System
344	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 14.5 Mini-Split AC	SEER 13 CAC System
345	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 15 Mini-Split AC	SEER 13 CAC System
346	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 16 Mini-Split AC	SEER 13 CAC System
347	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 17 Mini-Split AC	SEER 13 CAC System
348	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 18 Mini-Split AC	SEER 13 CAC System
349	Residential	Single Family&Duplex	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 14.5 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
350	Residential	Single Family&Duplex	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 15 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
351	Residential	Single Family&Duplex	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 16 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
352	Residential	Single Family&Duplex	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 17 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
353	Residential	Single Family&Duplex	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 18 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
354	Residential	Single Family&Duplex	HVAC	AC/Gas Heat	Programmable Thermostat	Programmable Thermostat	Manual Thermostat
355	Residential	Single Family&Duplex	HVAC	AC/Gas Heat (No AC)	Programmable Thermostat	Programmable Thermostat	Manual Thermostat
356	Residential	Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Programmable Thermostat	Programmable Thermostat	Manual Thermostat
357	Residential	Single Family&Duplex	HVAC	Heat Pump	Programmable Thermostat	Programmable Thermostat	Manual Thermostat
358	Residential	Multifamily	HVAC	AC/Gas Heat	Central AC Replacement - Multifamily	SEER 14.5	SEER 13
359	Residential	Multifamily	HVAC	AC/Gas Heat	Central AC Replacement - Multifamily	SEER 15	SEER 13

Residential Measures

Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace on Burnout, or	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (THERMS)
300	Heat Pump	Heat Pump Replacement	15	tons	NEW	\$137.00	205.65	0.06	0.00
301	Heat Pump	Heat Pump Replacement	15	tons	NEW	\$274.00	262.72	0.08	0.00
302	Heat Pump	Heat Pump Replacement	15	tons	NEW	\$411.00	351.24	0.08	0.00
303	Heat Pump	Heat Pump Replacement	15	tons	NEW	\$548.00	377.13	0.10	0.00
304	Heat Pump	Heat Pump Replacement	15	tons	NEW	\$685.00	438.54	0.13	0.00
305	Gas Heat (No AC)	Window AC Replacement	13	per unit	NEW	\$50.00	82.37	0.03	0.00
306	Gas Heat (No AC)	Window AC Replacement	13	per unit	NEW	\$50.00	96.41	0.04	0.00
307	Gas Heat (No AC)	Window AC Replacement	13	per unit	NEW	\$50.00	151.32	0.07	0.00
308	Gas Heat (No AC)	Window AC Replacement	13	per unit	NEW	\$50.00	234.30	0.10	0.00
309	Gas Heat (No AC)	Window AC Replacement	13	per unit	NEW	\$50.00	328.22	0.16	0.00
310	AC/Gas Heat	Ceiling Insulation	20	sq. ft	NEW	\$0.24	0.05	0.00	0.00
311	Gas Heat (No AC)	Ceiling Insulation	20	sq. ft	NEW	\$0.24	0.00	0.00	0.00
312	AC/Electric Resistance Heat	Ceiling Insulation	20	sq. ft	NEW	\$0.24	0.10	0.00	0.00
313	Heat Pump	Ceiling Insulation	20	sq. ft	NEW	\$0.24	0.07	0.00	0.00
314	AC/Gas Heat	Wall Insulation	20	sq. ft	NEW	\$0.32	0.04	0.00	0.00
315	Gas Heat (No AC)	Wall Insulation	20	sq. ft	NEW	\$0.32	0.01	0.00	0.00
316	AC/Electric Resistance Heat	Wall Insulation	20	sq. ft	NEW	\$0.32	0.14	0.00	0.00
317	Electric Cooling with Electric Heat Pump	Wall Insulation	20	sq. ft	NEW	\$0.32	0.08	0.00	0.00
318	AC/Gas Heat	Radiant Barriers	25	sq. ft	NEW	\$0.75	0.17	0.00	0.01
319	Gas Heat (No AC)	Radiant Barriers	25	sq. ft	NEW	\$0.75	0.00	0.00	0.01
320	AC/Electric Resistance Heat	Radiant Barriers	25	sq. ft	NEW	\$0.75	0.39	0.00	0.00
321	Heat Pump	Radiant Barriers	25	sq. ft	NEW	\$0.75	0.32	0.00	0.00
322	AC/Gas Heat	Energy Star Windows	20	sq. ft	NEW	\$4.57	0.96	0.00	0.05
323	Gas Heat (No AC)	Energy Star Windows	20	sq. ft	NEW	\$4.57	0.04	0.00	0.05
324	AC/Electric Resistance Heat	Energy Star Windows	20	sq. ft	NEW	\$4.57	2.11	0.00	0.00
325	Heat Pump	Energy Star Windows	20	sq. ft	NEW	\$4.57	1.55	0.00	0.00
326	AC/Gas Heat	Air Infiltration	10	CFM50	NEW	\$0.47	0.15	0.00	0.00
327	Gas Heat (No AC)	Air Infiltration	10	CFM50	NEW	\$0.47	0.00	0.00	0.00
328	AC/Electric Resistance Heat	Air Infiltration	10	CFM50	NEW	\$0.47	0.25	0.00	0.00
329	Heat Pump	Air Infiltration	10	CFM50	NEW	\$0.47	0.13	0.00	0.00
330	AC/Electric Resistance Heat	Central AC Replacement	15	ton	NEW	\$119.00	183.62	0.06	0.00
331	AC/Electric Resistance Heat	Central AC Replacement	15	ton	NEW	\$238.00	239.02	0.07	0.00
332	AC/Electric Resistance Heat	Central AC Replacement	15	ton	NEW	\$357.00	281.14	0.09	0.00
333	AC/Electric Resistance Heat	Central AC Replacement	15	ton	NEW	\$476.00	387.89	0.13	0.00
334	AC/Electric Resistance Heat	Central AC Replacement	15	ton	NEW	\$596.00	414.94	0.13	0.00
335	AC/Gas Heat	Duct Efficiency	15	sq. ft of conditioned area	NEW	\$0.42	0.41	0.00	0.02
336	Gas Heat (No AC)	Duct Efficiency	15	sq. ft of conditioned area	NEW	\$0.42	0.01	0.00	0.02
337	AC/Electric Resistance Heat	Duct Efficiency	15	sq. ft of conditioned area	NEW	\$0.42	0.98	0.00	0.00
338	Heat Pump	Duct Efficiency	15	sq. ft of conditioned area	NEW	\$0.42	0.63	0.00	0.00
339	AC/Gas Heat	Mini-Split AC	15	ton	NEW	-\$862.61	571.49	0.18	0.00
340	AC/Gas Heat	Mini-Split AC	15	ton	NEW	-\$773.61	671.36	0.19	0.00
341	AC/Gas Heat	Mini-Split AC	15	ton	NEW	-\$595.61	764.53	0.22	0.00
342	AC/Gas Heat	Mini-Split AC	15	ton	NEW	-\$417.61	816.32	0.24	0.00
343	AC/Gas Heat	Mini-Split AC	15	ton	NEW	-\$239.61	886.66	0.27	0.00
344	AC/Electric Resistance Heat	Mini-Split AC	15	ton	NEW	-\$862.61	571.49	0.18	0.00
345	AC/Electric Resistance Heat	Mini-Split AC	15	ton	NEW	-\$773.61	671.36	0.19	0.00
346	AC/Electric Resistance Heat	Mini-Split AC	15	ton	NEW	-\$595.61	764.53	0.22	0.00
347	AC/Electric Resistance Heat	Mini-Split AC	15	ton	NEW	-\$417.61	816.32	0.24	0.00
348	AC/Electric Resistance Heat	Mini-Split AC	15	ton	NEW	-\$239.61	886.66	0.27	0.00
349	Heat Pump	Mini-Split Heat Pump	15	tons	NEW	\$99.39	774.71	0.16	0.00
350	Heat Pump	Mini-Split Heat Pump	15	tons	NEW	\$191.39	825.66	0.18	0.00
351	Heat Pump	Mini-Split Heat Pump	15	tons	NEW	\$375.39	917.86	0.20	0.00
352	Heat Pump	Mini-Split Heat Pump	15	tons	NEW	\$559.39	999.15	0.22	0.00
353	Heat Pump	Mini-Split Heat Pump	15	tons	NEW	\$743.39	1071.34	0.24	0.00
354	AC/Gas Heat	Programmable Thermostat	15	per home	NEW	\$45.00	191.79	0.00	2.00
355	Gas Heat (No AC)	Programmable Thermostat	15	per home	NEW	\$45.00	0.00	0.00	2.00
356	AC/Electric Resistance Heat	Programmable Thermostat	15	per home	NEW	\$45.00	238.71	0.00	0.00
357	Heat Pump	Programmable Thermostat	15	per home	NEW	\$45.00	224.59	0.00	0.00
358	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$119.00	183.62	0.06	0.00
359	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$238.00	239.02	0.07	0.00

Measure #	Technology Type	Efficient Measure	Measure TRC	Passed Measure Screening?	Total Sub Sector Units	Measure Units per Sub-Sector	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
300	Heat Pump	Heat Pump Replacement	1.43	1	18	3	4%	8%	100%	100%	0	ENERGY STAR Air Conditioning
301	Heat Pump	Heat Pump Replacement	0.91	1	18	3	4%	18%	100%	100%	0	ENERGY STAR Air Conditioning
302	Heat Pump	Heat Pump Replacement	0.72	0	18	3						
303	Heat Pump	Heat Pump Replacement	0.60	0	18	3						
304	Heat Pump	Heat Pump Replacement	0.80	0	18	3						
305	Gas Heat (No AC)	Window AC Replacement	1.70	1	21	9	17%	4%	100%	100%	1	Residential Lighting and Appliances
306	Gas Heat (No AC)	Window AC Replacement	1.89	1	21	9	17%	7%	100%	100%	1	Residential Lighting and Appliances
307	Gas Heat (No AC)	Window AC Replacement	3.33	1	21	3	17%	11%	100%	100%	1	Residential Lighting and Appliances
308	Gas Heat (No AC)	Window AC Replacement	4.76	1	21	2	17%	7%	100%	100%	0	Residential Lighting and Appliances
309	Gas Heat (No AC)	Window AC Replacement	7.53	1	21	2	17%	7%	100%	100%	0	Residential Lighting and Appliances
310	AC/Gas Heat	Ceiling Insulation	0.27	0	18	1736						
311	Gas Heat (No AC)	Ceiling Insulation	0.06	0	18	1736						
312	AC/Electric Resistance Heat	Ceiling Insulation	0.35	0	18	1736						
313	Heat Pump	Ceiling Insulation	0.27	0	18	1736						
314	AC/Gas Heat	Wall Insulation	0.29	0	18	1400						
315	Gas Heat (No AC)	Wall Insulation	0.09	0	18	1400						
316	AC/Electric Resistance Heat	Wall Insulation	0.40	0	18	1400						
317	Electric Cooling with Electric Heat Pump	Wall Insulation	0.30	0	18	1400						
318	AC/Gas Heat	Radiant Barriers	0.79	0	18	1736						
319	Gas Heat (No AC)	Radiant Barriers	0.07	0	18	1736						
320	AC/Electric Resistance Heat	Radiant Barriers	0.91	0	18	1736						
321	Heat Pump	Radiant Barriers	0.85	0	18	1736						
322	AC/Gas Heat	Energy Star Windows	0.47	0	18	200						
323	Gas Heat (No AC)	Energy Star Windows	0.06	0	18	200						
324	AC/Electric Resistance Heat	Energy Star Windows	0.56	0	18	200						
325	Heat Pump	Energy Star Windows	0.49	0	18	200						
326	AC/Gas Heat	Air Infiltration	0.54	0	18	174						
327	Gas Heat (No AC)	Air Infiltration	0.03	0	18	174						
328	AC/Electric Resistance Heat	Air Infiltration	0.59	0	18	174						
329	Heat Pump	Air Infiltration	0.47	0	18	174						
330	AC/Electric Resistance Heat	Central AC Replacement	1.53	1	18	3	38%	8%	100%	100%	2	ENERGY STAR Air Conditioning
331	AC/Electric Resistance Heat	Central AC Replacement	0.96	1	18	3	38%	18%	100%	100%	4	ENERGY STAR Air Conditioning
332	AC/Electric Resistance Heat	Central AC Replacement	0.79	0	18	3						
333	AC/Electric Resistance Heat	Central AC Replacement	0.80	0	18	3						
334	AC/Electric Resistance Heat	Central AC Replacement	0.87	0	18	3						
335	AC/Gas Heat	Duct Efficiency	1.75	1	18	1736	32%	75%	100%	100%	7563	Residential Energy Solutions
336	Gas Heat (No AC)	Duct Efficiency	0.24	0	18	1736						
337	AC/Electric Resistance Heat	Duct Efficiency	0.24	0	18	1736						
338	Heat Pump	Duct Efficiency	2.16	1	18	1736	38%	75%	100%	100%	9028	Residential Energy Solutions
339	AC/Gas Heat	Mini-Split AC	1.76	1	18	1736	4%	75%	100%	100%	883	Residential Energy Solutions
340	AC/Gas Heat	Mini-Split AC	-0.64	0	18	3						
341	AC/Gas Heat	Mini-Split AC	-0.79	0	18	3						
342	AC/Gas Heat	Mini-Split AC	-1.17	0	18	3						
343	AC/Gas Heat	Mini-Split AC	-1.84	0	18	3						
344	AC/Electric Resistance Heat	Mini-Split AC	-3.48	0	18	3						
345	AC/Electric Resistance Heat	Mini-Split AC	-0.64	0	18	3						
346	AC/Electric Resistance Heat	Mini-Split AC	-0.79	0	18	3						
347	AC/Electric Resistance Heat	Mini-Split AC	-1.17	0	18	3						
348	AC/Electric Resistance Heat	Mini-Split AC	-1.84	0	18	3						
349	Heat Pump	Mini-Split Heat Pump	-3.48	0	18	3	4%	1%	100%	100%	0	ENERGY STAR Air Conditioning
350	Heat Pump	Mini-Split Heat Pump	6.24	1	18	3	4%	2%	100%	100%	0	ENERGY STAR Air Conditioning
351	Heat Pump	Mini-Split Heat Pump	3.48	1	18	3	4%	2%	100%	100%	0	ENERGY STAR Air Conditioning
352	Heat Pump	Mini-Split Heat Pump	1.99	1	18	3	4%	3%	100%	100%	0	ENERGY STAR Air Conditioning
353	Heat Pump	Mini-Split Heat Pump	1.47	1	18	3	4%	2%	100%	100%	0	ENERGY STAR Air Conditioning
354	AC/Gas Heat	Mini-Split Heat Pump	1.19	0	18	3	4%	2%	100%	100%	0	ENERGY STAR Air Conditioning
355	Gas Heat (No AC)	Programmable Thermostat	0.47	0	18	1						
356	AC/Electric Resistance Heat	Programmable Thermostat	0.18	0	18	1						
357	Heat Pump	Programmable Thermostat	0.52	0	18	1						
358	AC/Gas Heat	Central AC Replacement - Multifamily	0.49	0	18	1						
359	AC/Gas Heat	Central AC Replacement - Multifamily	1.53	1	2	2	32%	8%	100%	100%	66	Multifamily
359	AC/Gas Heat	Central AC Replacement - Multifamily	0.96	1	2	2	32%	18%	100%	100%	66	Multifamily

Residential Measures



Residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
300	Heat Pump	Heat Pump Replacement	ICF	DEER			
301	Heat Pump	Heat Pump Replacement	ICF	DEER			
302	Heat Pump	Heat Pump Replacement	ICF	DEER			
303	Heat Pump	Heat Pump Replacement	ICF	DEER			
304	Heat Pump	Heat Pump Replacement	ICF	DEER			
305	Gas Heat (No AC)	Window AC Replacement	ICF	DEER	Energy RASS, GCR	ICF	GCR
306	Gas Heat (No AC)	Window AC Replacement	ICF	DEER	Energy RASS, GCR	ICF	GCR
307	Gas Heat (No AC)	Window AC Replacement	ICF	DEER	Energy RASS, GCR	ICF	GCR
308	Gas Heat (No AC)	Window AC Replacement	ICF	DEER	Energy RASS, GCR	ICF	GCR
309	Gas Heat (No AC)	Window AC Replacement	ICF	DEER	Energy RASS, GCR	ICF	GCR
310	AC/Gas Heat	Ceiling Insulation	ICF	DEER			
311	Gas Heat (No AC)	Ceiling Insulation	ICF	DEER			
312	AC/Electric Resistance Heat	Ceiling Insulation	ICF	DEER			
313	Heat Pump	Ceiling Insulation	ICF	DEER			
314	AC/Gas Heat	Wall Insulation	ICF	ICF			
315	Gas Heat (No AC)	Wall Insulation	ICF	ICF			
316	AC/Electric Resistance Heat	Wall Insulation	ICF	ICF			
317	Electric Cooling with Electric Heat Pump	Wall Insulation	ICF	ICF			
318	AC/Gas Heat	Radiant Barriers	ICF	DEER			
319	Gas Heat (No AC)	Radiant Barriers	ICF	DEER			
320	AC/Electric Resistance Heat	Radiant Barriers	ICF	DEER			
321	Heat Pump	Radiant Barriers	ICF	DEER			
322	AC/Gas Heat	Radiant Barriers	ICF	DEER			
323	Gas Heat (No AC)	Energy Star Windows	ICF	DEER			
324	AC/Electric Resistance Heat	Energy Star Windows	ICF	DEER			
325	Heat Pump	Energy Star Windows	ICF	DEER			
326	AC/Gas Heat	Energy Star Windows	ICF	DEER			
327	Gas Heat (No AC)	Air Infiltration	ICF	DEER			
328	AC/Electric Resistance Heat	Air Infiltration	ICF	DEER			
329	Heat Pump	Air Infiltration	ICF	DEER			
330	AC/Electric Resistance Heat	Central AC Replacement	ICF	DEER			
331	AC/Electric Resistance Heat	Central AC Replacement	ICF	DEER			
332	AC/Electric Resistance Heat	Central AC Replacement	ICF	DEER			
333	AC/Electric Resistance Heat	Central AC Replacement	ICF	DEER			
334	AC/Electric Resistance Heat	Central AC Replacement	ICF	DEER			
335	AC/Gas Heat	Duct Efficiency	ICF	DEER	Energy RASS, GCR	ICF	ICF
336	Gas Heat (No AC)	Duct Efficiency	ICF	DEER			
337	AC/Electric Resistance Heat	Duct Efficiency	ICF	DEER	Energy RASS, GCR	ICF	ICF
338	Heat Pump	Duct Efficiency	ICF	DEER	Energy RASS, GCR	ICF	ICF
339	AC/Gas Heat	Mini-Split AC	ICF	ICF			
340	AC/Gas Heat	Mini-Split AC	ICF	ICF			
341	AC/Gas Heat	Mini-Split AC	ICF	ICF			
342	AC/Gas Heat	Mini-Split AC	ICF	ICF			
343	AC/Gas Heat	Mini-Split AC	ICF	ICF			
344	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF			
345	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF			
346	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF			
347	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF			
348	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF			
349	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
350	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
351	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
352	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
353	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
354	AC/Gas Heat	Programmable Thermostat	ICF	ICF	Energy RASS, GCR	ICF	ICF
355	Gas Heat (No AC)	Programmable Thermostat	ICF	ICF	Energy RASS, GCR	ICF	ICF
356	AC/Electric Resistance Heat	Programmable Thermostat	ICF	ICF	Energy RASS, GCR	ICF	ICF
357	Heat Pump	Programmable Thermostat	ICF	ICF	Energy RASS, GCR	ICF	ICF
358	AC/Gas Heat	Central AC Replacement - Multifamily	ICF	DEER			
359	AC/Gas Heat	Central AC Replacement - Multifamily	ICF	DEER			

Residential Measures

Measure #	Sub-Sector	End Use	Technology Type	Efficient Measure	Efficient Measure Definition	Base Measure Definition
360	Residential Multifamily	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 16	SEER 13
361	Residential Multifamily	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 17	SEER 13
362	Residential Multifamily	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 18	SEER 13
363	Residential Multifamily	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	16.1 to 16.99 EER	SEER 13 ASHP
364	Residential Multifamily	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	17 EER and above	SEER 13 ASHP
365	Residential Multifamily	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	16.1 to 16.99 EER	SEER 13 ASHP
366	Residential Multifamily	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	17 EER and above	SEER 13 ASHP
367	Residential Multifamily	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 14.5	SEER 13
368	Residential Multifamily	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 15	SEER 13
369	Residential Multifamily	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 16	SEER 13
370	Residential Multifamily	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 17	SEER 13
371	Residential Multifamily	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 18	SEER 13
372	Residential Multifamily	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 14.5	SEER 13
373	Residential Multifamily	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 15	SEER 13
374	Residential Multifamily	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 16	SEER 13
375	Residential Multifamily	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 17	SEER 13
376	Residential Multifamily	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 18	SEER 13
377	Residential Multifamily	HVAC	AC/Gas Heat	Mini-Split AC - MultiFamily	SEER 14.5 Mini-Split AC	SEER 13
378	Residential Multifamily	HVAC	AC/Gas Heat	Mini-Split AC - MultiFamily	SEER 15 Mini-Split AC	SEER 13 CAC System
379	Residential Multifamily	HVAC	AC/Gas Heat	Mini-Split AC - MultiFamily	SEER 16 Mini-Split AC	SEER 13 CAC System
380	Residential Multifamily	HVAC	AC/Gas Heat	Mini-Split AC - MultiFamily	SEER 17 Mini-Split AC	SEER 13 CAC System
381	Residential Multifamily	HVAC	AC/Gas Heat	Mini-Split AC - MultiFamily	SEER 18 Mini-Split AC	SEER 13 CAC System
382	Residential Multifamily	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 14.5 Mini-Split AC	SEER 13 CAC System
383	Residential Multifamily	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 15 Mini-Split AC	SEER 13 CAC System
384	Residential Multifamily	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 16 Mini-Split AC	SEER 13 CAC System
385	Residential Multifamily	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 17 Mini-Split AC	SEER 13 CAC System
386	Residential Multifamily	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 18 Mini-Split AC	SEER 13 CAC System
387	Residential Multifamily	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 15 Mini-Split Heat Pump	SEER 13 CAC System
388	Residential Multifamily	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 16 Mini-Split Heat Pump	SEER 13 CAC System
389	Residential Multifamily	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 17 Mini-Split Heat Pump	SEER 13 CAC System
390	Residential Multifamily	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 18 Mini-Split Heat Pump	SEER 13 CAC System
391	Residential Multifamily	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 15 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
392	Residential Multifamily	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 16 Mini-Split Heat Pump	SEER 13 Central Heat Pump System
393	Residential Single Family&Duplex	HVAC	AC/Gas Heat	Central AC Replacement	SEER 15	SEER 14
394	Residential Single Family&Duplex	HVAC	AC/Gas Heat	Central AC Replacement	SEER 16	SEER 14
395	Residential Single Family&Duplex	HVAC	AC/Gas Heat	Central AC Replacement	SEER 17	SEER 14
396	Residential Single Family&Duplex	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	SEER 18	SEER 14 ASHP
397	Residential Single Family&Duplex	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	16.1 to 16.99 EER	SEER 14 ASHP
398	Residential Single Family&Duplex	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	17 EER and above	SEER 14 ASHP
399	Residential Single Family&Duplex	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater	16.1 to 16.99 EER	SEER 14 ASHP
400	Residential Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 15	SEER 14
401	Residential Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 16	SEER 14
402	Residential Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 17	SEER 14
403	Residential Single Family&Duplex	HVAC	Heat Pump	Heat Pump Replacement	SEER 18	SEER 14
404	Residential Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 15	SEER 14
405	Residential Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 16	SEER 14
406	Residential Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 17	SEER 14
407	Residential Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Central AC Replacement	SEER 18	SEER 14
408	Residential Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 15 Mini-Split AC	SEER 14 CAC System
409	Residential Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 16 Mini-Split AC	SEER 14 CAC System
410	Residential Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 17 Mini-Split AC	SEER 14 CAC System
411	Residential Single Family&Duplex	HVAC	AC/Gas Heat	Mini-Split AC	SEER 18 Mini-Split AC	SEER 14 CAC System
412	Residential Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 15 Mini-Split AC	SEER 14 CAC System
413	Residential Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 16 Mini-Split AC	SEER 14 CAC System
414	Residential Single Family&Duplex	HVAC	AC/Electric Resistance Heat	Mini-Split AC	SEER 17 Mini-Split AC	SEER 14 CAC System
415	Residential Single Family&Duplex	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 15 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
416	Residential Single Family&Duplex	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 16 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
417	Residential Single Family&Duplex	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 17 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
418	Residential Single Family&Duplex	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 18 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
419	Residential Single Family&Duplex	HVAC	Heat Pump	Mini-Split Heat Pump	SEER 15 Mini-Split Heat Pump	SEER 14 Central Heat Pump System

Residential Measures

Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace on Burnout, or	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (THERMS)
360	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$357.00	281.14	0.09	0.00
361	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$476.00	387.89	0.13	0.00
362	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$596.00	414.94	0.13	0.00
363	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	NEW	\$5,232.00	657.18	0.32	0.00
364	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	NEW	\$5,232.00	708.01	0.31	0.00
365	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	NEW	\$5,232.00	136.10	0.04	0.00
366	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	NEW	\$5,232.00	200.37	0.09	0.00
367	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	NEW	\$137.00	205.65	0.06	0.00
368	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	NEW	\$274.00	262.72	0.08	0.00
369	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	NEW	\$411.00	351.24	0.08	0.00
370	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	NEW	\$548.00	377.13	0.10	0.00
371	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	NEW	\$685.00	438.54	0.13	0.00
372	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$119.00	183.62	0.06	0.00
373	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$238.00	239.02	0.07	0.00
374	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$357.00	281.14	0.09	0.00
375	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$476.00	387.89	0.13	0.00
376	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$596.00	414.94	0.13	0.00
377	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$862.61	571.49	0.18	0.00
378	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$773.61	671.36	0.19	0.00
379	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$595.61	764.53	0.22	0.00
380	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$417.61	816.32	0.24	0.00
381	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$239.61	886.66	0.27	0.00
382	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$862.61	571.49	0.18	0.00
383	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$773.61	671.36	0.19	0.00
384	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$595.61	764.53	0.22	0.00
385	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$417.61	816.32	0.24	0.00
386	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$239.61	886.66	0.27	0.00
387	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	NEW	\$99.39	774.71	0.16	0.00
388	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	NEW	\$191.39	825.66	0.18	0.00
389	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	NEW	\$375.39	917.86	0.20	0.00
390	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	NEW	\$559.39	999.15	0.22	0.00
391	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	NEW	\$743.39	1071.34	0.24	0.00
392	AC/Gas Heat	Central AC Replacement	15	ton	NEW	\$119.00	116.60	0.03	0.00
393	AC/Gas Heat	Central AC Replacement	15	ton	NEW	\$238.00	158.73	0.05	0.00
394	AC/Gas Heat	Central AC Replacement	15	ton	NEW	\$357.00	285.48	0.08	0.00
395	AC/Gas Heat	Central AC Replacement	15	ton	NEW	\$477.00	357.00	0.09	0.00
396	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	NEW	\$5,095.00	608.60	0.28	0.00
397	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	NEW	\$5,095.00	659.42	0.27	0.00
398	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	NEW	\$5,095.00	87.52	0.00	0.00
399	Heat Pump	Ground Source Heat Pump w/desuperheater	25	tons	NEW	\$5,095.00	151.78	0.05	0.00
400	Heat Pump	Heat Pump Replacement	15	tons	NEW	\$137.00	125.62	0.04	0.00
401	Heat Pump	Heat Pump Replacement	15	tons	NEW	\$274.00	214.13	0.04	0.00
402	Heat Pump	Heat Pump Replacement	15	tons	NEW	\$411.00	240.03	0.06	0.00
403	Heat Pump	Heat Pump Replacement	15	tons	NEW	\$548.00	301.43	0.09	0.00
404	AC/Electric Resistance Heat	Central AC Replacement	15	ton	NEW	\$119.00	116.60	0.03	0.00
405	AC/Electric Resistance Heat	Central AC Replacement	15	ton	NEW	\$238.00	158.73	0.05	0.00
406	AC/Electric Resistance Heat	Central AC Replacement	15	ton	NEW	\$357.00	265.48	0.08	0.00
407	AC/Electric Resistance Heat	Central AC Replacement	15	ton	NEW	\$477.00	292.53	0.09	0.00
408	AC/Gas Heat	Mini-Split AC	15	ton	NEW	-\$892.61	548.94	0.15	0.00
409	AC/Gas Heat	Mini-Split AC	15	ton	NEW	-\$714.61	642.12	0.18	0.00
410	AC/Gas Heat	Mini-Split AC	15	ton	NEW	-\$536.61	693.91	0.20	0.00
411	AC/Gas Heat	Mini-Split AC	15	ton	NEW	-\$358.61	764.25	0.22	0.00
412	AC/Electric Resistance Heat	Mini-Split AC	15	ton	NEW	-\$892.61	548.94	0.15	0.00
413	AC/Electric Resistance Heat	Mini-Split AC	15	ton	NEW	-\$714.61	642.12	0.18	0.00
414	AC/Electric Resistance Heat	Mini-Split AC	15	ton	NEW	-\$536.61	693.91	0.20	0.00
415	AC/Electric Resistance Heat	Mini-Split AC	15	ton	NEW	-\$358.61	764.25	0.22	0.00
416	Heat Pump	Mini-Split Heat Pump	15	tons	NEW	\$54.39	688.56	0.13	0.00
417	Heat Pump	Mini-Split Heat Pump	15	tons	NEW	\$238.39	780.76	0.16	0.00
418	Heat Pump	Mini-Split Heat Pump	15	tons	NEW	\$422.39	862.05	0.18	0.00
419	Heat Pump	Mini-Split Heat Pump	15	tons	NEW	\$606.39	934.24	0.20	0.00

Measure #	Technology Type	Efficient Measure	Measure TRC	Passed Measure Screening?	Total Sub Sector Units	Measure Units per Sub Sector Unit	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
360	AC/Gas Heat	Central AC Replacement - Multifamily	0.79	0	2	2						
361	AC/Gas Heat	Central AC Replacement - Multifamily	0.80	0	2	2						
362	AC/Gas Heat	Central AC Replacement - Multifamily	0.67	0	2	2						
363	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	0.20	0	2	2						
364	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	0.20	0	2	2						
365	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	0.03	0	2	2						
366	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	0.06	0	2	2						
367	Heat Pump	Heat Pump Replacement - Multifamily	1.43	1	2	2	4%	8%	100%	100%	8	Multifamily
368	Heat Pump	Heat Pump Replacement - Multifamily	0.91	1	2	2	4%	18%	100%	100%	8	Multifamily
369	Heat Pump	Heat Pump Replacement - Multifamily	0.72	0	2	2						
370	Heat Pump	Heat Pump Replacement - Multifamily	0.60	0	2	2						
371	Heat Pump	Heat Pump Replacement - Multifamily	0.60	0	2	2						
372	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	1.53	1	2	2	38%	8%	100%	100%	78	Multifamily
373	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	0.96	1	2	2	38%	18%	100%	100%	78	Multifamily
374	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	0.79	0	2	2						
375	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	0.80	0	2	2						
376	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	0.67	0	2	2						
377	AC/Gas Heat	Mini-Split AC - Multifamily	-0.64	0	2	2						
378	AC/Gas Heat	Mini-Split AC - Multifamily	-0.79	0	2	2						
379	AC/Gas Heat	Mini-Split AC - Multifamily	-1.17	0	2	2						
380	AC/Gas Heat	Mini-Split AC - Multifamily	-1.84	0	2	2						
381	AC/Gas Heat	Mini-Split AC - Multifamily	-3.48	0	2	2						
382	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	-0.64	0	2	2						
383	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	-0.79	0	2	2						
384	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	-1.17	0	2	2						
385	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	-1.84	0	2	2						
386	Heat Pump	Mini-Split AC - Multifamily	-3.48	0	2	2						
387	Heat Pump	Mini-Split Heat Pump - Multifamily	6.24	1	2	2	4%	1%	100%	100%	0	Multifamily
388	Heat Pump	Mini-Split Heat Pump - Multifamily	3.48	1	2	2	4%	2%	100%	100%	0	Multifamily
389	Heat Pump	Mini-Split Heat Pump - Multifamily	1.99	1	2	2	4%	3%	100%	100%	0	Multifamily
390	Heat Pump	Mini-Split Heat Pump - Multifamily	1.47	1	2	2	4%	2%	100%	100%	0	Multifamily
391	Heat Pump	Mini-Split Heat Pump - Multifamily	1.19	1	2	2	4%	2%	100%	100%	0	Multifamily
392	AC/Gas Heat	Central AC Replacement	0.89	0	18	3						
393	AC/Gas Heat	Central AC Replacement	0.67	0	18	3						
394	AC/Gas Heat	Central AC Replacement	0.72	0	18	3						
395	AC/Gas Heat	Central AC Replacement	0.58	0	18	3						
396	Heat Pump	Central AC Replacement	0.18	0	18	3						
397	Heat Pump	Ground Source Heat Pump w/desuperheater	0.19	0	18	3						
398	Heat Pump	Ground Source Heat Pump w/desuperheater	0.01	0	18	3						
399	Heat Pump	Ground Source Heat Pump w/desuperheater	0.04	0	18	3						
400	Heat Pump	Heat Pump Replacement	0.86	0	18	3						
401	Heat Pump	Heat Pump Replacement	0.60	0	18	3						
402	Heat Pump	Heat Pump Replacement	0.49	0	18	3						
403	Heat Pump	Heat Pump Replacement	0.52	0	18	3						
404	AC/Electric Resistance Heat	Central AC Replacement	0.89	0	18	3						
405	AC/Electric Resistance Heat	Central AC Replacement	0.67	0	18	3						
406	AC/Electric Resistance Heat	Central AC Replacement	0.72	0	18	3						
407	AC/Electric Resistance Heat	Central AC Replacement	0.58	0	18	3						
408	AC/Gas Heat	Mini-Split AC	-0.55	0	18	3						
409	AC/Gas Heat	Mini-Split AC	-0.81	0	18	3						
410	AC/Gas Heat	Mini-Split AC	-1.20	0	18	3						
411	AC/Gas Heat	Mini-Split AC	-1.99	0	18	3						
412	AC/Electric Resistance Heat	Mini-Split AC	-0.55	0	18	3						
413	AC/Electric Resistance Heat	Mini-Split AC	-0.81	0	18	3						
414	AC/Electric Resistance Heat	Mini-Split AC	-1.20	0	18	3						
415	AC/Electric Resistance Heat	Mini-Split AC	-1.99	0	18	3						
416	Heat Pump	Mini-Split Heat Pump	9.85	1	18	3	4%	3%	100%	100%	15	ENERGY STAR Air Conditioning
417	Heat Pump	Mini-Split Heat Pump	2.59	1	18	3	4%	5%	100%	100%	15	ENERGY STAR Air Conditioning
418	Heat Pump	Mini-Split Heat Pump	1.63	1	18	3	4%	2%	100%	100%	15	ENERGY STAR Air Conditioning
419	Heat Pump	Mini-Split Heat Pump	1.24	1	18	3	4%	1%	100%	100%	15	ENERGY STAR Air Conditioning

Residential Measures

Residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
360	AC/Gas Heat	Central AC Replacement - Multifamily	ICF	DEER			
361	AC/Gas Heat	Central AC Replacement - Multifamily	ICF	DEER			
362	AC/Gas Heat	Central AC Replacement - Multifamily	ICF	DEER			
363	Heat Pump	Central AC Replacement - Multifamily	ICF	DEER			
364	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	ICF	DEER			
365	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	ICF	DEER			
366	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	ICF	DEER			
367	Heat Pump	Heat Pump Replacement - Multifamily	ICF	DEER			
368	Heat Pump	Heat Pump Replacement - Multifamily	ICF	DEER			
369	Heat Pump	Heat Pump Replacement - Multifamily	ICF	DEER			
370	Heat Pump	Heat Pump Replacement - Multifamily	ICF	DEER			
371	Heat Pump	Heat Pump Replacement - Multifamily	ICF	DEER			
372	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	ICF	DEER			
373	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	ICF	DEER			
374	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	ICF	DEER			
375	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	ICF	DEER			
376	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	ICF	DEER			
377	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF			
378	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF			
379	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF			
380	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF			
381	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF			
382	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF			
383	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF			
384	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF			
385	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF			
386	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF			
387	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
388	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
389	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
390	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
391	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
392	AC/Gas Heat	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
393	AC/Gas Heat	Central AC Replacement	ICF	DEER			
394	AC/Gas Heat	Central AC Replacement	ICF	DEER			
395	AC/Gas Heat	Central AC Replacement	ICF	DEER			
396	Heat Pump	Ground Source Heat Pump w/desuperheater	ICF	DEER			
397	Heat Pump	Ground Source Heat Pump w/desuperheater	ICF	DEER			
398	Heat Pump	Ground Source Heat Pump w/desuperheater	ICF	DEER			
399	Heat Pump	Heat Pump Replacement	ICF	DEER			
400	Heat Pump	Heat Pump Replacement	ICF	DEER			
401	Heat Pump	Heat Pump Replacement	ICF	DEER			
402	Heat Pump	Heat Pump Replacement	ICF	DEER			
403	Heat Pump	Heat Pump Replacement	ICF	DEER			
404	AC/Electric Resistance Heat	Central AC Replacement	ICF	DEER			
405	AC/Electric Resistance Heat	Central AC Replacement	ICF	DEER			
406	AC/Electric Resistance Heat	Central AC Replacement	ICF	DEER			
407	AC/Electric Resistance Heat	Central AC Replacement	ICF	DEER			
408	AC/Gas Heat	Mini-Split AC	ICF	ICF			
409	AC/Gas Heat	Mini-Split AC	ICF	ICF			
410	AC/Gas Heat	Mini-Split AC	ICF	ICF			
411	AC/Gas Heat	Mini-Split AC	ICF	ICF			
412	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF			
413	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF			
414	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF			
415	AC/Electric Resistance Heat	Mini-Split AC	ICF	ICF			
416	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
417	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
418	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF
419	Heat Pump	Mini-Split Heat Pump	ICF	ICF	Energy RASS, GCR	ICF	ICF

Residential Measures

Measure #	Sub-Sector	End Use	Technology Type	Efficient Measure	Efficient Measure Definition	Base Measure Definition
420	Residential	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 15	SEER 14
421	Residential	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 16	SEER 14
422	Residential	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 17	SEER 14
423	Residential	HVAC	AC/Gas Heat	Central AC Replacement - MultiFamily	SEER 18	SEER 14
424	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	16.1 to 16.99 EER	SEER 14 ASHP
425	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	17 EER and above	SEER 14 ASHP
426	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	16.1 to 16.99 EER	SEER 14 ASHP
427	Residential	HVAC	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	17 EER and above	SEER 14 ASHP
428	Residential	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 15	SEER 14
429	Residential	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 16	SEER 14
430	Residential	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 17	SEER 14
431	Residential	HVAC	Heat Pump	Heat Pump Replacement - MultiFamily	SEER 18	SEER 14
432	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 15	SEER 14
433	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 16	SEER 14
434	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 17	SEER 14
435	Residential	HVAC	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	SEER 18	SEER 14
436	Residential	HVAC	AC/Gas Heat	Mini-Split AC - MultiFamily	SEER 15 Mini-Split AC	SEER 14 CAC System
437	Residential	HVAC	AC/Gas Heat	Mini-Split AC - MultiFamily	SEER 16 Mini-Split AC	SEER 14 CAC System
438	Residential	HVAC	AC/Gas Heat	Mini-Split AC - MultiFamily	SEER 17 Mini-Split AC	SEER 14 CAC System
439	Residential	HVAC	AC/Gas Heat	Mini-Split AC - MultiFamily	SEER 18 Mini-Split AC	SEER 14 CAC System
440	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 15 Mini-Split AC	SEER 14 CAC System
441	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 16 Mini-Split AC	SEER 14 CAC System
442	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 17 Mini-Split AC	SEER 14 CAC System
443	Residential	HVAC	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	SEER 18 Mini-Split AC	SEER 14 CAC System
444	Residential	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 15 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
445	Residential	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 16 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
446	Residential	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 17 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
447	Residential	HVAC	Heat Pump	Mini-Split Heat Pump - MultiFamily	SEER 18 Mini-Split Heat Pump	SEER 14 Central Heat Pump System
448	Residential	Other	AC/Gas Heat	ENERGY STAR Home	V3 Tier 2 HERS 75/80	IECC 2009
449	Residential	Other	Heat Pump	ENERGY STAR Home	V3 Tier 2 HERS 75/80	IECC 2009
450	Residential	Pool/SPA	All	High Efficiency Pool Pump & Timer		

Residential Measures

Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace on Burnout, or New	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (THERMS)
420	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$119.00	116.60	0.03	0.00
421	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$238.00	158.73	0.05	0.00
422	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$357.00	265.48	0.08	0.00
423	AC/Gas Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$477.00	292.53	0.09	0.00
424	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	NEW	\$5,095.00	608.60	0.28	0.00
425	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	NEW	\$5,095.00	659.42	0.27	0.00
426	Heat Pump	Ground Source Heat Pump w/desuperheater - MultiFamily	25	tons	NEW	\$5,095.00	87.52	0.00	0.00
427	Heat Pump	Heat Pump Replacement - MultiFamily	25	tons	NEW	\$5,095.00	151.78	0.05	0.00
428	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	NEW	\$137.00	125.62	0.04	0.00
429	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	NEW	\$274.00	214.13	0.04	0.00
430	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	NEW	\$411.00	240.03	0.06	0.00
431	Heat Pump	Heat Pump Replacement - MultiFamily	15	tons	NEW	\$548.00	301.43	0.09	0.00
432	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$119.00	116.60	0.03	0.00
433	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$238.00	158.73	0.05	0.00
434	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$357.00	265.48	0.08	0.00
435	AC/Electric Resistance Heat	Central AC Replacement - MultiFamily	15	ton	NEW	\$477.00	292.53	0.09	0.00
436	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$892.61	548.94	0.15	0.00
437	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$714.61	642.12	0.18	0.00
438	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$536.61	693.91	0.20	0.00
439	AC/Gas Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$358.61	764.25	0.22	0.00
440	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$892.61	548.94	0.15	0.00
441	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$714.61	642.12	0.18	0.00
442	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$536.61	693.91	0.20	0.00
443	AC/Electric Resistance Heat	Mini-Split AC - MultiFamily	15	ton	NEW	-\$358.61	764.25	0.22	0.00
444	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	NEW	\$54.39	688.56	0.13	0.00
445	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	NEW	\$238.39	780.76	0.16	0.00
446	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	NEW	\$422.39	862.05	0.18	0.00
447	Heat Pump	Mini-Split Heat Pump - MultiFamily	15	tons	NEW	\$606.39	934.24	0.20	0.00
448	AC/Gas Heat	ENERGY STAR Home	30	home	NEW	\$3,406.70	2802.35	1.09	76.00
449	Heat Pump	ENERGY STAR Home	30	home	NEW	\$3,786.30	4008.96	1.18	0.00
450	All	High Efficiency Pool Pump & Timer	10	per home	NEW	\$175.00	1637.00	0.42	0.00

Measure #	Technology Type	Measure TRC	Passed Measure Screening?	Total Sub Sector Units	Measure Units per Sub Sector Unit	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
420	AC/Gas Heat	0.89	0	2	2						
421	AC/Gas Heat	0.67	0	2	2	Central AC Replacement - Multifamily					
422	AC/Gas Heat	0.72	0	2	2	Central AC Replacement - Multifamily					
423	AC/Gas Heat	0.58	0	2	2	Central AC Replacement - Multifamily					
424	Heat Pump	0.18	0	2	2	Ground Source Heat Pump w/desuperheater - Multifamily					
425	Heat Pump	0.19	0	2	2	Ground Source Heat Pump w/desuperheater - Multifamily					
426	Heat Pump	0.01	0	2	2	Ground Source Heat Pump w/desuperheater - Multifamily					
427	Heat Pump	0.04	0	2	2	Heat Pump Replacement - Multifamily					
428	Heat Pump	0.66	0	2	2	Heat Pump Replacement - Multifamily					
429	Heat Pump	0.60	0	2	2	Heat Pump Replacement - Multifamily					
430	Heat Pump	0.49	0	2	2	Heat Pump Replacement - Multifamily					
431	Heat Pump	0.52	0	2	2	Heat Pump Replacement - Multifamily					
432	AC/Electric Resistance Heat	0.89	0	2	2	Central AC Replacement - Multifamily					
433	AC/Electric Resistance Heat	0.67	0	2	2	Central AC Replacement - Multifamily					
434	AC/Electric Resistance Heat	0.72	0	2	2	Central AC Replacement - Multifamily					
435	AC/Electric Resistance Heat	0.58	0	2	2	Central AC Replacement - Multifamily					
436	AC/Gas Heat	-0.55	0	2	2	Mini-Split AC - Multifamily					
437	AC/Gas Heat	-0.81	0	2	2	Mini-Split AC - Multifamily					
438	AC/Gas Heat	-1.20	0	2	2	Mini-Split AC - Multifamily					
439	AC/Gas Heat	-1.99	0	2	2	Mini-Split AC - Multifamily					
440	AC/Electric Resistance Heat	-0.55	0	2	2	Mini-Split AC - Multifamily					
441	AC/Electric Resistance Heat	-0.81	0	2	2	Mini-Split AC - Multifamily					
442	AC/Electric Resistance Heat	-1.20	0	2	2	Mini-Split AC - Multifamily					
443	AC/Electric Resistance Heat	-1.99	0	2	2	Mini-Split AC - Multifamily					
444	Heat Pump	9.85	1	2	2	Mini-Split Heat Pump - Multifamily	4%	100%	100%	8	Multifamily
445	Heat Pump	2.59	1	2	2	Mini-Split Heat Pump - Multifamily	4%	100%	100%	8	Multifamily
446	Heat Pump	1.63	1	2	2	Mini-Split Heat Pump - Multifamily	2%	100%	100%	8	Multifamily
447	Heat Pump	1.24	1	2	2	Mini-Split Heat Pump - Multifamily	4%	100%	100%	8	Multifamily
448	AC/Gas Heat	1.34	1	18	1	ENERGY STAR Home	90%	100%	100%	16	Energy Smart New Homes
449	Heat Pump	1.36	1	18	1	ENERGY STAR Home	10%	100%	100%	2	Energy Smart New Homes
450	All	6.11	1	21	1	High Efficiency Pool Pump & Timer	100%	100%	100%	0	Residential Energy Solutions



Residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
420	AC/Gas Heat	Central AC Replacement - Multifamily	ICF	DEER			
421	AC/Gas Heat	Central AC Replacement - Multifamily	ICF	DEER			
422	AC/Gas Heat	Central AC Replacement - Multifamily	ICF	DEER			
423	AC/Gas Heat	Central AC Replacement - Multifamily	ICF	DEER			
424	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	ICF	DEER			
425	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	ICF	DEER			
426	Heat Pump	Ground Source Heat Pump w/desuperheater - Multifamily	ICF	DEER			
427	Heat Pump	Heat Pump Replacement - Multifamily	ICF	DEER			
428	Heat Pump	Heat Pump Replacement - Multifamily	ICF	DEER			
429	Heat Pump	Heat Pump Replacement - Multifamily	ICF	DEER			
430	Heat Pump	Heat Pump Replacement - Multifamily	ICF	DEER			
431	Heat Pump	Heat Pump Replacement - Multifamily	ICF	DEER			
432	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	ICF	DEER			
433	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	ICF	DEER			
434	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	ICF	DEER			
435	AC/Electric Resistance Heat	Central AC Replacement - Multifamily	ICF	DEER			
436	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF			
437	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF			
438	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF			
439	AC/Gas Heat	Mini-Split AC - Multifamily	ICF	ICF			
440	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF			
441	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF			
442	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF			
443	AC/Electric Resistance Heat	Mini-Split AC - Multifamily	ICF	ICF			
444	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
445	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
446	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
447	Heat Pump	Mini-Split Heat Pump - Multifamily	ICF	ICF	Energy RASS, GCR	ICF	ICF
448	AC/Gas Heat	ENERGY STAR Home	ICF	ICF	ICF	ICF	ICF
449	Heat Pump	ENERGY STAR Home	ICF	ICF	ICF	ICF	ICF
450	All	High Efficiency Pool Pump & Timer	ICF	ICF	Energy RASS	Energy RASS	ICF

Non-residential Measures		End Use	Technology Type	Efficient Measure	Efficient Measure Definition	Base Measure Definition
451	Non-Residential	Commercial	AI	Unitary HVAC/Spit Systems - less than 5.4 tons (split system)	14	13 SEER
452	Non-Residential	HVAC	AI	Unitary HVAC/Spit Systems - less than 5.4 tons (single package)	14	13 SEER
453	Non-Residential	HVAC	AI	Unitary HVAC/Spit Systems - 5.4 to 11.25 tons	11.5	14 SEER
454	Non-Residential	HVAC	AI	Unitary HVAC/Spit Systems - 11.25 to 20 tons	11.5	14 SEER
455	Non-Residential	HVAC	AI	Unitary HVAC/Spit Systems - 20 to 63.33 tons	10.5	10.8 EER
456	Non-Residential	HVAC	AI	Unitary HVAC/Spit Systems - greater than 63.33 tons	10	9.8 EER
457	Non-Residential	HVAC	AI	Air-Air Heat Pump Systems - less than 5.4 tons (split system)	14	9.5 EER
458	Non-Residential	HVAC	AI	Air-Air Heat Pump Systems - less than 5.4 tons (single package)	14	13 SEER
459	Non-Residential	HVAC	AI	Air-Air Heat Pump Systems - 5.4 to 11.25 tons	11.5	10.8 EER
460	Non-Residential	HVAC	AI	Air-Air Heat Pump Systems - 11.25 to 20 tons	10.5	10.8 EER
461	Non-Residential	HVAC	AI	Air-Air Heat Pumps - less than 1.42 tons	10.5	9.3 EER
462	Non-Residential	HVAC	AI	Water Source Heat Pumps - less than 1.42 tons	14	11.2 EER
463	Non-Residential	HVAC	AI	Water Source Heat Pumps - greater than 1.42 tons	14	12 EER
464	Non-Residential	HVAC	AI	Occupancy Based FTH/PTAC Controls	25 Watt Sensor	0
465	Non-Residential	Electronics	AI	Pig Load Occupancy Sensors	50 Watt Sensor	0
466	Non-Residential	Electronics	AI	Pig Load Occupancy Sensors	150 Watt Sensor	0
467	Non-Residential	Electronics	AI	Control 4.4.1		
468	Non-Residential	HVAC	AI	Electrically Comulated Midos FOR HVAC APPLICATIONS		
470	Non-Residential	HVAC	AI	Occupancy Based FTH/PTAC Controls	151 watts	295 watts
471	Non-Residential	Lighting	AI	T-8 4ft Four Lamp Very High Output, Electronic - IS	226 watts	458 watts
472	Non-Residential	Lighting	AI	T-8 4ft Six Lamp Very High Output, Electronic - IS	303 watts	459 watts
473	Non-Residential	Lighting	AI	T-8 4ft Eight Lamp Very High Output, Electronic - IS	370 watts	459 watts
474	Non-Residential	Lighting	AI	CL Hand Wired (<20W)	34-44 watts	125-142 watts
475	Non-Residential	Lighting	AI	CL Hand Wired (>20W)	27 watts	43 watts
476	Non-Residential	Lighting	AI	T-8 4ft One Lamp-28W2, Electronic - IS	52 watts	72 watts
477	Non-Residential	Lighting	AI	T-8 4ft Two Lamp-28W2, Electronic - IS	76 watts	115 watts
478	Non-Residential	Lighting	AI	T-8 4ft Three Lamp-28W2, Electronic - IS	94 watts	144 watts
479	Non-Residential	Lighting	AI	T-8 4ft Four Lamp-28W2, Electronic - IS	21 watts	60 watts
480	Non-Residential	Lighting	AI	No Lamp, Magnetic-STD	0 watts	50 watts
481	Non-Residential	Lighting	AI	No Lamp, No Ballast, - IS	0 watts	50 watts
482	Non-Residential	Lighting	AI	Occupancy Sensor Lighting Control -500W	250 watts	500 watts
483	Non-Residential	Lighting	AI	Occupancy Sensor Lighting Control -500W	300 watts	500 watts
484	Non-Residential	Lighting	AI	LED Exit Sign	3.8 watts	31 watts
485	Non-Residential	Lighting	AI	Pulse Start Metal Halide 350 W, Magnetic-CWA	400 watts	458 watts
486	Non-Residential	Lighting	AI	Pulse Start Metal Halide 750 W, Magnetic-CWA	818 watts	850 watts
487	Non-Residential	Lighting	AI	Metal Halide 20W4	22 watts	100 watts
488	Non-Residential	Lighting	AI	Metal Halide 39W4	26 watts	100 watts
489	Non-Residential	Lighting	AI	Metal Halide 70W4	77 watts	225 watts
490	Non-Residential	Lighting	AI	Metal Halide 20W4	26 watts	100 watts
491	Non-Residential	Lighting	AI	Ceramic Metal Halide 20W4	45 watts	150 watts
492	Non-Residential	Lighting	AI	Ceramic Metal Halide 39W4	55 watts	185 watts
493	Non-Residential	Lighting	AI	Ceramic Metal Halide 50W4	79 watts	225 watts
494	Non-Residential	Lighting	AI	Ceramic Metal Halide 70W4	110 watts	270 watts
495	Non-Residential	Lighting	AI	Ceramic Metal Halide 100W4	150 watts	360 watts
496	Non-Residential	Lighting	AI	Ceramic Metal Halide 20W4	69 watts	165 watts
497	Non-Residential	Lighting	AI	LED/Induction 90W3	150 watts	250 watts
498	Non-Residential	Lighting	AI	LED/Induction 150W9	177 watts	295 watts
499	Non-Residential	Lighting	AI	LED/Induction 177W9	279 watts	465 watts
500	Non-Residential	Lighting	AI	LED/Induction 279W9	110 watts	190 watts
502	Non-Residential	Lighting	AI	LED/Induction 110W9	139 watts	232 watts
503	Non-Residential	Lighting	AI	LED/Induction 139W9	172 watts	275 watts
504	Non-Residential	Lighting	AI	LED/Induction 172W9	274 watts	458 watts
505	Non-Residential	Lighting	AI	LED/Induction 304W9	304 watts	507 watts
506	Non-Residential	Lighting	AI	LED/Induction 488W9	488 watts	850 watts
507	Non-Residential	Lighting	AI	LED/Induction 646W9	646 watts	1030 watts
508	Non-Residential	Other	AI	Pumps HP 1.5		
509	Non-Residential	Other	AI	Pumps HP 2		

Non-residential Measures

Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace or Burnout, or New	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (Therms)
451	All	Unitary HVAC/Spill Systems - less than 5.4 tons (split system)	15	per ton, 3 tons	NEW	\$100.00	90.32	0.11	0.00
452	All	Unitary HVAC/Spill Systems - less than 5.4 tons (single package)	15	per ton, 3 tons	NEW	\$100.00	90.32	0.07	0.00
453	All	Unitary HVAC/Spill Systems - 5.4 to 11.25 tons	15	per ton, 8 tons	NEW	\$120.00	55.23	0.06	0.00
454	All	Unitary HVAC/Spill Systems - 11.25 to 20 tons	15	per ton, 15 tons	NEW	\$120.00	76.75	0.09	0.00
455	All	Unitary HVAC/Spill Systems - 20 to 63.33 tons	15	per ton, 40 tons	NEW	\$120.00	95.06	0.11	0.00
456	All	Unitary HVAC/Spill Systems - greater than 63.33 tons	15	per ton, 100 tons	NEW	\$120.00	76.29	0.09	0.00
457	All	Air-Air Heat Pump Systems - less than 5.4 tons (split system)	15	per ton, 3 tons	NEW	\$100.00	186.24	0.11	0.00
458	All	Air-Air Heat Pump Systems - less than 5.4 tons (single package)	15	per ton, 3 tons	NEW	\$120.00	186.24	0.07	0.00
459	All	Air-Air Heat Pump Systems - 5.4 to 11.25 tons	15	per ton, 8 tons	NEW	\$120.00	162.38	0.09	0.00
460	All	Air-Air Heat Pump Systems - 11.25 to 20 tons	15	per ton, 15 tons	NEW	\$120.00	162.38	0.06	0.00
461	All	Air-Air Heat Pump Systems - 21 to 30 tons	15	per ton, 25 tons	NEW	\$120.00	196.00	0.11	0.00
462	All	Water Source Heat Pumps - less than 1.42 tons	15	per ton, 1 ton	NEW	\$200.00	514.49	0.28	0.00
463	All	Water Source Heat Pumps - greater than 1.42 tons	15	per ton, 5 tons	NEW	\$200.00	342.99	0.19	0.00
464	All	Occupancy Based PTHP/TAC Controls	8	per Sensor	NEW	\$100.00	233.06	0.00	0.00
465	All	Plug Load Occupancy Sensors	8	0	RET	\$40.00	65.00	0.00	0.00
466	All	Plug Load Occupancy Sensors	8	0	RET	\$65.00	129.00	0.00	0.00
467	All	Plug Load Occupancy Sensors	8	0	RET	\$90.00	321.00	0.00	0.00
468	AC	Central AC Tune-up	3	ton	RET	\$25.00	164.95	0.12	0.00
469	All	Electronically Commutated Motors FOR HVAC APPLICATIONS	15	Per HP	RET	\$1,000.00	3651.04	1.35	0.00
470	All	Occupancy Based PTHP/TAC Controls	8	sensor	RET	\$220.00	358.25	0.00	0.00
471	All	T-8 48" Four Lamp Very High Output, Electronic - IS	11	per Fixture	RET	\$160.00	529.92	0.12	0.00
472	All	T-8 48" Six Lamp Very High Output, Electronic - IS	11	per Fixture	RET	\$200.00	853.76	0.19	0.00
473	All	T-8 48" Eight Lamp Very High Output, Electronic - IS	11	per Fixture	RET	\$200.00	614.56	0.13	0.00
474	All	CFL Hard Wired (<30W)	11	per Fixture	RET	\$10.00	202.40	0.04	0.00
475	All	T-8 48" One Lamp-28W2, Electronic - IS	11	per Fixture	RET	\$72.00	73.60	0.02	0.00
476	All	T-8 48" Two Lamp-28W2, Electronic - IS	11	per Fixture	RET	\$72.00	106.72	0.02	0.00
477	All	T-8 48" Three Lamp-28W2, Electronic - IS	11	per Fixture	RET	\$76.00	191.36	0.04	0.00
478	All	T-8 48" Four Lamp-28W2, Electronic - IS	11	per Fixture	RET	\$91.00	228.16	0.05	0.00
480	All	No Lamp, No Ballast	11	per Fixture	RET	\$25.71	143.52	0.03	0.00
481	All	T-8 48" One Lamp, Electronic - IS	11	per Fixture	RET	\$25.71	220.80	0.05	0.00
482	All	Occupancy Sensor Lighting Control <500W	11	per Fixture	RET	\$100.00	117.76	0.03	0.00
483	All	Occupancy Sensor Lighting Control >500W	16	per Fixture	RET	\$44.00	368.00	0.08	0.00
484	All	LED Exit Sign	16	per Fixture	RET	\$111.00	726.00	0.16	0.00
485	All	Pulse Start Metal Halide 350 W, Magnetic-CWA	11	per Fixture	RET	\$101.50	271.56	0.02	0.00
486	All	Pulse Start Metal Halide 750 W, Magnetic-CWA	11	per Fixture	RET	\$395.00	213.44	0.05	0.00
488	All	Metal Halide 20W4,	11	per Fixture	RET	\$30.00	117.76	0.03	0.00
489	All	Metal Halide 39W4,	11	per Fixture	RET	\$30.00	386.40	0.08	0.00
490	All	Metal Halide 70W4,	11	per Fixture	RET	\$30.00	544.64	0.12	0.00
491	All	Ceramic Metal Halide 20W4,	11	per Fixture	RET	\$30.00	272.32	0.06	0.00
492	All	Ceramic Metal Halide 39W4,	11	per Fixture	RET	\$30.00	386.40	0.08	0.00
493	All	Ceramic Metal Halide 50W4,	11	per Fixture	RET	\$30.00	515.20	0.11	0.00
494	All	Ceramic Metal Halide 70W4,	11	per Fixture	RET	\$30.00	537.28	0.12	0.00
495	All	Ceramic Metal Halide 100W4,	11	per Fixture	RET	\$30.00	598.80	0.13	0.00
496	All	Ceramic Metal Halide 150W4,	11	per Fixture	RET	\$30.00	724.96	0.16	0.00
497	All	LED/Induction 99W9,	11	per Fixture	RET	\$300.00	242.88	0.05	0.00
498	All	LED/Induction 150W9,	11	per Fixture	RET	\$300.00	368.00	0.08	0.00
499	All	LED/Induction 177W9,	11	per Fixture	RET	\$400.00	434.24	0.09	0.00
500	All	LED/Induction 279W9,	11	per Fixture	RET	\$400.00	694.48	0.15	0.00
501	All	LED/Induction 110W9,	11	per Fixture	RET	\$300.00	294.40	0.06	0.00
502	All	LED/Induction 139W9,	11	per Fixture	RET	\$300.00	342.24	0.07	0.00
503	All	LED/Induction 175W9,	11	per Fixture	RET	\$400.00	441.60	0.10	0.00
504	All	LED/Induction 274W9,	11	per Fixture	RET	\$750.00	677.12	0.15	0.00
505	All	LED/Induction 304W9,	11	per Fixture	RET	\$750.00	747.04	0.16	0.00
506	All	LED/Induction 488W9,	11	per Fixture	RET	\$750.00	1332.16	0.29	0.00
507	All	LED/Induction 646W9,	11	per Fixture	RET	\$750.00	1597.12	0.35	0.00
508	All	Pumps HP 1.5	15	1 unit	RET	\$350.00	486.92	0.08	0.00
509	All	Pumps HP 2	15	1 unit	RET	\$350.00	486.92	0.08	0.00

Measure #	Technology Type	Efficient Measure	Measure TFC	Passed Measure Screening?	Total Sub-Sector Units	Measure Units per Sub-Sector Unit	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
451	All	Unitary HVAC/Spill Systems - less than 5.4 tons (split system)	1.09	1	413	3	20%	35%	100%	100%	87	Small Commercial Energy Solutions
452	All	Unitary HVAC/Spill Systems - less than 5.4 tons (single package)	2.49	1	413	3	20%	35%	100%	100%	87	Small Commercial Energy Solutions
453	All	Unitary HVAC/Spill Systems - 5.4 to 11.25 tons	1.03	1	413	8	20%	35%	100%	100%	231	Small Commercial Energy Solutions
454	All	Unitary HVAC/Spill Systems - 11.25 to 20 tons	1.47	1	413	15	20%	35%	100%	100%	433	Small Commercial Energy Solutions
455	All	Unitary HVAC/Spill Systems - 20 to 63.33 tons	1.77	1	413	40	12%	35%	100%	100%	662	Large Commercial Energy Solutions
456	All	Unitary HVAC/Spill Systems - greater than 63.33 tons	1.46	1	413	100	3%	0%	100%	100%	462	Large Commercial Energy Solutions
457	All	Air-Air Heat Pump Systems - less than 5.4 tons (split system)	2.54	1	413	3	0%	0%	100%	100%	0	Small Commercial Energy Solutions
458	All	Air-Air Heat Pump Systems - less than 5.4 tons (single package)	1.94	1	413	3	0%	0%	100%	100%	0	Small Commercial Energy Solutions
459	All	Air-Air Heat Pump Systems - 5.4 to 11.25 tons	1.26	1	413	8	8%	100%	100%	100%	258	Small Commercial Energy Solutions
460	All	Air-Air Heat Pump Systems - 11.25 to 20 tons	1.79	1	413	15	0%	0%	100%	100%	0	Small Commercial Energy Solutions
461	All	Air-Air Heat Pump Systems - 21 to 30 tons	2.17	1	413	15	0%	0%	100%	100%	0	Small Commercial Energy Solutions
462	All	Water Source Heat Pumps - less than 1.42 tons	3.41	1	413	16	2%	50%	100%	100%	69	Large Commercial Energy Solutions
463	All	Water Source Heat Pumps - 1.42 to 5 tons	2.64	1	413	22	2%	50%	100%	100%	69	Large Commercial Energy Solutions
464	All	Occupancy Based PTHPTAC Controls	0.45	0	413	25	0%	0%	100%	100%	22	Large Commercial Energy Solutions
465	All	Plug Load Occupancy Sensors	0.65	0	1692	279	0%	0%	100%	100%	0	Large Commercial Energy Solutions
466	All	Plug Load Occupancy Sensors	0.95	0	1692	279	0%	0%	100%	100%	0	Large Commercial Energy Solutions
467	All	Plug Load Occupancy Sensors	0.99	0	1692	279	0%	0%	100%	100%	0	Large Commercial Energy Solutions
468	All	Central AC Tune-up	3.11	1	2500	3	100%	100%	99%	100%	7425	Small Commercial Energy Solutions
469	All	Electronically Commutated Motors FOR HVAC APPLICATIONS	3.92	1	1692	1	90%	50%	90%	100%	5950	Small Commercial Energy Solutions
470	All	Occupancy Based PTHPTAC Controls	0.45	0	1692	25	17%	100%	55%	100%	104913	Large Commercial Energy Solutions
471	All	T-8 48" Four Lamp Very High Output, Electronic - IS	2.17	1	1692	75	14%	100%	55%	100%	86100	Large Commercial Energy Solutions
472	All	T-8 48" Six Lamp Very High Output, Electronic - IS	2.01	1	1692	75	13%	100%	55%	100%	79260	Large Commercial Energy Solutions
473	All	T-8 48" Eight Lamp Very High Output, Electronic - IS	13.23	1	1692	50	11%	80%	57%	100%	38054	Large Commercial Energy Solutions
474	All	CFL Hard Wired (<30W)	13.23	1	1692	50	6%	80%	57%	100%	19027	Large Commercial Energy Solutions
475	All	T-8 48" One Lamp-28W2, Electronic - IS	0.67	1	1692	100	23%	100%	55%	100%	186307	Large Commercial Energy Solutions
476	All	T-8 48" Two Lamp-28W2, Electronic - IS	0.87	1	1692	100	23%	100%	55%	100%	188885	Large Commercial Energy Solutions
477	All	T-8 48" Three Lamp-28W2, Electronic - IS	1.65	1	1692	100	19%	100%	55%	100%	155431	Large Commercial Energy Solutions
478	All	T-8 48" Four Lamp-28W2, Electronic - IS	1.84	1	1692	100	18%	100%	55%	100%	141868	Large Commercial Energy Solutions
479	All	No Lamp, Magnetic-STD	3.65	1	1692	100	0%	100%	99%	100%	4567	Large Commercial Energy Solutions
480	All	No Lamp, No Ballast	0.77	0	1692	100	0%	100%	99%	100%	1716	Large Commercial Energy Solutions
481	All	T-8 48" One Lamp, Electronic - IS	0.77	0	1692	100	0%	20%	95%	100%	6520	Large Commercial Energy Solutions
482	All	Occupancy Sensor Lighting Control <500W	7.06	1	1692	30	22%	15%	95%	100%	13818	Large Commercial Energy Solutions
483	All	Occupancy Sensor Lighting Control >500W	5.60	1	1692	5	100%	100%	91%	100%	67143	Large Commercial Energy Solutions
484	All	LED Exit Sign	1.72	1	1692	5	100%	100%	91%	100%	67143	Large Commercial Energy Solutions
485	All	Pulse Start Metal Halide 350 W, Magnetic-CWA	0.35	0	1692	30	2%	23%	99%	100%	5283	Large Commercial Energy Solutions
486	All	Metal Halide 28W4	0.19	0	1692	30	2%	17%	99%	100%	2972	Large Commercial Energy Solutions
487	All	Metal Halide 35W4	0.84	0	1692	75	2%	17%	99%	100%	2972	Large Commercial Energy Solutions
488	All	Metal Halide 70W4	1.87	1	1692	75	2%	6%	99%	100%	330	Large Commercial Energy Solutions
489	All	Metal Halide 100W4	5.94	1	1692	75	2%	23%	99%	100%	5283	Large Commercial Energy Solutions
490	All	Ceramic Metal Halide 20W/4	8.42	1	1692	75	2%	17%	99%	100%	2972	Large Commercial Energy Solutions
491	All	Ceramic Metal Halide 30W/4	5.94	1	1692	75	2%	17%	99%	100%	2972	Large Commercial Energy Solutions
492	All	Ceramic Metal Halide 50W/4	11.23	1	1692	75	1%	12%	99%	100%	1321	Large Commercial Energy Solutions
493	All	Ceramic Metal Halide 70W/4	12.83	1	1692	75	1%	6%	99%	100%	330	Large Commercial Energy Solutions
494	All	Ceramic Metal Halide 100W/4	11.71	1	1692	75	1%	3%	99%	100%	83	Large Commercial Energy Solutions
495	All	LED/Induction 99W/9	15.80	1	1692	75	0%	3%	99%	100%	21	Large Commercial Energy Solutions
496	All	LED/Induction 150W/9	0.53	1	1692	20	10%	70%	99%	100%	20363	Large Commercial Energy Solutions
497	All	LED/Induction 177W/9	0.80	1	1692	20	5%	70%	99%	100%	10182	Large Commercial Energy Solutions
498	All	LED/Induction 279W/9	0.71	1	1692	20	2%	70%	99%	100%	4073	Large Commercial Energy Solutions
499	All	LED/Induction 110W/9	1.12	1	1692	20	1%	70%	99%	100%	2036	Large Commercial Energy Solutions
500	All	LED/Induction 139W/9	0.64	1	1692	20	10%	70%	99%	100%	20363	Large Commercial Energy Solutions
501	All	LED/Induction 175W/9	0.75	1	1692	20	5%	70%	99%	100%	10182	Large Commercial Energy Solutions
502	All	LED/Induction 274W/9	0.72	1	1692	20	2%	70%	99%	100%	4073	Large Commercial Energy Solutions
503	All	LED/Induction 175W/9	0.59	1	1692	20	1%	70%	99%	100%	2036	Large Commercial Energy Solutions
504	All	LED/Induction 304W/9	0.65	1	1692	20	1%	70%	99%	100%	2036	Large Commercial Energy Solutions
505	All	LED/Induction 488W/9	1.16	1	1692	20	1%	70%	99%	100%	2036	Large Commercial Energy Solutions
506	All	LED/Induction 646W/9	1.39	1	1692	20	1%	70%	99%	100%	2036	Large Commercial Energy Solutions
507	All	Pumps HP 1.5	1.00	1	1692	1	0%	0%	10%	100%	0	Large Commercial Energy Solutions
508	All	Pumps HP 2	1.00	1	1692	1	0%	0%	10%	100%	0	Large Commercial Energy Solutions

Non-residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
451	All	Unitary HVAC/Spill Systems - less than 5.4 tons (split system)	ICF	ICF	Energy, CBECS	ICF	ICF
452	All	Unitary HVAC/Spill Systems - less than 5.4 tons (single package)	ICF	ICF	Energy, CBECS	ICF	ICF
453	All	Unitary HVAC/Spill Systems - 5.4 to 11.25 tons	ICF	ICF	Energy, CBECS	ICF	ICF
454	All	Unitary HVAC/Spill Systems - 11.25 to 20 tons	ICF	ICF	Energy, CBECS	ICF	ICF
455	All	Unitary HVAC/Spill Systems - 20 to 63.33 tons	ICF	ICF	Energy, CBECS	ICF	ICF
456	All	Unitary HVAC/Spill Systems - greater than 63.33 tons	ICF	ICF	Energy, CBECS	ICF	ICF
457	All	Air-Air Heat Pump Systems - less than 5.4 tons (split system)	ICF	ICF	Energy, CBECS	ICF	ICF
458	All	Air-Air Heat Pump Systems - less than 5.4 tons (single package)	ICF	ICF	Energy, CBECS	ICF	ICF
459	All	Air-Air Heat Pump Systems - 5.4 to 11.25 tons	ICF	ICF	Energy, CBECS	ICF	ICF
460	All	Air-Air Heat Pump Systems - 11.25 to 20 tons	ICF	ICF	Energy, CBECS	ICF	ICF
461	All	Air-Air Heat Pump Systems - 21 to 30 tons	ICF	ICF	Energy, CBECS	ICF	ICF
462	All	Water Source Heat Pumps - less than 1.42 tons	ICF	ICF	Energy, CBECS	ICF	ICF
463	All	Water Source Heat Pumps - greater than 1.42 tons	ICF	ICF	Energy, CBECS	ICF	ICF
464	All	Occupancy Based PTHP/PTAC Controls	ICF	ICF	Energy, CBECS	ICF	ICF
465	All	Plug Load Occupancy Sensors	ICF	DEER			
466	All	Plug Load Occupancy Sensors	ICF	DEER			
467	All	Plug Load Occupancy Sensors	ICF	DEER			
468	AC	Central AC Tune-up	ICF	DEER	ICF	ICF	ICF
469	All	Electronically Commutated Motors FOR HVAC APPLICATIONS	ICF	DEER	Energy, CBECS	ICF	ICF
470	All	Occupancy Based PTHP/PTAC Controls	ICF	DEER	Energy, CBECS	ICF	ICF
471	All	T-8 48" Four Lamp Very High Output, Electronic - IS	ICF	DEER	Energy, CBECS	ICF	ICF
472	All	T-8 48" Six Lamp Very High Output, Electronic - IS	ICF	DEER	Energy, CBECS	ICF	ICF
473	All	T-8 48" Eight Lamp Very High Output, Electronic - IS	ICF	DEER	Energy, CBECS	ICF	ICF
474	All	CFL Hard Wired (<30W)	ICF	DEER	Energy, CBECS	ICF	ICF
475	All	CFL Hard Wired (>30W)	ICF	DEER	Energy, CBECS	ICF	ICF
476	All	T-8 48" One Lamp-28W2, Electronic - IS	ICF	DEER	Energy, CBECS	ICF	ICF
477	All	T-8 48" Two Lamp-28W2, Electronic - IS	ICF	DEER	Energy, CBECS	ICF	ICF
478	All	T-8 48" Three Lamp-28W2, Electronic - IS	ICF	DEER	Energy, CBECS	ICF	ICF
479	All	T-8 48" Four Lamp-28W2, Electronic - IS	ICF	DEER	Energy, CBECS	ICF	ICF
480	All	No Lamp, Magnetic-STD	ICF	DEER	Energy, CBECS	ICF	ICF
481	All	No Lamp, No Ballast	ICF	DEER	Energy, CBECS	ICF	ICF
482	All	T-8 48" One Lamp, Electronic - IS	ICF	DEER	Energy, CBECS	ICF	ICF
483	All	Occupancy Sensor Lighting Control <500W	ICF	DEER	Energy, CBECS	ICF	ICF
484	All	Occupancy Sensor Lighting Control >500W	ICF	DEER	Energy, CBECS	ICF	ICF
485	All	LED Exit Sign	ICF	DEER	Energy, CBECS	ICF	ICF
486	All	Pulse Start Metal Halide 350 W, Magnetic-CWA	ICF	DEER	Energy, CBECS	ICF	ICF
487	All	Pulse Start Metal Halide 750 W, Magnetic-CWA	ICF	DEER	Energy, CBECS	ICF	ICF
488	All	Metal Halide 20W4,	ICF	DEER	Energy, CBECS	ICF	ICF
489	All	Metal Halide 39W4,	ICF	DEER	Energy, CBECS	ICF	ICF
490	All	Metal Halide 70W4,	ICF	DEER	Energy, CBECS	ICF	ICF
491	All	Ceramic Metal Halide 20W4,	ICF	DEER	Energy, CBECS	ICF	ICF
492	All	Ceramic Metal Halide 39W4,	ICF	DEER	Energy, CBECS	ICF	ICF
493	All	Ceramic Metal Halide 50W4,	ICF	DEER	Energy, CBECS	ICF	ICF
494	All	Ceramic Metal Halide 70W4,	ICF	DEER	Energy, CBECS	ICF	ICF
495	All	Ceramic Metal Halide 100W4,	ICF	DEER	Energy, CBECS	ICF	ICF
496	All	Ceramic Metal Halide 150W4,	ICF	DEER	Energy, CBECS	ICF	ICF
497	All	LED/Induction 99W9,	ICF	DEER	Energy, CBECS	ICF	ICF
498	All	LED/Induction 150W9,	ICF	DEER	Energy, CBECS	ICF	ICF
499	All	LED/Induction 177W9,	ICF	DEER	Energy, CBECS	ICF	ICF
500	All	LED/Induction 279W9,	ICF	DEER	Energy, CBECS	ICF	ICF
501	All	LED/Induction 110W9,	ICF	DEER	Energy, CBECS	ICF	ICF
502	All	LED/Induction 139W9,	ICF	DEER	Energy, CBECS	ICF	ICF
503	All	LED/Induction 175W9,	ICF	DEER	Energy, CBECS	ICF	ICF
504	All	LED/Induction 274W9,	ICF	DEER	Energy, CBECS	ICF	ICF
505	All	LED/Induction 304W9,	ICF	DEER	Energy, CBECS	ICF	ICF
506	All	LED/Induction 488W9,	ICF	DEER	Energy, CBECS	ICF	ICF
507	All	LED/Induction 646W9,	ICF	DEER	Energy, CBECS	ICF	ICF
508	All	Pumps HP 1.5	ICF	DEER	Energy, CBECS	ICF	ICF
509	All	Pumps HP 2	ICF	DEER	Energy, CBECS	ICF	ICF

Non-residential Measures							
Measure #	Sector	Sub-Sector	End Use	Technology Type	Efficient Measure	Efficient Measure Definition	Base Measure Definition
510	Non-Residential	Commercial	Other	AI	Pumps HP-3		
511	Non-Residential	Commercial	Other	AI	Pumps HP-5		
512	Non-Residential	Commercial	Other	AI	Pumps HP-10		
513	Non-Residential	Commercial	Other	AI	Pumps HP-15		
514	Non-Residential	Commercial	Other	AI	Pumps HP-20		
515	Non-Residential	Commercial	Other	AI	Air Compressors with Variable Frequency Drives	0.9	
516	Non-Residential	Commercial	Other	AI	Air Compressors with Load/No Load	0.9	
517	Non-Residential	Commercial	Other	AI	Air Compressors with Variable Displacement	0.9	
518	Non-Residential	Commercial	Other	AI	Enabled Dynamic Pricing (Non-Rate)	Enabled Pricing	0
519	Non-Residential	Commercial	Other	AI	Solar PV	Solar PV	0
520	Non-Residential	Commercial	Other	DR	Non-Enabled Dynamic Pricing (Non-Rate)	Non-Enabled Pricing	0
521	Non-Residential	Commercial	Other	AI	LED Case Lighting		
522	Non-Residential	Commercial	Refrigeration	AI	Vending Equipment Controller		
523	Non-Residential	Commercial	Refrigeration	AI	Electronically Commutated Motor FOR REFRIGERATION		
524	Non-Residential	Commercial	Refrigeration	AI	Efficient Electric Fryer - Electric		
525	Non-Residential	Commercial	Cooking	AI	Efficient Electric Fryer - Electric		
526	Non-Residential	Commercial	Cooking	AI	Connectless Steamer		
527	Non-Residential	Commercial	Cooking	AI	Efficient Electric Griddle		
528	Non-Residential	Commercial	Cooking	AI	Efficient Convection Oven		
529	Non-Residential	Commercial	Cooking	AI	Efficient Combination Oven-Electric		
530	Non-Residential	Commercial	Cooking	AI	Efficient Hot Food Holding Cabinet-Full-Size		
531	Non-Residential	Commercial	Cooking	AI	Efficient Hot Food Holding Cabinet-Full-Size		
532	Non-Residential	Commercial	Cooking	AI	Efficient Hot Food Holding Cabinet-Full-Size		
533	Non-Residential	Commercial	Cooking	AI	Efficient Hot Food Holding Cabinet-Full-Size		
534	Non-Residential	Commercial	Cooking	AI	Efficient Hot Food Holding Cabinet-Full-Size		
535	Non-Residential	Commercial	HVAC	AI	Unlabeled HVAC/SPS Systems - 20 to 63.33 tons		
536	Non-Residential	Commercial	HVAC	AI	Air-Air Heat Pump Systems - greater than 63.33 tons		
537	Non-Residential	Commercial	HVAC	AI	Water Source Heat Pumps - less than 1.42 tons		
538	Non-Residential	Commercial	HVAC	AI	Water Source Heat Pumps - greater than 1.42 tons		
539	Non-Residential	Commercial	HVAC	AI	Solid Door Refrigerators and Freezers		
540	Non-Residential	Commercial	Refrigeration	AI	Solid Door Refrigerators and Freezers		
541	Non-Residential	Commercial	Refrigeration	AI	Solid Door Refrigerators and Freezers		
542	Non-Residential	Commercial	Refrigeration	AI	Solid Door Refrigerators and Freezers		
543	Non-Residential	Commercial	Refrigeration	AI	Solid Door Refrigerators and Freezers		
544	Non-Residential	Commercial	Refrigeration	AI	Solid Door Refrigerators and Freezers		
545	Non-Residential	Commercial	Refrigeration	AI	Solid Door Refrigerators and Freezers		
546	Non-Residential	Commercial	Refrigeration	AI	Solid Door Refrigerators and Freezers		
547	Non-Residential	Commercial	Refrigeration	AI	Solid Door Refrigerators and Freezers		
548	Non-Residential	Commercial	Refrigeration	AI	Efficient Air-Cooled Ice Machine 201-300 lbs/day		
549	Non-Residential	Commercial	Refrigeration	AI	Efficient Air-Cooled Ice Machine 301-400 lbs/day		
550	Non-Residential	Commercial	Refrigeration	AI	Efficient Air-Cooled Ice Machine 401-500 lbs/day		
551	Non-Residential	Commercial	Refrigeration	AI	Efficient Air-Cooled Ice Machine 501-1000 lbs/day		
552	Non-Residential	Commercial	Refrigeration	AI	Efficient Air-Cooled Ice Machine 1001-1500 lbs/day		
553	Non-Residential	Commercial	Refrigeration	AI	Interruptible Rate		
554	Non-Residential	Industrial	Other	DR	Interruptible Rate		
555	Non-Residential	Industrial	Other	Compressed Air	Compressed Air-C&M		
556	Non-Residential	Industrial	Other	Compressed Air	Compressed Air - Controls		
557	Non-Residential	Industrial	Other	Compressed Air	Compressed Air - System Optimization		
558	Non-Residential	Industrial	Other	Compressed Air	Compressed Air - Sizing		
559	Non-Residential	Industrial	Other	Compressed Air	Comp Air - Replace 1-5 HP motor		
560	Non-Residential	Industrial	Other	Compressed Air	Comp Air - ASD (1-5 hp)		
561	Non-Residential	Industrial	Other	Compressed Air	Comp Air - Replace 6-100 HP motor		
562	Non-Residential	Industrial	Other	Compressed Air	Comp Air - ASD (6-100 HP)		
563	Non-Residential	Industrial	Other	Compressed Air	Comp Air - Replace 100+ HP motor		
564	Non-Residential	Industrial	Other	Compressed Air	Comp Air - Motor practices-1 (6-100 HP)		
565	Non-Residential	Industrial	Other	Compressed Air	Comp Air - Replace 100+ HP motor		
566	Non-Residential	Industrial	Other	Compressed Air	Comp Air - ASD (100+ hp)		
567	Non-Residential	Industrial	Other	Compressed Air	Comp Air - Motor practices-1 (100+ HP)		
568	Non-Residential	Industrial	Other	Compressed Air	Comp Air - Power recovery		

Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace or Burnout, or New	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (Therms)
510	All	Pumps HP 3	15	1 unit	RET	\$350.00	486.92	0.08	0.00
511	All	Pumps HP 5	15	1 unit	RET	\$341.00	486.92	0.08	0.00
512	All	Pumps HP 7.5	15	1 unit	RET	\$488.00	486.92	0.08	0.00
513	All	Pumps HP 10	15	1 unit	RET	\$332.00	486.92	0.08	0.00
514	All	Pumps HP 15	15	1 unit	RET	\$585.00	486.92	0.08	0.00
515	All	Pumps HP 20	15	1 unit	RET	\$850.00	486.92	0.08	0.00
516	All	Air Compressors with Variable Frequency Drives	15	per HP	RET	\$164.00	1100.86	0.15	0.00
517	All	Air Compressors with Load/No Load	15	per HP	RET	\$214.00	776.63	0.08	0.00
518	All	Air Compressors with Variable Displacement	15	per HP	RET	\$472.00	1035.50	0.10	0.00
519	DR	Enabled Dynamic Pricing (Non-Res)	10	customer	RET	\$504.00	0.00	1.73	0.00
520	Solar PV	Solar PV (Comm)	20	customer	RET	\$75,000.00	30800.00	15.98	0.00
521	DR	Non-Enabled Dynamic Pricing (Non-Res)	10	customer	RET	\$1.00	0.00	1.11	0.00
522	All	Anti Sweat Heater Controls	16	1 unit	RET	\$250.00	1529.77	0.22	0.00
523	All	LED Case Lighting	16	1 unit	RET	\$50.00	457.00	0.04	0.00
524	All	Vending Equipment Controller	10	1 unit	RET	\$215.50	805.84	0.00	0.00
525	All	Electronically Commutated Motors FOR REFRIGERATION	15	Per Watt	RET	\$2.00	11.57	0.00	0.00
526	All	Conductless Steamer	11	1 unit	ROB	\$1,921.61	2190.00	0.00	0.00
527	All	Efficient French Fryer - Electric	11	1 unit	ROB	\$4,708.00	1166.00	0.20	0.00
528	All	Conductless Steamer	11	1 unit	ROB	\$4,708.00	1166.00	2.50	0.00
529	All	Efficient Electric Griddle	11	1 unit	ROB	\$2,713.00	1166.00	0.20	0.00
530	All	Efficient Convection Oven	11	1 unit	ROB	\$16,884.00	18432.00	0.50	0.00
531	All	Efficient Combination Oven-Electric	11	1 unit	ROB	\$1,713.00	2190.00	4.20	0.00
532	All	Efficient Hot Food Holding Cabinet-Full-Size	11	1 unit	ROB	\$1,713.00	1643.00	0.40	0.00
533	All	Efficient Hot Food Holding Cabinet-Three-Quarter-Size	11	1 unit	ROB	\$1,713.00	1643.00	0.30	0.00
534	All	Efficient Hot Food Holding Cabinet-Half-Size	11	1 unit	ROB	\$1,713.00	1643.00	0.20	0.00
535	All	Unitary HVAC/Split Systems - 20 to 63,33 tons	15	per ton, 40 tons	ROB	\$120.00	146.11	0.17	0.00
536	All	Unitary HVAC/Split Systems - greater than 63.33 tons	15	per ton, 100 tons	ROB	\$120.00	120.34	0.14	0.00
537	All	Air-Air Heat Pump Systems - 21 to 30 tons	15	per ton, 25 tons	ROB	\$200.00	301.27	0.17	0.00
538	All	Water Source Heat Pumps - less than 1.42 tons	15	per ton, 1 ton	ROB	\$200.00	790.85	0.44	0.00
539	All	Water Source Heat Pumps - greater than 1.42 tons	15	per ton, 5 tons	ROB	\$200.00	527.23	0.29	0.00
540	All	Solid Door Refrigerators and Freezers	12	Unit	ROB	\$244.00	385.77	0.06	0.00
541	All	Solid Door Refrigerators and Freezers	12	Unit	ROB	\$244.00	839.38	0.14	0.00
542	All	Solid Door Refrigerators and Freezers	12	Unit	ROB	\$244.00	1265.06	0.22	0.00
543	All	Solid Door Refrigerators and Freezers	12	Unit	ROB	\$244.00	1682.80	0.29	0.00
544	All	Solid Door Refrigerators and Freezers	12	Unit	ROB	\$244.00	1153.98	0.20	0.00
545	All	Solid Door Refrigerators and Freezers	12	Unit	ROB	\$244.00	3449.31	0.61	0.00
546	All	Solid Door Refrigerators and Freezers	12	Unit	ROB	\$244.00	5819.80	1.02	0.00
547	All	Efficient Air-Cooled Ice Machine 101-200 lbs/day	11	1 unit	ROB	\$234.00	3613.50	0.41	0.00
548	All	Efficient Air-Cooled Ice Machine 201-300 lbs/day	11	1 unit	ROB	\$312.00	2281.25	0.26	0.00
549	All	Efficient Air-Cooled Ice Machine 301-400 lbs/day	11	1 unit	ROB	\$559.00	1660.75	0.19	0.00
550	All	Efficient Air-Cooled Ice Machine 401-500 lbs/day	11	1 unit	ROB	\$688.75	2463.75	0.28	0.00
551	All	Efficient Air-Cooled Ice Machine 501-1000 lbs/day	11	1 unit	ROB	\$1,485.00	3011.25	0.34	0.00
552	All	Efficient Air-Cooled Ice Machine 1001-1500 lbs/day	11	1 unit	ROB	\$1,821.00	4106.25	0.47	0.00
553	DR	Interruptible Rate	10	customer	RET	\$1.00	0.00	94.97	0.00
554	All	Custom Project	10	customer	RET	\$0.07	0.21	0.00	0.00
555	All	Compressed Air-O&M	15	1 kWh	RET	\$0.01	0.17	0.00	0.00
556	Compressed Air	Compressed Air - Controls	10	1 kWh	RET	\$0.02	0.12	0.00	0.00
557	Compressed Air	Compressed Air - System Optimization	10	1 kWh	RET	\$0.02	0.20	0.00	0.00
558	Compressed Air	Compressed Air - Sizing	10	1 kWh	RET	\$0.01	0.09	0.00	0.00
559	Compressed Air	Compressed Air - Replace 1.5 HP motor	14.5	1 kWh	RET	\$0.06	0.06	0.00	0.00
560	Compressed Air	Comp Air - ASD (1-5 hp)	14.5	1 kWh	RET	\$0.09	0.06	0.00	0.00
561	Compressed Air	Comp Air - Replace 6-100 HP motor	10	1 kWh	RET	\$0.02	0.05	0.00	0.00
562	Compressed Air	Comp Air - ASD (1-5 HP)	10	1 kWh	RET	\$0.03	0.04	0.00	0.00
563	Compressed Air	Comp Air - ASD (6-100 hp)	10	1 kWh	RET	\$0.00	0.06	0.00	0.00
564	Compressed Air	Comp Air - Motor practices-1 (1-5 HP)	6	1 kWh	RET	\$0.01	0.03	0.00	0.00
565	Compressed Air	Comp Air - Motor practices-1 (6-100 HP)	6	1 kWh	RET	\$0.01	0.02	0.00	0.00
566	Compressed Air	Comp Air - Replace 100+ HP motor	6	1 kWh	RET	\$0.01	0.03	0.00	0.00
567	Compressed Air	Comp Air - ASD (100+ hp)	6	1 kWh	RET	\$0.01	0.02	0.00	0.00
568	Compressed Air	Comp Air - Motor practices-1 (100+ HP)	6	1 kWh	RET	\$0.00	0.06	0.00	0.00
569	Compressed Air	Comp Air --Power recovery	10	1 kWh	RET	\$0.00	0.01	0.00	0.00

Non-residential Measures

Measure #	Technology Type	Efficient Measure	Measure TRC	Passed Measure Screening?	Total Sub-Sector Units	Measure Units per Sub-Sector Unit	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
510	All	Pumps HP 3	1.00	1	14692	1	0%	0%	100%	100%	0	Large Commercial Energy Solutions
511	All	Pumps HP 5	1.03	1	14692	1	1%	100%	100%	100%	15	Large Commercial Energy Solutions
512	All	Pumps HP 7.5	0.70	1	14692	1	2%	100%	100%	100%	29	Large Commercial Energy Solutions
513	All	Pumps HP 10	1.06	1	14692	1	4%	100%	100%	100%	59	Large Commercial Energy Solutions
514	All	Pumps HP 15	0.60	0	14692	1						
515	All	Pumps HP 20	0.41	0	14692	1						
516	All	Air Compressors with Variable Frequency Drives	4.64	1	14692	125	0%	80%	90%	100%	1322	Large Commercial Energy Solutions
517	All	Air Compressors with Load/No Load	2.26	1	14692	125	0%	80%	90%	100%	1322	Large Commercial Energy Solutions
518	All	Air Compressors with Variable Displacement	1.37	1	14692	125	0%	80%	90%	100%	1322	Large Commercial Energy Solutions
519	DR	Enabled Dynamic Pricing (Non-Res)	4.22	1	14692	1	100%	100%	100%	100%	14692	Enabled Dynamic Pricing (Non-Res)
520	Solar PV	Solar PV (Comm)	0.61	1	14692	1	100%	100%	100%	100%	14692	Non-Enabled Dynamic Pricing (Non-Res)
521	DR	Anti-Sweat Heater Controls	4.47	1	14692	1	8%	100%	100%	100%	84	Large Commercial Energy Solutions
522	All	LED Case Lighting	5.07	1	14692	1	8%	100%	100%	100%	84	Large Commercial Energy Solutions
523	All	Vending Equipment Controller	1.07	1	14692	1	50%	100%	100%	100%	502	Large Commercial Energy Solutions
524	All	Electronically Controlled Fan For REFRIGERATION	4.32	1	14692	1	65%	100%	100%	100%	822	Large Commercial Energy Solutions
525	All	Connectionless Steamers	0.42	0	14692	50	2%	100%	90%	100%	11239	Large Commercial Energy Solutions
527	All	Efficient French Fryer - Electric	0.15	0	14692	2						
528	All	Connectionless Steamer	1.78	0	14692	1						
529	All	Efficient Electric Griddle	0.15	0	14692	1						
530	All	Efficient Convection Oven	0.65	0	14692	1						
531	All	Efficient Hot Food Holding Cabinet-Full-Size	0.73	0	14692	1						
532	All	Efficient Hot Food Holding Cabinet-Three-Quarter-Size	0.78	0	14692	1						
533	All	Efficient Hot Food Holding Cabinet-Half-Size	0.68	0	14692	1						
534	All	Efficient HVAC/Split Systems - 20 to 63.33 tons	2.74	1	14692	100	12%	35%	100%	7%	1618	Large Commercial Energy Solutions
535	All	Unitary HVAC/Split Systems - greater than 63.33 tons	0.39	0	14692	40	3%	35%	100%	7%	1087	Large Commercial Energy Solutions
536	All	Air-Air Heat Pump Systems - 21 to 30 tons	2.26	1	14692	100	0%	10%	100%	0%	0	Large Commercial Energy Solutions
537	All	Water Source Heat Pumps - less than 1.42 tons	3.25	1	14692	16	2%	10%	100%	7%	33	Large Commercial Energy Solutions
538	All	Water Source Heat Pumps - greater than 1.42 tons	5.28	1	14692	5	6%	10%	100%	8%	31	Large Commercial Energy Solutions
539	All	Solid Door Refrigerators and Freezers	0.87	1	14692	2	36%	13%	100%	8%	110	Large Commercial Energy Solutions
540	All	Solid Door Refrigerators and Freezers	2.18	1	14692	2	36%	13%	100%	8%	110	Large Commercial Energy Solutions
541	All	Solid Door Refrigerators and Freezers	3.33	1	14692	2	36%	13%	100%	8%	110	Large Commercial Energy Solutions
542	All	Solid Door Refrigerators and Freezers	4.33	1	14692	2	36%	13%	100%	8%	110	Large Commercial Energy Solutions
543	All	Solid Door Refrigerators and Freezers	3.04	1	14692	2	36%	13%	100%	8%	110	Large Commercial Energy Solutions
544	All	Solid Door Refrigerators and Freezers	3.04	1	14692	2	36%	13%	100%	8%	110	Large Commercial Energy Solutions
545	All	Solid Door Refrigerators and Freezers	9.08	1	14692	2	36%	13%	100%	8%	110	Large Commercial Energy Solutions
546	All	Solid Door Refrigerators and Freezers	15.23	1	14692	2	36%	13%	100%	8%	110	Large Commercial Energy Solutions
547	All	Efficient Air-Cooled Ice Machine 101-200 lbs/day	8.01	1	14692	1	6%	100%	100%	8%	110	Large Commercial Energy Solutions
548	All	Efficient Air-Cooled Ice Machine 201-300 lbs/day	3.14	1	14692	1	8%	100%	100%	9%	101	Large Commercial Energy Solutions
549	All	Efficient Air-Cooled Ice Machine 301-400 lbs/day	1.84	1	14692	1	8%	100%	100%	9%	101	Large Commercial Energy Solutions
550	All	Efficient Air-Cooled Ice Machine 401-500 lbs/day	1.83	1	14692	1	8%	100%	100%	9%	101	Large Commercial Energy Solutions
551	All	Efficient Air-Cooled Ice Machine 501-1000 lbs/day	1.05	1	14692	1	8%	100%	100%	9%	101	Large Commercial Energy Solutions
552	All	Efficient Air-Cooled Ice Machine 1001-1500 lbs/day	1.17	1	14692	1	8%	100%	100%	9%	101	Large Commercial Energy Solutions
553	All	Interruptible Rate	116955.23	1	2299	1	100%	100%	100%	100%	2299	Interruptible Rate
554	DR	Custom Project	1.99	1	8957629	1	52%	100%	71%	100%	3336653	Industrial
555	All	Compressed Air - O&M	7.44	1	55952838	1	100%	47%	75%	100%	19553696	Industrial
556	Compressed Air	Compressed Air - Controls	3.12	1	55952838	1	100%	47%	25%	100%	6517899	Industrial
557	Compressed Air	Compressed Air - System Optimization	5.68	1	55952838	1	100%	47%	50%	100%	13035797	Industrial
558	Compressed Air	Compressed Air - Sizing	8.92	1	55952838	1	100%	47%	40%	100%	10428638	Industrial
559	Compressed Air	Compressed Air - Replace 1-5 HP motor	0.62	0	292023	1						
560	Compressed Air	Comp Air - Replace 1-5 HP motor	0.48	0	292023	1						
561	Compressed Air	Comp Air - ASD (1-5 hp)	1.31	0	292023	1						
562	Compressed Air	Comp Air - Motor practices-1 (1-5 HP)	0.53	0	8087544	1	5%	47%	100%	100%	6531	Industrial
563	Compressed Air	Comp Air - Replace 6-100 HP motor	11.23	0	8087544	1	36%	47%	100%	100%	1345335	Industrial
564	Compressed Air	Comp Air - ASD (6-100 hp)	2.03	1	8087544	1	36%	47%	38%	100%	1345335	Industrial
565	Compressed Air	Comp Air - Motor practices-1 (6-100 HP)	1.01	1	47573271	1	59%	47%	100%	100%	4895130	Industrial
566	Compressed Air	Comp Air - Replace 100+ HP motor	3.22	1	47573271	1	59%	47%	100%	100%	13145079	Industrial
567	Compressed Air	Comp Air - ASD (100+ hp)	2.02	1	47573271	1	59%	47%	100%	100%	13145079	Industrial
568	Compressed Air	Comp Air - Motor practices-1 (100+ HP)	1.49	1	1405989	1	100%	47%	95%	100%	62421	Industrial
569	Compressed Air	Comp Air - Power recovery	1.49	1	1405989	1	100%	47%	95%	100%	62421	Industrial

Non-residential Measures



Non-residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
510	All						
511	All	Pumps HP 3	ICF	DEER	Energy, CBECS	ICF	ICF
512	All	Pumps HP 5	ICF	DEER	Energy, CBECS	ICF	ICF
513	All	Pumps HP 7.5	ICF	DEER	Energy, CBECS	ICF	ICF
514	All	Pumps HP 10	ICF	DEER	Energy, CBECS	ICF	ICF
515	All	Pumps HP 15	ICF	DEER	Energy, CBECS	ICF	ICF
516	All	Pumps HP 20	ICF	DEER	Energy, CBECS	ICF	ICF
517	All	Air Compressors with Variable Frequency Drives	ICF	DEER	Energy, CBECS	ICF	ICF
518	All	Air Compressors with Load/No Load	ICF	DEER	Energy, CBECS	ICF	ICF
519	All	Air Compressors with Variable Displacement	ICF	DEER	Energy, CBECS	ICF	ICF
520	DR	Enabled Dynamic Pricing (Non-Res)	FERC	FERC	ICF	ICF	ICF
521	DR	Solar PV (Comm)	Frontier - 2009 ENO Deemed Savings	ICF	ICF	ICF	ICF
522	All	Non-Enabled Dynamic Pricing (Non-Res)	FERC	ICF	ICF	ICF	ICF
523	All	Anti Sweat Heater Controls	ICF	DEER	Energy, CBECS	ICF	ICF
524	All	Vending Equipment Controller	ICF	DEER	Energy, CBECS	ICF	ICF
525	All	Electronically Commutated Motors FOR REFRIGERATION	ICF	DEER	Energy, CBECS	ICF	ICF
526	All	Connectionless Steamer	ICF	DEER	Energy, CBECS	ICF	ICF
527	All	Efficient French Fryer - Electric	DEER	DEER	Energy, CBECS	ICF	ICF
528	All	Connectionless Steamer	Fisher Nickel	Fisher Nickel	Energy, CBECS	ICF	ICF
529	All	Efficient Electric Griddle	Fisher Nickel	Fisher Nickel	Energy, CBECS	ICF	ICF
530	All	Efficient Convection Oven	Fisher Nickel	Fisher Nickel	Energy, CBECS	ICF	ICF
531	All	Efficient Combination Oven-Electric	Fisher Nickel	Fisher Nickel	Energy, CBECS	ICF	ICF
532	All	Efficient Hot Food Holding Cabinet-Full-Size	Fisher Nickel	Fisher Nickel	Energy, CBECS	ICF	ICF
533	All	Efficient Hot Food Holding Cabinet-Three-Quarter-Size	ICF	DEER	Energy, CBECS	ICF	ICF
534	All	Efficient Hot Food Holding Cabinet-Half-Size	ICF	DEER	Energy, CBECS	ICF	ICF
535	All	Unitary HVAC/ Split Systems - 20 to 63.33 tons	ICF	DEER	Energy, CBECS	ICF	ICF
536	All	Unitary HVAC/ Split Systems - greater than 63.33 tons	ICF	DEER	Energy, CBECS	ICF	ICF
537	All	Air-Air Heat Pump Systems - 21 to 30 tons	ICF	DEER	Energy, CBECS	ICF	ICF
538	All	Water Source Heat Pumps - less than 1.42 tons	ICF	DEER	Energy, CBECS	ICF	ICF
539	All	Water Source Heat Pumps - greater than 1.42 tons	ICF	DEER	Energy, CBECS	ICF	ICF
540	All	Solid Door Refrigerators and Freezers	ICF	DEER	Energy, CBECS	ICF	ICF
541	All	Solid Door Refrigerators and Freezers	ICF	DEER	Energy, CBECS	ICF	ICF
542	All	Solid Door Refrigerators and Freezers	ICF	DEER	Energy, CBECS	ICF	ICF
543	All	Solid Door Refrigerators and Freezers	ICF	DEER	Energy, CBECS	ICF	ICF
544	All	Solid Door Refrigerators and Freezers	ICF	DEER	Energy, CBECS	ICF	ICF
545	All	Solid Door Refrigerators and Freezers	ICF	DEER	Energy, CBECS	ICF	ICF
546	All	Solid Door Refrigerators and Freezers	ICF	DEER	Energy, CBECS	ICF	ICF
547	All	Solid Door Refrigerators and Freezers	ICF	DEER	Energy, CBECS	ICF	ICF
548	All	Efficient Air-Cooled Ice Machine 101-200 lbs/day	Fisher Nickel	Fisher Nickel	Energy, CBECS	ICF	ICF
549	All	Efficient Air-Cooled Ice Machine 201-300 lbs/day	Fisher Nickel	Fisher Nickel	Energy, CBECS	ICF	ICF
550	All	Efficient Air-Cooled Ice Machine 301-400 lbs/day	Fisher Nickel	Fisher Nickel	Energy, CBECS	ICF	ICF
551	All	Efficient Air-Cooled Ice Machine 401-500 lbs/day	Fisher Nickel	Fisher Nickel	Energy, CBECS	ICF	ICF
552	All	Efficient Air-Cooled Ice Machine 501-1000 lbs/day	Fisher Nickel	Fisher Nickel	Energy, CBECS	ICF	ICF
553	All	Efficient Air-Cooled Ice Machine 1001-1500 lbs/day	Fisher Nickel	Fisher Nickel	Energy, CBECS	ICF	ICF
554	DR	Interruptible Rate	FERC	FERC	ICF	ICF	ICF
555	All	Custom Project	ICF	ICF	KEMA	KEMA	KEMA
556	Compressed Air	Compressed Air-O&M	KEMA	ICF	KEMA	KEMA	KEMA
557	Compressed Air	Compressed Air - Controls	KEMA	ICF	KEMA	KEMA	KEMA
558	Compressed Air	Compressed Air - System Optimization	KEMA	ICF	KEMA	KEMA	KEMA
559	Compressed Air	Compressed Air - Sizing	KEMA	ICF	KEMA	KEMA	KEMA
560	Compressed Air	Comp Air - Replace 1-5 HP motor	KEMA	ICF	KEMA	KEMA	KEMA
561	Compressed Air	Comp Air - ASD (1-5 hp)	KEMA	ICF	KEMA	KEMA	KEMA
562	Compressed Air	Comp Air - Motor practices-1 (1-5 HP)	KEMA	ICF	KEMA	KEMA	KEMA
563	Compressed Air	Comp Air - Replaces 6-100 HP motor	KEMA	ICF	KEMA	KEMA	KEMA
564	Compressed Air	Comp Air - ASD (6-100 hp)	KEMA	ICF	KEMA	KEMA	KEMA
565	Compressed Air	Comp Air - Motor practices-1 (6-100 HP)	KEMA	ICF	KEMA	KEMA	KEMA
566	Compressed Air	Comp Air - Replace 100+ HP motor	KEMA	ICF	KEMA	KEMA	KEMA
567	Compressed Air	Comp Air - ASD (100+ hp)	KEMA	ICF	KEMA	KEMA	KEMA
568	Compressed Air	Comp Air - Motor practices-1 (100+ HP)	KEMA	ICF	KEMA	KEMA	KEMA
569	Compressed Air	Comp Air - Power recovery	KEMA	ICF	KEMA	KEMA	KEMA

Non-residential Measures							
Measure #	Sector	Sub-Sector	End Use	Technology Type	Efficient Measure	Efficient Measure Definition	Baseline Measure Definition
570	Non-Residential	Industrial	Other	Compressed Air	Comp Air - Refinery Controls	0.025 kWh Savings	Standard
571	Non-Residential	Industrial	Other	Compressed Air	Comp Air - Energy Star Transformers	0.025 kWh Savings	Standard
572	Non-Residential	Industrial	Other	Fans	Fans - Controls	0.025 kWh Savings	Standard
573	Non-Residential	Industrial	Other	Fans	Fans - System Optimization	0.212 kWh Savings	Standard
574	Non-Residential	Industrial	Other	Fans	Fans - Improve components	0.05 kWh Savings	Standard
575	Non-Residential	Industrial	Other	Fans	Fans - Replace 1-5 HP motor	0.057 kWh Savings	Standard
576	Non-Residential	Industrial	Other	Fans	Fans - ASD (1-5 hp)	0.064 kWh Savings	Standard
577	Non-Residential	Industrial	Other	Fans	Fans - Motor practices-1 (1-5 HP)	0.048 kWh Savings	Standard
578	Non-Residential	Industrial	Other	Fans	Fans - Replace motor	0.064 kWh Savings	Standard
579	Non-Residential	Industrial	Other	Fans	Fans - ASD (6-100 hp)	0.064 kWh Savings	Standard
580	Non-Residential	Industrial	Other	Fans	Fans - Motor practices-1 (6-100 HP)	0.024 kWh Savings	Standard
581	Non-Residential	Industrial	Other	Fans	Fans - Replace 100+ HP motor	0.031 kWh Savings	Standard
582	Non-Residential	Industrial	Other	Fans	Fans - ASD (100+ hp)	0.084 kWh Savings	Standard
583	Non-Residential	Industrial	Other	Fans	Fans - Motor practices-1 (100+ HP)	0.015 kWh Savings	Standard
584	Non-Residential	Industrial	Other	Fans	Fans - Optimize drying process	0.02 kWh Savings	Standard
585	Non-Residential	Industrial	Other	Fans	Fans - Refinery Controls	0.025 kWh Savings	Standard
586	Non-Residential	Industrial	Other	Fans	Fans - Energy Star Transformers	0.02 kWh Savings	Standard
587	Non-Residential	Industrial	Other	Pumps	Pumps - O&M	0.1 kWh Savings	Standard
588	Non-Residential	Industrial	Other	Pumps	Pumps - Controls	0.33 kWh Savings	Standard
589	Non-Residential	Industrial	Other	Pumps	Pumps - System Optimization	0.2 kWh Savings	Standard
590	Non-Residential	Industrial	Other	Pumps	Pumps - String	0.33 kWh Savings	Standard
591	Non-Residential	Industrial	Other	Pumps	Pumps - Replace 1/2 HP motor	0.07 kWh Savings	Standard
592	Non-Residential	Industrial	Other	Pumps	Pumps - ASD (1/2 hp)	0.064 kWh Savings	Standard
593	Non-Residential	Industrial	Other	Pumps	Pumps - Motor practices-1 (1-5 HP)	0.064 kWh Savings	Standard
594	Non-Residential	Industrial	Other	Pumps	Pumps - Replace 6-100 HP motor	0.035 kWh Savings	Standard
595	Non-Residential	Industrial	Other	Pumps	Pumps - ASD (6-100 hp)	0.084 kWh Savings	Standard
596	Non-Residential	Industrial	Other	Pumps	Pumps - Motor practices-1 (6-100 HP)	0.024 kWh Savings	Standard
597	Non-Residential	Industrial	Other	Pumps	Pumps - Replace 100+ HP motor	0.031 kWh Savings	Standard
598	Non-Residential	Industrial	Other	Pumps	Pumps - ASD (100+ hp)	0.064 kWh Savings	Standard
599	Non-Residential	Industrial	Other	Pumps	Pumps - Motor practices-1 (100+ HP)	0.015 kWh Savings	Standard
600	Non-Residential	Industrial	Other	Pumps	Pumps - Refinery Controls	0.025 kWh Savings	Standard
601	Non-Residential	Industrial	Other	Pumps	Pumps - Power recovery	0.01 kWh Savings	Standard
602	Non-Residential	Industrial	Other	Pumps	Pumps - Refinery Controls	0.025 kWh Savings	Standard
603	Non-Residential	Industrial	Other	Pumps	Pumps - Energy Star Transformers	0.2 kWh Savings	Standard
604	Non-Residential	Industrial	Other	Drives	Drives - Bakery - Process (Milling) - O&M	0.1 kWh Savings	Standard
605	Non-Residential	Industrial	Other	Drives	Drives - O&M/drives spinning machines	0.1 kWh Savings	Standard
606	Non-Residential	Industrial	Other	Drives	Drives - Air conveying systems	0.16 kWh Savings	Standard
607	Non-Residential	Industrial	Other	Drives	Drives - EE motor	0.413 kWh Savings	Standard
608	Non-Residential	Industrial	Other	Drives	Drives - EE motor	0.025 kWh Savings	Standard
609	Non-Residential	Industrial	Other	Drives	Drives - Gap Forming papermachine	0.034 kWh Savings	Standard
610	Non-Residential	Industrial	Other	Drives	Drives - High Consistency forming	0.079 kWh Savings	Standard
611	Non-Residential	Industrial	Other	Drives	Drives - Optimization control PM	0.076 kWh Savings	Standard
612	Non-Residential	Industrial	Other	Drives	Drives - Efficient practices printing press	0.05 kWh Savings	Standard
613	Non-Residential	Industrial	Other	Drives	Drives - Efficient Printing press (fewer cylinders)	0.1 kWh Savings	Standard
614	Non-Residential	Industrial	Other	Drives	Drives - Efficient drives	0.2 kWh Savings	Standard
615	Non-Residential	Industrial	Other	Drives	Drives - Efficient drives	0.035 kWh Savings	Standard
616	Non-Residential	Industrial	Other	Drives	Drives - Clean Room - Controls	0.1 kWh Savings	Standard
617	Non-Residential	Industrial	Other	Drives	Drives - Clean Room - New Designs	0.3 kWh Savings	Standard
618	Non-Residential	Industrial	Other	Drives	Drives - Process Controls (batch + site)	0.05 kWh Savings	Standard
619	Non-Residential	Industrial	Other	Drives	Drives - Process Drives - ASD	0.06 kWh Savings	Standard
620	Non-Residential	Industrial	Other	Drives	Drives - O&M - Extrusion/Injection Moulding	0.1 kWh Savings	Standard
621	Non-Residential	Industrial	Other	Drives	Drives - O&M - Extrusion/Injection Moulding	0.1 kWh Savings	Standard
622	Non-Residential	Industrial	Other	Drives	Drives - Direct Drive Extrusion pump	0.5 kWh Savings	Standard
623	Non-Residential	Industrial	Other	Drives	Drives - Direct Drive Extrusion pump	0.5 kWh Savings	Standard
624	Non-Residential	Industrial	Other	Drives	Drives - Injection Moulding - Impulse Cooling	0.21 kWh Savings	Standard
625	Non-Residential	Industrial	Other	Drives	Drives - Injection Moulding - Direct drive	0.21 kWh Savings	Standard
626	Non-Residential	Industrial	Other	Drives	Drives - Efficient grinding	0.21 kWh Savings	Standard
627	Non-Residential	Industrial	Other	Drives	Drives - Process control	0.05 kWh Savings	Standard
628	Non-Residential	Industrial	Other	Drives	Drives - Process optimization	0.1 kWh Savings	Standard

Non-residential Measures

Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace or Burnout, or New	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (Therms)
570	Compressed Air	Comp Air - Refinery Controls	10	1 kWh	RET	\$0.00	0.03	0.00	0.00
571	Compressed Air	Comp Air - Energy Star Transformers	25	1 kWh	RET	\$0.08	0.20	0.00	0.00
572	Fans	Fans - O&M	10	1 kWh	RET	\$0.00	0.02	0.00	0.00
573	Fans	Fans - Controls	10	1 kWh	RET	\$0.10	0.30	0.00	0.00
574	Fans	Fans - System Optimization	10	1 kWh	RET	\$0.07	0.21	0.00	0.00
575	Fans	Fans - Improve components	10	1 kWh	RET	\$0.01	0.05	0.00	0.00
576	Fans	Fans - Replace 1-5 HP motor	14.5	1 kWh	RET	\$0.06	0.06	0.00	0.00
577	Fans	Fans - ASD (1-5 hp)	14.5	1 kWh	RET	\$0.09	0.06	0.00	0.00
578	Fans	Fans - Motor practices-1 (1-5 HP)	14.5	1 kWh	RET	\$0.02	0.05	0.00	0.00
579	Fans	Fans - Replace 6-100 HP motor	10	1 kWh	RET	\$0.03	0.04	0.00	0.00
580	Fans	Fans - ASD (6-100 hp)	10	1 kWh	RET	\$0.00	0.06	0.00	0.00
581	Fans	Fans - Motor practices-1 (6-100 HP)	10	1 kWh	RET	\$0.01	0.02	0.00	0.00
582	Fans	Fans - Replace 100+ HP motor	6	1 kWh	RET	\$0.01	0.03	0.00	0.00
583	Fans	Fans - ASD (100+ hp)	6	1 kWh	RET	\$0.01	0.06	0.00	0.00
584	Fans	Fans - Motor practices-1 (100+ HP)	6	1 kWh	RET	\$0.00	0.02	0.00	0.00
585	Fans	Fans - Optimize drying process	10	1 kWh	RET	\$0.06	0.20	0.00	0.00
586	Fans	Fans - Power recovery	10	1 kWh	RET	\$0.00	0.01	0.00	0.00
587	Fans	Fans - Refinery Controls	10	1 kWh	RET	\$0.00	0.03	0.00	0.00
588	Pumps	Fans - Energy Star Transformers	25	1 kWh	RET	\$0.08	0.20	0.00	0.00
589	Pumps	Pumps - O&M	10	1 kWh	RET	\$0.01	0.10	0.00	0.00
590	Pumps	Pumps - Controls	10	1 kWh	RET	\$0.03	0.30	0.00	0.00
591	Pumps	Pumps - System Optimization	10	1 kWh	RET	\$0.07	0.33	0.00	0.00
592	Pumps	Pumps - Sizing	10	1 kWh	RET	\$0.02	0.20	0.00	0.00
593	Pumps	Pumps - Replace 1-5 HP motor	14.5	1 kWh	RET	\$0.06	0.06	0.00	0.00
594	Pumps	Pumps - ASD (1-5 hp)	14.5	1 kWh	RET	\$0.09	0.06	0.00	0.00
595	Pumps	Pumps - Motor practices-1 (1-5 HP)	14.5	1 kWh	RET	\$0.02	0.05	0.00	0.00
596	Pumps	Pumps - Replace 6-100 HP motor	10	1 kWh	RET	\$0.03	0.04	0.00	0.00
597	Pumps	Pumps - ASD (6-100 hp)	10	1 kWh	RET	\$0.00	0.06	0.00	0.00
598	Pumps	Pumps - Motor practices-1 (6-100 HP)	10	1 kWh	RET	\$0.01	0.02	0.00	0.00
599	Pumps	Pumps - Replace 100+ HP motor	6	1 kWh	RET	\$0.01	0.03	0.00	0.00
600	Pumps	Pumps - ASD (100+ hp)	6	1 kWh	RET	\$0.01	0.06	0.00	0.00
601	Pumps	Pumps - Motor practices-1 (100+ HP)	6	1 kWh	RET	\$0.00	0.02	0.00	0.00
602	Pumps	Pumps - Power recovery	10	1 kWh	RET	\$0.00	0.01	0.00	0.00
603	Pumps	Pumps - Refinery Controls	10	1 kWh	RET	\$0.00	0.03	0.00	0.00
604	Pumps	Pumps - Energy Star Transformers	25	1 kWh	RET	\$0.08	0.20	0.00	0.00
605	Drives	Pumps - Battery - Process (Mixing) - O&M	10	1 kWh	RET	\$0.01	0.10	0.00	0.00
606	Drives	Drives - O&M/drives spinning machines	14	1 kWh	RET	\$0.04	0.16	0.00	0.00
607	Drives	Drives - Air conveying systems	10	1 kWh	RET	\$0.04	0.41	0.00	0.00
608	Drives	Drives - Replace V-Belts	10	1 kWh	RET	\$0.01	0.06	0.00	0.00
609	Drives	Drives - Drives - EE motor	20	1 kWh	RET	\$0.01	0.03	0.00	0.00
610	Drives	Drives - Gap Forming papermachine	20	1 kWh	RET	\$0.01	0.08	0.00	0.00
611	Drives	Drives - High Consistency forming	20	1 kWh	RET	\$0.01	0.08	0.00	0.00
612	Drives	Drives - Optimization control PM	10	1 kWh	RET	\$0.01	0.05	0.00	0.00
613	Drives	Drives - Efficient practices printing press	20	1 kWh	RET	\$0.01	0.10	0.00	0.00
614	Drives	Drives - Efficient practices printing press (fewer cylinders)	10	1 kWh	RET	\$0.07	0.20	0.00	0.00
615	Drives	Drives - Light cylinders	10	1 kWh	RET	\$0.08	0.10	0.00	0.00
616	Drives	Drives - Efficient drives	10	1 kWh	RET	\$0.01	0.04	0.00	0.00
617	Drives	Drives - Clean Room - Controls	10	1 kWh	RET	\$0.02	0.10	0.00	0.00
618	Drives	Drives - Clean Room - New Designs	10	1 kWh	RET	\$0.15	0.30	0.00	0.00
619	Drives	Drives - Process Controls (batch + site)	10	1 kWh	RET	\$0.03	0.05	0.00	0.00
620	Drives	Drives - Process Drives - ASD	10	1 kWh	RET	\$0.00	0.01	0.00	0.00
621	Drives	Drives - O&M - Extruder/injection Moulding	12	1 kWh	RET	\$0.01	0.10	0.00	0.00
622	Drives	Drives - Extruders/injection Moulding-multipump	12	1 kWh	RET	\$0.11	0.30	0.00	0.00
623	Drives	Drives - Direct drive Extruders	12	1 kWh	RET	\$0.08	0.50	0.00	0.00
624	Drives	Drives - Injection Moulding - Impulse Cooling	12	1 kWh	RET	\$0.08	0.21	0.00	0.00
625	Drives	Drives - Injection Moulding - Direct drive	15	1 kWh	RET	\$0.11	0.20	0.00	0.00
626	Drives	Drives - Efficient grinding	12	1 kWh	RET	\$0.26	0.21	0.00	0.00
627	Drives	Drives - Process control	10	1 kWh	RET	\$0.00	0.04	0.00	0.00
628	Drives	Drives - Process optimization	10	1 kWh	RET	\$0.03	0.10	0.00	0.00

Measure #	Technology Type	Efficient Measure	Measure TRC	Passed Measure Screening?	Total Sub-Sector Units	Measure Units per Sub-Sector Unit	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program	
570	Compressed Air	Comp Air - Refinery Controls	2.97	1	1405989	1	100%	47%	97%	100%	634657	Industrial	
571	Compressed Air	Comp Air - Energy Star Transformers	2.26	1	5562638	1	2%	47%	40%	100%	208673	Industrial	
572	Fans	Fans - O&M	8.92	1	72699887	1	100%	47%	50%	100%	16837450	Industrial	
573	Fans	Fans - Controls	1.45	1	72699887	1	100%	47%	25%	100%	8468725	Industrial	
574	Fans	Fans - System Optimization	1.57	1	72699887	1	100%	47%	15%	100%	5081235	Industrial	
575	Fans	Fans - Improve components	4.46	1	72699887	1	100%	47%	20%	100%	6774980	Industrial	
576	Fans	Fans - Replace 1.5 HP motor	0.62	0	5836018	1							
577	Fans	Fans - ASD (1-5 hp)	0.48	0	5836018	1							
578	Fans	Fans - Replace 6-100 HP motor	1.31	0	5836018	1	5%	47%	100%	100%	130628	Industrial	
579	Fans	Fans - ASD (6-100 hp)	0.53	0	53881785	1							
580	Fans	Fans - ASD (16-100 HP)	11.23	0	53881785	1	36%	47%	100%	100%	8913143	Industrial	
581	Fans	Fans - Replace 100 HP motor	2.03	1	53881785	1	36%	47%	100%	100%	8913143	Industrial	
582	Fans	Fans - Replace 100 HP motor	1.17	1	13281984	1	59%	47%	100%	100%	3665900	Industrial	
583	Fans	Fans - Motor practices-1 (100+ HP)	3.22	1	13281984	1	59%	47%	100%	100%	3665900	Industrial	
584	Fans	Fans - Optimize drying process	2.02	1	1074169	1	100%	47%	97%	100%	3869948	Industrial	
585	Fans	Fans - Power recovery	1.78	1	1074169	1	100%	47%	97%	100%	484870	Industrial	
586	Fans	Fans - Refinery Controls	1.49	1	873203	1	100%	47%	95%	100%	387802	Industrial	
587	Fans	Fans - Refinery Star Transformers	2.97	1	873203	1	100%	47%	97%	100%	394160	Industrial	
588	Pumps	Pumps - O&M	2.26	1	72699887	1	2%	47%	40%	100%	270969	Industrial	
589	Pumps	Pumps - Controls	8.92	1	57673721	1	100%	47%	40%	100%	10746981	Industrial	
590	Pumps	Pumps - System Optimization	4.96	1	57673721	1	100%	47%	40%	100%	10746981	Industrial	
591	Pumps	Pumps - Sizing	2.23	1	57673721	1	100%	47%	35%	100%	9405708	Industrial	
592	Pumps	Pumps - Replace 1-5 HP motor	4.46	1	57673721	1	100%	47%	30%	100%	8062036	Industrial	
593	Pumps	Pumps - ASD (1-5 hp)	0.62	0	2728526	1							
594	Pumps	Pumps - Replace 6-100 HP motor	0.48	0	2728526	1							
595	Pumps	Pumps - ASD (6-100 hp)	1.31	0	2728526	1	5%	47%	100%	100%	61026	Industrial	
596	Pumps	Pumps - Motor practices-1 (1-5 HP)	0.53	0	26483177	1	36%	47%	100%	100%	4405384	Industrial	
597	Pumps	Pumps - Replace 100+ HP motor	11.23	1	26483177	1	36%	47%	100%	100%	4405384	Industrial	
598	Pumps	Pumps - ASD (6-100 HP)	2.03	1	26483177	1	59%	47%	38%	100%	286474	Industrial	
599	Pumps	Pumps - Replace 100+ HP motor	1.01	1	29462018	1	59%	47%	100%	100%	7864405	Industrial	
600	Pumps	Pumps - ASD (100+ hp)	3.22	1	29462018	1	59%	47%	100%	100%	7864405	Industrial	
601	Pumps	Pumps - Motor practices-1 (100+ HP)	2.02	1	29462018	1	100%	47%	95%	100%	2412800	Industrial	
602	Pumps	Pumps - Power recovery	1.49	1	5432827	1	100%	47%	97%	100%	2462354	Industrial	
603	Pumps	Pumps - Refinery Controls	2.97	1	5432827	1	2%	47%	40%	100%	214988	Industrial	
604	Pumps	Pumps - Energy Star Transformers	2.26	1	57673721	1	100%	47%	98%	100%	406663	Industrial	
605	Drives	Drives - Bakery - Process (Mixing) - O&M	8.92	1	869207	1	60%	47%	95%	100%	1176731	Industrial	
606	Drives	Drives - Air conveying systems	2.53	1	869207	1	47%	47%	97%	100%	35924648	Industrial	
607	Drives	Drives - Paper Mills	0.42	1	884684	1	70%	47%	89%	100%	47182535	Industrial	
608	Drives	Drives - Paper Mills	2.38	1	13860480	1	100%	47%	94%	100%	0	0	
609	Drives	Drives - Paper Mills	7.14	1	0	1	100%	47%	94%	100%	0	0	
610	Drives	Drives - Gap Forming Extruder	7.14	1	0	1	100%	47%	97%	100%	0	0	
611	Drives	Drives - High Consistency forming	1.78	1	0	1	100%	47%	97%	100%	0	0	
612	Drives	Drives - Optimization control PM	1.49	1	0	1	100%	47%	97%	100%	0	0	
613	Drives	Drives - Efficient printing press (fewer cylinders)	1.78	1	6284351	1	100%	47%	95%	100%	269727	Industrial	
614	Drives	Drives - Light cylinders	0.64	0	6284351	1	100%	47%	95%	100%	2781823	Industrial	
615	Drives	Drives - Efficient drives	2.79	1	6284351	1	100%	47%	96%	100%	2800125	Industrial	
616	Drives	Drives - Clean Room - Controls	2.03	1	6284351	1	45%	47%	94%	100%	10878510	Industrial	
617	Drives	Drives - Clean Room - New Designs	1.02	1	55340128	1	30%	47%	95%	100%	7349038	Industrial	
618	Drives	Drives - Process Controls (batch + site)	0.93	0	55340128	1	55%	47%	97%	100%	52256861	Industrial	
619	Drives	Drives - Process Drives - ASD	1.44	0	61417349	1	100%	47%	95%	100%	0	0	
620	Drives	Drives - Extruders/Injection Moulding	10.29	1	210482160	1	100%	47%	95%	100%	0	0	
621	Drives	Drives - O&M - Extruders/Injection Moulding	1.56	0	0	1							
622	Drives	Drives - Extruders/Injection Moulding	0.84	0	0	1							
623	Drives	Drives - Direct drive Extruders	1.56	0	0	1	50%	47%	95%	100%	0	0	
624	Drives	Drives - Injection Moulding - Impulse Cooling	1.06	1	0	1	50%	47%	95%	100%	0	0	
625	Drives	Drives - Injection Moulding - Direct drive	0.55	0	5700247	1	100%	47%	97%	100%	6101841	Industrial	
626	Drives	Drives - Efficient grinding	7.81	1	1351728	1	25%	47%	95%	100%	1500956	Industrial	
627	Drives	Drives - Process control	1.49	1	1351728	1							
628	Drives	Drives - Process optimization		1	1351728	1							

Non-residential Measures

Non-residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
570	Compressed Air	Comp Air - Refinery Controls	KEMA	ICF	KEMA	KEMA	KEMA
571	Compressed Air	Comp Air - Energy Star Transformers	KEMA	ICF	KEMA	KEMA	KEMA
572	Fans	Fans - O&M	KEMA	ICF	KEMA	KEMA	KEMA
573	Fans	Fans - Controls	KEMA	ICF	KEMA	KEMA	KEMA
574	Fans	Fans - System Optimization	KEMA	ICF	KEMA	KEMA	KEMA
575	Fans	Fans - Improve components	KEMA	ICF	KEMA	KEMA	KEMA
576	Fans	Fans - Replace 1-5 HP motor	KEMA	ICF	KEMA	KEMA	KEMA
577	Fans	Fans - ASD (1-5 hp)	KEMA	ICF	KEMA	KEMA	KEMA
578	Fans	Fans - Motor practices-1 (1-5 HP)	KEMA	ICF	KEMA	KEMA	KEMA
579	Fans	Fans - Replace 6-100 HP motor	KEMA	ICF	KEMA	KEMA	KEMA
580	Fans	Fans - ASD (6-100 hp)	KEMA	ICF	KEMA	KEMA	KEMA
581	Fans	Fans - Motor practices-1 (6-100 HP)	KEMA	ICF	KEMA	KEMA	KEMA
582	Fans	Fans - Replace 100+ HP motor	KEMA	ICF	KEMA	KEMA	KEMA
583	Fans	Fans - ASD (100+ hp)	KEMA	ICF	KEMA	KEMA	KEMA
584	Fans	Fans - Motor practices-1 (100+ HP)	KEMA	ICF	KEMA	KEMA	KEMA
585	Fans	Fans - Optimize drying process	KEMA	ICF	KEMA	KEMA	KEMA
586	Fans	Fans - Power recovery	KEMA	ICF	KEMA	KEMA	KEMA
587	Fans	Fans - Refinery Controls	KEMA	ICF	KEMA	KEMA	KEMA
588	Pumps	Fans - Energy Star Transformers	KEMA	ICF	KEMA	KEMA	KEMA
589	Pumps	Pumps - O&M	KEMA	ICF	KEMA	KEMA	KEMA
590	Pumps	Pumps - Controls	KEMA	ICF	KEMA	KEMA	KEMA
591	Pumps	Pumps - System Optimization	KEMA	ICF	KEMA	KEMA	KEMA
592	Pumps	Pumps - Sizing	KEMA	ICF	KEMA	KEMA	KEMA
593	Pumps	Pumps - Replace 1-5 HP motor	KEMA	ICF	KEMA	KEMA	KEMA
594	Pumps	Pumps - ASD (1-5 hp)	KEMA	ICF	KEMA	KEMA	KEMA
595	Pumps	Pumps - Motor practices-1 (1-5 HP)	KEMA	ICF	KEMA	KEMA	KEMA
596	Pumps	Pumps - Replace 6-100 HP motor	KEMA	ICF	KEMA	KEMA	KEMA
597	Pumps	Pumps - ASD (6-100 hp)	KEMA	ICF	KEMA	KEMA	KEMA
598	Pumps	Pumps - Motor practices-1 (6-100 HP)	KEMA	ICF	KEMA	KEMA	KEMA
599	Pumps	Pumps - Replace 100+ HP motor	KEMA	ICF	KEMA	KEMA	KEMA
600	Pumps	Pumps - ASD (100+ hp)	KEMA	ICF	KEMA	KEMA	KEMA
601	Pumps	Pumps - Motor practices-1 (100+ HP)	KEMA	ICF	KEMA	KEMA	KEMA
602	Pumps	Pumps - Power recovery	KEMA	ICF	KEMA	KEMA	KEMA
603	Pumps	Pumps - Refinery Controls	KEMA	ICF	KEMA	KEMA	KEMA
604	Pumps	Pumps - Energy Star Transformers	KEMA	ICF	KEMA	KEMA	KEMA
605	Drives	Drives - Bakery - Process (Mixing) - O&M	KEMA	ICF	KEMA	KEMA	KEMA
606	Drives	Drives - O&M/drives spinning machines	KEMA	ICF	KEMA	KEMA	KEMA
607	Drives	Drives - Air conveying systems	KEMA	ICF	KEMA	KEMA	KEMA
608	Drives	Drives - Replace V-Belts	KEMA	ICF	KEMA	KEMA	KEMA
609	Drives	Drives - Drives - EE motor	KEMA	ICF	KEMA	KEMA	KEMA
610	Drives	Drives - Gap Forming paper machine	KEMA	ICF	KEMA	KEMA	KEMA
611	Drives	Drives - High Consistency forming	KEMA	ICF	KEMA	KEMA	KEMA
612	Drives	Drives - Optimization control PM	KEMA	ICF	KEMA	KEMA	KEMA
613	Drives	Drives - Efficient practices printing press	KEMA	ICF	KEMA	KEMA	KEMA
614	Drives	Drives - Efficient Printing press (fewer cylinders)	KEMA	ICF	KEMA	KEMA	KEMA
615	Drives	Drives - Light cylinders	KEMA	ICF	KEMA	KEMA	KEMA
616	Drives	Drives - Efficient drives	KEMA	ICF	KEMA	KEMA	KEMA
617	Drives	Drives - Clean Room - Controls	KEMA	ICF	KEMA	KEMA	KEMA
618	Drives	Drives - Clean Room - New Designs	KEMA	ICF	KEMA	KEMA	KEMA
619	Drives	Drives - Drives - Process Controls (batch + site)	KEMA	ICF	KEMA	KEMA	KEMA
620	Drives	Drives - Process Drives - ASD	KEMA	ICF	KEMA	KEMA	KEMA
621	Drives	Drives - O&M - Extruders/injection Moulding	KEMA	ICF	KEMA	KEMA	KEMA
622	Drives	Drives - Extruders/injection Moulding-multipump	KEMA	ICF	KEMA	KEMA	KEMA
623	Drives	Drives - Direct drive Extruders	KEMA	ICF	KEMA	KEMA	KEMA
624	Drives	Drives - Injection Moulding - Impulse Cooling	KEMA	ICF	KEMA	KEMA	KEMA
625	Drives	Drives - Injection Moulding - Direct drive	KEMA	ICF	KEMA	KEMA	KEMA
626	Drives	Drives - Efficient grinding	KEMA	ICF	KEMA	KEMA	KEMA
627	Drives	Drives - Process control	KEMA	ICF	KEMA	KEMA	KEMA
628	Drives	Drives - Process optimization	KEMA	ICF	KEMA	KEMA	KEMA



Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace on Burnout, or New	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (Therms)
629	Drives	Drives - Drives - Process Control	15	1 kWh	RET	\$0.02	0.05	0.00	0.00
630	Drives	Drives - Efficient drives - rolling	10	1 kWh	RET	\$0.01	0.06	0.00	0.00
631	Drives	Drives - Optimization process (M&T)	10	1 kWh	RET	\$0.01	0.10	0.00	0.00
632	Drives	Drives - Drives - Scheduling	10	1 kWh	RET	\$0.01	0.05	0.00	0.00
633	Drives	Drives - Machinery	10	1 kWh	RET	\$0.01	0.04	0.00	0.00
634	Drives	Drives - Efficient Machinery	10	1 kWh	RET	\$0.01	0.04	0.00	0.00
635	Drives	Drives - Energy Star Transformers	25	1 kWh	RET	\$0.08	0.20	0.00	0.00
636	Large Commercial	Energy Efficient Copier	6	per building	NEW	\$0.01	19857.49	3.18	0.00
637	Large Commercial	Copier Standby	6	per building	NEW	\$0.01	44679.36	7.16	0.00
638	Large Commercial	Energy Efficient Computers	4	per building	NEW	\$0.01	198574.94	31.83	0.00
639	Large Commercial	Ground Source Heat Pump - Closed Loop	15	per building	NEW	\$37,172.32	26928.30	7.57	0.00
640	Large Commercial	Ground Source Heat Pump - Open Loop	15	per building	NEW	\$37,172.32	30911.63	7.85	0.00
641	Large Commercial	Water Loop Heat Pump	15	per building	NEW	\$16,657.41	112030.16	17.90	0.00
642	Large Commercial	High Efficiency Chiller with Variable Frequency Drive	23	per building	NEW	\$2,599.51	166501.22	26.87	0.00
643	Large Commercial	Energy Management System	7	per building	NEW	\$20,807.67	245390.71	48.96	0.00
644	Large Commercial	Heat Pump Water Heaters	14	per building	NEW	\$1,409.00	9730.55	1.56	0.00
645	Large Commercial	Building Commissioning	8	per building	NEW	\$53,230.68	247863.98	39.74	0.00
646	Large Commercial	ENERGY STAR Office Equipment Bundle	4	per building	NEW	\$0.01	245975.06	39.43	0.00
647	Large Commercial	Advanced New Buildings 40%	30	0	NEW	\$179,376.48	511446.31	87.03	0.00
648	Large Commercial	Demand Controlled Ventilation	10	Building	RET	\$7,623.00	161624.35	27.50	0.00
649	Large Commercial	Ground Source Heat Pump - Closed Loop	15	per building	RET	\$52,203.84	99837.88	16.99	0.00
650	Large Commercial	Ground Source Heat Pump - Open Loop	15	per building	RET	\$52,203.84	114606.24	19.50	0.00
651	Large Commercial	Water Loop Heat Pump	15	per building	RET	\$31,688.93	68222.20	10.84	0.00
652	Large Commercial	High Efficiency Chiller with Variable Frequency Drive	23	per building	RET	\$7,275.22	232559.82	34.22	0.00
653	Large Commercial	Energy Management System	7	per building	RET	\$20,807.67	273293.75	56.14	0.00
654	Large Commercial	Differential-Enthalpy Economizer	10	per building	RET	\$3,500.00	60049.57	0.00	0.00
655	Large Commercial	Heat Pump Water Heaters	14	per building	RET	\$1,860.00	9164.98	1.56	0.00
656	Large Commercial	Building Retro-commissioning	8	per building	RET	\$21,525.18	287332.17	48.90	0.00
657	Large Commercial	Lighting Dimmers	11	Building	RET	\$1,272.00	107749.56	18.34	0.00
658	Large Commercial	High-Efficiency Area and Traffic Lighting	11	Building	RET	\$6,729.23	251415.65	42.78	0.00
659	All	Custom Project	15	0	RET	\$50,000.00	209833.52	33.43	0.00
660	Large Commercial	Energy Efficient Copier	6	per building	ROB	\$12.00	35968.70	6.10	0.00
661	Large Commercial	Copier Standby	6	per building	ROB	\$33.00	61047.13	10.39	0.00
662	Large Commercial	Energy Efficient Computers	4	per building	ROB	\$12.00	280712.73	47.77	0.00
663	Large Commercial	ENERGY STAR Office Equipment Bundle	4	per building	ROB	\$0.01	368943.94	64.63	0.00
664	Small Commercial	Energy Efficient Copier	6	per building	NEW	\$0.01	195.31	0.03	0.00
665	Small Commercial	Copier Standby	4	per building	NEW	\$0.01	488.28	0.09	0.00
666	Small Commercial	Energy Efficient Computers	4	per building	NEW	\$0.01	1464.83	0.26	0.00
667	DX Coils with Gas Furnace	Energy Efficient Copier	15	sq. ft.	NEW	\$0.10	0.04	0.00	0.00
668	DX Coils with Gas Furnace	Cool Roofs (small comm only) - DX Coils w/ furnace - paint roof	15	sq. ft.	NEW	\$0.10	0.07	0.00	0.00
669	Heat Pump	Cool Roofs (small comm only) - DX Coils w/ furnace - metal roof	15	sq. ft.	NEW	\$0.10	0.01	0.00	0.00
670	Heat Pump	Cool Roofs (small comm only) - Heat pump - paint roof	15	sq. ft.	NEW	\$0.10	0.02	0.00	0.00
671	Electric Resistance	Cool Roofs (small comm only) - Heat pump - metal roof	15	sq. ft.	NEW	\$0.10	0.02	0.00	0.00
672	Electric Resistance	Cool Roofs (small comm only) - Electric resistance - paint roof	15	sq. ft.	NEW	\$0.10	0.04	0.00	0.00
673	DX Coils with Gas Furnace	Cool Roofs (small comm only) - Electric resistance - metal roof	15	sq. ft.	NEW	\$0.10	0.04	0.00	0.00
674	Heat Pump	Duct Efficiency Improvement (small comm) - DX Coils w/ Furnace	18	per CFM reduction	NEW	\$1.83	1.20	0.00	0.00
675	Electric Resistance	Duct Efficiency Improvement (small comm) - Heat pump	18	per CFM reduction	NEW	\$1.83	3.28	0.00	0.00
676	DX Coils with Gas Furnace	Duct Efficiency Improvement (small comm) - Electric Resistance	18	per CFM reduction	NEW	\$1.83	2.53	0.00	0.00
677	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	10	sq. ft. of Window	NEW	\$50.29	4.76	0.00	0.00
678	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	10	sq. ft. of Window	NEW	\$50.29	1.43	0.00	0.00
679	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	10	sq. ft. of Window	NEW	\$50.29	2.54	0.00	0.00
680	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	10	sq. ft. of Window	NEW	\$50.29	4.19	0.00	0.00
681	Small Commercial	Window Awnings (small comm) - DX Coils with Gas Furnace	10	sq. ft. of Window	NEW	\$50.29	1.94	0.00	0.00
682	Small Commercial	Ground Source Heat Pump - Closed Loop	15	per building	NEW	\$10,057.49	24844.53	8.82	0.00
683	Small Commercial	Ground Source Heat Pump - Open Loop	15	per building	NEW	\$10,057.49	27665.60	9.90	0.00
684	Small Commercial	Energy Management System	7	per building	NEW	\$2,127.41	5257.29	1.31	0.00
685	Small Commercial	Heat Pump Water Heaters	14	per building	NEW	\$1,409.00	266.12	0.05	0.00
686	Small Commercial	Building Commissioning	8	per building	NEW	\$8,509.63	6778.92	1.19	0.00
687	AC	Split System and Single-Package A/C (5.41 - 11.25 tons)	8	per ton	NEW	\$120.00	190.88	0.05	0.00

Non-residential Measures

Measure #	Technology Type	Efficient Measure	Measure TRC	Passed Measure Screening?	Total Sub-Sector Units	Measure Units per Sub-Sector Unit	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
629	Drives	Drives - Process Control	2.01	1	0	1	100%	47%	97%	100%	0	Industrial
630	Drives	Drives - Efficient drives - rolling	2.79	1	0	1	100%	47%	97%	100%	0	Industrial
631	Drives	Drives - Optimization process (M&T)	5.68	1	6985120	1	40%	47%	87%	100%	1131030	Industrial
632	Drives	Drives - Scheduling	2.37	1	49847884	1	40%	47%	74%	100%	6865696	Industrial
633	Drives	Drives - Machinery	2.50	1	6985120	1	50%	47%	76%	100%	1240878	Industrial
634	Drives	Drives - Efficient Machinery	2.48	1	42862764	1	50%	47%	95%	100%	9540202	Industrial
635	Drives	Drives - Energy Star Transformers	2.26	1	113894880	1	2%	47%	40%	100%	423815	Industrial
636	Large Commercial	Energy Efficient Copier	69599.45	0	90	1						
637	Large Commercial	Energy Efficient Copier	156076.27	0	90	1						
638	Large Commercial	Energy Efficient Computers	4894658.10	0	90	1						
639	Large Commercial	Ground Source Heat Pump - Closed Loop	0.66	0	90	1						
640	Large Commercial	Ground Source Heat Pump - Open Loop	0.72	0	90	1						
641	Large Commercial	Water Loop Heat Pump	0.12	0	90	1						
642	Large Commercial	High Efficiency Chiller with Variable Frequency Drive	5.11	0	90	1	4%	100%	100%	100%	4	Large Commercial Energy Solutions
643	Large Commercial	Energy Efficient Copier	5.69	0	90	1	25%	85%	100%	100%	19	Commercial Buildings Energy Management
644	Large Commercial	Heat Pump Water Heaters	4.77	1	90	1	14%	100%	100%	100%	12	Commercial Building Energy Management
645	Large Commercial	Building Commissioning	1.33	1	90	1	25%	100%	100%	100%	23	Commercial Building Energy Management
646	Large Commercial	ENERGY STAR Office Equipment Bundle	6056578.70	0	90	1						
647	Large Commercial	Advanced New Buildings 40%	2.93	0	3220	1	100%	60%	100%	100%	54	Commercial New Construction
648	Large Commercial	Demand Controlled Ventilation	11.65	0	3220	1	30%	20%	80%	100%	155	Large Commercial Energy Solutions
649	Large Commercial	Ground Source Heat Pump - Closed Loop	1.41	0	3220	1						
650	Large Commercial	Ground Source Heat Pump - Open Loop	1.62	0	3220	1						
651	Large Commercial	Water Loop Heat Pump	1.55	0	3220	1						
652	Large Commercial	High Efficiency Chiller with Variable Frequency Drive	28.47	1	3220	1	4%	100%	70%	100%	96	Large Commercial Energy Solutions
653	Large Commercial	Energy Management System	5.77	1	3220	1	25%	85%	75%	100%	513	Commercial Building Energy Management
654	Large Commercial	Differential-Enthalpy Economizer	4.36	1	3220	1	4%	100%	70%	100%	96	Large Commercial Energy Solutions
655	Large Commercial	Heat Pump Water Heaters	3.47	1	3220	1	14%	100%	100%	100%	441	Large Commercial Energy Solutions
656	Large Commercial	Building Retro-commissioning	6.09	1	3220	1	75%	25%	95%	100%	574	Commercial Building Energy Management
657	Large Commercial	Lighting Dimmers	50.16	1	3220	1	5%	15%	95%	100%	23	Large Commercial Energy Solutions
658	Large Commercial	High-Efficiency Area and Traffic Lighting	22.12	1	3220	1	5%	25%	75%	100%	30	Large Commercial Energy Solutions
659	All	Custom Project	3.03	0	3220	1						
660	Large Commercial	Energy Efficient Copier	1069.24	0	3220	38	3%	10%	100%	17%	63	Large Commercial Energy Solutions
661	Large Commercial	Copier Standby	661.75	1	3220	38	3%	10%	100%	17%	63	Large Commercial Energy Solutions
662	Large Commercial	Energy Efficient Computers	5902.97	0	3220	760	3%	1%	100%	25%	95	Large Commercial Energy Solutions
663	Large Commercial	ENERGY STAR Office Equipment Bundle	9612821.26	0	3220	1						
664	Small Commercial	Energy Efficient Copier	7080.24	0	322	1						
665	Small Commercial	Copier Standby	17700.60	0	322	1						
666	Small Commercial	Energy Efficient Computers	37472.76	0	322	1						
667	Small Commercial	Energy Efficient Computers	14.24	0	322	7336						
668	DX Coils with Gas Furnace	Cool Roofs (small comm only) - DX Coils w/ furnace - paint roof	0.76	0	322	7336						
669	DX Coils with Gas Furnace	Cool Roofs (small comm only) - DX w/ furnace - metal roof	0.76	0	322	7336						
670	Heat Pump	Cool Roofs (small comm only) - Heat pump - metal roof	0.31	0	322	7336						
671	Electric Resistance	Cool Roofs (small comm only) - Heat pump - metal roof	0.56	0	322	7336						
672	Electric Resistance	Cool Roofs (small comm only) - Electric resistance - metal roof	0.36	0	322	7336						
673	DX Coils with Gas Furnace	Cool Roofs (small comm only) - Electric resistance - metal roof	0.65	0	322	7336						
674	Heat Pump	Duct Efficiency Improvement (small comm) - DX Coils w/ Furnace	1.43	1	322	550	60%	100%	100%	100%	106391	Small Commercial Energy Solutions
675	Electric Resistance	Duct Efficiency Improvement (small comm) - Heat Pump	2.23	1	322	550	15%	100%	100%	100%	26598	Small Commercial Energy Solutions
676	DX Coils with Gas Furnace	Duct Efficiency Improvement (small comm) - Electric Resistance	2.01	1	322	550	25%	100%	100%	100%	44329	Small Commercial Energy Solutions
677	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	0.07	0	322	122						
678	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	0.05	0	322	122						
679	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	0.06	0	322	122						
680	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	0.09	0	322	122						
681	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	0.07	0	322	122						
682	Small Commercial	Window Awnings (small comm) - DX Coils with Gas Furnace	0.08	0	322	122						
683	Small Commercial	Window Awnings (small comm) - DX Coils with Gas Furnace	2.62	0	322	1						
684	Small Commercial	Ground Source Heat Pump - Closed Loop	2.83	0	322	1						
685	Small Commercial	Energy Management System	1.19	0	322	1	75%	15%	100%	100%	36	Commercial Building Energy Management
686	Small Commercial	Heat Pump Water Heaters	0.13	0	322	1						
687	Small Commercial	Building Commissioning	0.37	0	322	1						
687	AC	Split System and Single-Package A/C (5.41 - 11.25 tons)	0.89	1	322	8	30%	100%	100%	100%	773	Small Commercial Energy Solutions



Non-residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
629	Drives	Drives - Drives - Process Control	KEMA	ICF			
630	Drives	Drives - Efficient drives - rolling	KEMA	ICF			
631	Drives	Drives - Optimization process (M&T)	KEMA	ICF	KEMA	KEMA	KEMA
632	Drives	Drives - Drives - Scheduling	KEMA	ICF	KEMA	KEMA	KEMA
633	Drives	Drives - Machinery	KEMA	ICF	KEMA	KEMA	KEMA
634	Drives	Drives - Efficient Machinery	KEMA	ICF	KEMA	KEMA	KEMA
635	Drives	Drives - Energy Star Transformers	ICF	ICF			
636	Large Commercial	Energy Efficient Copier	ICF	ICF			
637	Large Commercial	Copier Standby	ICF	ICF			
638	Large Commercial	Energy Efficient Computers	ICF	ICF			
639	Large Commercial	Ground Source Heat Pump - Closed Loop	ICF	ICF			
640	Large Commercial	Ground Source Heat Pump - Open Loop	ICF	ICF			
641	Large Commercial	Water Loop Heat Pump	ICF	ICF			
642	Large Commercial	High Efficiency Chiller with Variable Frequency Drive	ICF	ICF	Entergy, CBECS	ICF	ICF
643	Large Commercial	Energy Management System	NBCIP	ICF	ICF	ICF	ICF
644	Large Commercial	Heat Pump Water Heaters	ICF	ICF			
645	Large Commercial	Building Commissioning	Lawrence Berkeley Lab	ICF			
646	Large Commercial	ENERGY STAR Office Equipment Bundle	ICF	ICF			
647	Large Commercial	Advanced New Buildings 40%	ICF	ICF	Entergy, CBECS	ICF	ICF
648	Large Commercial	Demand Controlled Ventilation	ICF	ICF	Entergy, CBECS	ICF	ICF
649	Large Commercial	Ground Source Heat Pump - Closed Loop	ICF	ICF			
650	Large Commercial	Ground Source Heat Pump - Open Loop	ICF	ICF			
651	Large Commercial	Water Loop Heat Pump	ICF	ICF			
652	Large Commercial	High Efficiency Chiller with Variable Frequency Drive	ICF	ICF	Entergy, CBECS	ICF	ICF
653	Large Commercial	Energy Management System	NBCIP	ICF	Entergy, CBECS	ICF	ICF
654	Large Commercial	Differential-Enthalpy Economizer	ICF	ICF			
655	Large Commercial	Heat Pump Water Heaters	ICF	ICF			
656	Large Commercial	Building Retro-commissioning	Lawrence Berkeley Lab	ICF	Entergy, CBECS	ICF	ICF
657	Large Commercial	Lighting Dimmers	ICF	ICF	Entergy, CBECS	ICF	ICF
658	Large Commercial	High-Efficiency Area and Traffic Lighting	ICF	ICF	Entergy, CBECS	ICF	ICF
659	All	Custom Project	ICF	ICF			
660	Large Commercial	Energy Efficient Copier	ICF	ICF			
661	Large Commercial	Copier Standby	ICF	ICF			
662	Large Commercial	Energy Efficient Computers	ICF	ICF			
663	Large Commercial	ENERGY STAR Office Equipment Bundle	ICF	ICF			
664	Small Commercial	Energy Efficient Copier	ICF	ICF			
665	Small Commercial	Copier Standby	ICF	ICF			
666	Small Commercial	Energy Efficient Computers	ICF	ICF			
667	DX Coils with Gas Furnace	Cool Roofs (small comm only) - DX Coils w/ furnace - paint roof	ICF	ICF			
668	DX Coils with Gas Furnace	Cool Roofs (small comm only) - DX Coils w/ furnace - metal roof	ICF	ICF			
669	Heat Pump	Cool Roofs (small comm only) - Heat pump - paint roof	ICF	ICF			
670	Heat Pump	Cool Roofs (small comm only) - Heat pump - metal roof	ICF	ICF			
671	Electric Resistance	Cool Roofs (small comm only) - Electric resistance - paint roof	ICF	ICF			
672	Electric Resistance	Cool Roofs (small comm only) - Electric resistance - metal roof	ICF	ICF			
673	DX Coils with Gas Furnace	Duct Efficiency Improvement (small comm) - DX Coils w/ Furnace	ICF	ICF			
674	Heat Pump	Duct Efficiency Improvement (small comm) - Heat pump	ICF	ICF			
675	Electric Resistance	Duct Efficiency Improvement (small comm) - Electric Resistance	ICF	ICF	Entergy, CBECS	ICF	ICF
676	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	ICF	ICF	Entergy, CBECS	ICF	ICF
677	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	ICF	ICF	Entergy, CBECS	ICF	ICF
678	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	ICF	ICF	Entergy, CBECS	ICF	ICF
679	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	ICF	ICF	Entergy, CBECS	ICF	ICF
680	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	ICF	ICF	Entergy, CBECS	ICF	ICF
681	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	ICF	ICF	Entergy, CBECS	ICF	ICF
682	Small Commercial	Ground Source Heat Pump - Closed Loop	ICF	ICF			
683	Small Commercial	Ground Source Heat Pump - Open Loop	ICF	ICF			
684	Small Commercial	Energy Management System	NBCIP	ICF			
685	Small Commercial	Heat Pump Water Heaters	ICF	ICF			
686	Small Commercial	Building Commissioning	ICF	ICF			
687	AC	Split System and Single-Package A/C (5.41 - 11.25 tons)	Lawrence Berkeley Lab Frontier - 2009 ENO Deemed Savings	ICF	Entergy, CBECS	ICF	ICF



Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace or Burnout, or New	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (Therms)
688	AC	Split System and Single-Package AC (11.25 - 20 tons)	15	per ton	NEW	\$120.00	138.15	0.06	0.00
689	AC	Split System and Single-Package HP (5.4 T - 11.25 tons)	8	per ton	NEW	\$120.00	216.66	0.09	0.00
690	AC	Split System and Single-Package HP (11.25 - 20 tons)	15	per ton	NEW	\$120.00	152.48	0.10	0.00
691	AC	Split System and Single-Package HP (5.4 T - 11.25 tons)	8	per ton	NEW	\$120.00	240.18	0.09	0.00
692	AC	Split System and Single-Package HP (11.25 - 20 tons)	15	per ton	NEW	\$120.00	166.23	0.10	0.00
693	Small Commercial	ENERGY STAR Office Equipment Bundle	4	per building	NEW	\$0.01	347.93	0.60	0.00
694	Small Commercial	Advanced New Buildings 40%	30	0	NEW	\$18,335.71	48374.02	11.29	0.00
695	DX Coils with Gas Furnace	Ceiling Insulation(small comm) - DX Coils with Gas Furnace	20	sq. ft.	RET	\$0.90	0.43	0.00	0.00
696	DX Coils with Gas Furnace	Ceiling Insulation(small comm) - DX Coils with Gas Furnace	20	sq. ft.	RET	\$0.90	0.16	0.00	0.00
697	DX Coils with Gas Furnace	Ceiling Insulation(small comm) - DX Coils with Gas Furnace	20	sq. ft.	RET	\$0.90	0.09	0.00	0.00
698	DX Coils with Gas Furnace	Ceiling Insulation(small comm) - DX Coils with Gas Furnace	20	sq. ft.	RET	\$0.90	0.04	0.00	0.00
699	DX Coils with Gas Furnace	Ceiling Insulation(small comm) - DX Coils with Gas Furnace	20	sq. ft.	RET	\$0.90	0.27	0.00	0.00
700	DX Coils with Gas Furnace	Ceiling Insulation(small comm) - DX Coils with Gas Furnace	20	sq. ft.	RET	\$0.90	0.11	0.00	0.00
701	DX Coils with Gas Furnace	Ceiling Insulation(small comm) - DX Coils with Gas Furnace	20	sq. ft.	RET	\$0.90	0.06	0.00	0.00
702	DX Coils with Gas Furnace	Ceiling Insulation(small comm) - DX Coils with Gas Furnace	20	sq. ft.	RET	\$0.90	0.03	0.00	0.00
703	DX Coils with Gas Furnace	Ceiling Insulation(small comm) - DX Coils with Gas Furnace	20	sq. ft.	RET	\$0.66	0.17	0.00	0.00
704	DX Coils with Gas Furnace	Ceiling Insulation(small comm) - DX Coils with Gas Furnace	20	sq. ft.	RET	\$0.66	0.07	0.00	0.00
705	DX Coils with Gas Furnace	Ceiling Insulation(small comm) - DX Coils with Gas Furnace	20	sq. ft.	RET	\$0.66	0.04	0.00	0.00
706	DX Coils with Gas Furnace	Ceiling Insulation(small comm) - DX Coils with Gas Furnace	20	sq. ft.	RET	\$0.66	0.02	0.00	0.00
707	Heat Pump	Ceiling Insulation(small comm) - Heat Pump	20	sq. ft.	RET	\$0.90	1.02	0.00	0.00
708	Heat Pump	Ceiling Insulation(small comm) - Heat Pump	20	sq. ft.	RET	\$0.90	0.40	0.00	0.00
709	Heat Pump	Ceiling Insulation(small comm) - Heat Pump	20	sq. ft.	RET	\$0.90	0.23	0.00	0.00
710	Heat Pump	Ceiling Insulation(small comm) - Heat Pump	20	sq. ft.	RET	\$0.90	0.10	0.00	0.00
711	Heat Pump	Ceiling Insulation(small comm) - Heat Pump	20	sq. ft.	RET	\$0.90	0.67	0.00	0.00
712	Heat Pump	Ceiling Insulation(small comm) - Heat Pump	20	sq. ft.	RET	\$0.90	0.31	0.00	0.00
713	Heat Pump	Ceiling Insulation(small comm) - Heat Pump	20	sq. ft.	RET	\$0.90	0.16	0.00	0.00
714	Heat Pump	Ceiling Insulation(small comm) - Heat Pump	20	sq. ft.	RET	\$0.90	0.07	0.00	0.00
715	Heat Pump	Ceiling Insulation(small comm) - Heat Pump	20	sq. ft.	RET	\$0.66	0.31	0.00	0.00
716	Heat Pump	Ceiling Insulation(small comm) - Heat Pump	20	sq. ft.	RET	\$0.66	0.22	0.00	0.00
717	Heat Pump	Ceiling Insulation(small comm) - Heat Pump	20	sq. ft.	RET	\$0.66	0.10	0.00	0.00
718	Heat Pump	Ceiling Insulation(small comm) - Heat Pump	20	sq. ft.	RET	\$0.66	0.05	0.00	0.00
719	Electric Resistance	Ceiling Insulation(small comm) - Electric Resistance	20	sq. ft.	RET	\$0.90	1.81	0.00	0.00
720	Electric Resistance	Ceiling Insulation(small comm) - Electric Resistance	20	sq. ft.	RET	\$0.90	0.72	0.00	0.00
721	Electric Resistance	Ceiling Insulation(small comm) - Electric Resistance	20	sq. ft.	RET	\$0.90	0.41	0.00	0.00
722	Electric Resistance	Ceiling Insulation(small comm) - Electric Resistance	20	sq. ft.	RET	\$0.90	0.18	0.00	0.00
723	Electric Resistance	Ceiling Insulation(small comm) - Electric Resistance	20	sq. ft.	RET	\$0.90	1.24	0.00	0.00
724	Electric Resistance	Ceiling Insulation(small comm) - Electric Resistance	20	sq. ft.	RET	\$0.90	0.53	0.00	0.00
725	Electric Resistance	Ceiling Insulation(small comm) - Electric Resistance	20	sq. ft.	RET	\$0.90	0.31	0.00	0.00
726	Electric Resistance	Ceiling Insulation(small comm) - Electric Resistance	20	sq. ft.	RET	\$0.90	0.14	0.00	0.00
727	Electric Resistance	Ceiling Insulation(small comm) - Electric Resistance	20	sq. ft.	RET	\$0.66	0.66	0.00	0.00
728	Electric Resistance	Ceiling Insulation(small comm) - Electric Resistance	20	sq. ft.	RET	\$0.66	0.33	0.00	0.00
729	Electric Resistance	Ceiling Insulation(small comm) - Electric Resistance	20	sq. ft.	RET	\$0.66	0.21	0.00	0.00
730	Electric Resistance	Ceiling Insulation(small comm) - Electric Resistance	20	sq. ft.	RET	\$0.66	0.10	0.00	0.00
731	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat	20	sq. ft.	RET	\$1.19	1.61	0.00	0.23
732	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat	20	sq. ft.	RET	\$1.19	1.06	0.00	0.14
733	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat kWh	20	sq. ft.	RET	\$0.90	0.71	0.00	0.06
734	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat kWh	20	sq. ft.	RET	\$0.90	0.42	0.00	0.04
735	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat kWh	20	sq. ft.	RET	\$0.66	0.24	0.00	0.02
736	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	20	sq. ft.	RET	\$1.19	0.16	0.00	0.23
737	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	20	sq. ft.	RET	\$1.19	0.10	0.00	0.14
738	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	20	sq. ft.	RET	\$0.90	0.05	0.00	0.06
739	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	20	sq. ft.	RET	\$0.90	0.03	0.00	0.04
740	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	20	sq. ft.	RET	\$0.66	0.02	0.00	0.02
741	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	20	sq. ft.	RET	\$1.19	6.80	0.00	0.00
742	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	20	sq. ft.	RET	\$1.19	4.22	0.00	0.00
743	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	20	sq. ft.	RET	\$0.90	2.17	0.00	0.00
744	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	20	sq. ft.	RET	\$0.90	1.32	0.00	0.00
745	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	20	sq. ft.	RET	\$0.66	0.77	0.00	0.00
746	Heat Pump	Ceiling Insulation (Converted Residences Only) - heat pump	20	sq. ft.	RET	\$1.19	4.08	0.00	0.00

Non-residential Measures

Measure #	Technology Type	Efficient Measure	Measure TRC	Passed Measure Screening?	Total Sub-Sector Units	Measure Units per Sub-Sector Unit	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
688	AC	Split System and Single-Package AC (11.25 - 20 tons)	1.29	1	322	15	29%	100%	100%	100%	1416	Small Commercial Energy Solutions
689	AC	Split System and Single-Package HP (6.41 - 11.25 tons)	1.26	1	322	8	30%	100%	100%	100%	773	Small Commercial Energy Solutions
690	AC	Split System and Single-Package HP (11.25 - 20 tons)	1.85	1	322	15	29%	100%	100%	100%	1416	Small Commercial Energy Solutions
691	AC	Split System and Single-Package HP (6.41 - 11.25 tons)	1.32	1	322	8	30%	100%	100%	100%	773	Small Commercial Energy Solutions
692	AC	Split System and Single-Package HP (11.25 - 20 tons)	1.91	0	322	15	29%	100%	100%	100%	1416	Small Commercial Energy Solutions
693	Small Commercial	ENERGY STAR Office Equipment Bundle	87456.45	0	322	1	100%	60%	100%	100%	193	Commercial New Construction
694	DX Coils with Gas Furnace	Advanced New Buildings 40%	3.05	0	322	1						
695	DX Coils with Gas Furnace	Ceiling Insulation (small comm) - DX Coils with Gas Furnace	0.90	0	1472	7336						
696	DX Coils with Gas Furnace	Ceiling Insulation (small comm) - DX Coils with Gas Furnace	0.39	0	1472	7336						
697	DX Coils with Gas Furnace	Ceiling Insulation (small comm) - DX Coils with Gas Furnace	0.23	0	1472	7336						
698	DX Coils with Gas Furnace	Ceiling Insulation (small comm) - DX Coils with Gas Furnace	0.10	0	1472	7336						
699	DX Coils with Gas Furnace	Ceiling Insulation (small comm) - DX Coils with Gas Furnace	0.60	0	1472	7336						
700	DX Coils with Gas Furnace	Ceiling Insulation (small comm) - DX Coils with Gas Furnace	0.46	0	1472	7336						
701	DX Coils with Gas Furnace	Ceiling Insulation (small comm) - DX Coils with Gas Furnace	0.56	0	1472	7336						
702	DX Coils with Gas Furnace	Ceiling Insulation (small comm) - DX Coils with Gas Furnace	0.07	0	1472	7336						
703	DX Coils with Gas Furnace	Ceiling Insulation (small comm) - DX Coils with Gas Furnace	0.46	0	1472	7336						
704	DX Coils with Gas Furnace	Ceiling Insulation (small comm) - DX Coils with Gas Furnace	0.23	0	1472	7336						
705	DX Coils with Gas Furnace	Ceiling Insulation (small comm) - DX Coils with Gas Furnace	0.14	0	1472	7336						
706	DX Coils with Gas Furnace	Ceiling Insulation (small comm) - DX Coils with Gas Furnace	0.06	0	1472	7336						
707	Heat Pump	Ceiling Insulation (small comm) - Heat Pump	1.27	1	1472	7336	15%	6%	17%	100%	118026	Small Commercial Energy Solutions
708	Heat Pump	Ceiling Insulation (small comm) - Heat Pump	0.64	0	1472	7336						
709	Heat Pump	Ceiling Insulation (small comm) - Heat Pump	0.32	0	1472	7336						
710	Heat Pump	Ceiling Insulation (small comm) - Heat Pump	0.14	0	1472	7336						
711	Heat Pump	Ceiling Insulation (small comm) - Heat Pump	0.85	0	1472	7336						
712	Heat Pump	Ceiling Insulation (small comm) - Heat Pump	0.40	0	1472	7336						
713	Heat Pump	Ceiling Insulation (small comm) - Heat Pump	0.23	0	1472	7336						
714	Heat Pump	Ceiling Insulation (small comm) - Heat Pump	0.10	0	1472	7336						
715	Heat Pump	Ceiling Insulation (small comm) - Heat Pump	0.69	0	1472	7336						
716	Heat Pump	Ceiling Insulation (small comm) - Heat Pump	0.35	0	1472	7336						
717	Heat Pump	Ceiling Insulation (small comm) - Heat Pump	0.19	0	1472	7336						
718	Heat Pump	Ceiling Insulation (small comm) - Heat Pump	0.09	0	1472	7336						
719	Electric Resistance	Ceiling Insulation (small comm) - Electric Resistance	1.77	1	1472	7336	25%	6%	17%	100%	196709	Small Commercial Energy Solutions
720	Electric Resistance	Ceiling Insulation (small comm) - Electric Resistance	0.74	0	1472	7336						
721	Electric Resistance	Ceiling Insulation (small comm) - Electric Resistance	0.43	0	1472	7336						
722	Electric Resistance	Ceiling Insulation (small comm) - Electric Resistance	0.19	0	1472	7336						
723	Electric Resistance	Ceiling Insulation (small comm) - Electric Resistance	1.24	0	1472	7336						
724	Electric Resistance	Ceiling Insulation (small comm) - Electric Resistance	0.85	0	1472	7336						
725	Electric Resistance	Ceiling Insulation (small comm) - Electric Resistance	0.53	0	1472	7336						
726	Electric Resistance	Ceiling Insulation (small comm) - Electric Resistance	0.74	0	1472	7336						
727	Electric Resistance	Ceiling Insulation (small comm) - Electric Resistance	0.97	0	1472	7336						
728	Electric Resistance	Ceiling Insulation (small comm) - Electric Resistance	0.48	0	1472	7336						
729	Electric Resistance	Ceiling Insulation (small comm) - Electric Resistance	0.30	0	1472	7336						
730	Electric Resistance	Ceiling Insulation (small comm) - Electric Resistance	0.14	0	1472	7336						
731	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat	2.44	1	2500	7336	32%	10%	40%	100%	235501	Small Commercial Energy Solutions
732	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat kWh	1.82	1	2500	7336	32%	20%	40%	100%	471001	Small Commercial Energy Solutions
733	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat kWh	1.74	1	2500	7336	32%	20%	40%	100%	471001	Small Commercial Energy Solutions
734	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat kWh	1.26	1	2500	7336	32%	20%	40%	100%	471001	Small Commercial Energy Solutions
735	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat kWh	1.26	1	2500	7336	32%	20%	40%	100%	235501	Small Commercial Energy Solutions
736	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	0.95	1	2500	7336	32%	10%	40%	100%	117750	Small Commercial Energy Solutions
737	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	1.00	0	2500	7336						
738	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	0.61	0	2500	7336						
739	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	0.35	0	2500	7336						
740	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	0.23	0	2500	7336						
741	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	0.16	0	2500	7336						
742	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	4.00	1	2500	7336	38%	10%	40%	100%	281092	Small Commercial Energy Solutions
743	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	2.77	1	2500	7336	38%	20%	40%	100%	562185	Small Commercial Energy Solutions
744	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	2.35	1	2500	7336	38%	20%	40%	100%	562185	Small Commercial Energy Solutions
745	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	1.61	1	2500	7336	38%	10%	40%	100%	281092	Small Commercial Energy Solutions
746	Heat Pump	Ceiling Insulation (Converted Residences Only) - heat_pump	1.26	1	2500	7336	38%	5%	40%	100%	140546	Small Commercial Energy Solutions
746	Heat Pump	Ceiling Insulation (Converted Residences Only) - heat_pump	2.70	1	2500	7336	4%	10%	40%	100%	27510	Small Commercial Energy Solutions

Non-residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
688	AC	Split System and Single-Package A/C (11.25 - 20 tons)	Frontier - 2009 ENO Deemed Savings	ICF	Energy, CBECS	ICF	ICF
689	AC	Split System and Single-Package HP (5.41 - 11.25 tons)	Frontier - 2009 ENO Deemed Savings	ICF	Energy, CBECS	ICF	ICF
690	AC	Split System and Single-Package HP (11.25 - 20 tons)	Frontier - 2009 ENO Deemed Savings	ICF	Energy, CBECS	ICF	ICF
691	AC	Split System and Single-Package HP (5.41 - 11.25 tons)	Frontier - 2009 ENO Deemed Savings	ICF	Energy, CBECS	ICF	ICF
692	AC	Split System and Single-Package HP (11.25 - 20 tons)	Frontier - 2009 ENO Deemed Savings	ICF	Energy, CBECS	ICF	ICF
693	Small Commercial	ENERGY STAR Office Equipment Bundle	ICF	ICF	Energy, CBECS	ICF	ICF
694	Small Commercial	Advanced New Buildings 40%	ICF	ICF	Energy, CBECS	ICF	ICF
695	DX Coils with Gas Furnace	Ceiling Insulation(small comm) -DX Coils with Gas Furnace	ICF	DEER			
696	DX Coils with Gas Furnace	Ceiling Insulation(small comm) -DX Coils with Gas Furnace	ICF	DEER			
697	DX Coils with Gas Furnace	Ceiling Insulation(small comm) -DX Coils with Gas Furnace	ICF	DEER			
698	DX Coils with Gas Furnace	Ceiling Insulation(small comm) -DX Coils with Gas Furnace	ICF	DEER			
699	DX Coils with Gas Furnace	Ceiling Insulation(small comm) -DX Coils with Gas Furnace	ICF	DEER			
700	DX Coils with Gas Furnace	Ceiling Insulation(small comm) -DX Coils with Gas Furnace	ICF	DEER			
701	DX Coils with Gas Furnace	Ceiling Insulation(small comm) -DX Coils with Gas Furnace	ICF	DEER			
702	DX Coils with Gas Furnace	Ceiling Insulation(small comm) -DX Coils with Gas Furnace	ICF	DEER			
703	DX Coils with Gas Furnace	Ceiling Insulation(small comm) -DX Coils with Gas Furnace	ICF	DEER			
704	DX Coils with Gas Furnace	Ceiling Insulation(small comm) -DX Coils with Gas Furnace	ICF	DEER			
705	DX Coils with Gas Furnace	Ceiling Insulation(small comm) -DX Coils with Gas Furnace	ICF	DEER			
706	DX Coils with Gas Furnace	Ceiling Insulation(small comm) -DX Coils with Gas Furnace	ICF	DEER			
707	Heat Pump	Ceiling Insulation(small comm) -Heat Pump	ICF	DEER	Energy, CBECS	ICF	ICF
708	Heat Pump	Ceiling Insulation(small comm) -Heat Pump	ICF	DEER			
709	Heat Pump	Ceiling Insulation(small comm) -Heat Pump	ICF	DEER			
710	Heat Pump	Ceiling Insulation(small comm) -Heat Pump	ICF	DEER			
711	Heat Pump	Ceiling Insulation(small comm) -Heat Pump	ICF	DEER			
712	Heat Pump	Ceiling Insulation(small comm) -Heat Pump	ICF	DEER			
713	Heat Pump	Ceiling Insulation(small comm) -Heat Pump	ICF	DEER			
714	Heat Pump	Ceiling Insulation(small comm) -Heat Pump	ICF	DEER			
715	Heat Pump	Ceiling Insulation(small comm) -Heat Pump	ICF	DEER			
716	Heat Pump	Ceiling Insulation(small comm) -Heat Pump	ICF	DEER			
717	Heat Pump	Ceiling Insulation(small comm) -Heat Pump	ICF	DEER			
718	Heat Pump	Ceiling Insulation(small comm) -Heat Pump	ICF	DEER			
719	Electric Resistance	Ceiling Insulation(small comm) -Electric Resistance	ICF	DEER	Energy, CBECS	ICF	ICF
720	Electric Resistance	Ceiling Insulation(small comm) -Electric Resistance	ICF	DEER			
721	Electric Resistance	Ceiling Insulation(small comm) -Electric Resistance	ICF	DEER			
722	Electric Resistance	Ceiling Insulation(small comm) -Electric Resistance	ICF	DEER			
723	Electric Resistance	Ceiling Insulation(small comm) -Electric Resistance	ICF	DEER			
724	Electric Resistance	Ceiling Insulation(small comm) -Electric Resistance	ICF	DEER			
725	Electric Resistance	Ceiling Insulation(small comm) -Electric Resistance	ICF	DEER			
726	Electric Resistance	Ceiling Insulation(small comm) -Electric Resistance	ICF	DEER			
727	Electric Resistance	Ceiling Insulation(small comm) -Electric Resistance	ICF	DEER			
728	Electric Resistance	Ceiling Insulation(small comm) -Electric Resistance	ICF	DEER			
729	Electric Resistance	Ceiling Insulation(small comm) -Electric Resistance	ICF	DEER			
730	Electric Resistance	Ceiling Insulation(small comm) -Electric Resistance	ICF	DEER			
731	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat	ICF	DEER	ICF	ICF	ICF
732	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat kWh	ICF	DEER	ICF	ICF	ICF
733	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat kWh	ICF	DEER	ICF	ICF	ICF
734	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat kWh	ICF	DEER	ICF	ICF	ICF
735	AC/Gas Heat	Ceiling Insulation (Converted Residences Only) - AC/Gas Heat kWh	ICF	DEER	ICF	ICF	ICF
736	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	ICF	DEER			
737	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	ICF	DEER			
738	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	ICF	DEER			
739	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	ICF	DEER			
740	Gas Heat (No AC)	Ceiling Insulation (Converted Residences Only) - gas heat (no AC)	ICF	DEER			
741	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	ICF	DEER	ICF	ICF	ICF
742	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	ICF	DEER	ICF	ICF	ICF
743	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	ICF	DEER	ICF	ICF	ICF
744	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	ICF	DEER	ICF	ICF	ICF
745	AC/Electric Resistance Heat	Ceiling Insulation (Converted Residences Only) - AC/Electric Resistance	ICF	DEER	ICF	ICF	ICF
746	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat Pump	ICF	DEER	ICF	ICF	ICF

Non-residential Measures					Efficient Measure Definition	Basic Measure Definition
Measure #	Sector	Sub-Sector	End Use	Technology Type	Efficient Measure	Efficient Measure Definition
747	Non-Residential	Small Commercial	HVAC	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat Pump	R-1 to R-4
748	Non-Residential	Small Commercial	HVAC	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat Pump	R-5 to R-3
749	Non-Residential	Small Commercial	HVAC	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat Pump	R-38
750	Non-Residential	Small Commercial	HVAC	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat Pump	R-38
751	Non-Residential	Small Commercial	HVAC	DX Coils with Gas Furnace	Cool Roofs (small comm only) - DX Coils w/ furnace - paint roof	R-15 to R-22
752	Non-Residential	Small Commercial	HVAC	DX Coils with Gas Furnace	Cool Roofs (small comm only) - DX Coils w/ furnace - paint roof	solar reflectance = .23 and thermal emittance= .9
753	Non-Residential	Small Commercial	HVAC	Heat Pump	Cool Roofs (small comm only) - Heat pump - paint roof	solar reflectance = .23 and thermal emittance= .9
754	Non-Residential	Small Commercial	HVAC	Heat Pump	Cool Roofs (small comm only) - Heat pump - metal roof	solar reflectance = .23 and thermal emittance= .9
755	Non-Residential	Small Commercial	HVAC	Electric Resistance	Cool Roofs (small comm only) - Electric resistance - paint roof	solar reflectance = .23 and thermal emittance= .9
756	Non-Residential	Small Commercial	HVAC	Electric Resistance	Cool Roofs (small comm only) - Electric resistance - metal roof	solar reflectance = .23 and thermal emittance= .9
757	Non-Residential	Small Commercial	HVAC	DX Coils with Gas Furnace	Duct Insulation (small comm)-DX coils w/ furnace	Roof insulation R-10 to R-9
758	Non-Residential	Small Commercial	HVAC	DX Coils with Gas Furnace	Duct Insulation (small comm)-DX coils w/ furnace	Roof insulation R-10 to R-9
759	Non-Residential	Small Commercial	HVAC	Heat Pump	Duct Insulation (small comm)-Heat Pump	Roof insulation R-10 to R-9
760	Non-Residential	Small Commercial	HVAC	Heat Pump	Duct Insulation (small comm)-Heat Pump	Roof insulation R-10 to R-9
761	Non-Residential	Small Commercial	HVAC	Electric Resistance	Duct Insulation (small comm)-Electric Resistance	Roof insulation R-10 to R-9
762	Non-Residential	Small Commercial	HVAC	Electric Resistance	Duct Insulation (small comm)-Electric Resistance	Roof insulation R-10 to R-9
763	Non-Residential	Small Commercial	HVAC	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas Heat	unconditioned duct location: Attic
764	Non-Residential	Small Commercial	HVAC	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas Heat	unconditioned duct location: Attic
765	Non-Residential	Small Commercial	HVAC	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas Heat	unconditioned duct location: Attic
766	Non-Residential	Small Commercial	HVAC	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas Heat	unconditioned duct location: Attic
767	Non-Residential	Small Commercial	HVAC	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	unconditioned duct location: Attic
768	Non-Residential	Small Commercial	HVAC	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	unconditioned duct location: Attic
769	Non-Residential	Small Commercial	HVAC	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	unconditioned duct location: Attic
770	Non-Residential	Small Commercial	HVAC	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	unconditioned duct location: Attic
771	Non-Residential	Small Commercial	HVAC	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	unconditioned duct location: Attic
772	Non-Residential	Small Commercial	HVAC	AC/Gas Heat	Infiltration (Converted Residences Only) - AC/Gas Heat	unconditioned duct location: Attic
773	Non-Residential	Small Commercial	HVAC	AC/Electric Resistance Heat	Infiltration (Converted Residences Only) - AC/Electric Resistance	unconditioned duct location: Attic
774	Non-Residential	Small Commercial	HVAC	AC/Electric Resistance Heat	Infiltration (Converted Residences Only) - AC/Electric Resistance	unconditioned duct location: Attic
775	Non-Residential	Small Commercial	HVAC	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	ACH <= 1.25
776	Non-Residential	Small Commercial	HVAC	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	ACH <= 1.25
777	Non-Residential	Small Commercial	HVAC	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	ACH <= 1.25
778	Non-Residential	Small Commercial	HVAC	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	ACH <= 1.25
779	Non-Residential	Small Commercial	HVAC	DX Coils with Gas Furnace	Duct Efficiency Improvement (small comm)-DX Coils w/ Furnace	leakage rate >= 20% of supply air volume capacity at operating design pressure
780	Non-Residential	Small Commercial	HVAC	Heat Pump	Duct Efficiency Improvement (small comm)-Heat Pump	leakage rate >= 20% of supply air volume capacity at operating design pressure
781	Non-Residential	Small Commercial	HVAC	Electric Resistance	Duct Efficiency Improvement (small comm)-Electric Resistance	leakage rate >= 20% of supply air volume capacity at operating design pressure
782	Non-Residential	Small Commercial	HVAC	Electric Resistance	Faucet Aerators (Converted Residences Only)	2.5gpm
783	Non-Residential	Small Commercial	HVAC	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	unconditioned duct location: Attic
784	Non-Residential	Small Commercial	HVAC	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	unconditioned duct location: Attic
785	Non-Residential	Small Commercial	HVAC	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	unconditioned duct location: Attic
786	Non-Residential	Small Commercial	HVAC	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	unconditioned duct location: Attic
787	Non-Residential	Small Commercial	HVAC	All	Infiltration (Converted Residences Only) - Heat Pump	unconditioned duct location: Attic
788	Non-Residential	Small Commercial	HVAC	All	Water Heater Jackets (Converted Residences Only) - 40 gal	No insulation
789	Non-Residential	Small Commercial	HVAC	All	Water Heater Jackets (Converted Residences Only) - 52 gal	No insulation
790	Non-Residential	Small Commercial	HVAC	All	Water Heater Jackets (Converted Residences Only) - 80 gal	No insulation
791	Non-Residential	Small Commercial	HVAC	All	Water Heater Jackets (Converted Residences Only) - 40 gal	No insulation
792	Non-Residential	Small Commercial	HVAC	All	Water Heater Jackets (Converted Residences Only) - 52 gal	No insulation
793	Non-Residential	Small Commercial	HVAC	All	Water Heater Jackets (Converted Residences Only) - 80 gal	No insulation
794	Non-Residential	Small Commercial	HVAC	DX Coils with Gas Furnace	Water Heater Pipe Insulation (Converted Residences Only)	No insulation
795	Non-Residential	Small Commercial	HVAC	Heat Pump	Window Awnings (small comm) - DX Coils with Gas Furnace	no awning
796	Non-Residential	Small Commercial	HVAC	Electric Resistance	Window Awnings (small comm) - Electric Resistance	no awning
797	Non-Residential	Small Commercial	HVAC	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	no awning
798	Non-Residential	Small Commercial	HVAC	Heat Pump	Window Awnings (small comm) - Heat Pump	no awning
799	Non-Residential	Small Commercial	HVAC	Electric Resistance	Window Awnings (small comm) - Electric Resistance	no awning
800	Non-Residential	Small Commercial	HVAC	Electric Resistance	Window Film (single pane) - Electric Resistance	SHGC > 0.18
801	Non-Residential	Small Commercial	HVAC	Heat Pump	Window Film (single pane) - Heat Pump	SHGC > 0.18
802	Non-Residential	Small Commercial	HVAC	Electric Resistance	Window Film (small comm) - Electric Resistance	SHGC > 0.76
803	Non-Residential	Small Commercial	HVAC	DX Coils with Gas Furnace	Window Film (small comm) - DX Coils with Gas Furnace	SHGC > 0.68
804	Non-Residential	Small Commercial	HVAC	Heat Pump	Window Film (small comm) - Heat Pump	SHGC > 0.72
805	Non-Residential	Small Commercial	HVAC	Electric Resistance	Window Film (small comm) - Electric Resistance	SHGC > 0.78

Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retirof, Replace or Burnout, or New	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (Therms)
747	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat pump	20	sq. ft.	RET	\$1.19	2.52	0.00	0.00
748	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat pump	20	sq. ft.	RET	\$0.90	1.38	0.00	0.00
749	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat pump	20	sq. ft.	RET	\$0.90	0.83	0.00	0.00
750	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat pump	20	sq. ft.	RET	\$0.66	0.48	0.00	0.00
751	DX Coils with Gas Furnace	Cool Roofs (small comm only) - DX Coils w/ furnace - paint roof	15	sq. ft.	RET	\$1.50	0.07	0.00	0.00
752	DX Coils with Gas Furnace	Cool Roofs (small comm only) - DX Coils w/ furnace - metal roof	15	sq. ft.	RET	\$1.50	0.12	0.00	0.00
753	Heat Pump	Cool Roofs (small comm only) - Heat pump - metal roof	15	sq. ft.	RET	\$1.50	0.03	0.00	0.00
754	Heat Pump	Cool Roofs (small comm only) - Heat pump - paint roof	15	sq. ft.	RET	\$1.50	0.05	0.00	0.00
755	Electric Resistance	Cool Roofs (small comm only) - Electric resistance - metal roof	15	sq. ft.	RET	\$1.50	0.04	0.00	0.00
756	Electric Resistance	Cool Roofs (small comm only) - Electric resistance - paint roof	15	sq. ft.	RET	\$1.50	0.08	0.00	0.00
757	DX Coils with Gas Furnace	Duct Insulation (small comm) - Electric resistance - metal roof	20	sq. ft.	RET	\$4.40	0.85	0.00	0.00
758	DX Coils with Gas Furnace	Duct Insulation (small comm) - DX coils w/furnace	20	sq. ft.	RET	\$4.40	0.73	0.00	0.00
759	Heat Pump	Duct Insulation (small comm) - Heat pump	20	sq. ft.	RET	\$4.40	1.27	0.00	0.00
760	Heat Pump	Duct Insulation (small comm) - Heat pump	20	sq. ft.	RET	\$4.40	0.94	0.00	0.00
761	Electric Resistance	Duct Insulation (small comm) - Electric Resistance	20	sq. ft.	RET	\$4.40	1.56	0.00	0.00
762	Electric Resistance	Duct Insulation (small comm) - Electric Resistance	20	sq. ft.	RET	\$4.40	1.08	0.00	0.00
763	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas heat	20	sq. ft.	RET	\$4.60	0.11	0.00	0.00
764	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas heat	20	sq. ft.	RET	\$4.60	0.06	0.00	0.00
765	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas heat	20	sq. ft.	RET	\$4.60	0.07	0.00	0.00
766	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas heat	20	sq. ft.	RET	\$4.40	0.04	0.00	0.00
767	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	20	sq. ft.	RET	\$4.60	0.00	0.00	0.00
768	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	20	sq. ft.	RET	\$4.40	0.00	0.00	0.00
769	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	20	sq. ft.	RET	\$4.60	0.00	0.00	0.00
770	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	20	sq. ft.	RET	\$4.40	0.00	0.00	0.00
771	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	20	sq. ft.	RET	\$0.47	0.03	0.00	0.04
772	AC/Gas Heat	Infiltration (Converted Residences Only) - AC/Gas heat	10	per CFM50 reduction	RET	\$0.47	0.14	0.00	0.00
773	AC/Gas Heat	Infiltration (Converted Residences Only) - AC/Gas heat	10	per CFM50 reduction	RET	\$0.47	0.99	0.00	0.00
774	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	10	per CFM50 reduction	RET	\$4.60	0.44	0.00	0.00
775	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	20	sq. ft.	RET	\$4.60	0.39	0.00	0.00
776	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	20	sq. ft.	RET	\$4.40	0.20	0.00	0.00
777	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	20	sq. ft.	RET	\$4.60	0.39	0.00	0.00
778	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	20	sq. ft.	RET	\$4.40	0.20	0.00	0.00
779	DX Coils with Gas Furnace	Duct Efficiency Improvement (small comm) - DX Coils w/ Furnace	18	per CFM reduction	RET	\$2.91	2.20	0.00	0.00
780	Heat Pump	Duct Efficiency Improvement (small comm) - Heat pump	18	per CFM reduction	RET	\$2.91	6.01	0.00	0.00
781	Electric Resistance	Duct Efficiency Improvement (small comm) - Electric Resistance	18	per CFM reduction	RET	\$2.91	4.64	0.00	0.00
782	All	Faucet Aerators (Converted Residences Only)	10	per home	RET	\$4.89	22.00	0.00	0.00
783	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	20	sq. ft.	RET	\$4.40	0.22	0.00	0.00
784	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	20	sq. ft.	RET	\$4.60	0.43	0.00	0.00
785	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	20	sq. ft.	RET	\$4.40	0.22	0.00	0.00
786	Heat Pump	Duct Insulation (Converted Residences Only) - Heat pump	20	sq. ft.	RET	\$0.47	0.54	0.00	0.00
787	All	Infiltration (Converted Residences Only) - Heat pump	10	per CFM50 reduction	RET	\$0.47	68.00	0.01	0.00
788	All	Water Heater Jackets (Converted Residences Only) - 40 gal	10	Installed Units	RET	\$51.94	76.00	0.01	0.00
789	All	Water Heater Jackets (Converted Residences Only) - 52 gal	10	Installed Units	RET	\$51.94	101.00	0.01	0.00
790	All	Water Heater Jackets (Converted Residences Only) - 80 gal	10	Installed Units	RET	\$53.50	94.00	0.01	0.00
791	All	Water Heater Jackets (Converted Residences Only) - 52 gal	10	Installed Units	RET	\$53.50	104.00	0.01	0.00
792	All	Water Heater Jackets (Converted Residences Only) - 80 gal	10	Installed Units	RET	\$53.50	139.00	0.01	0.00
793	All	Water Heater Pipe Insulation (Converted Residences Only)	13	Installed Units	RET	\$38.42	44.00	0.01	0.00
794	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	10	sq. ft. of Window	RET	\$50.29	8.74	0.00	0.00
795	Heat Pump	Window Awnings (small comm) - Heat Pump	10	sq. ft. of Window	RET	\$50.29	2.61	0.00	0.00
796	Electric Resistance	Window Awnings (small comm) - Electric Resistance	10	sq. ft. of Window	RET	\$50.29	4.65	0.00	0.00
797	Heat Pump	Window Awnings (small comm) - Heat Pump	10	sq. ft. of Window	RET	\$50.29	7.68	0.00	0.00
798	Heat Pump	Window Awnings (small comm) - Heat Pump	10	sq. ft. of Window	RET	\$50.29	3.56	0.00	0.00
799	Electric Resistance	Window Awnings (small comm) - Electric Resistance	10	sq. ft. of Window	RET	\$50.29	4.79	0.00	0.00
800	DX Coils with Gas Furnace	Window Film (small comm) - DX Coils with Gas Furnace	10	sq. ft. of Window	RET	\$2.66	9.14	0.00	0.00
801	Heat Pump	Window Film (small comm) - Heat Pump	10	sq. ft. of Window	RET	\$2.66	2.25	0.00	0.00
802	Electric Resistance	Window Film (small comm) - Electric Resistance	10	sq. ft. of Window	RET	\$2.66	4.63	0.00	0.00
803	DX Coils with Gas Furnace	Window Film (small comm) - DX Coils with Gas Furnace	10	sq. ft. of Window	RET	\$2.66	8.63	0.00	0.00
804	Heat Pump	Window Film (small comm) - Heat Pump	10	sq. ft. of Window	RET	\$2.66	3.54	0.00	0.00
805	Electric Resistance	Window Film (small comm) - Electric Resistance	10	sq. ft. of Window	RET	\$2.66	5.02	0.00	0.00

Non-residential Measures

Measure #	Technology Type	Efficient Measure	Measure TFC	Passed Measure Screening?	Total Sub-Sector Units	Measure Units per Sub-Sector Unit	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
747	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat Pump	1.86	1	2500	7336	4%	20%	40%	100%	55019	Small Commercial Energy Solutions
748	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat Pump	1.95	1	2500	7336	4%	20%	40%	100%	55019	Small Commercial Energy Solutions
749	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat Pump	1.30	1	2500	7336	4%	10%	40%	100%	27510	Small Commercial Energy Solutions
750	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat Pump	1.01	1	2500	7336	4%	5%	40%	100%	13755	Small Commercial Energy Solutions
751	DX Coils with Gas Furnace	Cool Roofs (small comm only) - DX Coils w/ furnace - paint roof	0.05	0	1472	7336						
752	DX Coils with Gas Furnace	Cool Roofs (small comm only) - DX Coils w/ furnace - metal roof	0.09	0	1472	7336						
753	Heat Pump	Cool Roofs (small comm only) - Heat pump - paint roof	0.04	0	1472	7336						
754	Heat Pump	Cool Roofs (small comm only) - Heat pump - metal roof	0.07	0	1472	7336						
755	Electric Resistance	Cool Roofs (small comm only) - Electric resistance - paint roof	0.04	0	1472	7336						
756	Electric Resistance	Cool Roofs (small comm only) - Electric resistance - metal roof	0.08	0	1472	7336						
757	DX Coils with Gas Furnace	Duct Insulation (small comm) - Electric resistance - metal roof	0.39	0	1472	296						
758	DX Coils with Gas Furnace	Duct Insulation (small comm) - DX coils w/ furnace	0.33	0	1472	296						
759	Heat Pump	Duct Insulation (small comm) - Heat pump	0.47	0	1472	296						
760	Heat Pump	Duct Insulation (small comm) - Heat pump	0.36	0	1472	296						
761	Electric Resistance	Duct Insulation (small comm) - Electric Resistance	0.54	0	1472	296						
762	Electric Resistance	Duct Insulation (small comm) - Electric Resistance	0.41	0	1472	296						
763	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas heat	0.08	0	1472	296						
764	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas heat	0.04	0	1472	296						
765	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas heat	0.04	0	1472	296						
766	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas heat	0.02	0	1472	296						
767	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	0.01	0	1472	296						
768	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	0.00	0	1472	296						
769	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	0.00	0	1472	296						
770	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	0.00	0	1472	296						
771	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	0.29	0	1472	2668						
772	AC/Gas Heat	Infiltration (Converted Residences Only) - AC/Gas heat	0.48	0	1472	2668						
773	AC/Electric Resistance Heat	Infiltration (Converted Residences Only) - AC/Electric Resistance	1.10	1	2500	2668	100%	100%	70%	100%	4669749	Small Commercial Energy Solutions
774	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	0.12	0	1472	296						
775	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	0.11	0	1472	296						
776	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	0.06	0	1472	296						
777	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	0.06	0	1472	296						
778	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	0.03	0	1472	296						
779	DX Coils with Gas Furnace	Duct Efficiency Improvement (small comm) - DX Coils w/ Furnace	1.59	1	1472	950	60%	25%	80%	100%	757384	Small Commercial Energy Solutions
780	Heat Pump	Duct Efficiency Improvement (small comm) - Heat Pump	2.51	1	1472	950	15%	25%	80%	100%	189346	Small Commercial Energy Solutions
781	Electric Resistance	Duct Efficiency Improvement (small comm) - Electric Resistance	2.25	1	1472	950	25%	25%	80%	100%	315577	Small Commercial Energy Solutions
782	All	Faucet Aerators (Converted Residences Only)	6.31	1	2500	1	100%	100%	79%	100%	1975	Small Commercial Energy Solutions
783	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	0.07	0	1472	296						
784	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	0.06	0	1472	296						
785	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	0.06	0	1472	296						
786	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	0.77	0	1472	2668						
787	All	Water Heater Jackets (Converted Residences Only) - 40 gal	0.56	0	1472	1						
788	All	Water Heater Jackets (Converted Residences Only) - 52 gal	0.64	0	1472	1						
789	All	Water Heater Jackets (Converted Residences Only) - 80 gal	0.85	0	1472	1						
790	All	Water Heater Jackets (Converted Residences Only) - 80 gal	0.76	1	2500	1	55%	75%	50%	100%	516	Small Commercial Energy Solutions
791	All	Water Heater Jackets (Converted Residences Only) - 80 gal	0.85	1	2500	1	35%	70%	50%	100%	306	Small Commercial Energy Solutions
792	All	Water Heater Jackets (Converted Residences Only) - 80 gal	1.14	1	2500	1	10%	55%	50%	100%	69	Small Commercial Energy Solutions
793	All	Water Heater Pipe Insulation (Converted Residences Only)	1.01	1	2500	1	100%	85%	80%	100%	1700	Small Commercial Energy Solutions
794	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	0.13	0	1472	122						
795	Heat Pump	Window Awnings (small comm) - Heat Pump	0.08	0	1472	122						
796	Electric Resistance	Window Awnings (small comm) - Electric Resistance	0.10	0	1472	122						
797	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	0.16	0	1472	122						
798	Heat Pump	Window Awnings (small comm) - Heat Pump	0.13	0	1472	122						
799	Electric Resistance	Window Awnings (small comm) - Electric Resistance	0.14	0	1472	122						
800	DX Coils with Gas Furnace	Window Film (small comm) - DX Coils with Gas Furnace	2.53	1	1472	122	60%	75%	65%	100%	409709	Small Commercial Energy Solutions
801	Heat Pump	Window Film (small comm) - Heat Pump	1.84	1	1472	122	15%	75%	65%	100%	102427	Small Commercial Energy Solutions
802	Electric Resistance	Window Film (small comm) - Electric Resistance	1.55	1	1472	122	25%	75%	65%	100%	170712	Small Commercial Energy Solutions
803	DX Coils with Gas Furnace	Window Film (small comm) - DX Coils with Gas Furnace	2.87	1	1472	122	60%	75%	65%	100%	409709	Small Commercial Energy Solutions
804	Heat Pump	Window Film (small comm) - Heat Pump	2.16	1	1472	122	15%	75%	65%	100%	102427	Small Commercial Energy Solutions
805	Electric Resistance	Window Film (small comm) - Electric Resistance	2.35	1	1472	122	25%	75%	65%	100%	170712	Small Commercial Energy Solutions



Non-residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
747	Heat Pump	Ceiling Insulation (Converted Residences Only) - Heat pump	ICF	DEER	ICF	ICF	ICF
748	Heat Pump	Ceiling Insulation (Converted Residences Only) - heat pump	ICF	DEER	ICF	ICF	ICF
749	Heat Pump	Ceiling Insulation (Converted Residences Only) - heat pump	ICF	DEER	ICF	ICF	ICF
750	Heat Pump	Ceiling Insulation (Converted Residences Only) - heat pump	ICF	DEER	ICF	ICF	ICF
751	DX Coils with Gas Furnace	Cool Roots (small comm only) - DX Coils w/ furnace - paint roof	ICF	DEER	ICF	ICF	ICF
752	DX Coils with Gas Furnace	Cool Roots (small comm only) - DX Coils w/ furnace - metal roof	ICF	DEER	ICF	ICF	ICF
753	Heat Pump	Cool Roots (small comm only) - Heat pump - paint roof	ICF	DEER	ICF	ICF	ICF
754	Heat Pump	Cool Roots (small comm only) - Heat pump - metal roof	ICF	DEER	ICF	ICF	ICF
755	Electric Resistance	Cool Roofs (small comm only) - Electric resistance - paint roof	ICF	DEER	ICF	ICF	ICF
756	Electric Resistance	Cool Roofs (small comm only) - Electric resistance - metal roof	ICF	DEER	ICF	ICF	ICF
757	DX Coils with Gas Furnace	Duct Insulation (small comm) - DX coils w/furnace	ICF	DEER	ICF	ICF	ICF
758	DX Coils with Gas Furnace	Duct Insulation (small comm) - DX coils w/furnace	ICF	DEER	ICF	ICF	ICF
759	Heat Pump	Duct Insulation (small comm) - Heat pump	ICF	DEER	ICF	ICF	ICF
760	Heat Pump	Duct Insulation (small comm) - Heat pump	ICF	DEER	ICF	ICF	ICF
761	Electric Resistance	Duct Insulation (small comm) - Electric Resistance	ICF	DEER	ICF	ICF	ICF
762	Electric Resistance	Duct Insulation (small comm) - Electric Resistance	ICF	DEER	ICF	ICF	ICF
763	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas heat	ICF	DEER	ICF	ICF	ICF
764	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas heat	ICF	DEER	ICF	ICF	ICF
765	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas heat	ICF	DEER	ICF	ICF	ICF
766	AC/Gas Heat	Duct Insulation (Converted Residences Only) - AC/Gas heat	ICF	DEER	ICF	ICF	ICF
767	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	ICF	DEER	ICF	ICF	ICF
768	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	ICF	DEER	ICF	ICF	ICF
769	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	ICF	DEER	ICF	ICF	ICF
770	Gas Heat (No AC)	Duct Insulation (Converted Residences Only) - Gas Heat (no AC)	ICF	DEER	ICF	ICF	ICF
771	Gas Heat (No AC)	Infiltration (Converted Residences Only) - Gas Heat (no AC)	ICF	DEER	ICF	ICF	ICF
772	AC/Gas Heat	Infiltration (Converted Residences Only) - Gas Heat (no AC)	ICF	DEER	ICF	ICF	ICF
773	AC/Electric Resistance Heat	Infiltration (Converted Residences Only) - AC/Electric Resistance	ICF	DEER	ICF	ICF	ICF
774	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	ICF	DEER	ICF	ICF	ICF
775	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	ICF	DEER	ICF	ICF	ICF
776	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	ICF	DEER	ICF	ICF	ICF
777	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	ICF	DEER	ICF	ICF	ICF
778	Heat Pump	Duct Insulation (Converted Residences Only) - Heat Pump	ICF	DEER	ICF	ICF	ICF
779	DX Coils with Gas Furnace	Duct Efficiency Improvement (small comm) - DX Coils w/ Furnace	ICF	DEER	ICF	ICF	ICF
780	Heat Pump	Duct Efficiency Improvement (small comm) - Heat pump	ICF	DEER	ICF	ICF	ICF
781	Electric Resistance	Duct Efficiency Improvement (small comm) - Electric Resistance	ICF	DEER	ICF	ICF	ICF
782	All	Faucet Aerators (Converted Residences Only)	ICF	DEER	ICF	ICF	ICF
783	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	ICF	DEER	ICF	ICF	ICF
784	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	ICF	DEER	ICF	ICF	ICF
785	AC/Electric Resistance Heat	Duct Insulation (Converted Residences Only) - AC/Electric Resistance	ICF	DEER	ICF	ICF	ICF
786	Heat Pump	Infiltration (Converted Residences Only) - Heat pump	ICF	DEER	ICF	ICF	ICF
787	All	Water Heater Jackets (Converted Residences Only) - 40 gal	ICF	DEER	ICF	ICF	ICF
788	All	Water Heater Jackets (Converted Residences Only) - 52 gal	ICF	DEER	ICF	ICF	ICF
789	All	Water Heater Jackets (Converted Residences Only) - 80 gal	ICF	DEER	ICF	ICF	ICF
790	All	Water Heater Jackets (Converted Residences Only) - 40 gal	ICF	DEER	ICF	ICF	ICF
791	All	Water Heater Jackets (Converted Residences Only) - 52 gal	ICF	DEER	ICF	ICF	ICF
792	All	Water Heater Jackets (Converted Residences Only) - 80 gal	ICF	DEER	ICF	ICF	ICF
793	All	Water Heater Pipe Insulation (Converted Residences Only)	ICF	DEER	ICF	ICF	ICF
794	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	ICF	DEER	ICF	ICF	ICF
795	Heat Pump	Window Awnings (small comm) - Heat Pump	ICF	DEER	ICF	ICF	ICF
796	Electric Resistance	Window Awnings (small comm) - Electric Resistance	ICF	DEER	ICF	ICF	ICF
797	DX Coils with Gas Furnace	Window Awnings (small comm) - DX Coils with Gas Furnace	ICF	DEER	ICF	ICF	ICF
798	Heat Pump	Window Awnings (small comm) - Heat Pump	ICF	DEER	ICF	ICF	ICF
799	Electric Resistance	Window Awnings (small comm) - Electric Resistance	ICF	DEER	ICF	ICF	ICF
800	DX Coils with Gas Furnace	Window Film (small comm) - DX Coils with Gas Furnace	ICF	DEER	ICF	ICF	ICF
801	Heat Pump	Window Film (small comm) - Heat Pump	ICF	DEER	ICF	ICF	ICF
802	Electric Resistance	Window Film (small comm) - Electric Resistance	ICF	DEER	ICF	ICF	ICF
803	DX Coils with Gas Furnace	Window Film (small comm) - DX Coils with Gas Furnace	ICF	DEER	ICF	ICF	ICF
804	Heat Pump	Window Film (small comm) - Heat Pump	ICF	DEER	ICF	ICF	ICF
805	Electric Resistance	Window Film (small comm) - Electric Resistance	ICF	DEER	ICF	ICF	ICF



Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retirof. Replace on Burnout, or New	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (Therms)
806	AC/Gas/Heat	Window Film (Converted Residences Only) - AC/Gas Heat	10	sq ft. of Window	RET	\$2.66	3.14	0.00	0.00
807	Gas Heat (No AC)	Window Film (Converted Residences Only) - gas heat (no AC)	10	sq ft. of Window	RET	\$2.66	1.39	0.00	0.00
808	Heat Pump	Window Film (Converted Residences Only) - heat pump	10	sq ft. of Window	RET	\$2.66	2.10	0.00	0.00
809	AC/Electric Resistance Heat	Window Film (Converted Residences Only) - AC/Electric Resistance	10	sq ft. of Window	RET	\$2.66	0.96	0.00	0.00
810	AC/Gas Heat	Window Film (Converted Residences Only) - AC/Gas Heat	10	sq ft. of Window	RET	\$2.66	0.00	0.00	0.00
811	Gas Heat (No AC)	Window Film (Converted Residences Only) - gas heat (no AC)	10	sq ft. of Window	RET	\$2.66	0.28	0.00	0.00
812	Heat Pump	Window Film (Converted Residences Only) - heat pump	10	sq ft. of Window	RET	\$2.66	0.13	0.00	0.00
813	AC/Electric Resistance Heat	Window Film (Converted Residences Only) - AC/Electric Resistance	10	sq ft. of Window	RET	\$2.66	0.21	0.00	0.00
814	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-0 to R-6	20	sq. ft.	RET	\$1.91	0.13	0.00	0.00
815	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-0 to R-6	20	sq. ft.	RET	\$1.91	0.06	0.00	0.00
816	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-0 to R-6	20	sq. ft.	RET	\$1.91	0.04	0.00	0.00
817	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-0 to R-6	20	sq. ft.	RET	\$1.91	0.03	0.00	0.00
818	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-7 to R-14	20	sq. ft.	RET	\$1.91	0.05	0.00	0.00
819	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-7 to R-14	20	sq. ft.	RET	\$1.91	0.04	0.00	0.00
820	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-7 to R-14	20	sq. ft.	RET	\$1.91	0.04	0.00	0.00
821	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-7 to R-14	20	sq. ft.	RET	\$1.91	0.04	0.00	0.00
822	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-15 to R-22	20	sq. ft.	RET	\$1.91	0.03	0.00	0.00
823	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-15 to R-22	20	sq. ft.	RET	\$1.91	0.02	0.00	0.00
824	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-15 to R-22	20	sq. ft.	RET	\$1.91	0.02	0.00	0.00
825	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-15 to R-22	20	sq. ft.	RET	\$1.91	0.02	0.00	0.00
826	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-0 to R-6	20	sq. ft.	RET	\$1.91	0.36	0.00	0.00
827	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-0 to R-6	20	sq. ft.	RET	\$1.91	0.23	0.00	0.00
828	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-0 to R-6	20	sq. ft.	RET	\$1.91	0.14	0.00	0.00
829	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-0 to R-6	20	sq. ft.	RET	\$1.91	0.22	0.00	0.00
830	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-7 to R-14	20	sq. ft.	RET	\$1.91	0.13	0.00	0.00
831	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-7 to R-14	20	sq. ft.	RET	\$1.91	0.08	0.00	0.00
832	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-7 to R-14	20	sq. ft.	RET	\$1.91	0.05	0.00	0.00
833	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-7 to R-14	20	sq. ft.	RET	\$1.91	0.13	0.00	0.00
834	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-15 to R-22	20	sq. ft.	RET	\$1.91	0.08	0.00	0.00
835	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-15 to R-22	20	sq. ft.	RET	\$1.91	0.05	0.00	0.00
836	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-15 to R-22	20	sq. ft.	RET	\$1.91	0.08	0.00	0.00
837	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-15 to R-22	20	sq. ft.	RET	\$1.91	0.05	0.00	0.00
838	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-15 to R-22	20	sq. ft.	RET	\$1.91	0.04	0.00	0.00
839	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-0 to R-6	20	sq. ft.	RET	\$0.84	1.11	0.00	0.00
840	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-0 to R-6	20	sq. ft.	RET	\$0.84	0.62	0.00	0.00
841	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-0 to R-6	20	sq. ft.	RET	\$0.84	0.39	0.00	0.00
842	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-0 to R-6	20	sq. ft.	RET	\$0.84	0.23	0.00	0.00
843	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-7 to R-14	20	sq. ft.	RET	\$0.84	0.33	0.00	0.00
844	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-7 to R-14	20	sq. ft.	RET	\$0.84	0.21	0.00	0.00
845	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-7 to R-14	20	sq. ft.	RET	\$0.84	0.14	0.00	0.00
846	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-7 to R-14	20	sq. ft.	RET	\$0.84	0.09	0.00	0.00
847	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-15 to R-22	20	sq. ft.	RET	\$0.84	0.20	0.00	0.00
848	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-15 to R-22	20	sq. ft.	RET	\$0.84	0.13	0.00	0.00
849	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-15 to R-22	20	sq. ft.	RET	\$0.84	0.09	0.00	0.00
850	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-15 to R-22	20	sq. ft.	RET	\$0.84	0.06	0.00	0.00
851	AC/Gas/Heat	Wall Insulation (Converted Residences Only) - AC/Gas Heat	20	sq. ft.	RET	\$0.94	0.76	0.00	0.00
852	Gas Heat (No AC)	Wall Insulation (Converted Residences Only) - gas heat (no AC)	20	sq. ft.	RET	\$0.94	0.13	0.00	0.20
853	Heat Pump	Wall Insulation (Converted Residences Only) - heat pump	20	sq. ft.	RET	\$0.94	2.86	0.00	0.00
854	AC/Electric Resistance Heat	Wall Insulation (Converted Residences Only) - AC/Electric Resistance	20	sq. ft.	RET	\$0.94	5.10	0.00	0.00
855	Small Commercial	Demand Controlled Ventilation	15	Building	RET	\$2,277.00	1570.22	0.00	0.00
856	Small Commercial	Ground Source Heat Pump - Closed Loop	15	per building	RET	\$14,124.48	8968.40	0.00	0.00
857	Small Commercial	Ground Source Heat Pump - Open Loop	15	per building	RET	\$14,124.48	9572.71	0.00	0.00
858	Small Commercial	Differential-Enthalpy System	7	per building	RET	\$2,127.41	3774.74	1.11	0.00
859	Small Commercial	Energy Management System	10	per building	RET	\$3,500.00	160.60	0.00	0.00
860	Small Commercial	Heat Pump Water Heaters	14	per building	RET	\$1,860.00	200.34	0.05	0.00
861	Small Commercial	Building Retro-commissioning	8	per building	RET	\$2,200.77	6280.90	1.47	0.00
862	Small Commercial	Lighting Dimmers	11	Building	RET	\$540.00	2355.34	0.55	0.00
863	All	High-Efficiency Area and Traffic Lighting	11	Building	RET	\$2,010.03	2747.89	0.64	0.00
864	Small Commercial	small comm Direct Instal Energy Efficient Copier	10	Building	RET	\$700.00	1573.47	0.53	0.00
			6	per building	ROB	\$12.00	267.22	0.06	0.00

Measure #	Technology Type	Efficient Measure	Measure TFC	Passed Measure Screening?	Total Sub-Sector Units	Measure Units per Sub-Sector Unit	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
806	AC/Gas Heat	Window Film (Converted Residences Only) - AC/Gas Heat	1.31	0	2500	488						
807	Gas Heat (No AC)	Window Film (Converted Residences Only) - gas heat (no AC)	0.00	0	1472	488						
808	Heat Pump	Window Film (Converted Residences Only) - heat pump	1.08	0	1472	488						
809	AC/Electric Resistance Heat	Window Film (Converted Residences Only) - AC/Electric Resistance	0.79	0	1472	488						
810	AC/Gas Heat	Window Film (Converted Residences Only) - AC/Gas Heat	0.88	0	1472	488						
811	Gas Heat (No AC)	Window Film (Converted Residences Only) - gas heat (no AC)	0.00	0	1472	488						
812	Heat Pump	Window Film (Converted Residences Only) - heat pump	0.74	0	1472	488						
813	AC/Electric Resistance Heat	Window Film (Converted Residences Only) - AC/Electric Resistance	0.96	0	1472	488						
814	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-0 to R-6	0.29	0	1472	7336						
815	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-0 to R-6	0.23	0	1472	7336						
816	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-0 to R-6	0.18	0	1472	7336						
817	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-0 to R-6	0.20	0	1472	7336						
818	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-7 to R-14	0.09	0	1472	7336						
819	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-7 to R-14	0.08	0	1472	7336						
820	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-7 to R-14	0.06	0	1472	7336						
821	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-7 to R-14	0.07	0	1472	7336						
822	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-15 to R-22	0.07	0	1472	7336						
823	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-15 to R-22	0.06	0	1472	7336						
824	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-15 to R-22	0.04	0	1472	7336						
825	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-15 to R-22	0.05	0	1472	7336						
826	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-0 to R-6	0.38	0	1472	7336						
827	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-0 to R-6	0.20	0	1472	7336						
828	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-0 to R-6	0.16	0	1472	7336						
829	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-0 to R-6	0.18	0	1472	7336						
830	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-7 to R-14	0.15	0	1472	7336						
831	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-7 to R-14	0.09	0	1472	7336						
832	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-7 to R-14	0.07	0	1472	7336						
833	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-7 to R-14	0.08	0	1472	7336						
834	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-7 to R-14	0.08	0	1472	7336						
835	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-15 to R-22	0.10	0	1472	7336						
836	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-15 to R-22	0.06	0	1472	7336						
837	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-15 to R-22	0.05	0	1472	7336						
838	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-0 to R-6	0.51	0	1472	7336						
839	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-0 to R-6	0.30	0	1472	7336						
840	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-0 to R-6	0.23	0	1472	7336						
841	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-0 to R-6	0.26	0	1472	7336						
842	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-7 to R-14	0.16	0	1472	7336						
843	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-7 to R-14	0.11	0	1472	7336						
844	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-7 to R-14	0.09	0	1472	7336						
845	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-7 to R-14	0.11	0	1472	7336						
846	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-15 to R-22	0.12	0	1472	7336						
847	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-15 to R-22	0.07	0	1472	7336						
848	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-15 to R-22	0.06	0	1472	7336						
849	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-15 to R-22	0.07	0	1472	7336						
850	AC/Gas Heat	Wall Insulation (Converted Residences Only) - AC/Gas Heat	1.19	1	1472	2595	32%	25%	40%	100%	955639	Small Commercial Energy Solutions
851	Gas Heat (No AC)	Wall Insulation (Converted Residences Only) - gas heat (no AC)	1.11	1	1472	2595	17%	25%	40%	100%	497489	Small Commercial Energy Solutions
852	Heat Pump	Wall Insulation (Converted Residences Only) - heat pump	2.42	1	1472	2595	4%	25%	40%	100%	111631	Small Commercial Energy Solutions
853	AC/Electric Resistance Heat	Wall Insulation (Converted Residences Only) - AC/Electric Resistance	3.78	1	1472	2595	38%	25%	40%	100%	1140647	Small Commercial Energy Solutions
854	Small Commercial	Demand Controlled Ventilation	0.43	0	1472	1						
855	Small Commercial	Ground Source Heat Pump - Closed Loop	0.62	0	1472	1						
856	Small Commercial	Energy Management System	0.67	0	1472	1						
857	Small Commercial	Ground Source Heat Pump - Open Loop	0.83	0	1472	1						
858	Small Commercial	Differential-Enthalpy Economizer	0.02	0	1472	1						
859	Small Commercial	Heat Pump Water Heaters	0.09	0	1472	1						
860	Small Commercial	Building Retro-commissioning	1.49	1	1472	1	25%	25%	95%	100%	681	Commercial Building Energy Management
861	Small Commercial	Lighting Dimmers	2.94	1	1472	1	7%	20%	95%	100%	153	Small Commercial Energy Solutions
862	Small Commercial	High-Efficiency Area and Traffic Lighting	0.92	0	1472	1	100%	100%	100%	100%	11472	Small Commercial Energy Solutions
863	All	small comm Direct Install	1.69	1	1472	1	33%	10%	100%	17%	63	Small Commercial Energy Solutions
864	Small Commercial	Energy Efficient Copier	9.17	1	1472	1						

Non-residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
806	AC/Gas Heat	Window Film (Converted Residences Only) - AC/Gas Heat	ICF	DEER			
807	Gas Heat (No AC)	Window Film (Converted Residences Only) - gas heat (no AC)	ICF	DEER			
808	Heat Pump	Window Film (Converted Residences Only) - heat pump	ICF	DEER			
809	AC/Electric Resistance Heat	Window Film (Converted Residences Only) - AC/Electric Resistance	ICF	DEER			
810	AC/Gas Heat	Window Film (Converted Residences Only) - AC/Gas Heat	ICF	DEER			
811	Gas Heat (No AC)	Window Film (Converted Residences Only) - gas heat (no AC)	ICF	DEER			
812	Heat Pump	Window Film (Converted Residences Only) - heat pump	ICF	DEER			
813	AC/Electric Resistance Heat	Window Film (Converted Residences Only) - AC/Electric Resistance	ICF	DEER			
814	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-0 to R-6	ICF	DEER			
815	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-0 to R-6	ICF	DEER			
816	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-0 to R-6	ICF	DEER			
817	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-0 to R-6	ICF	DEER			
818	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-7 to R-14	ICF	DEER			
819	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-7 to R-14	ICF	DEER			
820	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-7 to R-14	ICF	DEER			
821	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-7 to R-14	ICF	DEER			
822	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-15 to R-22	ICF	DEER			
823	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-15 to R-22	ICF	DEER			
824	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-15 to R-22	ICF	DEER			
825	DX Coils with Gas Furnace	Roof Deck Insulation (small comm) - DX Coils with Gas Furnace Pre retrofit ceiling ins of R-15 to R-22	ICF	DEER			
826	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-0 to R-6	ICF	DEER			
827	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-0 to R-6	ICF	DEER			
828	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-0 to R-6	ICF	DEER			
829	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-0 to R-6	ICF	DEER			
830	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-7 to R-14	ICF	DEER			
831	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-7 to R-14	ICF	DEER			
832	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-7 to R-14	ICF	DEER			
833	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-7 to R-14	ICF	DEER			
834	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-15 to R-22	ICF	DEER			
835	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-15 to R-22	ICF	DEER			
836	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-15 to R-22	ICF	DEER			
837	Heat Pump	Roof Deck Insulation (small comm) - Heat Pump Pre retrofit ceiling ins of R-15 to R-22	ICF	DEER			
838	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-0 to R-6	ICF	DEER			
839	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-0 to R-6	ICF	DEER			
840	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-0 to R-6	ICF	DEER			
841	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-0 to R-6	ICF	DEER			
842	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-0 to R-6	ICF	DEER			
843	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-7 to R-14	ICF	DEER			
844	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-7 to R-14	ICF	DEER			
845	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-7 to R-14	ICF	DEER			
846	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-15 to R-22	ICF	DEER			
847	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-15 to R-22	ICF	DEER			
848	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-15 to R-22	ICF	DEER			
849	Electric Resistance	Roof Deck Insulation (small comm) - Electric Resistance Pre retrofit ceiling ins of R-15 to R-22	ICF	DEER			
850	AC/Gas Heat	Wall Insulation (Converted Residences Only) - AC/Gas Heat	ICF	DEER	Energy, CBECS	ICF	ICF
851	Gas Heat (No AC)	Wall Insulation (Converted Residences Only) - gas heat (no AC)	ICF	DEER	Energy, CBECS	ICF	ICF
852	Heat Pump	Wall Insulation (Converted Residences Only) - heat pump	ICF	DEER	Energy, CBECS	ICF	ICF
853	AC/Electric Resistance Heat	Wall Insulation (Converted Residences Only) - AC/Electric Resistance	ICF	DEER	Energy, CBECS	ICF	ICF
854	Small Commercial	Demand Controlled Ventilation	ICF	ICF	Energy, CBECS	ICF	ICF
855	Small Commercial	Ground Source Heat Pump - Closed Loop	ICF	ICF	Energy, CBECS	ICF	ICF
856	Small Commercial	Ground Source Heat Pump - Open Loop	ICF	ICF	Energy, CBECS	ICF	ICF
857	Small Commercial	Energy Management System	ICF	ICF	Energy, CBECS	ICF	ICF
858	Small Commercial	Differential-Enthalpy Economizer	NBCIP	ICF	Energy, CBECS	ICF	ICF
859	Small Commercial	Heat Pump Water Heaters	ICF	ICF	Energy, CBECS	ICF	ICF
860	Small Commercial	Building Retro-commissioning	Lawrence Berkeley Lab	ICF	Energy, CBECS	ICF	ICF
861	Small Commercial	Lighting Dimmers	ICF	ICF	Energy, CBECS	ICF	ICF
862	Small Commercial	High-Efficiency Area and Traffic Lighting	ICF	ICF	Energy, CBECS	ICF	ICF
863	All	small comm Direct Instal	ICF	ICF	Energy, CBECS	ICF	ICF
864	Small Commercial	Energy Efficient Copier	ICF	ICF	Energy, CBECS	ICF	ENERGY STAR

Non-residential Measures		End Use	Technology Type	Efficient Measure	Efficient Measure Definition	Base Measure Definition
865	Non-Residential	Electronics	Small Commercial	Energy Efficient Computers	Standard copier	Standard copier
866	Non-Residential	Electronics	Small Commercial	Copier Standby	Sleep mode or low-power mode	Sleep mode or low-power mode
867	Non-Residential	Electronics	Small Commercial	Energy Efficient Computers	Energy Star Certified	Energy Star Certified
868	Non-Residential	HVAC	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec. Water Heater	EF 0.92 80 gal	EF 0.86 80 gal
869	Non-Residential	HVAC	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec. Water Heater	EF 0.54 80 gal	EF 0.86 80 gal
870	Non-Residential	HVAC	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec. Water Heater	EF 0.54 80 gal	EF 0.86 80 gal
871	Non-Residential	HVAC	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec. Water Heater	EF 0.54 80 gal	EF 0.86 80 gal
872	Non-Residential	HVAC	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec. Water Heater	EF 0.54 80 gal	EF 0.86 80 gal
873	Non-Residential	HVAC	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec. Water Heater	not available 30 gal	EF 0.96 30 gal
874	Non-Residential	HVAC	All	Water Heater Replacements (Converted Residences Only) - Elec. Tankless	EF 0.99 50 gal	EF 0.86 80 gal
875	Non-Residential	HVAC	All	Water Heater Replacements (Converted Residences Only) - Elec. Tankless	EF 0.99 50 gal	EF 0.86 80 gal
876	Non-Residential	HVAC	All	Water Heater Replacements (Converted Residences Only) - Elec. Tankless	13 SEER	9.41
877	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Lodging	13 SEER	9.41
878	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Office	13 SEER	9.41
879	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Retail	13 SEER	9.41
880	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Retail	13 SEER	9.41
881	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Health/Medical - Clinic	13 SEER	9.41
882	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Health/Medical - Clinic	13 SEER	9.41
883	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Office	13 SEER	8.93
884	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Office	13 SEER	8.93
885	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Health/Medical - Clinic	13 SEER	8.34
886	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Health/Medical - Clinic	13 SEER	8.34
887	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Office	13 SEER	8.34
888	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Office	13 SEER	8.34
889	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Retail	13 SEER	8.02
890	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Retail	13 SEER	8.02
891	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Lodging	13 SEER	8.02
892	Non-Residential	HVAC	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Office	13 SEER	8.02
893	Non-Residential	HVAC	AC	Split System and Single-Package AC (6.41 - 11.25 tons)	10 EER	9 EER
894	Non-Residential	HVAC	AC	Split System and Single-Package AC (11.25 - 20 tons)	9.5 EER	8.5 EER
895	Non-Residential	HVAC	AC	Split System and Single-Package HP (6.41 - 11.25 tons)	9.5 EER	8.5 EER
896	Non-Residential	HVAC	AC	Split System and Single-Package HP (11.25 - 20 tons)	9.5 EER	8.5 EER
897	Non-Residential	HVAC	AC	Split System and Single-Package HP (6.41 - 11.25 tons)	9.5 EER	8.5 EER
898	Non-Residential	HVAC	AC	Split System and Single-Package HP (11.25 - 20 tons)	9.5 EER	8.5 EER
899	Non-Residential	HVAC	Small Commercial	ENERGY STAR Office Equipment Bundle	Copier, Printer, Computer, Monitor	Standard office bundle

Non-residential Measures

Measure #	Technology Type	Efficient Measure	Efficient Measure Life	Unit Name	Retrofit, Replace or Burnout, or New	Measure Incremental Cost	Annual kWh Savings	Annual kW Coincident Peak Savings	Annual Gas Savings (Therms)
865	Small Commercial	Energy Efficient Computers	6	per building	ROB	\$53.00	429.55	0.10	0.00
866	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	4	Replaced Unit	ROB	\$12.00	1979.72	0.46	0.00
867	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	15	Replaced Unit	ROB	\$72.30	14.00	0.00	0.00
868	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	15	Replaced Unit	ROB	\$72.30	17.00	0.00	0.00
869	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	15	Replaced Unit	ROB	\$72.30	20.00	0.00	0.00
870	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	15	Replaced Unit	ROB	\$72.30	23.00	0.00	0.00
871	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	15	Replaced Unit	ROB	\$72.30	26.00	0.00	0.00
872	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	15	Replaced Unit	ROB	\$72.30	12.00	0.00	0.00
873	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	15	Replaced Unit	ROB	\$72.30	0.00	0.00	0.00
874	All	Water Heater Replacements (Converted Residences Only) - Elec Tankless	20	Replaced Unit	ROB	\$72.30	36.00	0.00	0.00
875	All	Water Heater Replacements (Converted Residences Only) - Elec Tankless	20	Replaced Unit	ROB	\$72.30	21.00	0.00	0.00
876	All	Water Heater Replacements (Converted Residences Only) - Elec Tankless	20	Replaced Unit	ROB	\$72.30	12.00	0.00	0.00
877	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Lodging	20	bluhr	ROB	\$0.01	0.03	0.00	0.00
878	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Lodging	20	bluhr	ROB	\$0.01	0.03	0.00	0.00
879	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Office	20	bluhr	ROB	\$0.01	0.03	0.00	0.00
880	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Retail	20	bluhr	ROB	\$0.01	0.03	0.00	0.00
881	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Health/Medical - Clinic	20	bluhr	ROB	\$0.01	0.04	0.00	0.00
882	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Lodging	20	bluhr	ROB	\$0.01	0.05	0.00	0.00
883	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Office	20	bluhr	ROB	\$0.01	0.04	0.00	0.00
884	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Retail	20	bluhr	ROB	\$0.01	0.04	0.00	0.00
885	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Health/Medical - Clinic	20	bluhr	ROB	\$0.01	0.04	0.00	0.00
886	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Lodging	20	bluhr	ROB	\$0.01	0.07	0.00	0.00
887	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Office	20	bluhr	ROB	\$0.01	0.04	0.00	0.00
888	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Retail	20	bluhr	ROB	\$0.01	0.05	0.00	0.00
889	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Health/Medical - Clinic	20	bluhr	ROB	\$0.01	0.05	0.00	0.00
890	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Lodging	20	bluhr	ROB	\$0.01	0.07	0.00	0.00
891	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Office	20	bluhr	ROB	\$0.01	0.05	0.00	0.00
892	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Retail	20	bluhr	ROB	\$0.01	0.05	0.00	0.00
893	AC	Split System and Single-Package A/C (6.41 - 11.25 tons)	15	per ton	ROB	\$120.00	333.00	0.09	0.00
894	AC	Split System and Single-Package HP (6.41 - 11.25 tons)	15	per ton	ROB	\$120.00	241.00	0.10	0.00
895	AC	Split System and Single-Package HP (11.25 - 20 tons)	15	per ton	ROB	\$120.00	378.00	0.15	0.00
896	AC	Split System and Single-Package HP (6.41 - 11.25 tons)	15	per ton	ROB	\$120.00	286.00	0.17	0.00
897	AC	Split System and Single-Package HP (11.25 - 20 tons)	15	per ton	ROB	\$120.00	419.00	0.15	0.00
898	AC	Split System and Single-Package HP (6.41 - 11.25 tons)	15	per ton	ROB	\$120.00	290.00	0.17	0.00
899	Small Commercial	ENERGY STAR Office Equipment Bundle	4	per building	ROB	\$0.01	2863.53	0.70	0.00

Non-residential Measures

Measure #	Technology Type	Efficient Measure	Measure TRC	Passed Measure Screening?	Total Sub-Sector Units	Measure Units per Sub-Sector Unit	Applicability	Feasibility	Not Yet Adopted	Annual Replacement Eligibility	Total Applicable Measure Units	Program
865	Small Commercial	Copier Standby	5.36	1	1472	1	33%	10%	100%	17%	63	Small Commercial Energy Solutions
866	Small Commercial	Energy Efficient Computers	48.10	1	1472	5	33%	1%	100%	25%	23	Small Commercial Energy Solutions
867	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	0.11	0	1472	1						
868	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	0.15	0	1472	1						
869	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	0.17	0	1472	1						
870	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	0.19	0	1472	1						
871	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	0.21	0	1472	1						
872	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	0.10	0	1472	1						
873	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	0.00	0	1472	1						
874	All	Water Heater Replacements (Converted Residences Only) - Elec Tankless	0.36	0	1472	1						
875	All	Water Heater Replacements (Converted Residences Only) - Elec Tankless	0.21	0	1472	1						
876	PTAC	Water Heater Replacements (Converted Residences Only) - Elec Tankless	0.12	0	1472	1						
877	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Health/Medical - Clinic	9.14	0	1472	51754				5%	267163	Small Commercial Energy Solutions
878	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Lodging	9.11	1	1472	51754	1%	90%	100%			
879	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Office	8.10	0	1472	51754						
880	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Retail	8.34	0	1472	51754						
881	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Health/Medical - Clinic	9.73	0	1472	51754						
882	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Lodging	10.89	1	1472	51754	1%	90%	100%	5%	267163	Small Commercial Energy Solutions
883	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Office	9.67	0	1472	51754						
884	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Retail	11.93	0	1472	51754						
885	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Health/Medical - Clinic	13.35	0	1472	51754	1%	90%	100%	5%	267163	Small Commercial Energy Solutions
886	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Lodging	11.86	1	1472	51754						
887	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Office	12.22	0	1472	51754						
888	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Retail	13.25	0	1472	51754						
889	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Health/Medical - Clinic	14.84	0	1472	51754	1%	90%	100%	5%	267163	Small Commercial Energy Solutions
890	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Lodging	13.18	0	1472	51754						
891	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Office	13.58	0	1472	51754						
892	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Retail	2.48	0	1472	8						
893	AC	Split System and Single-Package A/C (5.41 - 11.25 tons)	2.25	1	1472	8	33%	100%	100%	7%	2019	Small Commercial Energy Solutions
894	AC	Split System and Single-Package A/C (11.25 - 20 tons)	2.25	1	1472	15	36%	100%	100%	7%	4095	Small Commercial Energy Solutions
895	AC	Split System and Single-Package HP (6.41 - 11.25 tons)	3.46	1	1472	8	33%	100%	100%	7%	2019	Small Commercial Energy Solutions
896	AC	Split System and Single-Package HP (11.25 - 20 tons)	3.23	1	1472	15	36%	100%	100%	7%	4095	Small Commercial Energy Solutions
897	AC	Split System and Single-Package HP (11.25 - 20 tons)	3.62	1	1472	8	33%	100%	100%	7%	2019	Small Commercial Energy Solutions
898	AC	Split System and Single-Package HP (11.25 - 20 tons)	3.33	1	1472	15	36%	100%	100%	7%	4095	Small Commercial Energy Solutions
899	Small Commercial	ENERGY STAR Office Equipment Bundle	86950.15	0	1472	1						



Non-residential Measures

Measure #	Technology Type	Efficient Measure	Measure Savings Source	Measure Cost Source	Applicability Factor Source	Feasibility Factor Source	Not-Yet-Adopted Rate Source
865	Small Commercial	Copier Standby	ICF	ICF	Energy, CBECS	ICF	ICF
866	Small Commercial	Energy Efficient Computers	ICF	ICF	Energy, CBECS	ICF	ENERGY STAR
867	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	ICF	DEER	Energy, CBECS	ICF	
868	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	ICF	DEER	Energy, CBECS	ICF	
869	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	ICF	DEER	Energy, CBECS	ICF	
870	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	ICF	DEER	Energy, CBECS	ICF	
871	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	ICF	DEER	Energy, CBECS	ICF	
872	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	ICF	DEER	Energy, CBECS	ICF	
873	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	ICF	DEER	Energy, CBECS	ICF	
874	All	Water Heater Replacements (Converted Residences Only) - Storage Tank Elec Water Heater	ICF	DEER	Energy, CBECS	ICF	
875	All	Water Heater Replacements (Converted Residences Only) - Elec Tankless	ICF	DEER	Energy, CBECS	ICF	
876	All	Water Heater Replacements (Converted Residences Only) - Elec Tankless	ICF	DEER	Energy, CBECS	ICF	
877	All	Water Heater Replacements (Converted Residences Only) - Elec Tankless	ICF	DEER	Energy, CBECS	ICF	
878	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Lodging	ICF	DEER	CBECS	ICF	ICF
879	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Office	ICF	DEER			
880	PTAC	PTAC (small comm and Converted Residences) <8000 Single Phase, Retail	ICF	DEER			
881	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Health/Medical - Clinic	ICF	DEER			
882	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Lodging	ICF	DEER	CBECS	ICF	ICF
883	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Office	ICF	DEER			
884	PTAC	PTAC (small comm and Converted Residences) >8000 & <10500 Single Phase, Retail	ICF	DEER			
885	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Health/Medical - Clinic	ICF	DEER	CBECS	ICF	ICF
886	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Lodging	ICF	DEER			
887	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Office	ICF	DEER			
888	PTAC	PTAC (small comm and Converted Residences) >10500 & <13500 Single Phase, Retail	ICF	DEER			
889	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Health/Medical - Clinic	ICF	DEER			
890	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Lodging	ICF	DEER	CBECS	ICF	ICF
891	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Office	ICF	DEER			
892	PTAC	PTAC (small comm and Converted Residences) >13500 Single Phase, Retail	ICF	DEER			
893	AC	Split System and Single-Package A/C (5.41 - 11.25 tons)	Frontier - 2009 ENO Deemed Savings	ICF	Energy, CBECS	ICF	ICF
894	AC	Split System and Single-Package A/C (11.25 - 20 tons)	Frontier - 2009 ENO Deemed Savings	ICF	Energy, CBECS	ICF	ICF
895	AC	Split System and Single-Package HP (5.41 - 11.25 tons)	Frontier - 2009 ENO Deemed Savings	ICF	Energy, CBECS	ICF	ICF
896	AC	Split System and Single-Package HP (11.25 - 20 tons)	Frontier - 2009 ENO Deemed Savings	ICF	Energy, CBECS	ICF	ICF
897	AC	Split System and Single-Package HP (5.41 - 11.25 tons)	Frontier - 2009 ENO Deemed Savings	ICF	Energy, CBECS	ICF	ICF
898	AC	Split System and Single-Package HP (11.25 - 20 tons)	Frontier - 2009 ENO Deemed Savings	ICF	Energy, CBECS	ICF	ICF
899	Small Commercial	ENERGY STAR Office Equipment Bundle	ICF	ICF	Energy, CBECS	ICF	ICF

# **Appendix B**

## **Program Savings and Cost Estimates, Cost-Effectiveness and Net-to-Gross Ratios**

Reference Case Program Savings and Cost Estimates

		Cumulative Electricity Savings Estimates - MWh										
Sector	Type	Program Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	1,055	3,262	6,651	9,668	13,299	17,292	21,456	24,999	27,689	29,548
Residential	EE	ENERGY STAR Air Conditioning	405	1,225	2,540	3,121	4,298	6,184	8,609	11,319	14,152	17,033
Residential	EE	AC Tune-Up	680	2,056	4,282	6,419	8,213	9,319	9,852	10,074	10,160	10,193
Residential	EE	Residential Energy Solutions	1,360	3,061	5,102	7,422	11,227	14,631	18,035	21,343	24,628	27,889
Residential	EE	Low Income Weatherization	1,044	2,089	3,134	4,179	5,224	6,269	7,314	8,360	9,405	10,451
Residential	EE	Energy Smart New Homes	11	25	41	59	82	104	127	150	173	195
Non-Residential	EE	Small Commercial Energy Solutions	887	2,688	5,586	9,303	13,452	17,777	22,168	26,591	31,028	35,477
Non-Residential	EE	Large Commercial Energy Solutions	3,277	10,093	21,329	36,178	52,926	70,611	88,641	106,917	125,492	144,462
Residential	EE	Multifamily	0	0	358	1,219	2,627	4,496	6,630	8,868	11,136	13,277
Residential	EE	Home Energy Use Benchmarking	0	0	3,346	3,346	3,347	3,347	3,348	3,348	3,349	3,349
Non-Residential	EE	Commercial Building Energy Management	529	1,209	2,047	3,196	4,966	6,786	8,657	10,339	12,996	15,717
Non-Residential	EE	Industrial	839	2,536	5,257	8,754	12,662	16,746	20,840	24,901	28,900	32,849
Non-Residential	EE	Commercial New Construction	0	0	0	538	1,650	3,471	5,864	8,596	11,514	14,548
Non-Residential	DR	Interruptible Rate	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Direct Load Control	0	0	0	0	0	0	0	0	0	0
Residential	Renewable	Solar Water Heater Pilot	3	8	17	28	40	53	67	80	93	107
Residential	Renewable	Residential Solar PV	5	16	33	55	79	105	130	157	183	209
Non-Residential	Renewable	Commercial Solar PV	120	368	778	1,320	1,942	2,611	3,310	4,033	4,778	5,545
<b>Total Portfolio</b>			<b>10,216</b>	<b>28,635</b>	<b>60,480</b>	<b>95,206</b>	<b>136,034</b>	<b>179,802</b>	<b>225,050</b>	<b>270,074</b>	<b>314,397</b>	<b>358,128</b>

		Cumulative Electricity Savings Estimates - MWh										
Sector	Type	Program Name	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	31,968	33,858	35,414	36,604	37,518	38,156	38,595	38,931	39,223	39,496
Residential	EE	ENERGY STAR Air Conditioning	19,932	22,838	25,748	28,658	31,568	34,076	36,168	37,766	40,098	41,835
Residential	EE	AC Tune-Up	10,206	10,212	10,215	10,217	10,219	10,220	10,221	10,222	10,223	10,226
Residential	EE	Residential Energy Solutions	31,028	34,100	37,154	40,156	43,118	45,787	48,062	50,179	52,073	53,665
Residential	EE	Low Income Weatherization	10,453	10,454	10,456	10,457	10,459	10,460	10,462	10,463	10,465	10,466
Residential	EE	Energy Smart New Homes	218	241	264	286	309	332	355	377	400	423
Non-Residential	EE	Small Commercial Energy Solutions	39,510	43,023	45,926	48,321	50,419	52,305	54,060	55,704	57,236	58,695
Non-Residential	EE	Large Commercial Energy Solutions	163,568	181,044	196,674	210,078	221,835	232,685	242,841	252,520	261,793	270,863
Residential	EE	Multifamily	15,282	17,123	18,655	19,933	20,957	21,800	22,548	23,247	23,786	24,198
Residential	EE	Home Energy Use Benchmarking	3,350	3,350	3,351	3,351	3,352	3,352	3,353	3,353	3,353	3,354
Non-Residential	EE	Commercial Building Energy Management	14,104	14,817	15,229	15,652	16,086	16,534	16,993	17,466	17,952	18,451
Non-Residential	EE	Industrial	36,028	38,434	39,929	40,735	41,162	41,407	41,562	41,666	41,744	41,809
Non-Residential	EE	Commercial New Construction	17,669	20,867	24,141	27,490	30,916	34,421	38,007	41,676	45,431	49,274
Non-Residential	DR	Interruptible Rate	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Direct Load Control	0	0	0	0	0	0	0	0	0	0
Residential	Renewable	Solar Water Heater Pilot	120	133	147	160	174	187	200	214	227	241
Residential	Renewable	Residential Solar PV	235	261	288	314	340	366	392	419	445	471
Non-Residential	Renewable	Commercial Solar PV	6,334	7,144	7,978	8,835	9,716	10,622	11,553	12,511	13,495	14,507
<b>Total Portfolio</b>			<b>400,003</b>	<b>437,902</b>	<b>471,567</b>	<b>501,248</b>	<b>528,149</b>	<b>552,711</b>	<b>575,374</b>	<b>596,716</b>	<b>617,945</b>	<b>637,974</b>

Reference Case Program Savings and Cost Estimates

		Cumulative Demand Savings Estimates - MW										
Sector	Type	Program Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	0.18	0.54	1.12	1.73	2.44	3.21	4.01	4.75	5.39	5.95
Residential	EE	ENERGY STAR Air Conditioning	0.12	0.37	0.76	0.93	1.27	1.81	2.51	3.29	4.10	4.93
Residential	EE	AC Tune-Up	0.25	0.75	1.56	2.35	3.01	3.42	3.61	3.69	3.73	3.73
Residential	EE	Residential Energy Solutions	0.43	0.97	1.62	2.48	3.55	4.63	5.71	6.78	7.84	8.90
Residential	EE	Low Income Weatherization	0.29	0.59	0.88	1.18	1.47	1.76	2.06	2.35	2.64	2.94
Residential	EE	Energy Smart New Homes	0.00	0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.07	0.07
Non-Residential	EE	Small Commercial Energy Solutions	0.27	0.82	1.71	2.84	4.09	5.39	6.69	8.00	9.31	10.62
Non-Residential	EE	Large Commercial Energy Solutions	0.64	1.98	4.18	7.10	10.39	13.88	17.44	21.07	24.76	28.54
Residential	EE	Multifamily	0.00	0.00	0.05	0.18	0.40	0.70	1.05	1.41	1.78	2.13
Residential	EE	Home Energy Use Benchmarking	0.00	0.00	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Non-Residential	EE	Commercial Building Energy Management	0.10	0.38	0.68	0.60	0.93	1.27	1.62	1.93	2.18	2.42
Non-Residential	EE	Industrial	0.11	0.33	0.68	1.14	1.65	2.18	2.71	3.24	3.76	4.27
Non-Residential	EE	Commercial New Construction	0.00	0.00	0.00	0.10	0.30	0.64	1.08	1.58	2.12	2.67
Non-Residential	DR	Interruptible Rate	0.00	0.00	1.76	3.63	5.97	8.32	10.66	13.00	15.34	17.69
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0.00	0.00	0.00	0.00	0.00	0.19	0.39	0.60	0.81	1.02
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.25	0.38	0.52
Residential	DR	Enabled Dynamic Pricing (Res)	0.00	0.00	0.21	0.54	0.96	1.50	2.03	2.57	3.11	3.64
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0.00	0.00	0.00	0.10	0.24	0.43	0.67	0.91	1.15	1.40
Residential	DR	Direct Load Control	0.00	0.00	2.56	5.76	9.60	13.44	17.29	21.14	25.00	28.86
Residential	Renewable	Solar Water Heater Pilot	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.02
Residential	Renewable	Residential Solar PV	0.00	0.01	0.02	0.03	0.04	0.05	0.07	0.08	0.09	0.11
Non-Residential	Renewable	Commercial Solar PV	0.06	0.19	0.40	0.68	1.01	1.35	1.72	2.09	2.48	2.88
<b>Total Portfolio</b>			<b>2.46</b>	<b>6.79</b>	<b>18.79</b>	<b>32.29</b>	<b>48.34</b>	<b>65.37</b>	<b>82.64</b>	<b>97.37</b>	<b>111.42</b>	<b>124.80</b>

		Cumulative Demand Savings Estimates - MW										
Sector	Type	Program Name	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	6.55	7.09	7.58	7.97	8.26	8.45	8.55	8.61	8.65	8.68
Residential	EE	ENERGY STAR Air Conditioning	5.77	6.80	7.44	8.28	9.11	9.83	10.42	10.87	11.54	12.04
Residential	EE	AC Tune-Up	3.74	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
Residential	EE	Residential Energy Solutions	9.94	10.96	11.97	12.97	13.96	14.84	15.56	16.22	16.79	17.25
Residential	EE	Low Income Weatherization	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
Residential	EE	Energy Smart New Homes	0.08	0.09	0.10	0.11	0.12	0.13	0.13	0.14	0.15	0.16
Non-Residential	EE	Small Commercial Energy Solutions	11.78	12.78	13.57	14.22	14.77	15.25	15.67	16.04	16.36	16.65
Non-Residential	EE	Large Commercial Energy Solutions	32.37	35.87	39.00	41.69	44.03	46.17	48.15	50.02	51.79	53.52
Residential	EE	Multifamily	2.46	2.77	3.05	3.31	3.54	3.75	3.95	4.15	4.30	4.42
Residential	EE	Home Energy Use Benchmarking	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Non-Residential	EE	Commercial Building Energy Management	2.62	2.75	2.83	2.90	2.99	3.07	3.15	3.24	3.33	3.42
Non-Residential	EE	Industrial	4.68	5.00	5.19	5.30	5.35	5.38	5.40	5.42	5.43	5.44
Non-Residential	EE	Commercial New Construction	3.24	3.83	4.42	5.03	5.65	6.29	6.94	7.60	8.28	8.98
Non-Residential	DR	Interruptible Rate	20.03	22.37	22.96	23.42	23.42	23.42	23.42	23.42	23.42	23.42
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	1.24	1.47	1.71	1.95	2.20	2.26	2.32	2.39	2.45	2.52
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0.80	0.94	1.09	1.25	1.41	1.45	1.49	1.53	1.57	1.62
Residential	DR	Enabled Dynamic Pricing (Res)	4.18	4.71	5.04	5.25	5.36	5.36	5.36	5.36	5.36	5.36
Residential	DR	Non-Enabled Dynamic Pricing (Res)	1.88	2.12	2.26	2.36	2.41	2.41	2.41	2.41	2.41	2.41
Residential	DR	Direct Load Control	19.22	19.22	19.22	19.23	19.23	19.23	19.23	19.24	19.24	19.24
Residential	Renewable	Solar Water Heater Pilot	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.04	0.04
Residential	Renewable	Residential Solar PV	0.12	0.14	0.15	0.16	0.18	0.19	0.20	0.22	0.23	0.24
Non-Residential	Renewable	Commercial Solar PV	3.29	3.71	4.14	4.58	5.04	5.51	5.99	6.49	7.00	7.53
<b>Total Portfolio</b>			<b>137.71</b>	<b>149.88</b>	<b>159.22</b>	<b>167.46</b>	<b>174.51</b>	<b>180.46</b>	<b>185.86</b>	<b>190.86</b>	<b>195.82</b>	<b>200.40</b>

Reference Case Program Savings and Cost Estimates

Sector	Type	Program Name	Incremental Electricity Savings Estimates - MWh									
			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	1,055	2,207	3,389	3,017	3,632	3,993	4,164	4,235	4,263	4,274
Residential	EE	ENERGY STAR Air Conditioning	405	820	1,315	581	1,176	1,886	2,425	2,710	2,833	2,881
Residential	EE	AC Tune-Up	680	1,376	2,206	2,837	3,170	3,369	3,391	3,399	3,399	3,403
Residential	EE	Residential Energy Solutions	1,360	1,701	2,041	2,722	3,403	3,404	3,404	3,404	3,405	3,405
Residential	EE	Low Income Weatherization	1,044	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,046	1,046
Residential	EE	Energy Smart New Homes	11	14	16	18	23	23	23	23	23	23
Non-Residential	EE	Small Commercial Energy Solutions	887	1,801	2,898	3,739	4,194	4,400	4,492	4,539	4,569	4,592
Non-Residential	EE	Large Commercial Energy Solutions	3,277	6,816	11,236	14,849	17,056	18,326	19,159	19,820	20,424	21,015
Residential	EE	Multifamily	0	0	358	860	1,409	1,898	2,196	2,336	2,416	2,416
Residential	EE	Home Energy Use Benchmarking	0	0	3,346	3,346	3,347	3,348	3,348	3,348	3,349	3,349
Non-Residential	EE	Commercial Building Energy Management	529	680	838	1,149	1,771	1,820	1,870	1,922	1,976	2,031
Non-Residential	EE	Industrial	839	1,697	2,721	3,497	3,908	4,084	4,153	4,179	4,188	4,192
Non-Residential	EE	Commercial New Construction	0	0	0	538	1,112	1,822	2,393	2,732	2,918	3,034
Non-Residential	DR	Interruptible Rate	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Direct Load Control	0	0	0	0	0	0	0	0	0	0
Residential	Renewable	Solar Water Heater Pilot	3	5	9	11	12	13	13	13	13	13
Residential	Renewable	Residential Solar PV	5	11	17	22	24	26	26	26	26	26
Non-Residential	Renewable	Commercial Solar PV	120	249	410	542	622	669	699	723	745	767
<b>Total Portfolio</b>			<b>10,216</b>	<b>18,419</b>	<b>31,845</b>	<b>38,773</b>	<b>45,903</b>	<b>50,068</b>	<b>52,779</b>	<b>54,448</b>	<b>55,570</b>	<b>56,466</b>

Sector	Type	Program Name	Incremental Electricity Savings Estimates - MWh									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	4,278	4,280	4,281	4,282	4,283	4,283	4,284	4,285	4,285	4,286
Residential	EE	ENERGY STAR Air Conditioning	2,899	2,906	2,909	2,911	2,912	2,912	2,912	2,913	2,913	2,914
Residential	EE	AC Tune-Up	3,404	3,405	3,406	3,406	3,407	3,407	3,408	3,408	3,409	3,409
Residential	EE	Residential Energy Solutions	3,406	3,406	3,407	3,407	3,408	3,408	3,409	3,409	3,410	3,410
Residential	EE	Low Income Weatherization	1,046	1,046	1,046	1,046	1,047	1,047	1,047	1,047	1,047	1,047
Residential	EE	Energy Smart New Homes	23	23	23	23	23	23	23	23	23	23
Non-Residential	EE	Small Commercial Energy Solutions	4,614	4,636	4,657	4,679	4,702	4,726	4,750	4,774	4,800	4,826
Non-Residential	EE	Large Commercial Energy Solutions	21,613	22,222	22,848	23,490	24,150	24,829	25,526	26,243	26,981	27,739
Residential	EE	Multifamily	2,424	2,428	2,429	2,430	2,430	2,431	2,431	2,432	2,432	2,432
Residential	EE	Home Energy Use Benchmarking	3,350	3,350	3,351	3,351	3,352	3,352	3,353	3,353	3,353	3,354
Non-Residential	EE	Commercial Building Energy Management	2,087	2,145	2,205	2,266	2,329	2,394	2,461	2,529	2,600	2,672
Non-Residential	EE	Industrial	4,193	4,194	4,194	4,194	4,194	4,194	4,194	4,194	4,194	4,194
Non-Residential	EE	Commercial New Construction	3,121	3,198	3,274	3,349	3,426	3,505	3,586	3,669	3,755	3,843
Non-Residential	DR	Interruptible Rate	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Direct Load Control	0	0	0	0	0	0	0	0	0	0
Residential	Renewable	Solar Water Heater Pilot	13	13	13	13	13	13	13	13	13	13
Residential	Renewable	Residential Solar PV	26	26	26	26	26	26	26	26	26	26
Non-Residential	Renewable	Commercial Solar PV	789	811	834	857	881	906	931	958	984	1,012
<b>Total Portfolio</b>			<b>57,286</b>	<b>58,090</b>	<b>58,902</b>	<b>59,731</b>	<b>60,582</b>	<b>61,456</b>	<b>62,353</b>	<b>63,276</b>	<b>64,225</b>	<b>65,200</b>

Reference Case Program Savings and Cost Estimates

		Incremental Demand Savings Estimates - MW										
Sector	Type	Program Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	0.18	0.37	0.58	0.61	0.71	0.77	0.80	0.81	0.82	0.82
Residential	EE	ENERGY STAR Air Conditioning	0.12	0.25	0.39	0.17	0.34	0.54	0.70	0.78	0.82	0.83
Residential	EE	AC Tune-Up	0.25	0.50	0.81	1.04	1.16	1.22	1.24	1.24	1.25	1.25
Residential	EE	Residential Energy Solutions	0.43	0.54	0.65	0.86	1.08	1.08	1.08	1.08	1.08	1.08
Residential	EE	Low Income Weatherization	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Residential	EE	Energy Smart New Homes	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Non-Residential	EE	Small Commercial Energy Solutions	0.27	0.55	0.89	1.15	1.29	1.35	1.38	1.39	1.40	1.41
Non-Residential	EE	Large Commercial Energy Solutions	0.64	1.34	2.20	2.91	3.35	3.60	3.76	3.89	4.01	4.12
Residential	EE	Multifamily	0.00	0.00	0.05	0.13	0.22	0.31	0.37	0.40	0.41	0.41
Residential	EE	Home Energy Use Benchmarking	0.00	0.00	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Non-Residential	EE	Commercial Building Energy Management	0.10	0.13	0.16	0.21	0.33	0.34	0.35	0.36	0.37	0.38
Non-Residential	EE	Industrial	0.11	0.22	0.35	0.45	0.51	0.53	0.54	0.54	0.54	0.54
Non-Residential	EE	Commercial New Construction	0.00	0.00	0.00	0.10	0.21	0.34	0.44	0.50	0.54	0.56
Non-Residential	DR	Interruptible Rate	0.00	0.00	1.76	1.87	2.34	2.34	2.34	2.34	2.34	2.34
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0.00	0.00	0.00	0.00	0.00	0.19	0.20	0.20	0.21	0.22
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.13	0.13	0.14
Residential	DR	Enabled Dynamic Pricing (Res)	0.00	0.00	0.21	0.32	0.43	0.54	0.54	0.54	0.54	0.54
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0.00	0.00	0.00	0.10	0.19	0.24	0.24	0.24	0.24	0.24
Residential	DR	Direct Load Control	0.00	0.00	2.56	3.20	3.84	3.84	3.84	3.84	3.84	3.84
Residential	Renewable	Solar Water Heater Pilot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Residential	Renewable	Residential Solar PV	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Non-Residential	Renewable	Commercial Solar PV	0.06	0.13	0.21	0.28	0.32	0.35	0.36	0.38	0.39	0.40
<b>Total Portfolio</b>			<b>2.5</b>	<b>4.3</b>	<b>12.0</b>	<b>14.5</b>	<b>17.4</b>	<b>18.8</b>	<b>19.4</b>	<b>19.8</b>	<b>20.0</b>	<b>20.2</b>

		Incremental Demand Savings Estimates - MW										
Sector	Type	Program Name	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Residential	EE	ENERGY STAR Air Conditioning	0.83	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Residential	EE	AC Tune-Up	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Residential	EE	Residential Energy Solutions	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Residential	EE	Low Income Weatherization	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Residential	EE	Energy Smart New Homes	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Non-Residential	EE	Small Commercial Energy Solutions	1.41	1.42	1.43	1.43	1.44	1.45	1.45	1.46	1.47	1.48
Non-Residential	EE	Large Commercial Energy Solutions	4.24	4.36	4.48	4.61	4.74	4.87	5.01	5.15	5.29	5.44
Residential	EE	Multifamily	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Residential	EE	Home Energy Use Benchmarking	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Non-Residential	EE	Commercial Building Energy Management	0.39	0.40	0.41	0.42	0.43	0.45	0.46	0.47	0.48	0.50
Non-Residential	EE	Industrial	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Non-Residential	EE	Commercial New Construction	0.57	0.58	0.60	0.61	0.62	0.64	0.65	0.66	0.68	0.69
Non-Residential	DR	Interruptible Rate	2.34	2.34	2.34	2.34	2.34	2.34	2.34	2.34	2.34	2.34
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0.22	0.23	0.23	0.24	0.25	0.25	0.26	0.27	0.28	0.28
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0.14	0.15	0.15	0.15	0.16	0.16	0.17	0.17	0.18	0.18
Residential	DR	Enabled Dynamic Pricing (Res)	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Residential	DR	Direct Load Control	3.84	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85
Residential	DR	Solar Water Heater Pilot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Residential	Renewable	Residential Solar PV	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Non-Residential	Renewable	Commercial Solar PV	0.41	0.42	0.43	0.44	0.46	0.47	0.48	0.50	0.51	0.53
<b>Total Portfolio</b>			<b>20.4</b>	<b>20.6</b>	<b>20.7</b>	<b>20.9</b>	<b>21.1</b>	<b>21.3</b>	<b>21.5</b>	<b>21.7</b>	<b>21.9</b>	<b>22.1</b>

Reference Case Program Savings and Cost Estimates

Sector	Type	Program Name	Annual Incentive Cost Estimates - Real 2011 \$ (Millions)									
			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	\$0.20	\$0.40	\$0.64	\$0.76	\$0.86	\$0.91	\$0.92	\$0.93	\$0.94	\$0.94
Residential	EE	ENERGY STAR Air Conditioning	\$0.20	\$0.40	\$0.64	\$0.16	\$0.32	\$0.52	\$0.67	\$0.75	\$0.78	\$0.79
Residential	EE	AC Tune-Up	\$0.11	\$0.23	\$0.36	\$0.46	\$0.52	\$0.54	\$0.55	\$0.56	\$0.56	\$0.56
Residential	EE	Residential Energy Solutions	\$0.61	\$0.76	\$0.91	\$1.21	\$1.52	\$1.52	\$1.52	\$1.52	\$1.52	\$1.52
Residential	EE	Low Income Weatherization	\$0.69	\$0.69	\$0.69	\$0.69	\$0.69	\$0.69	\$0.69	\$0.69	\$0.69	\$0.69
Residential	EE	Energy Smart New Homes	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	EE	Small Commercial Energy Solutions	\$0.28	\$0.57	\$0.91	\$1.18	\$1.32	\$1.38	\$1.41	\$1.42	\$1.43	\$1.44
Non-Residential	EE	Large Commercial Energy Solutions	\$0.50	\$1.04	\$1.72	\$2.27	\$2.61	\$2.80	\$2.93	\$3.03	\$3.13	\$3.22
Residential	EE	Multifamily	\$0.00	\$0.00	\$0.09	\$0.23	\$0.38	\$0.52	\$0.60	\$0.64	\$0.66	\$0.66
Residential	EE	Home Energy Use Benchmarking	\$0.00	\$0.00	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17
Non-Residential	EE	Commercial Building Energy Management	\$0.03	\$0.04	\$0.04	\$0.06	\$0.09	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10
Non-Residential	EE	Industrial	\$0.06	\$0.13	\$0.20	\$0.26	\$0.29	\$0.30	\$0.31	\$0.31	\$0.31	\$0.31
Non-Residential	EE	Commercial New Construction	\$0.00	\$0.00	\$0.00	\$0.12	\$0.24	\$0.39	\$0.52	\$0.59	\$0.63	\$0.66
Non-Residential	DR	Interruptible Rate	\$0.00	\$0.00	\$0.20	\$0.21	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.06	\$0.06	\$0.06	\$0.06	\$0.07
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.07	\$0.10	\$0.13	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.01	\$0.01	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
Residential	DR	Direct Load Control	\$0.00	\$0.00	\$0.15	\$0.19	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22
Residential	Renewable	Solar Water Heater Pilot	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Residential	Renewable	Residential Solar PV	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	Renewable	Commercial Solar PV	\$0.23	\$0.47	\$0.78	\$1.02	\$1.18	\$1.26	\$1.32	\$1.37	\$1.41	\$1.45
<b>Total Portfolio</b>			<b>\$2.90</b>	<b>\$4.72</b>	<b>\$7.59</b>	<b>\$9.13</b>	<b>\$10.85</b>	<b>\$11.86</b>	<b>\$12.47</b>	<b>\$12.84</b>	<b>\$13.08</b>	<b>\$13.27</b>

Sector	Type	Program Name	Annual Incentive Cost Estimates - Real 2011 \$ (Millions)									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94
Residential	EE	ENERGY STAR Air Conditioning	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80
Residential	EE	AC Tune-Up	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56
Residential	EE	Residential Energy Solutions	\$1.52	\$1.52	\$1.52	\$1.52	\$1.52	\$1.52	\$1.52	\$1.52	\$1.52	\$1.52
Residential	EE	Low Income Weatherization	\$0.69	\$0.69	\$0.69	\$0.69	\$0.69	\$0.69	\$0.69	\$0.69	\$0.69	\$0.69
Residential	EE	Energy Smart New Homes	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	EE	Small Commercial Energy Solutions	\$1.44	\$1.45	\$1.45	\$1.46	\$1.46	\$1.47	\$1.47	\$1.48	\$1.48	\$1.49
Non-Residential	EE	Large Commercial Energy Solutions	\$3.31	\$3.40	\$3.50	\$3.60	\$3.70	\$3.80	\$3.91	\$4.02	\$4.13	\$4.25
Residential	EE	Multifamily	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67	\$0.67
Residential	EE	Home Energy Use Benchmarking	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17
Non-Residential	EE	Commercial Building Energy Management	\$0.11	\$0.11	\$0.11	\$0.12	\$0.12	\$0.12	\$0.13	\$0.13	\$0.13	\$0.14
Non-Residential	EE	Industrial	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31
Non-Residential	EE	Commercial New Construction	\$0.68	\$0.69	\$0.71	\$0.72	\$0.74	\$0.76	\$0.78	\$0.79	\$0.81	\$0.83
Non-Residential	DR	Interruptible Rate	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.07	\$0.07	\$0.07	\$0.07	\$0.08	\$0.08	\$0.08	\$0.08	\$0.09	\$0.09
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
Residential	DR	Direct Load Control	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22
Residential	Renewable	Solar Water Heater Pilot	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Residential	Renewable	Residential Solar PV	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	Renewable	Commercial Solar PV	\$1.49	\$1.53	\$1.58	\$1.62	\$1.67	\$1.71	\$1.76	\$1.81	\$1.86	\$1.91
<b>Total Portfolio</b>			<b>\$13.44</b>	<b>\$13.61</b>	<b>\$13.77</b>	<b>\$13.94</b>	<b>\$14.12</b>	<b>\$14.30</b>	<b>\$14.48</b>	<b>\$14.67</b>	<b>\$14.87</b>	<b>\$15.07</b>

Reference Case Program Savings and Cost Estimates

		Annual Non-Incentive Cost Estimates - Real 2011 \$ (Millions)										
Sector	Type	Program Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	\$0.08	\$0.16	\$0.26	\$0.31	\$0.35	\$0.37	\$0.37	\$0.38	\$0.38	\$0.38
Residential	EE	ENERGY STAR Air Conditioning	\$0.10	\$0.20	\$0.32	\$0.08	\$0.17	\$0.27	\$0.34	\$0.38	\$0.40	\$0.41
Residential	EE	AC Tune-Up	\$0.06	\$0.11	\$0.18	\$0.24	\$0.26	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28
Residential	EE	Residential Energy Solutions	\$0.40	\$0.50	\$0.60	\$0.80	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Residential	EE	Low Income Weatherization	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25
Residential	EE	Energy Smart New Homes	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	EE	Small Commercial Energy Solutions	\$0.11	\$0.22	\$0.36	\$0.46	\$0.52	\$0.54	\$0.56	\$0.56	\$0.56	\$0.57
Non-Residential	EE	Large Commercial Energy Solutions	\$0.28	\$0.58	\$0.96	\$1.27	\$1.46	\$1.57	\$1.64	\$1.70	\$1.75	\$1.80
Residential	EE	Multifamily	\$0.00	\$0.00	\$0.04	\$0.04	\$0.15	\$0.20	\$0.24	\$0.25	\$0.26	\$0.26
Residential	EE	Home Energy Use Benchmarking	\$0.00	\$0.00	\$0.00	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09
Non-Residential	EE	Commercial Building Energy Management	\$0.03	\$0.04	\$0.04	\$0.06	\$0.04	\$0.09	\$0.10	\$0.10	\$0.10	\$0.10
Non-Residential	EE	Industrial	\$0.04	\$0.09	\$0.15	\$0.19	\$0.21	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22
Non-Residential	EE	Commercial New Construction	\$0.00	\$0.00	\$0.00	\$0.07	\$0.13	\$0.22	\$0.29	\$0.33	\$0.35	\$0.37
Non-Residential	DR	Interruptible Rate	\$0.00	\$0.00	\$0.05	\$0.06	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.03	\$0.03	\$0.03	\$0.04	\$0.036
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.03	\$0.03	\$0.03	\$0.03	\$0.033
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.04	\$0.05	\$0.07	\$0.09	\$0.09	\$0.09	\$0.09	\$0.090
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.00	\$0.04	\$0.04	\$0.07	\$0.09	\$0.09	\$0.09	\$0.091
Residential	DR	Direct Load Control	\$0.00	\$0.00	\$0.00	\$0.05	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.072
Residential	Renewable	Solar Water Heater Pilot	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	Renewable	Residential Solar PV	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Residential	Renewable	Commercial Solar PV	\$0.15	\$0.32	\$0.52	\$0.69	\$0.79	\$0.85	\$0.89	\$0.92	\$0.94	\$0.97
<b>Total Portfolio</b>			<b>\$1.51</b>	<b>\$2.49</b>	<b>\$3.96</b>	<b>\$4.83</b>	<b>\$5.78</b>	<b>\$6.35</b>	<b>\$6.67</b>	<b>\$6.87</b>	<b>\$7.00</b>	<b>\$7.11</b>

		Annual Non-Incentive Cost Estimates - Real 2011 \$ (Millions)										
Sector	Type	Program Name	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38
Residential	EE	ENERGY STAR Air Conditioning	\$0.41	\$0.41	\$0.41	\$0.41	\$0.41	\$0.41	\$0.41	\$0.41	\$0.41	\$0.41
Residential	EE	AC Tune-Up	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28
Residential	EE	Residential Energy Solutions	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Residential	EE	Low Income Weatherization	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25
Residential	EE	Energy Smart New Homes	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	EE	Small Commercial Energy Solutions	\$0.57	\$0.57	\$0.57	\$0.57	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.59
Non-Residential	EE	Large Commercial Energy Solutions	\$1.85	\$1.90	\$1.96	\$2.01	\$2.07	\$2.13	\$2.19	\$2.25	\$2.31	\$2.38
Residential	EE	Multifamily	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26
Residential	EE	Home Energy Use Benchmarking	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09
Non-Residential	EE	Commercial Building Energy Management	\$0.11	\$0.11	\$0.11	\$0.12	\$0.12	\$0.12	\$0.13	\$0.13	\$0.13	\$0.14
Non-Residential	EE	Industrial	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22
Non-Residential	EE	Commercial New Construction	\$0.38	\$0.39	\$0.40	\$0.41	\$0.41	\$0.42	\$0.43	\$0.44	\$0.45	\$0.46
Non-Residential	DR	Interruptible Rate	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.05	\$0.05	\$0.048
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.03	\$0.03	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.043
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.090
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.091
Residential	DR	Direct Load Control	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.072
Residential	Renewable	Solar Water Heater Pilot	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	Renewable	Residential Solar PV	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Residential	Renewable	Commercial Solar PV	\$1.00	\$1.03	\$1.06	\$1.09	\$1.12	\$1.15	\$1.18	\$1.21	\$1.25	\$1.28
<b>Total Portfolio</b>			<b>\$7.21</b>	<b>\$7.31</b>	<b>\$7.41</b>	<b>\$7.51</b>	<b>\$7.62</b>	<b>\$7.72</b>	<b>\$7.83</b>	<b>\$7.95</b>	<b>\$8.06</b>	<b>\$8.18</b>



Reference Case Program Savings and Cost Estimates

Sector	Type	Program Name	Annual Total Program Cost Estimates - Real 2011 \$ (Millions)									
			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	\$0.27	\$0.56	\$0.90	\$1.07	\$1.21	\$1.27	\$1.30	\$1.31	\$1.31	\$1.31
Residential	EE	ENERGY STAR Air Conditioning	\$0.30	\$0.60	\$0.96	\$0.24	\$0.49	\$0.79	\$1.01	\$1.13	\$1.18	
Residential	EE	AC Tune-Up	\$0.17	\$0.34	\$0.51	\$0.55	\$0.78	\$0.82	\$0.83	\$0.84	\$0.84	
Residential	EE	Residential Energy Solutions	\$1.01	\$1.26	\$1.51	\$2.01	\$2.52	\$2.52	\$2.52	\$2.52	\$2.52	
Residential	EE	Low Income Weatherization	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	
Residential	EE	Energy Smart New Homes	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	
Non-Residential	EE	Small Commercial Energy Solutions	\$0.39	\$0.79	\$1.27	\$1.64	\$1.84	\$1.93	\$1.97	\$1.98	\$2.00	
Non-Residential	EE	Large Commercial Energy Solutions	\$0.78	\$1.63	\$2.68	\$3.55	\$4.07	\$4.38	\$4.57	\$4.73	\$5.02	
Residential	EE	Multifamily	\$0.00	\$0.00	\$0.13	\$0.33	\$0.53	\$0.72	\$0.84	\$0.89	\$0.93	
Residential	EE	Home Energy Use Benchmarking	\$0.00	\$0.00	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	
Non-Residential	EE	Commercial Building Energy Management	\$0.06	\$0.07	\$0.09	\$0.12	\$0.18	\$0.26	\$0.33	\$0.40	\$0.48	
Non-Residential	EE	Industrial	\$0.11	\$0.22	\$0.35	\$0.45	\$0.50	\$0.52	\$0.53	\$0.54	\$0.54	
Non-Residential	EE	Commercial New Construction	\$0.00	\$0.00	\$0.00	\$0.18	\$0.38	\$0.62	\$0.81	\$0.92	\$1.02	
Non-Residential	DR	Interruptible Rate	\$0.00	\$0.00	\$0.25	\$0.27	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.09	\$0.10	\$0.10	\$0.10	
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.04	\$0.04	\$0.04	\$0.04	
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.10	\$0.15	\$0.20	\$0.26	\$0.26	\$0.26	\$0.26	
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.04	\$0.07	\$0.09	\$0.11	\$0.11	\$0.11	\$0.11	
Residential	DR	Direct Load Control	\$0.00	\$0.00	\$0.20	\$0.25	\$0.30	\$0.30	\$0.30	\$0.30	\$0.30	
Residential	Renewable	Solar Water Heater Pilot	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	
Residential	Renewable	Residential Solar PV	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	
Non-Residential	Renewable	Commercial Solar PV	\$0.38	\$0.79	\$1.29	\$1.71	\$1.97	\$2.11	\$2.21	\$2.28	\$2.42	
<b>Total Portfolio</b>			<b>\$4.41</b>	<b>\$7.20</b>	<b>\$11.54</b>	<b>\$13.96</b>	<b>\$16.62</b>	<b>\$18.21</b>	<b>\$19.14</b>	<b>\$19.71</b>	<b>\$20.09</b>	<b>\$20.38</b>

Sector	Type	Program Name	Annual Total Program Cost Estimates - Real 2011 \$ (Millions)									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	\$1.31	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32
Residential	EE	ENERGY STAR Air Conditioning	\$1.21	\$1.21	\$1.21	\$1.21	\$1.21	\$1.21	\$1.21	\$1.21	\$1.21	\$1.21
Residential	EE	AC Tune-Up	\$0.84	\$0.84	\$0.84	\$0.84	\$0.84	\$0.84	\$0.84	\$0.84	\$0.84	
Residential	EE	Residential Energy Solutions	\$2.52	\$2.52	\$2.52	\$2.52	\$2.52	\$2.52	\$2.52	\$2.52	\$2.52	
Residential	EE	Low Income Weatherization	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	\$0.94	
Residential	EE	Energy Smart New Homes	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	
Non-Residential	EE	Small Commercial Energy Solutions	\$2.01	\$2.02	\$2.02	\$2.03	\$2.04	\$2.05	\$2.06	\$2.07	\$2.08	
Non-Residential	EE	Large Commercial Energy Solutions	\$5.16	\$5.31	\$5.46	\$5.61	\$5.77	\$5.93	\$6.09	\$6.27	\$6.44	
Residential	EE	Multifamily	\$0.93	\$0.93	\$0.93	\$0.93	\$0.93	\$0.93	\$0.93	\$0.93	\$0.93	
Residential	EE	Home Energy Use Benchmarking	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	
Non-Residential	EE	Commercial Building Energy Management	\$0.22	\$0.22	\$0.23	\$0.23	\$0.24	\$0.25	\$0.26	\$0.27	\$0.27	
Non-Residential	EE	Industrial	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	
Non-Residential	EE	Commercial New Construction	\$1.05	\$1.08	\$1.10	\$1.13	\$1.16	\$1.21	\$1.24	\$1.27	\$1.30	
Non-Residential	DR	Interruptible Rate	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.11	\$0.11	\$0.11	\$0.11	\$0.12	\$0.12	\$0.13	\$0.13	\$0.14	
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.05	\$0.05	\$0.05	\$0.05	
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	
Residential	DR	Direct Load Control	\$0.30	\$0.30	\$0.30	\$0.30	\$0.30	\$0.30	\$0.30	\$0.30	\$0.30	
Residential	Renewable	Solar Water Heater Pilot	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	
Residential	Renewable	Residential Solar PV	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	
Non-Residential	Renewable	Commercial Solar PV	\$2.49	\$2.56	\$2.63	\$2.71	\$2.78	\$2.86	\$2.94	\$3.02	\$3.11	
<b>Total Portfolio</b>			<b>\$20.65</b>	<b>\$20.92</b>	<b>\$21.18</b>	<b>\$21.46</b>	<b>\$21.73</b>	<b>\$22.02</b>	<b>\$22.32</b>	<b>\$22.62</b>	<b>\$22.93</b>	<b>\$23.25</b>

High Case Program Savings and Cost Estimates

		Cumulative Electricity Savings Estimates - MWh										
Sector	Type	Program Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	1,201	3,703	7,572	11,176	15,468	20,156	25,030	29,237	32,509	34,852
Residential	EE	ENERGY STAR Air Conditioning	530	1,603	3,324	4,070	5,579	8,000	11,112	14,589	18,224	21,921
Residential	EE	AC Tune-Up	680	2,056	4,262	6,419	8,213	9,319	9,852	10,074	10,160	10,193
Residential	EE	Residential Energy Solutions	1,809	4,071	6,786	10,406	14,932	19,459	23,986	28,386	32,755	37,092
Residential	EE	Low Income Weatherization	1,389	2,778	4,168	5,558	6,947	8,338	9,728	11,118	12,509	13,900
Residential	EE	Energy Smart New Homes	15	33	54	79	109	139	169	199	230	260
Non-Residential	EE	Small Commercial Energy Solutions	1,307	3,961	8,231	13,714	19,840	26,234	32,734	39,283	45,855	52,443
Non-Residential	EE	Large Commercial Energy Solutions	4,479	13,794	29,150	49,442	72,444	96,848	121,903	147,445	173,509	200,184
Residential	EE	Multifamily	0	0	380	1,314	2,842	4,451	6,065	7,224	8,453	9,686
Residential	EE	Home Energy Use Benchmarking	0	0	4,450	4,451	4,451	4,452	4,452	4,453	4,454	4,454
Non-Residential	EE	Commercial Building Energy Management	704	1,608	2,722	4,250	6,026	8,026	10,220	12,513	14,806	17,099
Non-Residential	EE	Industrial	1,057	3,197	6,627	11,036	15,962	21,111	26,276	31,403	36,457	41,450
Non-Residential	EE	Commercial New Construction	0	0	0	846	2,594	5,457	9,219	13,514	18,101	22,871
Non-Residential	DR	Interruptible Rate	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Direct Load Control	0	0	0	0	0	0	0	0	0	0
Residential	Renewable	Solar Water Heater Pilot	4	12	24	40	58	77	96	115	134	153
Residential	Renewable	Residential Solar PV	6	19	40	66	96	127	158	190	222	254
Non-Residential	Renewable	Commercial Solar PV	120	368	778	1,320	1,942	2,611	3,310	4,033	4,778	5,545
<b>Total Portfolio</b>			<b>13,302</b>	<b>37,203</b>	<b>78,569</b>	<b>124,186</b>	<b>178,083</b>	<b>236,234</b>	<b>296,762</b>	<b>357,477</b>	<b>417,667</b>	<b>477,414</b>

		Cumulative Electricity Savings Estimates - MWh										
Sector	Type	Program Name	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	37,687	39,933	41,814	43,299	44,485	45,373	46,046	46,607	47,120	47,612
Residential	EE	ENERGY STAR Air Conditioning	25,641	29,371	33,104	36,838	40,574	43,780	46,445	48,461	51,454	53,683
Residential	EE	AC Tune-Up	10,206	10,212	10,215	10,217	10,219	10,220	10,221	10,222	10,223	10,225
Residential	EE	Residential Energy Solutions	41,267	45,353	49,415	53,408	57,347	60,897	63,923	66,738	69,257	71,375
Residential	EE	Low Income Weatherization	13,902	13,904	13,906	13,910	13,912	13,914	13,916	13,918	13,920	13,921
Residential	EE	Energy Smart New Homes	290	320	351	381	411	441	472	502	532	562
Non-Residential	EE	Small Commercial Energy Solutions	58,420	63,635	67,959	71,540	74,688	77,518	80,148	82,606	84,964	86,979
Non-Residential	EE	Large Commercial Energy Solutions	227,179	251,765	273,642	292,188	308,227	322,856	336,462	349,377	361,725	373,795
Residential	EE	Multifamily	16,789	18,851	20,585	22,048	23,239	24,233	25,127	25,965	26,611	27,106
Residential	EE	Home Energy Use Benchmarking	4,455	4,456	4,456	4,457	4,458	4,458	4,459	4,459	4,460	4,461
Non-Residential	EE	Commercial Building Energy Management	18,758	19,707	20,254	20,817	21,395	21,990	22,601	23,230	23,876	24,540
Non-Residential	EE	Industrial	45,474	48,524	50,424	51,454	52,009	52,331	52,537	52,676	52,779	52,865
Non-Residential	EE	Commercial New Construction	27,777	32,805	37,951	43,216	48,603	54,113	59,750	65,518	71,421	77,463
Non-Residential	DR	Interruptible Rate	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Direct Load Control	0	0	0	0	0	0	0	0	0	0
Residential	Renewable	Solar Water Heater Pilot	173	192	211	230	250	269	288	308	327	346
Residential	Renewable	Residential Solar PV	285	317	349	381	413	445	476	508	540	572
Non-Residential	Renewable	Commercial Solar PV	6,334	7,144	7,978	8,835	9,716	10,622	11,553	12,511	13,495	14,501
<b>Total Portfolio</b>			<b>534,636</b>	<b>586,488</b>	<b>632,614</b>	<b>673,217</b>	<b>709,943</b>	<b>743,458</b>	<b>774,423</b>	<b>803,607</b>	<b>832,603</b>	<b>860,012</b>

High Case Program Savings and Cost Estimates

		Cumulative Demand Savings Estimates - MW										
Sector	Type	Program Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	0.20	0.60	1.25	1.94	2.74	3.62	4.52	5.35	6.08	6.71
Residential	EE	ENERGY STAR Air Conditioning	0.16	0.48	1.00	1.21	1.65	2.35	3.25	4.25	5.30	6.37
Residential	EE	AC Tune-Up	0.75	0.75	1.56	2.35	3.01	3.42	3.61	3.69	3.73	3.74
Residential	EE	Residential Energy Solutions	0.57	1.29	2.15	3.29	4.73	6.16	7.59	9.01	10.43	11.84
Residential	EE	Low Income Weatherization	0.39	0.78	1.17	1.56	1.95	2.34	2.74	3.13	3.52	3.91
Residential	EE	Energy Smart New Homes	0.01	0.01	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.10
Non-Residential	EE	Small Commercial Energy Solutions	0.43	1.30	2.71	4.50	6.50	8.56	10.65	12.75	14.85	16.95
Non-Residential	EE	Large Commercial Energy Solutions	0.90	2.77	5.86	9.94	14.58	19.50	24.58	29.76	35.06	40.48
Residential	EE	Multifamily	0.00	0.00	0.00	0.20	0.44	0.78	1.17	1.58	2.00	2.40
Residential	EE	Home Energy Use Benchmarking	0.00	0.00	1.02	1.02	1.02	1.02	1.02	1.03	1.03	1.03
Non-Residential	EE	Commercial Building Energy Management	0.13	0.30	0.51	0.79	1.23	1.69	2.15	2.56	2.90	3.22
Non-Residential	EE	Industrial	0.14	0.42	0.86	1.43	2.08	2.74	3.42	4.08	4.74	5.39
Non-Residential	EE	Commercial New Construction	0.00	0.00	0.00	0.16	0.48	1.01	1.70	2.49	3.33	4.20
Non-Residential	DR	Interruptible Rate	0.00	0.00	2.34	4.83	7.94	11.06	14.18	17.29	20.41	23.52
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0.00	0.00	0.00	0.00	0.00	0.26	0.52	0.79	1.07	1.36
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0.00	0.00	0.00	0.00	0.00	0.16	0.33	0.51	0.69	0.87
Residential	DR	Enabled Dynamic Pricing (Res)	0.00	0.00	0.28	0.71	1.28	1.99	2.71	3.42	4.13	4.84
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0.00	0.00	0.13	0.32	0.58	0.90	1.22	1.54	1.86	2.18
Residential	DR	Direct Load Control	0.00	0.00	3.40	7.66	12.77	17.88	22.99	24.70	25.55	25.55
Residential	Renewable	Solar Water Heater Pilot	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Residential	Renewable	Residential Solar PV	0.00	0.01	0.02	0.03	0.05	0.07	0.08	0.10	0.12	0.13
Non-Residential	Renewable	Commercial Solar PV	0.06	0.19	0.40	0.68	1.01	1.35	1.72	2.09	2.48	2.88
<b>Total Portfolio</b>			<b>3.24</b>	<b>8.92</b>	<b>24.75</b>	<b>42.69</b>	<b>64.10</b>	<b>86.93</b>	<b>110.22</b>	<b>130.21</b>	<b>149.37</b>	<b>167.69</b>

		Cumulative Demand Savings Estimates - MW										
Sector	Type	Program Name	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	7.39	7.99	8.55	8.99	9.32	9.54	9.67	9.76	9.82	9.88
Residential	EE	ENERGY STAR Air Conditioning	7.44	8.52	9.60	10.67	11.75	12.67	13.43	13.99	14.85	15.50
Residential	EE	AC Tune-Up	3.74	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
Residential	EE	Residential Energy Solutions	13.22	14.57	15.92	17.25	18.57	19.73	20.69	21.57	22.33	22.94
Residential	EE	Low Income Weatherization	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91
Residential	EE	Energy Smart New Homes	0.11	0.12	0.13	0.14	0.15	0.17	0.18	0.19	0.20	0.21
Non-Residential	EE	Small Commercial Energy Solutions	18.84	20.48	21.83	22.94	23.92	24.78	25.56	26.26	26.86	27.37
Non-Residential	EE	Large Commercial Energy Solutions	46.01	51.04	55.53	59.33	62.60	65.55	68.28	70.84	73.27	75.63
Residential	EE	Multifamily	2.78	3.14	3.47	3.77	4.05	4.30	4.55	4.78	4.97	5.11
Residential	EE	Home Energy Use Benchmarking	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Non-Residential	EE	Commercial Building Energy Management	3.49	3.66	3.76	3.86	3.97	4.08	4.19	4.31	4.43	4.55
Non-Residential	EE	Industrial	5.91	6.31	6.56	6.69	6.76	6.80	6.83	6.85	6.86	6.87
Non-Residential	EE	Commercial New Construction	5.10	6.02	6.95	7.91	8.89	9.89	10.91	11.95	13.02	14.11
Non-Residential	DR	Interruptible Rate	26.64	29.75	30.53	31.15	31.15	31.15	31.15	31.15	31.15	31.15
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	1.65	1.96	2.27	2.59	2.92	3.00	3.09	3.17	3.26	3.35
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	1.06	1.26	1.46	1.66	1.87	1.93	1.98	2.04	2.09	2.15
Residential	DR	Enabled Dynamic Pricing (Res)	5.56	6.27	6.70	6.98	7.13	7.13	7.13	7.13	7.13	7.13
Residential	DR	Non-Enabled Dynamic Pricing (Res)	2.52	2.82	3.01	3.14	3.20	3.20	3.20	3.20	3.20	3.20
Residential	DR	Direct Load Control	25.56	25.56	25.57	25.57	25.57	25.58	25.58	25.58	25.59	25.59
Residential	Renewable	Solar Water Heater Pilot	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.06
Residential	Renewable	Residential Solar PV	0.15	0.16	0.18	0.20	0.21	0.23	0.25	0.26	0.28	0.30
Non-Residential	Renewable	Commercial Solar PV	3.29	3.71	4.14	4.58	5.04	5.51	5.99	6.49	7.00	7.53
<b>Total Portfolio</b>			<b>185.38</b>	<b>202.04</b>	<b>214.86</b>	<b>226.16</b>	<b>235.81</b>	<b>243.98</b>	<b>251.40</b>	<b>258.27</b>	<b>265.07</b>	<b>271.33</b>

High Case Program Savings and Cost Estimates

Sector	Type	Program Name	Incremental Electricity Savings Estimates - MWh									
			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	1,201	2,502	3,869	3,604	4,293	4,688	4,874	4,950	4,980	4,992
Residential	EE	ENERGY STAR Air Conditioning	530	1,073	1,721	746	1,509	2,421	3,112	3,477	3,635	3,697
Residential	EE	AC Tune-Up	680	1,376	2,206	2,837	3,170	3,313	3,369	3,399	3,403	3,403
Residential	EE	Residential Energy Solutions	1,809	2,262	2,715	3,620	4,526	4,527	4,528	4,528	4,528	4,529
Residential	EE	Low Income Weatherization	1,389	1,389	1,389	1,390	1,390	1,390	1,390	1,390	1,391	1,391
Residential	EE	Energy Smart New Homes	15	18	21	24	30	30	30	30	30	30
Non-Residential	EE	Small Commercial Energy Solutions	1,307	2,654	4,270	5,508	6,177	6,479	6,614	6,682	6,724	6,757
Non-Residential	EE	Large Commercial Energy Solutions	4,479	9,315	15,356	20,293	23,310	25,045	26,183	27,087	27,912	28,721
Residential	EE	Multifamily	0	0	380	934	1,528	2,070	2,402	2,560	2,651	2,651
Residential	EE	Home Energy Use Benchmarking	0	0	4,450	4,451	4,451	4,452	4,452	4,453	4,454	4,454
Non-Residential	EE	Commercial Building Energy Management	704	904	1,115	1,528	2,355	2,488	2,628	2,701	2,701	2,701
Non-Residential	EE	Industrial	1,057	2,139	3,430	4,409	4,926	5,148	5,235	5,268	5,280	5,285
Non-Residential	EE	Commercial New Construction	0	0	0	846	1,748	2,864	3,761	4,295	4,588	4,769
Non-Residential	DR	Interruptible Rate	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Direct Load Control	0	0	0	0	0	0	0	0	0	0
Residential	Renewable	Solar Water Heater Pilot	4	8	12	16	18	19	19	19	19	19
Residential	Renewable	Residential Solar PV	6	13	21	27	30	31	31	32	32	32
Non-Residential	Renewable	Commercial Solar PV	120	249	410	542	622	669	699	723	745	767
<b>Total Portfolio</b>			<b>13,302</b>	<b>23,901</b>	<b>41,366</b>	<b>50,772</b>	<b>60,083</b>	<b>65,566</b>	<b>69,189</b>	<b>71,443</b>	<b>72,971</b>	<b>74,197</b>

Sector	Type	Program Name	Incremental Electricity Savings Estimates - MWh									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	4,996	4,999	5,000	5,001	5,002	5,002	5,003	5,004	5,004	5,005
Residential	EE	ENERGY STAR Air Conditioning	3,720	3,729	3,733	3,735	3,736	3,736	3,737	3,738	3,738	3,739
Residential	EE	AC Tune-Up	3,406	3,405	3,406	3,406	3,407	3,407	3,408	3,408	3,409	3,409
Residential	EE	Residential Energy Solutions	4,530	4,530	4,531	4,532	4,532	4,533	4,534	4,534	4,535	4,536
Residential	EE	Low Income Weatherization	1,391	1,391	1,391	1,392	1,392	1,392	1,392	1,392	1,393	1,393
Residential	EE	Energy Smart New Homes	30	30	30	30	30	30	30	30	30	30
Non-Residential	EE	Small Commercial Energy Solutions	6,788	6,818	6,849	6,880	6,912	6,945	6,978	7,013	7,049	7,086
Non-Residential	EE	Large Commercial Energy Solutions	29,537	30,370	31,225	32,102	33,004	33,932	34,885	35,865	36,873	37,909
Residential	EE	Multifamily	2,661	2,664	2,666	2,667	2,667	2,668	2,668	2,669	2,669	2,669
Residential	EE	Home Energy Use Benchmarking	4,455	4,456	4,456	4,457	4,458	4,459	4,459	4,460	4,460	4,461
Non-Residential	EE	Commercial Building Energy Management	2,776	2,853	2,932	3,014	3,098	3,184	3,273	3,364	3,458	3,554
Non-Residential	EE	Industrial	5,286	5,287	5,287	5,287	5,287	5,287	5,287	5,287	5,287	5,287
Non-Residential	EE	Commercial New Construction	4,906	5,028	5,146	5,265	5,386	5,510	5,637	5,768	5,903	6,041
Non-Residential	DR	Interruptible Rate	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Direct Load Control	0	0	0	0	0	0	0	0	0	0
Residential	Renewable	Solar Water Heater Pilot	19	19	19	19	19	19	19	19	19	19
Residential	Renewable	Residential Solar PV	32	32	32	32	32	32	32	32	32	32
Non-Residential	Renewable	Commercial Solar PV	789	811	834	857	881	906	931	958	984	1,012
<b>Total Portfolio</b>			<b>75,320</b>	<b>76,423</b>	<b>77,538</b>	<b>78,676</b>	<b>79,843</b>	<b>81,042</b>	<b>82,275</b>	<b>83,541</b>	<b>84,843</b>	<b>86,182</b>

High Case Program Savings and Cost Estimates

		Incremental Demand Savings Estimates - MW										
Sector	Type	Program Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	0.20	0.41	0.65	0.69	0.81	0.87	0.90	0.91	0.92	0.92
Residential	EE	ENERGY STAR Air Conditioning	0.16	0.32	0.52	0.22	0.44	0.70	0.90	1.00	1.05	1.07
Residential	EE	AC Tune-Up	0.25	0.50	0.81	1.04	1.16	1.22	1.24	1.24	1.25	1.25
Residential	EE	Residential Energy Solutions	0.57	0.72	0.86	1.15	1.43	1.43	1.43	1.43	1.43	1.43
Residential	EE	Low Income Weatherization	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Residential	EE	Energy Smart New Homes	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Non-Residential	EE	Small Commercial Energy Solutions	0.43	0.87	1.41	1.81	2.03	2.13	2.17	2.19	2.21	2.22
Non-Residential	EE	Large Commercial Energy Solutions	0.90	1.87	3.09	4.08	4.69	5.04	5.26	5.45	5.61	5.77
Residential	EE	Multifamily	0.00	0.00	0.05	0.15	0.25	0.35	0.41	0.45	0.46	0.47
Residential	EE	Home Energy Use Benchmarking	0.00	0.00	1.02	1.02	1.02	1.02	1.02	1.03	1.03	1.03
Non-Residential	EE	Commercial Building Energy Management	0.13	0.17	0.21	0.29	0.44	0.45	0.46	0.48	0.49	0.50
Non-Residential	EE	Industrial	0.14	0.28	0.45	0.57	0.64	0.67	0.68	0.68	0.69	0.69
Non-Residential	EE	Commercial New Construction	0.00	0.00	0.00	0.16	0.32	0.53	0.69	0.79	0.84	0.87
Non-Residential	DR	Interruptible Rate	0.00	0.00	2.34	2.49	3.12	3.12	3.12	3.12	3.12	3.12
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0.00	0.00	0.00	0.00	0.00	0.26	0.26	0.27	0.28	0.29
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0.00	0.00	0.00	0.00	0.00	0.16	0.17	0.17	0.18	0.18
Residential	DR	Enabled Dynamic Pricing (Res)	0.00	0.00	0.28	0.43	0.57	0.71	0.71	0.71	0.71	0.71
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0.00	0.00	0.13	0.19	0.26	0.32	0.32	0.32	0.32	0.32
Residential	DR	Direct Load Control	0.00	0.00	3.40	4.26	5.11	5.11	5.11	5.11	5.11	5.11
Residential	Renewable	Solar Water Heater Pilot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Residential	Renewable	Residential Solar PV	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Non-Residential	Renewable	Commercial Solar PV	0.06	0.13	0.21	0.28	0.32	0.35	0.36	0.38	0.39	0.40
<b>Total Portfolio</b>			<b>3.2</b>	<b>5.7</b>	<b>15.8</b>	<b>19.2</b>	<b>23.0</b>	<b>24.9</b>	<b>25.7</b>	<b>26.2</b>	<b>26.5</b>	<b>26.8</b>

		Incremental Demand Savings Estimates - MW										
Sector	Type	Program Name	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Residential	EE	ENERGY STAR Air Conditioning	1.07	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Residential	EE	AC Tune-Up	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Residential	EE	Residential Energy Solutions	1.43	1.43	1.43	1.43	1.44	1.44	1.44	1.44	1.44	1.44
Residential	EE	Low Income Weatherization	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Residential	EE	Energy Smart New Homes	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Non-Residential	EE	Small Commercial Energy Solutions	2.23	2.23	2.24	2.25	2.26	2.27	2.28	2.29	2.30	2.31
Non-Residential	EE	Large Commercial Energy Solutions	5.94	6.11	6.28	6.45	6.64	6.82	7.01	7.21	7.41	7.62
Residential	EE	Multifamily	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
Residential	EE	Home Energy Use Benchmarking	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Non-Residential	EE	Commercial Building Energy Management	0.52	0.53	0.55	0.56	0.58	0.59	0.61	0.63	0.64	0.66
Non-Residential	EE	Industrial	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Non-Residential	EE	Commercial New Construction	0.90	0.90	0.94	0.96	0.98	1.00	1.02	1.04	1.07	1.09
Non-Residential	DR	Interruptible Rate	3.12	3.12	3.12	3.12	3.12	3.12	3.12	3.12	3.12	3.12
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0.30	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.37	0.38
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23	0.24	0.24
Residential	DR	Enabled Dynamic Pricing (Res)	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Residential	DR	Direct Load Control	5.11	5.11	5.11	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Residential	Renewable	Solar Water Heater Pilot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Residential	Renewable	Residential Solar PV	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Non-Residential	Renewable	Commercial Solar PV	0.41	0.42	0.43	0.44	0.46	0.47	0.48	0.50	0.51	0.53
<b>Total Portfolio</b>			<b>27.0</b>	<b>27.3</b>	<b>27.5</b>	<b>27.8</b>	<b>28.0</b>	<b>28.3</b>	<b>28.5</b>	<b>28.8</b>	<b>29.1</b>	<b>29.4</b>

High Case Program Savings and Cost Estimates

		Annual Incentive Cost Estimates - Real 2011 \$ (Millions)										
Sector	Type	Program Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	\$0.38	\$0.77	\$1.23	\$1.47	\$1.66	\$1.75	\$1.79	\$1.80	\$1.81	\$1.81
Residential	EE	ENERGY STAR Air Conditioning	\$0.32	\$0.66	\$1.05	\$0.30	\$0.61	\$0.97	\$1.25	\$1.40	\$1.46	\$1.46
Residential	EE	AC Tune-Up	\$0.14	\$0.29	\$0.47	\$0.60	\$0.67	\$0.71	\$0.72	\$0.72	\$0.72	\$0.72
Residential	EE	Residential Energy Solutions	\$1.06	\$1.32	\$1.59	\$2.12	\$2.65	\$2.65	\$2.65	\$2.65	\$2.65	\$2.65
Residential	EE	Low Income Weatherization	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91
Residential	EE	Energy Smart New Homes	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	EE	Small Commercial Energy Solutions	\$0.60	\$1.21	\$1.94	\$2.50	\$2.80	\$2.93	\$2.99	\$3.02	\$3.03	\$3.04
Non-Residential	EE	Large Commercial Energy Solutions	\$1.26	\$2.62	\$4.33	\$5.72	\$6.57	\$7.38	\$7.91	\$8.63	\$8.86	\$8.09
Residential	EE	Multifamily	\$0.00	\$0.00	\$0.13	\$0.35	\$0.56	\$0.78	\$0.91	\$0.98	\$1.00	\$1.01
Residential	EE	Home Energy Use Benchmarking	\$0.00	\$0.00	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23
Non-Residential	EE	Commercial Building Energy Management	\$0.05	\$0.06	\$0.08	\$0.10	\$0.16	\$0.16	\$0.17	\$0.17	\$0.18	\$0.18
Non-Residential	EE	Industrial	\$0.15	\$0.30	\$0.49	\$0.62	\$0.70	\$0.73	\$0.74	\$0.75	\$0.75	\$0.75
Non-Residential	EE	Commercial New Construction	\$0.00	\$0.00	\$0.00	\$0.27	\$0.55	\$0.91	\$1.19	\$1.36	\$1.45	\$1.51
Non-Residential	EE	Interruptible Rate	\$0.00	\$0.00	\$0.34	\$0.36	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.10	\$0.11	\$0.11	\$0.11	\$0.11
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.11	\$0.17	\$0.23	\$0.29	\$0.29	\$0.29	\$0.29	\$0.29
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.01	\$0.02	\$0.03	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04
Residential	DR	Direct Load Control	\$0.00	\$0.00	\$0.26	\$0.32	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39
Residential	Renewable	Solar Water Heater Pilot	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Residential	Renewable	Residential Solar PV	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	Renewable	Commercial Solar PV	\$0.23	\$0.47	\$0.78	\$1.02	\$1.18	\$1.26	\$1.32	\$1.37	\$1.41	\$1.45
<b>Total Portfolio</b>			<b>\$5.11</b>	<b>\$8.63</b>	<b>\$13.97</b>	<b>\$17.13</b>	<b>\$20.39</b>	<b>\$22.36</b>	<b>\$23.56</b>	<b>\$24.30</b>	<b>\$24.79</b>	<b>\$25.17</b>

		Annual Incentive Cost Estimates - Real 2011 \$ (Millions)										
Sector	Type	Program Name	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	\$1.81	\$1.81	\$1.81	\$1.81	\$1.81	\$1.81	\$1.81	\$1.81	\$1.81	\$1.81
Residential	EE	ENERGY STAR Air Conditioning	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50
Residential	EE	AC Tune-Up	\$0.72	\$0.72	\$0.72	\$0.72	\$0.73	\$0.73	\$0.73	\$0.73	\$0.73	\$0.73
Residential	EE	Residential Energy Solutions	\$2.65	\$2.65	\$2.65	\$2.65	\$2.65	\$2.65	\$2.65	\$2.65	\$2.65	\$2.65
Residential	EE	Low Income Weatherization	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91
Residential	EE	Energy Smart New Homes	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	EE	Small Commercial Energy Solutions	\$3.05	\$3.06	\$3.07	\$3.08	\$3.09	\$3.10	\$3.11	\$3.12	\$3.14	\$3.15
Non-Residential	EE	Large Commercial Energy Solutions	\$8.32	\$8.56	\$8.80	\$9.05	\$9.30	\$9.56	\$9.83	\$10.11	\$10.39	\$10.68
Residential	EE	Multifamily	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02
Residential	EE	Home Energy Use Benchmarking	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23
Non-Residential	EE	Commercial Building Energy Management	\$0.19	\$0.19	\$0.20	\$0.20	\$0.21	\$0.21	\$0.22	\$0.22	\$0.23	\$0.24
Non-Residential	EE	Industrial	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75
Non-Residential	EE	Commercial New Construction	\$1.55	\$1.59	\$1.62	\$1.66	\$1.70	\$1.74	\$1.78	\$1.82	\$1.86	\$1.90
Non-Residential	DR	Interruptible Rate	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.12	\$0.12	\$0.12	\$0.13	\$0.13	\$0.14	\$0.14	\$0.14	\$0.15	\$0.15
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.29	\$0.29	\$0.29	\$0.29	\$0.29	\$0.29	\$0.29	\$0.29	\$0.29	\$0.29
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04
Residential	DR	Direct Load Control	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39
Residential	Renewable	Solar Water Heater Pilot	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Residential	Renewable	Residential Solar PV	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	Renewable	Commercial Solar PV	\$1.49	\$1.53	\$1.58	\$1.62	\$1.67	\$1.71	\$1.76	\$1.81	\$1.86	\$1.91
<b>Total Portfolio</b>			<b>\$25.52</b>	<b>\$25.86</b>	<b>\$26.20</b>	<b>\$26.55</b>	<b>\$26.91</b>	<b>\$27.28</b>	<b>\$27.65</b>	<b>\$28.04</b>	<b>\$28.44</b>	<b>\$28.85</b>

High Case Program Savings and Cost Estimates

Sector	Type	Program Name	Annual Non-Incentive Cost Estimates - Real 2011 \$ (Millions)										
			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Residential	EE	Residential Lighting and Appliances	\$0.10	\$0.21	\$0.33	\$0.40	\$0.45	\$0.48	\$0.48	\$0.49	\$0.49	\$0.49	\$0.49
Residential	EE	ENERGY STAR Air Conditioning	\$0.11	\$0.22	\$0.36	\$0.51	\$0.70	\$0.94	\$1.17	\$1.17	\$1.17	\$1.17	\$1.17
Residential	EE	AC Tune-Up	\$0.05	\$0.10	\$0.16	\$0.21	\$0.23	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25
Residential	EE	Residential Energy Solutions	\$0.47	\$0.59	\$0.70	\$0.94	\$1.17	\$1.17	\$1.17	\$1.17	\$1.17	\$1.17	\$1.17
Residential	EE	Low Income Weatherization	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34
Residential	EE	Energy Smart New Homes	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	EE	Small Commercial Energy Solutions	\$0.16	\$0.32	\$0.51	\$0.66	\$0.74	\$0.77	\$0.79	\$0.80	\$0.80	\$0.80	\$0.80
Non-Residential	EE	Large Commercial Energy Solutions	\$0.47	\$0.98	\$1.62	\$2.15	\$2.46	\$2.65	\$2.77	\$2.86	\$2.95	\$3.04	\$3.04
Residential	EE	Multifamily	\$0.00	\$0.00	\$0.00	\$0.03	\$0.09	\$0.15	\$0.20	\$0.24	\$0.26	\$0.26	\$0.27
Residential	EE	Home Energy Use Benchmarking	\$0.00	\$0.00	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15
Non-Residential	EE	Commercial Building Energy Management	\$0.03	\$0.04	\$0.05	\$0.07	\$0.11	\$0.11	\$0.11	\$0.12	\$0.12	\$0.12	\$0.12
Non-Residential	EE	Industrial	\$0.07	\$0.15	\$0.23	\$0.30	\$0.34	\$0.35	\$0.36	\$0.36	\$0.36	\$0.36	\$0.36
Non-Residential	EE	Commercial New Construction	\$0.00	\$0.00	\$0.00	\$0.10	\$0.21	\$0.34	\$0.45	\$0.51	\$0.54	\$0.57	\$0.57
Non-Residential	DR	Interruptible Rate	\$0.00	\$0.00	\$0.06	\$0.07	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.04	\$0.06	\$0.08	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.00	\$0.08	\$0.13	\$0.17	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21
Residential	DR	Direct Load Control	\$0.00	\$0.00	\$0.06	\$0.07	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08
Residential	Renewable	Solar Water Heater Pilot	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	Renewable	Residential Solar PV	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	Renewable	Commercial Solar PV	\$0.20	\$0.42	\$0.69	\$0.91	\$1.05	\$1.13	\$1.18	\$1.22	\$1.26	\$1.29	\$1.29
<b>Total Portfolio</b>			<b>\$2.01</b>	<b>\$3.37</b>	<b>\$5.45</b>	<b>\$6.75</b>	<b>\$8.04</b>	<b>\$8.87</b>	<b>\$9.32</b>	<b>\$9.60</b>	<b>\$9.80</b>	<b>\$9.97</b>	<b>\$9.97</b>

Sector	Type	Program Name	Annual Non-Incentive Cost Estimates - Real 2011 \$ (Millions)										
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Residential	EE	Residential Lighting and Appliances	\$0.49	\$0.49	\$0.49	\$0.49	\$0.49	\$0.49	\$0.49	\$0.49	\$0.49	\$0.49	\$0.49
Residential	EE	ENERGY STAR Air Conditioning	\$0.51	\$0.51	\$0.51	\$0.51	\$0.51	\$0.51	\$0.51	\$0.51	\$0.51	\$0.51	\$0.51
Residential	EE	AC Tune-Up	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25
Residential	EE	Residential Energy Solutions	\$1.17	\$1.17	\$1.17	\$1.17	\$1.17	\$1.17	\$1.17	\$1.17	\$1.17	\$1.17	\$1.17
Residential	EE	Low Income Weatherization	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34
Residential	EE	Energy Smart New Homes	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	EE	Small Commercial Energy Solutions	\$0.80	\$0.81	\$0.81	\$0.81	\$0.82	\$0.82	\$0.82	\$0.82	\$0.83	\$0.83	\$0.83
Non-Residential	EE	Large Commercial Energy Solutions	\$3.12	\$3.21	\$3.30	\$3.39	\$3.49	\$3.59	\$3.79	\$3.90	\$4.01	\$4.01	\$4.01
Residential	EE	Multifamily	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27
Residential	EE	Home Energy Use Benchmarking	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15
Non-Residential	EE	Commercial Building Energy Management	\$0.12	\$0.13	\$0.13	\$0.14	\$0.14	\$0.14	\$0.14	\$0.15	\$0.15	\$0.15	\$0.16
Non-Residential	EE	Industrial	\$0.36	\$0.36	\$0.36	\$0.36	\$0.36	\$0.36	\$0.36	\$0.36	\$0.36	\$0.36	\$0.36
Non-Residential	EE	Commercial New Construction	\$0.58	\$0.60	\$0.61	\$0.62	\$0.64	\$0.65	\$0.67	\$0.68	\$0.70	\$0.71	\$0.71
Non-Residential	DR	Interruptible Rate	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21
Residential	DR	Direct Load Control	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08
Residential	DR	Solar Water Heater Pilot	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	Renewable	Residential Solar PV	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	Renewable	Commercial Solar PV	\$1.33	\$1.37	\$1.40	\$1.44	\$1.48	\$1.53	\$1.57	\$1.61	\$1.66	\$1.71	\$1.71
<b>Total Portfolio</b>			<b>\$10.12</b>	<b>\$10.27</b>	<b>\$10.43</b>	<b>\$10.58</b>	<b>\$10.75</b>	<b>\$10.91</b>	<b>\$11.08</b>	<b>\$11.25</b>	<b>\$11.43</b>	<b>\$11.62</b>	<b>\$11.62</b>

High Case Program Savings and Cost Estimates

Sector	Type	Program Name	Annual Total Program Cost Estimates - Real 2011 \$ (Millions)									
			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	\$0.48	\$0.97	\$1.56	\$1.88	\$2.12	\$2.23	\$2.27	\$2.29	\$2.30	\$2.30
Residential	EE	ENERGY STAR Air Conditioning	\$0.43	\$0.88	\$1.41	\$0.40	\$0.81	\$1.31	\$1.68	\$1.88	\$1.96	\$1.99
Residential	EE	AC Tune-Up	\$0.19	\$0.39	\$0.63	\$0.81	\$0.91	\$0.95	\$0.96	\$0.97	\$0.97	\$0.97
Residential	EE	Residential Energy Solutions	\$1.53	\$1.91	\$2.29	\$3.05	\$3.82	\$3.82	\$3.82	\$3.82	\$3.82	\$3.82
Residential	EE	Low Income Weatherization	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25
Residential	EE	Energy Smart New Homes	\$0.01	\$0.01	\$0.01	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
Non-Residential	EE	Small Commercial Energy Solutions	\$0.75	\$1.52	\$2.45	\$3.16	\$3.54	\$3.71	\$3.78	\$3.81	\$3.83	\$3.85
Non-Residential	EE	Large Commercial Energy Solutions	\$1.74	\$3.61	\$5.95	\$7.86	\$9.03	\$9.70	\$10.15	\$10.82	\$11.13	\$11.13
Residential	EE	Multifamily	\$0.00	\$0.00	\$0.17	\$0.44	\$0.71	\$0.98	\$1.15	\$1.23	\$1.27	\$1.28
Residential	EE	Home Energy Use Benchmarking	\$0.00	\$0.00	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38
Non-Residential	EE	Commercial Building Energy Management	\$0.08	\$0.10	\$0.13	\$0.17	\$0.27	\$0.27	\$0.28	\$0.29	\$0.29	\$0.30
Non-Residential	EE	Industrial	\$0.22	\$0.45	\$0.72	\$0.93	\$1.03	\$1.08	\$1.10	\$1.11	\$1.11	\$1.11
Non-Residential	EE	Commercial New Construction	\$0.00	\$0.00	\$0.00	\$0.37	\$0.76	\$1.25	\$1.64	\$1.87	\$1.99	\$2.07
Non-Residential	DR	Interruptible Rate	\$0.00	\$0.00	\$0.40	\$0.43	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.14	\$0.14	\$0.15	\$0.15	\$0.16
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.07	\$0.08	\$0.08	\$0.08
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.16	\$0.23	\$0.31	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.10	\$0.15	\$0.20	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25
Residential	DR	Direct Load Control	\$0.00	\$0.00	\$0.31	\$0.39	\$0.47	\$0.47	\$0.47	\$0.47	\$0.47	\$0.47
Residential	Renewable	Solar Water Heater Pilot	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.02	\$0.02	\$0.02	\$0.02
Residential	Renewable	Residential Solar PV	\$0.00	\$0.01	\$0.01	\$0.01	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
Non-Residential	Renewable	Commercial Solar PV	\$0.43	\$0.89	\$1.47	\$1.94	\$2.23	\$2.39	\$2.50	\$2.59	\$2.67	\$2.74
<b>Total Portfolio</b>			<b>\$7.12</b>	<b>\$12.01</b>	<b>\$19.41</b>	<b>\$23.88</b>	<b>\$28.42</b>	<b>\$31.22</b>	<b>\$32.87</b>	<b>\$33.90</b>	<b>\$34.59</b>	<b>\$35.14</b>

Sector	Type	Program Name	Annual Total Program Cost Estimates - Real 2011 \$ (Millions)									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30
Residential	EE	ENERGY STAR Air Conditioning	\$2.01	\$2.01	\$2.01	\$2.02	\$2.02	\$2.02	\$2.02	\$2.02	\$2.02	\$2.02
Residential	EE	AC Tune-Up	\$0.97	\$0.97	\$0.97	\$0.97	\$0.97	\$0.97	\$0.97	\$0.97	\$0.97	\$0.97
Residential	EE	Residential Energy Solutions	\$3.82	\$3.82	\$3.82	\$3.82	\$3.82	\$3.83	\$3.83	\$3.83	\$3.83	\$3.83
Residential	EE	Low Income Weatherization	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25
Residential	EE	Energy Smart New Homes	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
Non-Residential	EE	Small Commercial Energy Solutions	\$3.86	\$3.87	\$3.88	\$3.90	\$3.91	\$3.92	\$3.93	\$3.95	\$3.96	\$3.98
Non-Residential	EE	Large Commercial Energy Solutions	\$11.45	\$11.77	\$12.10	\$12.44	\$12.79	\$13.15	\$13.52	\$13.90	\$14.29	\$14.69
Residential	EE	Multifamily	\$1.28	\$1.29	\$1.29	\$1.29	\$1.29	\$1.29	\$1.29	\$1.29	\$1.29	\$1.29
Residential	EE	Home Energy Use Benchmarking	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.39	\$0.39	\$0.39	\$0.39
Non-Residential	EE	Commercial Building Energy Management	\$0.31	\$0.32	\$0.33	\$0.34	\$0.35	\$0.36	\$0.36	\$0.37	\$0.38	\$0.40
Non-Residential	EE	Industrial	\$1.11	\$1.11	\$1.11	\$1.11	\$1.11	\$1.11	\$1.11	\$1.11	\$1.11	\$1.11
Non-Residential	EE	Commercial New Construction	\$2.13	\$2.18	\$2.23	\$2.28	\$2.34	\$2.39	\$2.44	\$2.50	\$2.56	\$2.62
Non-Residential	DR	Interruptible Rate	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.16	\$0.17	\$0.17	\$0.18	\$0.18	\$0.19	\$0.19	\$0.20	\$0.20	\$0.21
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.09	\$0.09	\$0.09	\$0.09	\$0.10	\$0.10	\$0.10	\$0.10	\$0.11	\$0.11
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25
Residential	DR	Direct Load Control	\$0.47	\$0.47	\$0.47	\$0.47	\$0.47	\$0.47	\$0.47	\$0.47	\$0.47	\$0.47
Residential	Renewable	Solar Water Heater Pilot	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
Residential	Renewable	Residential Solar PV	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
Non-Residential	Renewable	Commercial Solar PV	\$2.82	\$2.90	\$2.98	\$3.07	\$3.15	\$3.24	\$3.33	\$3.42	\$3.52	\$3.62
<b>Total Portfolio</b>			<b>\$35.64</b>	<b>\$36.13</b>	<b>\$36.63</b>	<b>\$37.13</b>	<b>\$37.65</b>	<b>\$38.19</b>	<b>\$38.73</b>	<b>\$39.30</b>	<b>\$39.88</b>	<b>\$40.47</b>



Low Case Program Savings and Cost Estimates

		Cumulative Electricity Savings Estimates - MWh										
Sector	Type	Program Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	938	2,909	5,913	8,479	11,600	15,054	18,669	21,698	23,941	25,435
Residential	EE	ENERGY STAR Air Conditioning	270	816	1,691	3,037	4,480	6,337	8,411	10,579	12,784	14,884
Residential	EE	AC Tune-Up	637	1,927	3,995	6,017	7,698	9,235	10,843	12,519	14,253	15,955
Residential	EE	Residential Energy Solutions	748	1,684	2,806	4,303	6,175	8,047	9,919	11,739	13,545	15,339
Residential	EE	Low Income Weatherization	574	1,149	1,724	2,298	2,873	3,448	4,023	4,598	5,173	5,748
Residential	EE	Energy Smart New Homes	6	14	22	32	45	57	70	82	95	107
Non-Residential	EE	Small Commercial Energy Solutions	567	1,718	3,572	5,946	8,592	11,346	14,139	16,949	19,769	22,596
Non-Residential	EE	Large Commercial Energy Solutions	2,587	7,967	16,837	28,559	41,714	55,539	69,535	83,636	97,910	112,454
Residential	EE	Multifamily	0	0	282	958	2,066	3,532	5,202	6,948	8,713	10,375
Residential	EE	Home Energy Use Benchmarking	0	0	1,840	1,840	1,841	1,841	1,841	1,841	1,842	1,842
Non-Residential	EE	Commercial Building Energy Management	291	665	1,126	1,758	2,392	3,026	3,660	4,294	4,928	5,562
Non-Residential	EE	Industrial	725	2,191	4,543	7,565	10,942	14,471	18,008	21,514	24,966	28,372
Non-Residential	EE	Commercial New Construction	0	0	0	342	1,049	2,208	3,730	5,468	7,324	9,254
Non-Residential	DR	Interruptible Rate	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Direct Load Control	0	0	0	0	0	0	0	0	0	0
Residential	Renewable	Solar Water Heater Pilot	2	5	11	19	27	36	45	54	63	71
Residential	Renewable	Residential Solar PV	4	13	27	44	64	84	105	126	148	169
Non-Residential	Renewable	Commercial Solar PV	7	22	47	79	116	156	198	242	286	332
<b>Total Portfolio</b>			<b>7,357</b>	<b>21,080</b>	<b>44,436</b>	<b>70,375</b>	<b>100,571</b>	<b>132,769</b>	<b>165,817</b>	<b>198,435</b>	<b>230,321</b>	<b>261,580</b>

		Cumulative Electricity Savings Estimates - MWh										
Sector	Type	Program Name	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	27,526	29,132	30,429	31,389	32,095	32,550	32,824	33,004	33,143	33,265
Residential	EE	ENERGY STAR Air Conditioning	15,002	17,227	19,453	21,681	23,909	25,868	27,551	28,904	30,689	32,019
Residential	EE	AC Tune-Up	9,567	9,572	9,575	9,579	9,580	9,580	9,583	9,584	9,586	9,586
Residential	EE	Residential Energy Solutions	17,065	18,755	20,435	22,086	23,715	25,183	26,434	27,599	28,640	29,516
Residential	EE	Low Income Weatherization	5,749	5,750	5,751	5,751	5,752	5,754	5,754	5,755	5,755	5,756
Residential	EE	Energy Smart New Homes	120	132	145	157	170	183	195	208	220	233
Non-Residential	EE	Small Commercial Energy Solutions	25,174	27,436	29,326	30,903	32,298	33,561	34,742	35,855	36,906	37,918
Non-Residential	EE	Large Commercial Energy Solutions	127,029	140,428	152,481	162,952	172,272	180,972	189,172	196,993	204,505	211,856
Residential	EE	Multifamily	11,928	13,350	14,532	15,518	16,308	16,959	17,538	18,080	18,499	18,818
Residential	EE	Home Energy Use Benchmarking	1,842	1,843	1,843	1,843	1,844	1,844	1,844	1,844	1,844	1,845
Non-Residential	EE	Commercial Building Energy Management	7,757	8,149	8,376	8,608	8,848	9,093	9,346	9,606	9,873	10,148
Non-Residential	EE	Industrial	31,111	33,181	34,462	35,146	35,502	35,703	35,827	35,910	35,973	36,026
Non-Residential	EE	Commercial New Construction	11,239	13,274	15,356	17,486	19,666	21,895	24,176	26,510	28,899	31,343
Non-Residential	DR	Interruptible Rate	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	0
Residential	DR	Direct Load Control	0	0	0	0	0	0	0	0	0	0
Residential	Renewable	Solar Water Heater Pilot	80	89	98	107	116	125	134	143	152	161
Residential	Renewable	Residential Solar PV	190	211	232	253	275	296	317	338	359	381
Non-Residential	Renewable	Commercial Solar PV	379	428	478	529	582	636	692	749	808	869
<b>Total Portfolio</b>			<b>291,760</b>	<b>318,957</b>	<b>342,972</b>	<b>363,989</b>	<b>382,930</b>	<b>400,201</b>	<b>416,119</b>	<b>431,082</b>	<b>445,852</b>	<b>459,739</b>

Low Case Program Savings and Cost Estimates

		Cumulative Demand Savings Estimates - MW										
Sector	Type	Program Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	0.16	0.49	1.01	1.54	2.17	2.86	3.57	4.23	4.80	5.28
Residential	EE	ENERGY STAR Air Conditioning	0.08	0.24	0.50	0.63	0.89	1.30	1.83	2.42	3.04	3.67
Residential	EE	AC Tune-Up	0.23	0.71	1.47	2.21	2.82	3.20	3.39	3.46	3.49	3.50
Residential	EE	Residential Energy Solutions	0.24	0.53	0.89	1.36	1.96	2.55	3.14	3.73	4.31	4.90
Residential	EE	Low Income Weatherization	0.16	0.32	0.48	0.65	0.81	0.97	1.13	1.29	1.45	1.62
Residential	EE	Energy Smart New Homes	0.00	0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04
Non-Residential	EE	Small Commercial Energy Solutions	0.16	0.50	1.04	1.72	2.47	3.25	4.02	4.80	5.58	6.35
Non-Residential	EE	Large Commercial Energy Solutions	0.50	1.53	3.23	5.47	8.00	10.67	13.38	16.11	18.89	21.72
Residential	EE	Multifamily	0.00	0.00	0.04	0.14	0.32	0.56	0.83	1.12	1.40	1.67
Residential	EE	Home Energy Use Benchmarking	0.00	0.00	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Non-Residential	EE	Commercial Building Energy Management	0.05	0.12	0.21	0.33	0.42	0.42	0.42	0.42	0.42	0.42
Non-Residential	EE	Industrial	0.09	0.28	0.59	0.98	1.42	1.88	2.34	2.80	3.25	3.69
Non-Residential	EE	Commercial New Construction	0.00	0.00	0.00	0.06	0.19	0.41	0.69	1.01	1.35	1.70
Non-Residential	DR	Interruptible Rate	0.00	0.00	0.97	2.00	3.29	4.57	5.86	7.15	8.44	9.73
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0.00	0.00	0.00	0.00	0.00	0.11	0.22	0.33	0.44	0.56
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.21	0.28	0.36
Residential	DR	Enabled Dynamic Pricing (Res)	0.00	0.00	0.12	0.29	0.53	0.82	1.12	1.41	1.71	2.00
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0.00	0.00	0.00	0.13	0.24	0.37	0.50	0.64	0.77	0.90
Residential	DR	Direct Load Control	0.00	0.00	1.41	3.17	5.28	7.39	9.51	10.21	10.57	10.57
Residential	Renewable	Solar Water Heater Pilot	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Residential	Renewable	Residential Solar PV	0.00	0.01	0.01	0.02	0.03	0.04	0.05	0.07	0.08	0.09
Non-Residential	Renewable	Commercial Solar PV	0.00	0.01	0.02	0.04	0.06	0.08	0.10	0.13	0.15	0.17
<b>Total Portfolio</b>			<b>1.69</b>	<b>4.75</b>	<b>12.47</b>	<b>21.20</b>	<b>31.45</b>	<b>42.26</b>	<b>53.17</b>	<b>62.63</b>	<b>71.66</b>	<b>80.29</b>

		Cumulative Demand Savings Estimates - MW										
Sector	Type	Program Name	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	5.82	6.30	6.74	7.09	7.34	7.49	7.57	7.61	7.63	7.65
Residential	EE	ENERGY STAR Air Conditioning	4.31	4.94	5.58	6.22	6.85	7.41	7.88	8.26	8.77	9.15
Residential	EE	AC Tune-Up	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.52	3.52
Residential	EE	Residential Energy Solutions	5.47	6.03	6.59	7.14	7.68	8.16	8.56	8.92	9.24	9.49
Residential	EE	Low Income Weatherization	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62
Residential	EE	Energy Smart New Homes	0.05	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.09
Non-Residential	EE	Small Commercial Energy Solutions	7.05	7.64	8.11	8.48	8.80	9.08	9.32	9.54	9.72	9.89
Non-Residential	EE	Large Commercial Energy Solutions	24.58	27.21	29.58	31.63	33.45	35.13	36.70	38.18	39.58	40.95
Residential	EE	Multifamily	1.93	2.17	2.38	2.58	2.76	2.92	3.08	3.23	3.35	3.44
Residential	EE	Home Energy Use Benchmarking	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Non-Residential	EE	Commercial Building Energy Management	1.44	1.51	1.55	1.60	1.64	1.69	1.73	1.78	1.83	1.88
Non-Residential	EE	Industrial	4.04	4.31	4.48	4.57	4.62	4.64	4.66	4.67	4.68	4.68
Non-Residential	DR	Interruptible Rate	11.02	12.30	12.63	12.88	12.88	12.88	12.88	12.88	12.88	12.88
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0.68	0.81	0.94	1.07	1.21	1.24	1.28	1.31	1.35	1.39
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0.44	0.52	0.60	0.69	0.77	0.80	0.82	0.84	0.87	0.89
Residential	DR	Enabled Dynamic Pricing (Res)	2.30	2.59	2.77	2.89	2.95	2.95	2.95	2.95	2.95	2.95
Residential	DR	Non-Enabled Dynamic Pricing (Res)	10.57	10.57	10.57	10.57	10.58	10.58	10.58	10.58	10.58	10.58
Residential	DR	Direct Load Control	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03
Residential	Renewable	Solar Water Heater Pilot	0.10	0.11	0.12	0.13	0.14	0.15	0.16	0.18	0.19	0.20
Non-Residential	Renewable	Residential Solar PV	0.20	0.22	0.25	0.27	0.30	0.33	0.36	0.39	0.42	0.45
<b>Total Portfolio</b>			<b>88.64</b>	<b>96.45</b>	<b>102.57</b>	<b>107.94</b>	<b>112.53</b>	<b>116.42</b>	<b>119.92</b>	<b>123.14</b>	<b>126.29</b>	<b>129.18</b>

Low Case Program Savings and Cost Estimates

Sector	Type	Program Name	Incremental Electricity Savings Estimates - MWh									
			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	938	1,970	3,005	2,565	3,121	3,455	3,614	3,681	3,707	3,717
Residential	EE	ENERGY STAR Air Conditioning	270	546	876	445	900	1,444	1,856	2,074	2,168	
Residential	EE	AC Tune-Up	637	1,290	2,068	2,659	2,971	3,106	3,179	3,186	3,190	
Residential	EE	Residential Energy Solutions	748	935	1,123	1,497	1,872	1,872	1,872	1,872	1,873	
Residential	EE	Low Income Weatherization	574	575	575	575	575	575	575	575	575	
Residential	EE	Energy Smart New Homes	6	7	9	10	12	12	12	12	13	
Non-Residential	EE	Small Commercial Energy Solutions	567	1,151	1,853	2,392	2,683	2,816	2,876	2,907	2,927	
Non-Residential	EE	Large Commercial Energy Solutions	2,587	5,380	8,870	11,721	13,464	14,467	15,124	15,646	16,122	
Residential	EE	Multifamily	0	0	282	676	1,109	1,493	1,726	1,881	1,989	
Residential	EE	Home Energy Use Benchmarking	0	0	1,840	1,840	1,841	1,841	1,841	1,842	1,842	
Non-Residential	EE	Commercial Building Energy Management	291	374	461	632	974	1,001	1,029	1,057	1,117	
Non-Residential	EE	Industrial	725	1,466	2,351	3,022	3,377	3,529	3,589	3,611	3,619	
Non-Residential	EE	Commercial New Construction	0	0	0	342	707	1,159	1,522	1,738	1,930	
Non-Residential	DR	Interruptible Rate	0	0	0	0	0	0	0	0	0	
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	
Residential	DR	Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	
Residential	DR	Direct Load Control	0	0	0	0	0	0	0	0	0	
Residential	Renewable	Solar Water Heater Pilot	2	4	6	7	8	9	9	9	9	
Residential	Renewable	Residential Solar PV	4	9	14	18	20	21	21	21	21	
Non-Residential	Renewable	Commercial Solar PV	7	15	25	32	37	40	42	43	45	
<b>Total Portfolio</b>			<b>7,357</b>	<b>13,723</b>	<b>23,356</b>	<b>28,434</b>	<b>33,672</b>	<b>36,838</b>	<b>38,867</b>	<b>40,103</b>	<b>40,931</b>	<b>41,590</b>

Sector	Type	Program Name	Incremental Electricity Savings Estimates - MWh									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	3,721	3,723	3,724	3,724	3,724	3,726	3,726	3,727	3,727	3,728
Residential	EE	ENERGY STAR Air Conditioning	2,219	2,224	2,227	2,228	2,228	2,229	2,229	2,229	2,230	2,230
Residential	EE	AC Tune-Up	3,191	3,192	3,192	3,193	3,193	3,194	3,194	3,195	3,195	
Residential	EE	Residential Energy Solutions	1,873	1,873	1,874	1,874	1,874	1,875	1,875	1,875	1,875	
Residential	EE	Low Income Weatherization	575	575	575	576	576	576	576	576	576	
Residential	EE	Energy Smart New Homes	13	13	13	13	13	13	13	13	13	
Non-Residential	EE	Small Commercial Energy Solutions	2,958	2,973	2,988	3,003	3,019	3,035	3,051	3,069	3,086	
Non-Residential	EE	Large Commercial Energy Solutions	17,061	17,542	18,036	18,543	19,064	19,599	20,150	20,716	21,298	
Residential	EE	Multifamily	1,905	1,908	1,909	1,909	1,910	1,910	1,911	1,911	1,911	
Residential	EE	Home Energy Use Benchmarking	1,842	1,843	1,843	1,843	1,844	1,844	1,844	1,844	1,844	
Non-Residential	EE	Commercial Building Energy Management	1,148	1,180	1,213	1,246	1,281	1,317	1,353	1,391	1,430	
Non-Residential	EE	Industrial	3,624	3,624	3,624	3,624	3,624	3,624	3,624	3,624	3,624	
Non-Residential	EE	Commercial New Construction	1,985	2,035	2,082	2,130	2,179	2,230	2,281	2,334	2,444	
Non-Residential	DR	Interruptible Rate	0	0	0	0	0	0	0	0	0	
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0	0	0	0	0	0	0	0	0	
Residential	DR	Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0	0	0	0	0	0	0	0	0	
Residential	DR	Direct Load Control	9	9	9	9	9	9	9	9	9	
Residential	Renewable	Solar Water Heater Pilot	21	21	21	21	21	21	21	21	21	
Residential	Renewable	Residential Solar PV	47	49	50	51	53	54	56	57	59	
Non-Residential	Renewable	Commercial Solar PV	42,192	42,783	43,379	43,988	44,612	45,254	45,913	46,591	47,287	
<b>Total Portfolio</b>			<b>42,192</b>	<b>42,783</b>	<b>43,379</b>	<b>43,988</b>	<b>44,612</b>	<b>45,254</b>	<b>45,913</b>	<b>46,591</b>	<b>47,287</b>	<b>48,003</b>

Low Case Program Savings and Cost Estimates

		Incremental Demand Savings Estimates - MW										
Sector	Type	Program Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	0.16	0.33	0.52	0.53	0.63	0.69	0.71	0.72	0.73	0.73
Residential	EE	ENERGY STAR Air Conditioning	0.08	0.16	0.26	0.13	0.26	0.41	0.53	0.59	0.62	0.63
Residential	EE	AC Tune-Up	0.23	0.47	0.76	0.98	1.09	1.14	1.16	1.17	1.17	1.17
Residential	EE	Residential Energy Solutions	0.24	0.30	0.36	0.47	0.59	0.59	0.59	0.59	0.59	0.59
Residential	EE	Low Income Weatherization	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Residential	EE	Energy Smart New Homes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non-Residential	EE	Small Commercial Energy Solutions	0.16	0.33	0.54	0.70	0.78	0.82	0.84	0.85	0.85	0.86
Non-Residential	EE	Large Commercial Energy Solutions	0.50	1.03	1.70	2.25	2.58	2.77	2.90	3.00	3.09	3.18
Residential	EE	Multifamily	0.00	0.00	0.04	0.11	0.18	0.25	0.29	0.32	0.33	0.33
Residential	EE	Home Energy Use Benchmarking	0.00	0.00	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Non-Residential	EE	Commercial Building Energy Management	0.05	0.07	0.09	0.12	0.18	0.19	0.19	0.20	0.20	0.21
Non-Residential	EE	Industrial	0.09	0.19	0.31	0.39	0.44	0.46	0.47	0.47	0.47	0.47
Non-Residential	EE	Commercial New Construction	0.00	0.00	0.00	0.06	0.13	0.21	0.28	0.32	0.34	0.35
Non-Residential	DR	Interruptible Rate	0.00	0.00	0.97	1.03	1.29	1.29	1.29	1.29	1.29	1.29
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0.00	0.00	0.00	0.00	0.00	0.11	0.11	0.11	0.12	0.12
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0.00	0.00	0.00	0.00	0.00	0.07	0.07	0.07	0.07	0.08
Residential	DR	Enabled Dynamic Pricing (Res)	0.00	0.00	0.12	0.18	0.24	0.29	0.29	0.29	0.29	0.29
Residential	DR	Non-Enabled Dynamic Pricing (Res)	0.00	0.00	0.00	0.08	0.11	0.13	0.13	0.13	0.13	0.13
Residential	DR	Direct Load Control	0.00	0.00	1.41	1.76	2.11	2.11	2.11	2.11	2.11	2.11
Residential	Renewable	Solar Water Heater Pilot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Residential	Renewable	Residential Solar PV	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Non-Residential	Renewable	Commercial Solar PV	0.00	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
<b>Total Portfolio</b>			<b>1.7</b>	<b>3.1</b>	<b>7.7</b>	<b>9.4</b>	<b>11.2</b>	<b>12.2</b>	<b>12.6</b>	<b>12.9</b>	<b>13.0</b>	<b>13.2</b>

		Incremental Demand Savings Estimates - MW										
Sector	Type	Program Name	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Residential	EE	ENERGY STAR Air Conditioning	0.63	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Residential	EE	AC Tune-Up	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
Residential	EE	Residential Energy Solutions	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
Residential	EE	Low Income Weatherization	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Non-Residential	EE	Energy Smart New Homes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non-Residential	EE	Small Commercial Energy Solutions	0.86	0.87	0.87	0.88	0.88	0.89	0.89	0.90	0.90	0.91
Non-Residential	EE	Large Commercial Energy Solutions	3.27	3.36	3.46	3.55	3.65	3.76	3.86	3.97	4.08	4.20
Residential	EE	Multifamily	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Residential	EE	Home Energy Use Benchmarking	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Non-Residential	EE	Commercial Building Energy Management	0.21	0.22	0.23	0.23	0.24	0.25	0.25	0.26	0.27	0.27
Non-Residential	EE	Industrial	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
Non-Residential	DR	Interruptible Rate	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.10	0.10	0.10
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.30	0.30	0.30
Residential	DR	Enabled Dynamic Pricing (Res)	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Residential	DR	Non-Enabled Dynamic Pricing (Res)	2.11	2.11	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12
Residential	Renewable	Solar Water Heater Pilot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Residential	Renewable	Residential Solar PV	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Non-Residential	Renewable	Commercial Solar PV	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
<b>Total Portfolio</b>			<b>13.3</b>	<b>13.4</b>	<b>13.5</b>	<b>13.7</b>	<b>13.8</b>	<b>13.9</b>	<b>14.1</b>	<b>14.2</b>	<b>14.3</b>	<b>14.5</b>

Low Case Program Savings and Cost Estimates

		Annual Incentive Cost Estimates - Real 2011 \$ (Millions)										
Sector	Type	Program Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	\$0.08	\$0.17	\$0.27	\$0.33	\$0.37	\$0.39	\$0.40	\$0.40	\$0.40	\$0.40
Residential	EE	ENERGY STAR Air Conditioning	\$0.07	\$0.15	\$0.24	\$0.05	\$0.11	\$0.18	\$0.23	\$0.25	\$0.26	\$0.27
Residential	EE	AC Tune-Up	\$0.07	\$0.14	\$0.23	\$0.29	\$0.33	\$0.34	\$0.35	\$0.35	\$0.35	\$0.35
Residential	EE	Residential Energy Solutions	\$0.22	\$0.27	\$0.32	\$0.43	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54
Residential	EE	Low Income Weatherization	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38
Residential	EE	Energy Smart New Homes	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Residential	EE	Small Commercial Energy Solutions	\$0.11	\$0.22	\$0.36	\$0.46	\$0.52	\$0.55	\$0.56	\$0.56	\$0.56	\$0.57
Non-Residential	EE	Large Commercial Energy Solutions	\$0.14	\$0.29	\$0.48	\$0.73	\$0.79	\$0.83	\$0.85	\$0.85	\$0.88	\$0.91
Residential	EE	Multifamily	\$0.00	\$0.00	\$0.05	\$0.12	\$0.19	\$0.26	\$0.30	\$0.32	\$0.32	\$0.33
Residential	EE	Home Energy Use Benchmarking	\$0.00	\$0.00	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10
Non-Residential	EE	Commercial Building Energy Management	\$0.01	\$0.01	\$0.02	\$0.02	\$0.03	\$0.03	\$0.04	\$0.04	\$0.04	\$0.04
Non-Residential	EE	Industrial	\$0.02	\$0.05	\$0.08	\$0.10	\$0.11	\$0.11	\$0.12	\$0.12	\$0.12	\$0.12
Non-Residential	EE	Commercial New Construction	\$0.00	\$0.00	\$0.00	\$0.04	\$0.08	\$0.14	\$0.18	\$0.20	\$0.22	\$0.23
Non-Residential	DR	Interruptible Rate	\$0.00	\$0.00	\$0.07	\$0.08	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.02	\$0.04	\$0.05	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Residential	DR	Direct Load Control	\$0.00	\$0.00	\$0.00	\$0.05	\$0.07	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08
Residential	Renewable	Solar Water Heater Pilot	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	Renewable	Residential Solar PV	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Residential	Renewable	Commercial Solar PV	\$0.01	\$0.02	\$0.03	\$0.04	\$0.05	\$0.05	\$0.05	\$0.05	\$0.06	\$0.06
<b>Total Portfolio</b>			<b>\$1.12</b>	<b>\$1.71</b>	<b>\$2.72</b>	<b>\$3.20</b>	<b>\$3.78</b>	<b>\$4.13</b>	<b>\$4.33</b>	<b>\$4.44</b>	<b>\$4.51</b>	<b>\$4.56</b>

		Annual Incentive Cost Estimates - Real 2011 \$ (Millions)										
Sector	Type	Program Name	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	\$0.40	\$0.40	\$0.40	\$0.40	\$0.40	\$0.40	\$0.40	\$0.40	\$0.40	\$0.40
Residential	EE	ENERGY STAR Air Conditioning	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27
Residential	EE	AC Tune-Up	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35
Residential	EE	Residential Energy Solutions	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54
Residential	EE	Low Income Weatherization	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38
Residential	EE	Energy Smart New Homes	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Residential	EE	Small Commercial Energy Solutions	\$0.57	\$0.57	\$0.57	\$0.58	\$0.58	\$0.58	\$0.58	\$0.59	\$0.59	\$0.59
Non-Residential	EE	Large Commercial Energy Solutions	\$0.93	\$0.96	\$0.98	\$1.01	\$1.04	\$1.07	\$1.10	\$1.13	\$1.16	\$1.19
Residential	EE	Multifamily	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33
Residential	EE	Home Energy Use Benchmarking	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10
Non-Residential	EE	Commercial Building Energy Management	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05
Non-Residential	EE	Industrial	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12
Non-Residential	EE	Commercial New Construction	\$0.23	\$0.24	\$0.24	\$0.25	\$0.25	\$0.26	\$0.27	\$0.27	\$0.28	\$0.29
Non-Residential	DR	Interruptible Rate	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Residential	DR	Direct Load Control	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08
Residential	Renewable	Solar Water Heater Pilot	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	Renewable	Residential Solar PV	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Residential	Renewable	Commercial Solar PV	\$0.06	\$0.06	\$0.06	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.08
<b>Total Portfolio</b>			<b>\$4.60</b>	<b>\$4.64</b>	<b>\$4.68</b>	<b>\$4.72</b>	<b>\$4.76</b>	<b>\$4.80</b>	<b>\$4.84</b>	<b>\$4.89</b>	<b>\$4.93</b>	<b>\$4.98</b>

Low Case Program Savings and Cost Estimates

		Annual Non-Incentive Cost Estimates - Real 2011 \$ (Millions)										
Sector	Type	Program Name	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	\$0.05	\$0.09	\$0.15	\$0.18	\$0.20	\$0.21	\$0.21	\$0.22	\$0.22	\$0.22
Residential	EE	ENERGY STAR Air Conditioning	\$0.05	\$0.10	\$0.17	\$0.04	\$0.07	\$0.12	\$0.15	\$0.17	\$0.18	\$0.18
Residential	EE	AC Tune-Up	\$0.05	\$0.10	\$0.15	\$0.20	\$0.22	\$0.23	\$0.23	\$0.24	\$0.24	\$0.24
Residential	EE	Residential Energy Solutions	\$0.19	\$0.24	\$0.29	\$0.38	\$0.48	\$0.48	\$0.48	\$0.48	\$0.48	\$0.48
Residential	EE	Low Income Weatherization	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14
Residential	EE	Energy Smart New Homes	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Residential	EE	Small Commercial Energy Solutions	\$0.06	\$0.12	\$0.19	\$0.24	\$0.27	\$0.29	\$0.29	\$0.29	\$0.30	\$0.30
Non-Residential	EE	Large Commercial Energy Solutions	\$0.11	\$0.22	\$0.36	\$0.48	\$0.55	\$0.59	\$0.61	\$0.64	\$0.66	\$0.67
Residential	EE	Multifamily	\$0.00	\$0.00	\$0.03	\$0.06	\$0.10	\$0.13	\$0.16	\$0.17	\$0.17	\$0.17
Residential	EE	Home Energy Use Benchmarking	\$0.00	\$0.00	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03
Non-Residential	EE	Commercial Building Energy Management	\$0.01	\$0.02	\$0.02	\$0.03	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05
Non-Residential	EE	Industrial	\$0.02	\$0.05	\$0.07	\$0.09	\$0.10	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11
Non-Residential	EE	Commercial New Construction	\$0.00	\$0.00	\$0.00	\$0.00	\$0.06	\$0.10	\$0.13	\$0.15	\$0.16	\$0.17
Non-Residential	EE	Interruptible Rate	\$0.00	\$0.00	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.035
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.02	\$0.02	\$0.02	\$0.02	\$0.018
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.02	\$0.02	\$0.016
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.02	\$0.03	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.044
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.00	\$0.02	\$0.03	\$0.04	\$0.04	\$0.04	\$0.04	\$0.045
Residential	DR	Direct Load Control	\$0.00	\$0.00	\$0.02	\$0.03	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.045
Residential	Renewable	Solar Water Heater Pilot	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	Renewable	Residential Solar PV	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Residential	Renewable	Commercial Solar PV	\$0.01	\$0.02	\$0.03	\$0.04	\$0.04	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05
<b>Total Portfolio</b>			<b>\$0.68</b>	<b>\$1.09</b>	<b>\$1.71</b>	<b>\$2.05</b>	<b>\$2.46</b>	<b>\$2.71</b>	<b>\$2.85</b>	<b>\$2.92</b>	<b>\$2.97</b>	<b>\$3.01</b>

		Annual Non-Incentive Cost Estimates - Real 2011 \$ (Millions)										
Sector	Type	Program Name	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22
Residential	EE	ENERGY STAR Air Conditioning	\$0.18	\$0.18	\$0.18	\$0.18	\$0.18	\$0.18	\$0.18	\$0.18	\$0.18	\$0.18
Residential	EE	AC Tune-Up	\$0.24	\$0.24	\$0.24	\$0.24	\$0.24	\$0.24	\$0.24	\$0.24	\$0.24	\$0.24
Residential	EE	Residential Energy Solutions	\$0.48	\$0.48	\$0.48	\$0.48	\$0.48	\$0.48	\$0.48	\$0.48	\$0.48	\$0.48
Residential	EE	Low Income Weatherization	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14
Residential	EE	Energy Smart New Homes	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Residential	EE	Small Commercial Energy Solutions	\$0.30	\$0.30	\$0.30	\$0.30	\$0.30	\$0.30	\$0.30	\$0.31	\$0.31	\$0.31
Non-Residential	EE	Large Commercial Energy Solutions	\$0.69	\$0.71	\$0.73	\$0.75	\$0.77	\$0.80	\$0.82	\$0.84	\$0.87	\$0.89
Residential	EE	Multifamily	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17
Residential	EE	Home Energy Use Benchmarking	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03
Non-Residential	EE	Commercial Building Energy Management	\$0.05	\$0.05	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06	\$0.07	\$0.07
Non-Residential	EE	Industrial	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11
Non-Residential	EE	Commercial New Construction	\$0.17	\$0.18	\$0.18	\$0.19	\$0.19	\$0.19	\$0.20	\$0.20	\$0.21	\$0.21
Non-Residential	DR	Interruptible Rate	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.035
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.024
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.021
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.044
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.045
Residential	DR	Direct Load Control	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.045
Residential	Renewable	Solar Water Heater Pilot	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	Renewable	Residential Solar PV	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Residential	Renewable	Commercial Solar PV	\$0.05	\$0.05	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06	\$0.07	\$0.07
<b>Total Portfolio</b>			<b>\$3.04</b>	<b>\$3.07</b>	<b>\$3.10</b>	<b>\$3.13</b>	<b>\$3.16</b>	<b>\$3.19</b>	<b>\$3.23</b>	<b>\$3.26</b>	<b>\$3.29</b>	<b>\$3.33</b>

Low Case Program Savings and Cost Estimates

Sector	Type	Program Name	Annual Total Program Cost Estimates - Real 2011 \$ (Millions)									
			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	EE	Residential Lighting and Appliances	\$0.13	\$0.26	\$0.42	\$0.51	\$0.57	\$0.60	\$0.61	\$0.62	\$0.62	\$0.62
Residential	EE	ENERGY STAR Air Conditioning	\$0.13	\$0.25	\$0.41	\$0.09	\$0.18	\$0.30	\$0.38	\$0.43	\$0.44	\$0.45
Residential	EE	AC Tune-Up	\$0.12	\$0.24	\$0.38	\$0.49	\$0.55	\$0.57	\$0.58	\$0.59	\$0.59	\$0.59
Residential	EE	Residential Energy Solutions	\$0.41	\$0.51	\$0.61	\$0.81	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02
Residential	EE	Low Income Weatherization	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52
Residential	EE	Energy Smart New Homes	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	EE	Small Commercial Energy Solutions	\$0.17	\$0.34	\$0.55	\$0.71	\$0.79	\$0.83	\$0.85	\$0.86	\$0.86	\$0.86
Non-Residential	EE	Large Commercial Energy Solutions	\$0.25	\$0.51	\$0.84	\$1.12	\$1.28	\$1.38	\$1.44	\$1.49	\$1.53	\$1.58
Residential	EE	Multifamily	\$0.00	\$0.00	\$0.07	\$0.18	\$0.29	\$0.39	\$0.45	\$0.48	\$0.49	\$0.50
Residential	EE	Home Energy Use Benchmarking	\$0.00	\$0.00	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13
Non-Residential	EE	Commercial Building Energy Management	\$0.02	\$0.03	\$0.04	\$0.05	\$0.08	\$0.08	\$0.08	\$0.09	\$0.09	\$0.09
Non-Residential	EE	Industrial	\$0.05	\$0.09	\$0.15	\$0.19	\$0.21	\$0.22	\$0.23	\$0.23	\$0.23	\$0.23
Non-Residential	EE	Commercial New Construction	\$0.00	\$0.00	\$0.00	\$0.07	\$0.14	\$0.24	\$0.31	\$0.35	\$0.38	\$0.39
Non-Residential	DR	Interruptible Rate	\$0.00	\$0.00	\$0.10	\$0.11	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.02	\$0.02	\$0.02	\$0.02
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.04	\$0.06	\$0.08	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.00	\$0.00	\$0.00	\$0.03	\$0.04	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05
Residential	DR	Direct Load Control	\$0.00	\$0.00	\$0.08	\$0.10	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12
Residential	Renewable	Solar Water Heater Pilot	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	Renewable	Residential Solar PV	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	Renewable	Commercial Solar PV	\$0.02	\$0.04	\$0.06	\$0.08	\$0.09	\$0.10	\$0.10	\$0.10	\$0.11	\$0.11
<b>Total Portfolio</b>			<b>\$1.80</b>	<b>\$2.80</b>	<b>\$4.43</b>	<b>\$5.25</b>	<b>\$6.24</b>	<b>\$6.84</b>	<b>\$7.17</b>	<b>\$7.37</b>	<b>\$7.48</b>	<b>\$7.57</b>

Sector	Type	Program Name	Annual Total Program Cost Estimates - Real 2011 \$ (Millions)									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential	EE	Residential Lighting and Appliances	\$0.62	\$0.62	\$0.62	\$0.62	\$0.62	\$0.62	\$0.62	\$0.62	\$0.62	\$0.62
Residential	EE	ENERGY STAR Air Conditioning	\$0.46	\$0.46	\$0.46	\$0.46	\$0.46	\$0.46	\$0.46	\$0.46	\$0.46	\$0.46
Residential	EE	AC Tune-Up	\$0.59	\$0.59	\$0.59	\$0.59	\$0.59	\$0.59	\$0.59	\$0.59	\$0.59	\$0.59
Residential	EE	Residential Energy Solutions	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02
Residential	EE	Low Income Weatherization	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52
Residential	EE	Energy Smart New Homes	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	EE	Small Commercial Energy Solutions	\$0.87	\$0.87	\$0.87	\$0.88	\$0.88	\$0.88	\$0.89	\$0.89	\$0.89	\$0.90
Non-Residential	EE	Large Commercial Energy Solutions	\$1.62	\$1.67	\$1.72	\$1.77	\$1.81	\$1.87	\$1.92	\$1.97	\$2.03	\$2.08
Residential	EE	Multifamily	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50
Residential	EE	Home Energy Use Benchmarking	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13
Non-Residential	EE	Commercial Building Energy Management	\$0.09	\$0.09	\$0.10	\$0.10	\$0.10	\$0.11	\$0.11	\$0.11	\$0.11	\$0.12
Non-Residential	EE	Industrial	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23
Non-Residential	EE	Commercial New Construction	\$0.40	\$0.41	\$0.42	\$0.43	\$0.44	\$0.46	\$0.47	\$0.48	\$0.49	\$0.50
Non-Residential	DR	Interruptible Rate	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13
Non-Residential	DR	Enabled Dynamic Pricing (Non-Res)	\$0.04	\$0.04	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.06
Non-Residential	DR	Non-Enabled Dynamic Pricing (Non-Res)	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
Residential	DR	Enabled Dynamic Pricing (Res)	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11
Residential	DR	Non-Enabled Dynamic Pricing (Res)	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05
Residential	DR	Direct Load Control	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12
Residential	Renewable	Solar Water Heater Pilot	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Residential	Renewable	Residential Solar PV	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Non-Residential	Renewable	Commercial Solar PV	\$0.11	\$0.12	\$0.12	\$0.12	\$0.13	\$0.13	\$0.13	\$0.14	\$0.14	\$0.15
<b>Total Portfolio</b>			<b>\$7.64</b>	<b>\$7.71</b>	<b>\$7.78</b>	<b>\$7.85</b>	<b>\$7.92</b>	<b>\$7.99</b>	<b>\$8.07</b>	<b>\$8.15</b>	<b>\$8.23</b>	<b>\$8.31</b>

### Program Cost-Effectiveness Estimates (Reference Case)

Sector	Program Name	TRC Test	PAC Test	RIM Test	PCT Test	Levelized Cost/kWh	Levelized Cost/kWh
Residential	Residential Lighting and Appliances	1.5	2.0	0.5	3.9	\$0.05	\$232
Residential	ENERGY STAR Air Conditioning	1.8	2.3	0.6	4.9	\$0.05	\$175
Residential	AC Tune-Up	1.2	1.3	0.5	3.2	\$0.09	\$244
Residential	Residential Energy Solutions	1.2	1.6	0.5	3.4	\$0.08	\$252
Residential	Low Income Weatherization	0.9	0.9	0.4	2.8	\$0.13	\$451
Residential	Energy Smart New Homes	1.2	2.8	0.7	2.6	\$0.05	\$141
Non-Residential	Small Commercial Energy Solutions	1.8	2.2	0.5	5.3	\$0.05	\$188
Non-Residential	Large Commercial Energy Solutions	2.2	3.2	0.6	7.0	\$0.03	\$161
Residential	Multifamily	1.4	1.8	0.5	4.3	\$0.06	\$328
Residential	Home Energy Use Benchmarking	1.3	1.3	0.5	4.3	\$0.08	\$338
Non-Residential	Commercial Building Energy Management	3.9	5.4	0.6	12.7	\$0.02	\$95
Non-Residential	Industrial	2.8	4.8	0.6	8.2	\$0.02	\$140
Non-Residential	Commercial New Construction	2.3	3.4	0.6	7.8	\$0.03	\$174
Non-Residential	Interruptible Rate	38.7	8.3	1.3	N/A	N/A	\$20
Non-Residential	Enabled Dynamic Pricing (Non-Res)	2.7	2.5	0.9	4.4	N/A	\$67
Non-Residential	Non-Enabled Dynamic Pricing (Non-Res)	5.0	4.4	1.1	N/A	N/A	\$38
Residential	Enabled Dynamic Pricing (Res)	2.7	2.5	2.5	1.1	N/A	\$67
Residential	Non-Enabled Dynamic Pricing (Res)	3.1	2.5	2.5	N/A	N/A	\$66
Residential	Direct Load Control	7.8	9.1	9.1	0.8	N/A	\$18
Residential	Solar Water Heater Pilot	0.4	1.3	0.4	1.0	\$0.07	\$448
Residential	Residential Solar PV	0.6	4.0	0.8	0.9	\$0.04	\$75
Non-Residential	Commercial Solar PV	0.4	0.5	0.3	1.8	\$0.31	\$605
<b>Total Portfolio</b>		<b>1.9</b>	<b>2.5</b>	<b>0.6</b>	<b>5.5</b>	<b>\$0.05</b>	<b>\$160</b>



## Program Net-to-Gross Ratios

Program Name	Net to Gross Ratio
Residential Lighting and Appliances	0.65
ENERGY STAR Air Conditioning	0.80
AC Tune-Up	0.80
Residential Energy Solutions	0.85
Low Income Weatherization	1.00
Energy Smart New Homes	0.80
Small Commercial Energy Solutions	0.90
Large Commercial Energy Solutions	0.70
Multifamily	0.90
Home Energy Use Benchmarking	0.80
Commercial Building Energy Management	0.75
Industrial	0.75
Commercial New Construction	0.80
Interruptible Rate	1.00
Enabled Dynamic Pricing (Non-Res)	1.00
Non-Enabled Dynamic Pricing (Non-Res)	1.00
Enabled Dynamic Pricing (Res)	1.00
Non-Enabled Dynamic Pricing (Res)	1.00
Direct Load Control	1.00
Solar Water Heater Pilot	0.80
Residential Solar PV	0.80
Commercial Solar PV	0.80

# **Appendix C**

## **Avoided Cost and Retail Rate Assumptions**

Applicable Subsector(s)	Cost type	Unit	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
All	Avoided	kWh <sup>1</sup>	\$0.036	\$0.038	\$0.039	\$0.042	\$0.043	\$0.045	\$0.046	\$0.057	\$0.060	\$0.061
All	Avoided	kW <sup>2</sup>	\$157.90	\$160.93	\$170.47	\$163.29	\$158.14	\$159.86	\$159.72	\$162.09	\$162.59	\$163.10
All	Avoided	therm <sup>3</sup>	\$0.398	\$0.406	\$0.414	\$0.422	\$0.431	\$0.439	\$0.448	\$0.457	\$0.466	\$0.476
Residential	Retail	kWh <sup>4</sup>	\$0.091	\$0.095	\$0.097	\$0.101	\$0.103	\$0.107	\$0.108	\$0.126	\$0.131	\$0.133
Commercial	Retail	kWh	\$0.082	\$0.085	\$0.087	\$0.090	\$0.092	\$0.095	\$0.096	\$0.112	\$0.116	\$0.118
Small Commercial	Retail	kWh	\$0.093	\$0.097	\$0.100	\$0.104	\$0.106	\$0.110	\$0.111	\$0.130	\$0.135	\$0.137
Large Commercial	Retail	kWh	\$0.082	\$0.085	\$0.087	\$0.090	\$0.092	\$0.095	\$0.096	\$0.112	\$0.116	\$0.118
Industrial	Retail	kWh	\$0.082	\$0.085	\$0.087	\$0.090	\$0.092	\$0.095	\$0.096	\$0.112	\$0.116	\$0.118
Residential	Retail	kW <sup>5</sup>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Commercial	Retail	kW	\$8.58	\$8.74	\$9.26	\$8.87	\$8.59	\$8.69	\$8.68	\$8.81	\$8.83	\$8.86
Small Commercial	Retail	kW	\$5.17	\$5.27	\$5.58	\$5.35	\$5.18	\$5.23	\$5.23	\$5.31	\$5.32	\$5.34
Large Commercial	Retail	kW	\$8.58	\$8.74	\$9.26	\$8.87	\$8.59	\$8.69	\$8.68	\$8.81	\$8.83	\$8.86
Industrial	Retail	kW	\$8.58	\$8.74	\$9.26	\$8.87	\$8.59	\$8.69	\$8.68	\$8.81	\$8.83	\$8.86
Residential	Retail	therm <sup>6</sup>	\$0.850	\$0.868	\$0.885	\$0.903	\$0.921	\$0.939	\$0.958	\$0.977	\$0.996	\$1.016
Commercial	Retail	therm	\$0.978	\$0.998	\$1.018	\$1.038	\$1.059	\$1.080	\$1.102	\$1.124	\$1.146	\$1.169
Small Commercial	Retail	therm	\$0.978	\$0.998	\$1.018	\$1.038	\$1.059	\$1.080	\$1.102	\$1.124	\$1.146	\$1.169
Large Commercial	Retail	therm	\$0.978	\$0.998	\$1.018	\$1.038	\$1.059	\$1.080	\$1.102	\$1.124	\$1.146	\$1.169
Industrial	Retail	therm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Applicable Subsector(s)	Cost type	Unit	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
All	Avoided	kWh <sup>1</sup>	\$0.063	\$0.065	\$0.066	\$0.067	\$0.069	\$0.071	\$0.071	\$0.073	\$0.075	\$0.077	\$0.077
All	Avoided	kW <sup>2</sup>	\$163.63	\$164.16	\$164.71	\$165.27	\$165.83	\$166.41	\$167.00	\$167.61	\$168.22	\$168.85	\$169.52
All	Avoided	therm <sup>3</sup>	\$0.485	\$0.495	\$0.505	\$0.515	\$0.525	\$0.536	\$0.546	\$0.557	\$0.568	\$0.580	\$0.591
Residential	Retail	kWh <sup>4</sup>	\$0.136	\$0.140	\$0.142	\$0.144	\$0.147	\$0.150	\$0.150	\$0.154	\$0.157	\$0.161	\$0.161
Commercial	Retail	kWh	\$0.120	\$0.123	\$0.125	\$0.127	\$0.129	\$0.131	\$0.132	\$0.135	\$0.138	\$0.141	\$0.141
Small Commercial	Retail	kWh	\$0.140	\$0.145	\$0.147	\$0.149	\$0.151	\$0.154	\$0.155	\$0.159	\$0.162	\$0.166	\$0.166
Large Commercial	Retail	kWh	\$0.120	\$0.123	\$0.125	\$0.127	\$0.129	\$0.131	\$0.132	\$0.135	\$0.138	\$0.141	\$0.141
Industrial	Retail	kWh	\$0.120	\$0.123	\$0.125	\$0.127	\$0.129	\$0.131	\$0.132	\$0.135	\$0.138	\$0.141	\$0.141
Residential	Retail	kW <sup>5</sup>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Commercial	Retail	kW	\$8.89	\$8.92	\$8.95	\$8.98	\$9.01	\$9.04	\$9.07	\$9.11	\$9.14	\$9.17	\$9.21
Small Commercial	Retail	kW	\$5.36	\$5.38	\$5.39	\$5.41	\$5.43	\$5.45	\$5.47	\$5.49	\$5.51	\$5.53	\$5.55
Large Commercial	Retail	kW	\$8.89	\$8.92	\$8.95	\$8.98	\$9.01	\$9.04	\$9.07	\$9.11	\$9.14	\$9.17	\$9.21
Industrial	Retail	kW	\$8.89	\$8.92	\$8.95	\$8.98	\$9.01	\$9.04	\$9.07	\$9.11	\$9.14	\$9.17	\$9.21
Residential	Retail	therm <sup>6</sup>	\$1.037	\$1.057	\$1.079	\$1.100	\$1.122	\$1.145	\$1.168	\$1.191	\$1.215	\$1.239	\$1.264
Commercial	Retail	therm	\$1.192	\$1.216	\$1.241	\$1.265	\$1.291	\$1.316	\$1.343	\$1.370	\$1.397	\$1.425	\$1.453
Small Commercial	Retail	therm	\$1.192	\$1.216	\$1.241	\$1.265	\$1.291	\$1.316	\$1.343	\$1.370	\$1.397	\$1.425	\$1.453
Large Commercial	Retail	therm	\$1.192	\$1.216	\$1.241	\$1.265	\$1.291	\$1.316	\$1.343	\$1.370	\$1.397	\$1.425	\$1.453
Industrial	Retail	therm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Notes:**

Shaded values are forecasts.

All values are in real 2011 dollars.

<sup>1</sup>Weighted average forecast for Entergy system. Source: Entergy System Planning and Operations.

<sup>2</sup>Weighted average forecast for ENO. Source: Entergy System Planning and Operations.

<sup>3</sup>Source: U.S. EIA, December 2011 Henry Hub price. 2012-2031 avoided gas costs were escalated by ICF at 2.0% per year.

<sup>4</sup>2011 Retail kWh rate source: ENO. 2012-2031 retail rates were escalated by ICF at same rate as avoided costs.

<sup>5</sup>2011 Retail kW rate source: ENO. 2012-2031 retail rates were escalated by ICF at same rate as avoided costs.

<sup>6</sup>2011 Retail gas rate source: ENO. 2012-2031 retail rates were escalated by ICF at 2.0% per year.

**Other Cost Assumptions:**

Line losses (Total Retail)	7.29%	Source: Entergy System Planning and Operations.
Company Discount Rate	8.62%	Source: Entergy System Planning and Operations.
Residential Participant Discount Rate	5.00%	Source: Entergy System Planning and Operations.
C&I Participant Discount Rate	7.00%	Source: Entergy System Planning and Operations.

# **Appendix D**

## **Advanced Metering and Demand Response**

Demand response (DR) measures modeled in the Entergy potential study were based on those modeled in FERC's national assessment of DR:<sup>1</sup>

1. **Dynamic pricing without enabling technology:**<sup>2</sup> Dynamic pricing refers to the family of rates that offer customers time-varying electricity prices on a day-ahead or real-time basis. Prices are higher during peak periods to reflect the higher-than-average cost of providing electricity during those times, and lower during off peak periods, when it is cheaper to provide the electricity. The rates are dynamic in the sense that prices change in response to events such as high-priced hours, unexpectedly hot days, or reliability conditions. Customers respond to the higher peak prices by manually curtailing various end-uses. For example, residential customers might turn up the set-point on their central air conditioner or reschedule their kitchen and laundry activities to avoid running their appliances during high priced hours. The higher priced peak hours are accompanied by lower priced off-peak hours, providing customers with the opportunity to reduce their electricity bills through these actions.<sup>3</sup> Examples of dynamic rates include critical peak pricing, peak time rebates, and real-time pricing. Peak time rebate is different than critical peak pricing and real-time pricing rates in that rather than charging a higher price during critical events, customers are provided a rebate for reductions in consumption. The analysis assumes that advanced metering infrastructure (AMI) must be in place to offer any of these rates. AMI includes "smart meters" that have the capability to measure customer usage over short intervals of time (often 15 minutes), as opposed to many conventional meters that are read manually on a monthly basis.
2. **Dynamic pricing with enabling technology:**<sup>4</sup> This program is similar to the previously described dynamic pricing program, but customers are also equipped with devices that automatically reduce consumption during high priced hours. For Residential and Small and Medium commercial and industrial customers, the automated technology (known as a programmable communicating thermostat) adjusts air conditioning energy use where such devices are determined to be cost-effective. Large commercial and industrial customers are assumed to be equipped with automated demand response systems, which coordinate reductions at multiple end-uses within the facility.
3. **Direct load control (DLC):**<sup>5</sup> Customer end uses are directly controlled by the utility and are shut down or moved to a lower consumption level during events such as an operating reserve shortage. For residential customers, an air-conditioning DLC program is modeled. Direct control of other residential end uses, such as water heating, was not included. Non-residential DLC programs include air-conditional load control as well, but

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<sup>1</sup> Federal Energy Regulatory Commission. A National Assessment of Demand Response Potential. Prepared by The Brattle Group, et al. June 2009. pp. 20-21.

<sup>2</sup> This program type describes the "Non-Enabled Dynamic Pricing" programs modeled in the Entergy potential study.

<sup>3</sup> For the purposes of the Entergy potential study, DR programs were assumed to be revenue neutral and no kWh savings were estimated. Actual DR programs may result in electric savings.

<sup>4</sup> This program type describes the "Enabled Dynamic Pricing" programs modeled in the Entergy potential study.

<sup>5</sup> Only residential DLC was modeled for the Entergy potential study.

could also include other forms of DLC in some states, such as irrigation control.

Interruptible tariffs: Customers agree to reduce consumption to a pre-specified level, or by a pre-specified amount, during system reliability problems in return for an incentive payment of some form. The programs are generally only available for Medium and Large commercial and industrial customers. *al Enabled Dynamic Pricing* represents residential time-of-use rates such as Critical Peak Pricing (CPP) or Peak Time Rebates where the customer

4. **Interruptible tariffs.** Customers agree to reduce consumption to a pre-specified level, or by a pre-specified amount, during system reliability problems in return for an incentive payment of some form. The programs are generally only available for Medium and Large commercial and industrial customers.

**Entergy's Estimated AMI Deployment**  
**For Use in Demand Side Management Potential Study**  
**September 1, 2011**  
**10 Year Forecast**

**Total cumulative meter deployments**

**Existing**

ENOI	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	5,000	5,651	6,301	7,374	9,565	12,851	167,160	167,738	168,299	168,859

ENOI	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
	169,425	169,999	170,588	171,178	171,777	172,383	172,988	173,599	174,218	174,852	175,489

**Yellow shading:** indicates the years in which each OpCo engaged in full deployment of AMI

**Full Deployment:** includes all customer classes except the top 150 Industrials and Cogens

**Years before full deployment:** include targeted deployments primarily to the Residential Customer class (for simplifying purposes use the residential class only)